

FUJITSU Software

# BS2000 OSD/BC V10.0

Commands

Volume 7: SHOW-RESOURCE-ALLOCATION – WRITE-TEXT

Valid for

SDF V4.7D

SDF-P-BASYS V2.5E

ASE V1.0B

BLSSERV V2.8A

CONV2PDF V1.0B

DSSM V4.3B

IMON-GPN V3.3A

JV V15.1A

POSIX-BC V10.0A

RFA V19.0A

RSO V3.6A

SECOS V5.4A

SPACEPRO V1.0A

SPOOL V4.9A

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## SHOW-RESOURCE-ALLOCATION

Display resource allocation for job

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management Job processing
<b>Domain:</b>	DEVICE JOB
<b>Privileges:</b>	STD-PROCESSING TSOS HARDWARE-MAINTENANCE OPERATING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT
<b>Routing code:</b>	E

### Function

With the SHOW-RESOURCE-ALLOCATION command, users can display information on the resources tied up by the jobs running under their own user IDs. The information may be obtained for private volumes, devices for private volumes and files. The quantity of information to be output can be limited to those resources for which an operator action is still pending by means of the INFORMATION operand.

The command supports structured output in S variables (see [“Output in S variables” on page 7-6](#)).

### *Privileged functions*

Privileged users (OPERATING privilege) can request information for any job with SHOW-RESOURCE-ALLOCATION.

## Format

<b>SHOW-RESOURCE-ALLOCATION</b>
<b>JOB-IDENTIFICATION</b> = <b>*TSN</b> (...) / <b>*MONJV</b> (...) / <alphanum-name 1..4> <b>*TSN</b> (...)   <b>TSN</b> = <b>*OWN-TSN</b> / <alphanum-name 1..4> <b>*MONJV</b> (...)   <b>MONJV</b> = <filename 1..54 without-gen-vers> <b>,OUTPUT-INFORMATION</b> = <b>*JOB-NAME</b> / <b>*USER-IDENTIFICATION</b> <b>,INFORMATION</b> = <b>*RESOURCES</b> / <b>*ACTIONS</b>

## Operands

### **JOB-IDENTIFICATION =**

Type of job identification. A job may be identified by its task sequence number or its monitoring job variable.

Only privileged users (OPERATING privilege) are shown information for jobs running under other user IDs.

### **JOB-IDENTIFICATION = \*TSN(...)**

Identifies a job by its task sequence number (TSN).

#### **TSN =**

Specifies the TSN of the job.

#### **TSN = \*OWN-TSN**

Provides information about the user's own job.

#### **TSN = <alphanum-name 1..4>**

Provides information about the job with the specified TSN.

### **JOB-IDENTIFICATION = \*MONJV(...)**

Identifies a job by its monitoring job variable.

#### **MONJV = <filename 1..54 without-gen-vers>**

Name of the JV monitoring the desired job.

### **JOB-IDENTIFICATION = <alphanum-name 1..4>**

Identifies a job by its task sequence number (TSN).

### **OUTPUT-INFORMATION = \*JOB-NAME / \*USER-IDENTIFICATION**

Specifies whether the job name or the user ID is to be entered into the NAME/ID output field.

**INFORMATION =**

Specifies whether information about all resources is to be output.

**INFORMATION = \*RESOURCES**

A record is produced for each resource occupied up by the specified job.

**INFORMATION = \*ACTIONS**

A record is produced for each operator action still pending for a volume involved in the specified job. Operator actions may include:

mounting, activating/deactivating write protection, recovering INOP, premounting, remounting, etc.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Incomplete information
2	0	NKD0011	The caller is not authorized to receive information about the specified TSN
2	0	NKD0018	MONJV was not found
2	0	NKD0019	The job variable found is not an active MONJV
	1	NKD0001	Syntax error in the input, correction of the command parameters recovers the error
	32	NKD0006	Software error in JINBAS parameter
	32	CMD2009	Error during S variable output (e.g. subsystem not available)
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server
	64	NKD0014	No information available for the TSN
	64	OPS0002	Interrupt (e.g. by K2 key) during S variable generation
4	130	NKD0009	The disk monitor is temporarily not available; the information may be incomplete
8	130	NKD0009	The tape monitor is temporarily not available; the information may be incomplete
	130	NKD0026	JVS is not loaded
	130	OPS0001	SDF-P reporting space problems (possible response: FREE-VARIABLE and repeat command)

## Output format

A header line and a values line are displayed. Two display formats are possible, depending on the specification in the INFORMATION operand.

The meaning of the output columns and possible values are described in [section “Information services of device management: Meanings of the output values of SHOW commands” on page 1-86](#).

*Output for INFORMATION=\*RESOURCES*

Header line:

MNEM	TYPE	VSN	VOL-A	TSN	NAME / ID	PHASE
------	------	-----	-------	-----	-----------	-------

Values:

mn	device allocation type	vsn	volume allocation state	tsn	see IDENTIFICATION operand	volume phase
----	---------------------------	-----	----------------------------	-----	----------------------------------	-----------------

In the case of DRV-DUAL allocations, the mnemonic device name of the second DRV disk is displayed instead of the device-allocation type.

In the case of type-related reservation, the storage location assigned to the device is displayed in a second values line.

LOCATION: <location-name>

*Output for INFORMATION=\*ACTIONS*

The information is displayed in the same way as for INFORMATION=\*RESOURCES except that values lines are output only for those resources for which an operator action is still pending.

## Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The possible values for INFORMATION are \*RESOURCES (in the RES table) and \*ACTIONS (ACT).

With regard to INFORMATION=\*ACTIONS you should note that the S variables are given values only if there is an operator action outstanding.

No S variables are generated if the command is rejected with the following message:

```
NKD0014 NO ALLOCATION EXISTS FOR THE TASK WITH TSN (&00). COMMAND NOT  
PROCESSED
```

Output information	Name of the S variable	T	Contents	Condition
Mount operation being performed for the volume by the volume monitoring system	var(*LIST).ACTION	S	" *CANCEL *DISMOUNT INOP *MOUNT NO-ACTION *NO-DEV *POS *PREMOUNT *RECOVER REMOUNT SNATCHED *SVL-UPDATE *UNLOCK WP-MISSING	INF=RES/ ACT
Location name	var(*LIST).LOCATION	S	" <location>	INF=RES/ ACT
Job name	var(*LIST).NAME-ID	S	" <name 1..8>	INF=RES/ ACT
Tape and disk monitoring mode	var(*LIST).PHASE	S	" *IN-USE *MOUNT *ONLINE *PREMOUNT	INF=RES/ ACT
TSN of the job	var(*LIST).TSN	S	" <tsn>	INF=RES/ ACT
Volume device type	var(*LIST).TYPE	S	" <dev-type> <volume-type> EXPLICIT	INF=RES/ ACT
Device unit mnemonic	var(*LIST).UNIT	S	" <mnemo-name>	INF=RES/ ACT
Volume serial number	var(*LIST).VOL	S	" <vsn>	INF=RES/ ACT
Private volume attribute	var(*LIST).VOL-ALLOC	S	" *CANCEL *EXCL *FREE *SHARE	INF=RES/ ACT

## Example

*Information for multiple reservation*

```

/show-file-attr sup>(*priv,*tape),alloc=*yes _____ (1)
%          :20SG:$USERXY01.TAPE.FILE.1
% ----- ALLOCATION -----
% SUPPORT   = PVT                      BLK-COUNT = 5
% EXTENTS   VOLUME      DEVICE-TYPE    EXTENTS   VOLUME      DEVICE-TYPE
%          M5658K      TAPE-C4
%00000003*:20SG:$USERXY01.TEST.X.1
% ----- ALLOCATION -----
% SUPPORT   = PVT                      S-ALLOC   = 9          HIGH-US-PA = 0
% EXTENTS   VOLUME      DEVICE-TYPE    EXTENTS   VOLUME      DEVICE-TYPE
%          1          WORK01      D3435
% NUM-OF-EXT = 1
%:20SG: PRDISC:      1 FILE RES=      3 FRE= 3 REL=      0 PAGES
%:20SG: TAPE :      1 FILE
/sec-res tape=((vol=m5658k,type=tape-c4),(vol=m5660k,type=tape-c4)),
file=((test.x.1),(tape.file.1)),wait=(300) _____ (2)
/show-res-alloc _____ (3)
% MNEM  TYPE      VSN      VOL-A  TSN  NAME/ID  PHASE  ACTION
% EK    TAPE-C4  M5658K  EXCL  19U2  ULF      PREMOUNT  NO ACTION
%      LOCATION : ROBOTER2
% EL    TAPE-C4  M5660K  EXCL  15LZ  ULF      PREMOUNT  NO ACTION
%      LOCATION : ROBOTER2
% 4342 D34211-4  WORK01  SHARE 19U2  ULF      IN-USE    NO ACTION

```

- (1) Information about all files for the user ID on private disks and tapes (or magnetic tape cartridges).
- (2) Reservation of resources: Two magnetic tape cartridges (volume serial numbers *M5658K* and *M5660K*, both volume type *TAPE-C4*) and the files *MAX.TAPE-FILE.2* and files *MAX.TAPE-FILE.1* and *TEST.X.1* are to be reserved.
- (3) The SHOW-RESOURCE-ALLOCATION command gives information about the reservation made:
  - The magnetic tape cartridge *M5658K* was reserved only once, although it was specified both explicitly (TAPE operand) and implicitly (FILE operand, file *MAX.TAPE-FILE.1* saved on *M5658K*, see also item 1). Tape files are always reserved exclusively (see *VOL-A* output field).
  - The magnetic tape cartridge *M5660K* was reserved explicitly.
  - The private disk *WORK01* was reserved for the file *TEST.X.1* (see also item 1).



## SHOW-RESOURCE-REQUESTS

Request information on secure queue and collector task

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	TSOS OPERATING
<b>Routing code:</b>	E

### Function

The SHOW-RESOURCE-REQUESTS command provides information about the secure queue (device queue) and the collector task.

The output either includes the attributes of all tasks currently waiting for a successive reservation of requested resources or is limited to information on the collector task. In addition, the parameters set by the system operator by means of the RESOURCE-COLLECTION command on the system's selection of the collector task can also be requested.

The various output fields and their functions are described in [section "Information services of device management: Meanings of the output values of SHOW commands" on page 1-86](#).

The command supports structured output in S variables (see ["Output in S variables" on page 7-11](#)).

### Format

```
SHOW-RESOURCE-REQUESTS
```

```
OUTPUT-INFORMATION = *JOB-NAME / *USER-IDENTIFICATION
```

```
,INFORMATION = *ALL-TASKS / *COLLECTOR-TASK / *COLLECT-PARAMETER
```

### Operands

**OUTPUT-INFORMATION =**

Controls the contents of the output field NAME/ID.

**OUTPUT-INFORMATION = \*JOB-NAME**

The job name is entered in the NAME/ID field.

**OUTPUT-INFORMATION = \*USER-IDENTIFICATION**

The user ID is entered in the NAME/ID field.

### **INFORMATION =**

Specifies the type of information required.

A header line and a values line are output.

### **INFORMATION = \*ALL-TASKS**

Outputs information about all tasks in the secure queue.

Output format:

```
TSN      NAME/ID      TSK-TYPE      TSK-PRIO      ADMISSION-TIME  WAIT-TIME
RESOURCES REQUESTED
```

### **INFORMATION = \*COLLECTOR-TASK**

Outputs information about the collector task only.

Output format:

```
TSN      NAME/ID      TSK-TYPE      TSK-PRIO      ADMISSION-TIME  WAIT-TIME
RESOURCES REQUESTED      RESOURCES COLLECTED
```

### **INFORMATION = \*COLLECT-PARAMETER**

Outputs information about the collect parameters which were set with the RESOURCE-COLLECTION commands.

Output format:

```
RESOURCE-COLLECTION
TIME-WEIGHT
```

## Return codes

(SC2)	SC1	Maincode	Meaning
2	0	CMD0001	No error
	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in input; correct the command parameters to eliminate the error
	32	CMD2009	Error during S variable output (e.g. subsystem not available)
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server or: software error
	64	NKD0007	Caller not privileged
	64	NKD0040	Secure queue does not exist
	64	NKD0041	Collector task does not exist
	64	OPS0002	Interrupt (e.g. by K2 key) during S variable generation
	130	OPS0001	SDF-P reporting space problems (possible response: FREE-VARIABLE and repeat command)

## Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The following specifications are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = *ALL-TASKS	INF=A-TASK
INFORMATION = *COLLECTOR-TASK	INF=COLL-TASK
INFORMATION = *COLLECT-PARAMETER	INF=COLL-PARA

Output information	Name of the S variable	T	Contents	Condition
TSN of the collector task	var(*LIST).COLL	S	" <tsn>	INF=A-TASK/ COLL-TASK
Status of the collector task	var(*LIST).COLL-INFO		" TASK WAITING FOR FILE LOCKS TASK WAITING FOR MOUNT OR OPERATOR ACKNOWLEDGEM ENT TASK WAITING FOR MAREN LOCK	INF=A-TASK/ COLL-TASK
Time when the task was admitted to the device queue	var(*LIST).REQ(*LIST).ADMIS-TIME	S	<admission-time>	INF=A-TASK/ COLL-TASK

(Part 1 of 4)

## SHOW-RESOURCE-REQUESTS

---

Output information	Name of the S variable	T	Contents	Condition
Depot name of the device pool from which the device reserved for the collector task was taken	var(*LIST).REQ(*LIST).COLL-TYPE(*LIST).LOCATION	S	" <location>	INF=A-TASK/ COLL-TASK
Number of devices of the specified type reserved for the collector task	var(*LIST).REQ(*LIST).COLL-TYPE(*LIST).NUM	I	<integer>	INF=A-TASK/ COLL-TASK
Device type reserved for the collector task	var(*LIST).REQ(*LIST).COLL-TYPE(*LIST).TYPE	S	" <dev-type>	INF=A-TASK/ COLL-TASK
Device mnemonic of the device reserved for the collector task	var(*LIST).REQ(*LIST).COLL-UNIT(*LIST)	S	" <mnemo-name>	INF=A-TASK/ COLL-TASK

(Part 2 of 4)

Output information	Name of the S variable	T	Contents	Condition
Depot name of the volume recording the collector task data	var(*LIST).REQ(*LIST).COLL-VOL(*LIST).LOCATION	S	" <location>	INF=A-TASK/ COLL-TASK
Volume reserved for the collector task	var(*LIST).REQ(*LIST).COLL-VOL(*LIST).RESERVED	S	" EXCL OFFL	INF=A-TASK/ COLL-TASK
Device type on which the volume recording the collector task data is set up	var(*LIST).REQ(*LIST).COLL-VOL(*LIST).TYPE	S	" <volume-type>	INF=A-TASK/ COLL-TASK
VSN of the volume selected using the device reservation mechanism to store the collector task data	var(*LIST).REQ(*LIST).COLL-VOL(*LIST).VOL	S	" <vsn>	INF=A-TASK/ COLL-TASK
Name of the queue	var(*LIST).REQ(*LIST).NAME	S	" <name>	INF=A-TASK/ COLL-TASK
Priority of the task on the device queue	var(*LIST).REQ(*LIST).TASK-PRIO	S	<task-priority>	INF=A-TASK/ COLL-TASK
Type of queued task	var(*LIST).REQ(*LIST).TASK-TYPE	S	" BAT DIA RFA	INF=A-TASK/ COLL-TASK
TSN of the queued task	var(*LIST).REQ(*LIST).TSN	S	" <tsn>	INF=A-TASK/ COLL-TASK
Depot name of the device pool from which the device reserved for the queued task was taken	var(*LIST).REQ(*LIST).TYPE(*LIST).LOCATION	S	" <location>	INF=A-TASK/ COLL-TASK
Number of devices of the specified type reserved for the queued task	var(*LIST).REQ(*LIST).TYPE(*LIST).NUM	I	<integer>	INF=A-TASK/ COLL-TASK
Device type reserved for the queued task	var(*LIST).REQ(*LIST).TYPE(*LIST).TYPE	S	" <dev-type>	INF=A-TASK/ COLL-TASK
Device mnemonic of the device reserved for the queued task	var(*LIST).REQ(*LIST).UNIT(*LIST)	S	" <mnemo-name>	INF=A-TASK/ COLL-TASK
Depot name of the volume recording the data of the queued task	var(*LIST).REQ(*LIST).VOL(*LIST).LOCATION	S	" <location>	INF=A-TASK/ COLL-TASK
Volume to be reserved for the task	var(*LIST).REQ(*LIST).VOL(*LIST).RESERVED	S	" EXCL OFFL	INF=A-TASK/ COLL-TASK
Device type on which the volume recording the data of the queued task is set up	var(*LIST).REQ(*LIST).VOL(*LIST).TYPE	S	" <volume-type>	INF=A-TASK/ COLL-TASK

(Part 3 of 4)

## SHOW-RESOURCE-REQUESTS

---

Output information	Name of the S variable	T	Contents	Condition
VSN of the volume selected using the device reservation mechanism to store the task data	var(*LIST).REQ(*LIST).VOL(*LIST).VOL	S	" <vsrn>	INF=A-TASK/ COLL-TASK
Length of time the task has been waiting on the queue	var(*LIST).REQ(*LIST).WAIT-TIME	S	<wait-time>	INF=A-TASK/ COLL-TASK
Collector task selection	var(*LIST).RES-COLL	S	*NO *YES	INF= COLL-PARA
Maximum time the task is to wait for the reservation request to be carried out	var(*LIST).TIME-WEIGHT	S	*NONE <sec>	INF= COLL-PARA

(Part 4 of 4)

## SHOW-RESTART-OPTIONS

Display information on automatic restart

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Subsystem management
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	R

### Function

The SHOW-RESTART-OPTIONS command outputs information indicating whether automatic restart is switched on or off and, if it is on, which parameters are set for the restart.

The command supports structured output in S variables (see [“Output in S variables” on page 7-17](#)).

### Format

<b>SHOW-RESTART-OPTIONS</b>

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0216	Caller is not privileged
	64	EXC0684	Syntax error

### Output to SYSOUT

*Automatic restart is off*

```
/show-restart-opt
% EXC0682 AUTOMATIC RESTART SWITCHED OFF
```

*Automatic restart is on*

```
/show-restart-opt
% EXC0681 AUTOMATIC RESTART SWITCHED ON: DELAY=0000000000 SEC.,
UPTIME=0000000010 MIN., IPL DEVICE='7D00', IPL VSN='1SBZ.0', DUMP='*STD'
```

*Meaning of the possible inserts*

Insert	Possible values	Meaning
DELAY	<integer 0..32767>	Number of seconds the automatic dump is displayed by to allow the operator to intervene
UPTIME	<integer 0..32767>	Number of minutes after SYSTEM READY before automatic restart is initiated after a system crash
IPL DEVICE	<alphanum-name 2..2> <alphanum-name 4..4>	IPL device mnemonic (2 or 4 characters)
IPL VSN	<vsn>	VSN of the IPL volume
DUMP	*NO	Dumps are not generated
	*STD	Dumps are generated on request
	*SNAP	Snapshots are always generated
	*SLED	SLEDs are always generated

Table 157: Output of the SHOW-RESTART-OPTIONS command



## Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Time (in seconds) to wait for SLED to write a dump	var(*LIST).DELAY	I	<integer 0..32767>	
Dump type	var(*LIST).DUMP	S	*NO *SLED *SNAP *STD	
Device mnemonic of the IPL disk	var(*LIST).IPL-PATH	S	<alphan.-name 2..2> <alphan.-name 4..4>	
VSN of the IPL disk	var(*LIST).IPL-VOL	S	<vsn 6..6>	
Automatic restart activated (*ON) or deactivated (*OFF)	var(*LIST).RESTART	S	*ON *OFF	
Time (in minutes) to wait after SYSTEM READY for an automatic restart to be initiated	var(*LIST).UPTIME	I	<integer 0..32767>	

## SHOW-RETURNCODE

Output return code of the last command

**Description status:** SDF V4.7D  
**Functional area:** SDF control  
**Domain:** SDF  
**Privileges:** STD-PROCESSING  
HARDWARE-MAINTENANCE  
SAT-FILE-EVALUATION  
SAT-FILE-MANAGEMENT  
SECURITY-ADMINISTRATION

### Function

The SHOW-RETURNCODE command outputs the return code of the last entered command at SYSOUT.

### Format

SHOW-RETURNCODE	Alias: <b>SHRTC</b>

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors

### Example

```
/show-file-attr xxx.file
% DMS0807 ERROR FROM SHOW-FILE-ATTRIBUTES FILE-NAME ':20S6:$USER1.XXX.FILE'
% DMS0533 REQUESTED FILE NOT CATALOGED IN PUBSET '20S6'. COMMAND TERMINATED
/show-ret
%Returncode:
%Subcode2 = 0
%Subcode1 = 64
%Maincode = DMS0533
```

## SHOW-RFA-CONNECTIONS

Output information on RFA connections

<b>Description status:</b>	RFA V19.0A
<b>Functional area:</b>	Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT

This command is only available to users who have the software product RFA (see “RFA” manual [31]).

### Function

The SHOW-RFA-CONNECTIONS command allows the user to request information on all existing RFA connections. The information is output to SYSOUT. The user receives an output line for the local processor (beginning with “LOCAL HOST”) and one output line for each existing RFA connection (beginning with “CONNECTION”) containing the following information:

- catalog ID to which the RFA connection exists (for RFA connections only)
- indication of whether the RFA connection is local or remote
- processor name to which the RFA connection is set up
- user ID of the AFR partner task or of the local task
- task sequence number (TSN) of the AFR partner task or the local task

The RFA connection is displayed once only per catalog ID, even if more than one SET-RFA-CONNECTION command was issued for the catalog ID. A maximum of 16 RFA connections can exist for different catalogs.

The command supports structured output in S variables (see “Output in S variables” on page 7-21).

### Format

<b>SHOW-RFA-CONNECTIONS</b>
<b>CATALOG-ID</b> = <u>*ALL</u> / <cat-id 1..4>

**Operands**

**CATALOG-ID = <cat-id 1..4> / \*ALL**

Catalog ID of an RFA connection for which information was requested. Specifying \*ALL produces information on all RFA connections.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	RFA0002	Command executed
	32	RFA0019	Output incomplete
	32	RFA0020	Error in outputting to SYSOUT
	32	CMD2009	Error during generation of output variables
	64	RFA0017	No RFA connection exists
	64	RFA0018	No RFA connection exists for the specified catalog ID

**Output format**

The information is output in table form. The first line contains information on the local processor (without catalog ID) and begins with "LOCAL HOST:". This is followed by one information line for each existing RFA connection. These lines each begin with "CONNECTION:" and are output in ascending order of catalog ID. The information is split up into the following 5 output columns:

Output column	Meaning
CATID	Catalog ID to which the RFA connection exists. Only one RFA connection is displayed per catalog ID. No catalog ID is displayed in the information line for the local processor.
STATE	LOCAL is displayed for a catalog ID assigned to the local processor or, for a shared pubset, to the master processor. REMOTE is displayed for a catalog ID assigned to a remote processor or, for a shared pubset, to a slave processor.
HOST	BCAM name of the processor to which the RFA connection exists.
USERID	User ID of the AFR partner task (when STATE is shown as REMOTE) or of the local task (when STATE is shown as LOCAL).
TSN	Task sequence number of the AFR partner task or of the local task.

Table 158: Output columns of the SHOW-RFA-CONNECTIONS command

## Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Catalog ID to which the RFA connection exists	var(*LIST).CAT-ID	S	<cat-id 1..4>	
Type of information	var(*LIST).INDICATOR	S	*CONN *LOC-HOST	
Name of the processor to which the RFA connection exists	var(*LIST).PARTNER-NAME	S	<alphan.-name 1..8>	
RFA connection status	var(*LIST).PUBSET-STA	S	*LOC *REM	
TSN of the AFR partner task or the local task	var(*LIST).TSN	S	<name 1..4>	
User ID of the AFR partner task or the local task	var(*LIST).USER-ID	S	<name 1..8>	

## Example

```

/show-rfa-connections
%          CATID STATE  HOST      USERID   TSN
%LOCAL HOST:          LOCAL  D017ZE11 USER2     0C1R
%CONNECTION: 20SG  REMOTE D016ZE04 USER2     2PQT
%CONNECTION: 20S6  REMOTE D016ZE04 USER2     2PQT

```

In the dialog job with the task sequence number *0C1R* and the user ID *USER2*, the user issues the SHOW-RFA-CONNECTIONS command to request information on existing RFA connections.

- The output shows the local processor *D017ZE11*.
- Two remote RFA connections to the processor *D016ZE04* with catalogs *20SG* and *20S6* are shown.
- On the remote processor *D016ZE04* there is **one** partner task active under the user ID *USER2* and the task sequence number *2PQT*.

# SHOW-SDF-OPTIONS

Show active syntax files and SDF options

<b>Description status:</b>	SDF V4.7D
<b>Functional area:</b>	SDF control
<b>Domain:</b>	SDF
<b>Privileges:</b>	STD-PROCESSING TSOS HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

The SHOW-SDF-OPTIONS command displays the names and versions of the currently active syntax files as well as the current settings of the SDF options. For syntax files, it always displays their real file names, even if the user entered a MODIFY-SDF-OPTIONS command in order to specify a user syntax file using the appropriate alias name declared in the alias catalog (see the ADD-ALIAS-CATALOG-ENTRY command).

The INFORMATION operand controls the scope of the information to be displayed. INFORMATION=\*USER provides information only on settings which the user can modify via MODIFY-SDF-OPTIONS for each task: this information includes the names and versions of all activated user syntax files and all settings of the SDF options. INFORMATION=\*GROUP provides the names and versions of the activated group syntax files in addition to the user-specific settings.

The MODIFY-SDF-OPTIONS command can then be used to activate or deactivate user syntax files and to change the settings of SDF options for a specific task.

The command supports structured output in S variables (see [“Output in S variables” on page 7-25](#)).

### Format

<b>SHOW-SDF-OPTIONS</b>	Alias: <b>SHSDFO</b>
<b>INFORMATION = <u>*ALL</u> / *USER / *GROUP</b>	

## Operands

### **INFORMATION = \*ALL / \*USER / \*GROUP**

Determines the scope of the information to be displayed.

### **INFORMATION = \*ALL**

Outputs information on the activated syntax files and the current settings of the SDF options

### **INFORMATION = \*USER**

Outputs information on the activated user syntax files and the current settings of the SDF options.

### **INFORMATION = \*GROUP**

Outputs information on the activated group and user syntax files and the current settings of the SDF options.

## Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors

## Output format

The output fields and values under the heading “CURRENT SDF OPTIONS” correspond to the operands and operand values of the MODIFY-SDF-OPTIONS command.

Output field	Meaning and possible values
SYNTAX FILES CURRENTLY ACTIVATED:	Header line for information on the activated syntax files
SYSTEM	Name of the active system syntax file
VERSION	Version of the system syntax file
SUBSYSTEM	Name of an active subsystem syntax file
VERSION	Version of the subsystem syntax file
GROUP	Name of an active group syntax file
VERSION	Version of the group syntax file; omitted if no group syntax file is activated (GROUP=*NONE)
USER	Name of an active user syntax file
VERSION	Version of the user syntax file; omitted if no user syntax file is activated (USER=*NONE)

Table 159: Output format of the SHOW-SDF-OPTIONS command (Part 1 of 2)

## SHOW-SDF-OPTIONS

Output field	Meaning and possible values
CURRENT SDF OPTIONS:	Header line for information on the current settings of the SDF options
GUIDANCE	Guidance level: *EXPERT / *NO / *MINIMUM / *MEDIUM / *MAXIMUM
LOGGING	Scope of the logging of commands and statements: *INPUT-FORM / *ACCEPTED-FORM / *INVARIANT-FORM
CONTINUATION	Command continuation: *OLD-MODE / *NEW-MODE
UTILITY-INTERFACE	Input interface for utilities: *OLD-MODE / *NEW-MODE
PROCEDURE-DIALOGUE	Syntax error dialog or help dialog in procedures: *YES /*NO
MENU-LOGGING	Menu logging: *YES /*NO
CMD-STATISTICS	<i>Output for privileged users only (TSOS)</i> Statistical recording of commands: *YES /*NO
MODE	Syntax check of commands: *EXECUTION / *TEST
CHECK-PRIVILEGES	Consideration of privileges during syntax check: *YES /*NO
DEFAULT-PROGRAM-NAME	Syntax check of statements of a program: *NONE / <structured-name 1..20>
FUNCTION-KEYS	Function key assignment: *OLD-MODE / *NEW-MODE
INPUT-HISTORY	Input buffer: *ON / *OFF
NUMBER-OF-INPUTS	Size of the input buffer (maximum number of inputs that can be saved): <integer 1..100>
PASSWORD-PROTECTION	Protection of secret operand values in the input buffer: *YES /*NO

Table 159: Output format of the SHOW-SDF-OPTIONS command (Part 2 of 2)



## Output in S variables

The INFORMATION operand controls the output scope with regard to the active syntax files: \*GROUP suppresses the information on system and subsystem files and \*USER suppresses the information on system, subsystem and group syntax files. An variable structure SF with the S variables F-NAME, TYPE and VERSION is created for each active syntax file contained in the output. Exception: If no user syntax file is activated, a variable structure with TYPE=\*USER is created anyway, with the F-NAME and VERSION variables containing the empty string.

Output information	Name of the S variable	T	Contents	Condition
Check privileges during syntax check	var(*LIST).CHECK-PRIV	S	*NO *YES	
Command history statistics are written on the basis of the system syntax file The values *NO and *YES are output only for users with TSOS privilege. A value of " is output for users without TSOS privilege.	var(*LIST).CMD-STATIS	S	" *NO *YES	
Position of the continuation character for command input *NEW-MODE: in columns 2 thru 72 *OLD-MODE: in column 72	var(*LIST).CONTI	S	*NEW-MODE *OLD-MODE	
Function key mapping	var(*LIST).FUNC-KEY	S	*OLD-MODE *STYLE-GUIDE-MODE	
Dialog guidance mode	var(*LIST).GUIDE	S	*EXPERT *MAX *MED *MIN *NO	
Command input history feature active	var(*LIST).INPUT-HIST	S	*OFF *ON	
Logging form for commands and statements	var(*LIST).LOG	S	*ACCEPT-FORM *INPUT-FORM *INVARIANT-FORM	
Full menu logging in guided dialog	var(*LIST).MENU-LOG	S	*NO *YES	
Execution of all issued commands (*EXEC) or command syntax checking (*TEST) on input; the MODIFY-SDF-OPTIONS command is always executed	var(*LIST).MODE	S	*EXEC *TEST	
Size of the input buffer	var(*LIST).NUM-OF-INPUT	I	<integer 0..100>	

(Part 1 of 2)

## SHOW-SDF-OPTIONS

Output information	Name of the S variable	T	Contents	Condition
Passwords are replaced by ^ in the buffer and ISP commands are not recorded	var(*LIST).PASSWORD-PROT	S	*NO *YES	
Invalid procedure commands can be corrected during the procedure run	var(*LIST).PROC-DIALOG	S	*NO *YES	
Syntax file name. If INF=*USER is specified in the command and no user syntax file is active, the S variable is assigned the null string "	var(*LIST).SF(*LIST).F-NAME	S	" <filename 1..54>	
Syntax file type. If INF=*USER is specified in the command and no syntax file is active, the S variable is nonetheless assigned a value of *USER; the SF(*LIST).F-NAME and SF(*LIST).VERSION variables are assigned the null string "	var(*LIST).SF(*LIST).TYPE	S	*GROUP *SUBSYS *SYS *USER	
Syntax file version. If INF=*USER is specified in the command and no syntax file is active, the S variable is assigned the null string "	var(*LIST).SF(*LIST).VERSION	S	" UNDEFINED <text 1..12>	
Name of the test program used for syntax checking on SDF program statements. Syntax checking enabled with MODE=*TEST.	var(*LIST).TEST-PROG-NAME	S	*NONE <struc.-name 1..30>	
Input interface mode for utilities which offer both old-style (*OLD-MODE) and new-style (*NEW-MODE) interfaces	var(*LIST).UTILITY-INTERF	S	*NEW-MODE *OLD-MODE	

(Part 2 of 2)

## Examples

### *Output in S variable*

```

/declare-var var-name=var(type=*structure),multiple-elem=*list
/exec-cmd cmd=(show-sdf-options inf=*all),text-output=*none,structure-
output=var
/show-var var,inf=*par(val=*c-literal,list-index=*yes)
VAR#1.SF#1.F-NAME = ':10SH:$TSOS.SYSSDF.SDF.047'
VAR#1.SF#1.TYPE = '*SYS'
VAR#1.SF#1.VERSION = 'SESD04.7C10'
*END-OF-VAR
VAR#1.SF#2.F-NAME = ':10SH:$TSOS.SYSSDF.ACS.180'
VAR#1.SF#2.TYPE = '*SUBSYS'
VAR#1.SF#2.VERSION = 'SESD18.0A000'
*END-OF-VAR
.....
.....

VAR#1.SF#161.F-NAME = ':10SH:$TSOS.SYSSDF.TASKDATE.180'
VAR#1.SF#161.TYPE = '*SUBSYS'
VAR#1.SF#161.VERSION = 'SESD18.0A000'
*END-OF-VAR
OUT#1.SF#162.F-NAME = ':10SH:$TSOS.SYSSDF.BCAM.220.CMD'
OUT#1.SF#162.TYPE = '*SUBSYS'
OUT#1.SF#162.VERSION = 'SESD22.0A000'
VAR#1.SF#163.F-NAME = ':20SG:$USER1.SDF.USER.SYNTAX'
VAR#1.SF#163.TYPE = '*USER'
VAR#1.SF#163.VERSION = 'UNDEFINED'
*END-OF-VAR
VAR#1.GUIDE = '*EXPERT'
VAR#1.LOG = '*INPUT-FORM'
VAR#1.CONTI = '*NEW-MODE'
VAR#1.UTILITY-INTERF = '*NEW-MODE'
VAR#1.PROC-DIALOG = '*NO'
VAR#1.MENU-LOG = '*NO'
VAR#1.CMD-STATIS = ''
VAR#1.MODE = '*EXEC'
VAR#1.CHECK-PRIV = '*YES'
VAR#1.TEST-PROG-NAME = '*NONE'
VAR#1.FUNC-KEY = '*STYLE-GUIDE-MODE'
VAR#1.INPUT-HIST = '*ON'
VAR#1.NUM-OF-INPUT = 20
VAR#1.PASSWORD-PROT = '*YES'
*END-OF-VAR
*END-OF-CMD

```

### *Output on SYSOUT*

```
/show-sdf-opt _____ (1)
%SYNTAX FILES CURRENTLY ACTIVATED :
% SYSTEM      : :10SH:$TSOS.SYSSDF.SDF.047
%              VERSION : SESD04.7C10
% SUBSYSTEM   : :10SH:$TSOS.SYSSDF.ACS.180
%              VERSION : SESD18.0A000
%
%
%
% SUBSYSTEM   : :10SH:$TSOS.SYSSDF.TASKDATE.180
%              VERSION : SESD18.0A000
% SUBSYSTEM   : :10SH:$TSOS.SYSSDF.BCAM.220.CMD
%              VERSION : SESD22.0A000
% GROUP       : *NONE
% USER       : :20SG:$USER1.SYSSDF.USER.SYNTAX
%              VERSION : UNDEFINED
%CURRENT SDF OPTIONS :
% GUIDANCE    : *EXPERT
% LOGGING     : *INPUT-FORM
% CONTINUATION : *NEW-MODE
% UTILITY-INTERFACE : *NEW-MODE
% PROCEDURE-DIALOGUE : *NO
% MENU-LOGGING : *NO
% MODE        : *EXECUTION
%   CHECK-PRIVILEGES : *YES
% DEFAULT-PROGRAM-NAME : *NONE
% FUNCTION-KEYS : *STYLE-GUIDE-MODE
% INPUT-HISTORY : *ON
%   NUMBER-OF-INPUTS : 20
%   PASSWORD-PROTECTION: *YES

/mod-sdf-opt syntax=*add(syssdf.user.special.01) _____ (2)
/show-sdf-opt inf=*user _____ (3)

% USER       : :20SG:$USER1.SDF.USER.SYNTAX
%              VERSION : UNDEFINED
% USER       : :20SG:$USER1.SYSSDF.USER.SPECIAL.01
%              VERSION : UNDEFINED
%CURRENT SDF OPTIONS :
% GUIDANCE    : *EXPERT
% LOGGING     : *INPUT-FORM
% CONTINUATION : *NEW-MODE
% UTILITY-INTERFACE : *NEW-MODE
% PROCEDURE-DIALOGUE : *NO
% MENU-LOGGING : *NO
% MODE        : *EXECUTION
```

```
% CHECK-PRIVILEGES : *YES
% DEFAULT-PROGRAM-NAME : *NONE
% FUNCTION-KEYS : *STYLE-GUIDE-MODE
% INPUT-HISTORY : *ON
% NUMBER-OF-INPUTS : 20
% PASSWORD-PROTECTION: *YES
```

- (1) The **SHOW-SDF-OPTIONS** command displays information on all activated syntax files and the SDF options set. The output of the subsystem syntax files can be very extensive, depending on the number of activated subsystems. This example shows only an excerpt. The user syntax file **SYSSDF.SDF.USER.SYNTAX** is active.
- (2) The user syntax file **SYSSDF.USER.SPECIAL01** is activated with the **MODIFY-SDF-OPTIONS** command.
- (3) The **SHOW-SDF-OPTIONS** command with **INFORMATION=\*USER** provides information on activated user syntax files and the SDF options set.

# SHOW-SDF-PARAMETERS

Show entries in SDF parameter file

<b>Description status:</b>	SDF V4.7D
<b>Functional area:</b>	SDF control
<b>Domain:</b>	SDF
<b>Privileges:</b>	TSOS
<b>Routing code:</b>	@

### Function

The SHOW-SDF-PARAMETERS command provides information on the entries of an SDF parameter file. The names of the system syntax files and all PROFILE-ID allocations to a group syntax file are displayed. There is also an option for including the names of the system-wide LOGON or LOGOFF procedures (call and include procedures).

#### *Note*

Subsystem syntax files located on a pubset that were not available during system initialization are not displayed. These syntax files can only be activated when importing the pubset.

The command supports structured output in S variables (see [“Output in S variables” on page 7-33](#)).

## Format

SHOW-SDF-PARAMETERS
<pre> SCOPE = *TEMPORARY / *NEXT-SESSION(...)   *NEXT-SESSION(...)       PARAMETER-FILE-NAME = *CURRENT / &lt;filename 1..54&gt; ,SYNTAX-FILE-TYPE = *ALL / *SYSTEM / *SUBSYSTEM(...) / *GROUP(...) / *NONE   *GROUP(...)       PROFILE-ID = *ALL / &lt;structured-name 1..30&gt;   *SUBSYSTEM(...)       SUBSYSTEM-NAME = *ALL / &lt;structured-name 1..8 with-wild(24)&gt; ,SYSTEM-LOGON-PROC = *YES / *NO ,SYSTEM-LOGON-INCL = *YES / *NO ,SYSTEM-LOGOFF-PROC = *YES / *NO ,SYSTEM-LOGOFF-INCL = *YES / *NO </pre>

## Operands

### SCOPE =

Defines the scope of the information requested.

### SCOPE = \*TEMPORARY

The syntax files which were activated during the current session and/or the system-wide LOGON or LOGOFF procedures are output.

### SCOPE = \*NEXT-SESSION(...)

The syntax files and/or the system-wide LOGON or LOGOFF procedures stored in an SDF parameter file are output.

### PARAMETER-FILE-NAME =

Specifies the SDF parameter file in which the requested information is stored.

### PARAMETER-FILE-NAME = \*CURRENT

The required information is stored in the current SDF parameter file, which was used when the session was started.

### PARAMETER-FILE-NAME = <filename 1..54>

The fully qualified name of the SDF parameter file in which the requested information is stored. If alias names are being used, the name displayed for the SDF parameter file can be taken as being the result of a file name replacement carried out by ACS. Only if no alias name was declared for the SDF parameter file will the fully qualified, real, name of the SDF file be stored and output.

**SYNTAX-FILE-TYPE =**

Specifies the name(s) of the syntax files to be displayed.

**SYNTAX-FILE-TYPE = \*ALL**

The output is to show the names of the basic system syntax file, of the subsystem syntax files (in conjunction with the names of the subsystems), and the names of the group syntax files (with their associated PROFILE-IDs).

**SYNTAX-FILE-TYPE = \*SYSTEM**

The name of the basic system syntax file is to be output.

**SYNTAX-FILE-TYPE = \*SUBSYSTEM(...)**

The names of the subsystem syntax files are to be output.

**SUBSYSTEM-NAME =**

Specifies the subsystems for which the syntax files are to be selected.

**SUBSYSTEM-NAME = \*ALL**

The names of all the system syntax files which are assigned to a subsystem are to be output.

**SUBSYSTEM-NAME = <structured-name 1..8 with-wild(24)>**

The syntax files of the specified subsystems are to be displayed.

**SYNTAX-FILE-TYPE = \*GROUP(...)**

The names of the group syntax files are to be output.

**PROFILE-ID =**

Uses the PROFILE-ID to determine the names of the group syntax files which are to be displayed.

**PROFILE-ID = \*ALL**

The names of all group syntax files (in conjunction with the associated PROFILE-IDs) are to be output.

**PROFILE-ID = <structured-name 1..30>**

Specifies the PROFILE-IDs whose assigned group syntax files are to be displayed by name.

**SYNTAX-FILE-TYPE = \*NONE**

No syntax file names will be displayed.

**SYSTEM-LOGON-PROC = \*YES / \*NO**

Specifies whether to display the name of the system-wide LOGON call procedure (invoked with the CALL-PROCEDURE command).

**SYSTEM-LOGON-INCL = \*YES / \*NO**

Specifies whether to display the name of the system-wide LOGON include procedure (invoked with the INCLUDE-PROCEDURE command).



**SYSTEM-LOGOFF-PROC = \*YES / \*NO**

Specifies whether to display the name of the system-wide LOGOFF call procedure (invoked with the CALL-PROCEDURE command).

**SYSTEM-LOGOFF-INCL = \*YES / \*NO**

Specifies whether to display the name of the system-wide LOGOFF include procedure (invoked with the INCLUDE-PROCEDURE command).

**Return codes**

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No errors Guaranteed message: CMD0001
1	32	CMD0500	Erroneous syntax description in the current syntax file Guaranteed message: CMD0500
1	64	CMD0601	Command is reserved for systems support Guaranteed message: CMD0601
1	64	CMD0680	Error in SDF parameter file Guaranteed messages: CMD0300, CMD0680, CMD0687

**Output in S variables**

All the operands of the command (SCOPE, SYNTAX-FILE-TYPE, SYSTEM-LOGOFF-INCL, SYSTEM-LOGOFF-PROC, SYSTEM-LOGON-INCL and SYSTEM-LOGON-PROC) support structured output in S variables. As a rule, all the S variables are generated.

*Exceptions*

The exceptions to this rule are the S variables marked a), b) or c) in the “Condition” column:

- a) These S variables are not generated if SYNTAX-FILE-TYPE=\*NONE is specified in the command.
- b) This S variable is not generated if no corresponding LOGON- or LOGOFF procedure was specified in the command e.g. SYSTEM-LOGON-PROC=\*NONE).

## SHOW-SDF-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Scope of the active syntax files. If SCOPE=*NEXT-SESSION(...) is specified in the command, the name of the parameter file is output.	var(*LIST).SCOPE	S	*TEMP <filename 1..54>	
Syntax file name	var(*LIST).SF(*LIST).F-NAME	S	<filename 1..54>	a)
The SDF file hierarchy is retained (the system syntax file is used for syntax analysis) With SF(*LIST).TYPE=*SYS or *SUBSYS the value of the S variable is "	var(*LIST).SF(*LIST).HIERARCHY	S	" *NO *YES	a)
Subsystem name with SF(*LIST).TYPE = *SUBSYS. With SF(*LIST).TYPE=*SYS the value of the S variable is BS2000. With SF(*LIST).TYPE=*GROUP the value of the S variable is "	var(*LIST).SF(*LIST).NAME	S	" <struc.-name 1..8> BS2000	a)
Profile ID of the group syntax file. With SF(*LIST).TYPE=*SYS or *SUBSYS the value of the S variable is "	var(*LIST).SF(*LIST).PROF-ID	S	" <struc.-name 1..30>	a)

(Part 1 of 2)

Output information	Name of the S variable	T	Contents	Condition
Subsystem status. The value of the S variable is " in the following cases: a) SF(*LIST).TYPE=*SYS; b) SF(*LIST).TYPE=*SUBSYS; c) a parameter file is specified in the SCOPE=*NEXT-SESSION(...) structure in the command. ACTIVE status is always displayed for subsystems that are not activated by DSSM, with the following two exceptions: 1) If the subsystem syntax file could not be activated during system initialization, TO-IMPORT is displayed. 2) If the subsystem syntax file is deactivated by IMON, DEACTIVATED is displayed.	var(*LIST).SF(*LIST).STATE	S	" ACTIVE COEXISTENT DEACTIVATED HOLD IN-EXCHA IN-HOLD TO-IMPORT	a)
Syntax file type	var(*LIST).SF(*LIST).TYPE	S	*GROUP *SUBSYS *SYS	a)
Syntax file version	var(*LIST).SF(*LIST).VERSION	S	<text 1..12>	a)
Name of the system-wide LOGOFF procedure (called with INCLUDE-PROCEDURE)	var(*LIST).SYS-LOGOFF-INCL	S	*STD <filename 1..54>	b)
Name of the system-wide LOGOFF procedure (called with CALL-PROCEDURE)	var(*LIST).SYS-LOGOFF-PROC	S	*STD <filename 1..54>	b)
Name of the system-wide LOGON procedure (called with INCLUDE-PROCEDURE)	var(*LIST).SYS-LOGON-INCL	S	" *STD <filename 1..54>	b)
Name of the system-wide LOGON procedure (called with CALL-PROCEDURE)	var(*LIST).SYS-LOGON-PROC	S	" *STD <filename 1..54>	b)

(Part 2 of 2)

### Examples

```
/declare-var var-name=var(type=*structure),multiple-elm=*list  
/exec-cmd cmd=(show-sdf-parameters syntax-file-type=*sys),  
    text-output=*none,structure-output=var  
/show-var var,inf=*par(val=*c-literal)  
VAR(*LIST).SCOPE = '*TEMP'  
VAR(*LIST).SF(*LIST).NAME = 'BS2000'  
VAR(*LIST).SF(*LIST).TYPE = '*SYS'  
VAR(*LIST).SF(*LIST).VERSION = '18'  
VAR(*LIST).SF(*LIST).F-NAME = ':4V08:$TSOS.SYSSDF.SDF.047'  
VAR(*LIST).SF(*LIST).STATE = ''  
VAR(*LIST).SF(*LIST).PROF-ID = ''  
VAR(*LIST).SF(*LIST).HIERARCHY = ''  
*END-OF-VAR  
VAR(*LIST).SYS-LOGON-PROC = '$TSOS.SYS.SDF.LOGON.SYSPROC'  
VAR(*LIST).SYS-LOGON-INCL = '$TSOS.SYS.SDF.LOGON.SYSINCL'  
VAR(*LIST).SYS-LOGOFF-PROC = '$TSOS.SYS.SDF.LOGOFF.SYSPROC'  
VAR(*LIST).SYS-LOGOFF-INCL = '$TSOS.SYS.SDF.LOGOFF.SYSINCL'  
*END-OF-VAR  
*END-OF-CMD  
  
/exec-cmd cmd=(show-sdf-parameters syntax-file-type=*none),  
    text-output=*none,structure-output=var  
/show-var var,inf=*par(val=*c-literal)  
VAR(*LIST).SCOPE = '*TEMP'  
VAR(*LIST).SYS-LOGON-PROC = '$TSOS.SYS.SDF.LOGON.SYSPROC'  
VAR(*LIST).SYS-LOGON-INCL = '$TSOS.SYS.SDF.LOGON.SYSINCL'  
VAR(*LIST).SYS-LOGOFF-PROC = '$TSOS.SYS.SDF.LOGOFF.SYSPROC'  
VAR(*LIST).SYS-LOGOFF-INCL = '$TSOS.SYS.SDF.LOGOFF.SYSINCL'  
*END-OF-VAR
```

## SHOW-SELECTED-PRODUCT-VERSION

Show selected product version

<b>Description status:</b>	IMON-GPN V3.3A
<b>Functional area:</b>	Program control
<b>Domain:</b>	PROGRAM PROGRAMMING-SUPPORT SYSTEM-MANAGEMENT UTILITIES
<b>Privileges:</b>	STD-PROCESSING

### Function

The SHOW-SELECTED-PRODUCT-VERSION command allows nonprivileged users to check the product version of an installation unit or of a DSSM subsystem (TU), as selected with the SELECT-PRODUCT-VERSION command.

The command supports structured output in S variables (see [“Output in S variables” on page 7-38](#)).

### Format

#### SHOW-SELECTED-PRODUCT-VERSION

```

PRODUCT-NAME = *ALL / <text 1..30 without-sep>
, OUTPUT = *SYSOUT / *SYSLST(...)
  *SYSLST(...)
    | SYSLST-NUMBER = *STD / <integer 1..99>

```

**Operands**

**PRODUCT-NAME = \*ALL / <text 1..30 without-sep>(…)**

Specifies the name of the product. For subsystems (TU) loaded by DSSM this is the name of the subsystem; for IMON it is the name of an installation unit.

**OUTPUT =**

Determines where the output is sent.

**OUTPUT = \*SYSOUT**

The information is written to SYSOUT.

**OUTPUT = \*SYSLST(…)**

The information is written to SYSLST.

**SYSLST-NUMBER =**

SYSLST number.

**SYSLST-NUMBER = \*STD**

The information is written to the default SYSLST file.

**SYSLST-NUMBER = <integer 1..99>**

Explicit SYSLST number specification.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	32	IMO9101	Command terminated abnormally. Internal error in IMON-GPN
	64	IMO9100	Command not executed. Installation unit or version not found

**Output in S variables**

Output information	Name of the S variable	T	Contents	Condition
Product name (name of the installation unit)	var(*LIST).PRODUCT-NAME	S	<c-string 1..30>	
The version of the product defined for SCOPE=*PROGRAM	var(*LIST).PROGRAM-SELECTION	S	" <product-version 4..7>	
The version of the product defined for SCOPE=*SYSTEM	var(*LIST).SYSTEM-SELECTION	S	" <product-version 4..7>	
The version of the product defined for SCOPE=*TASK	var(*LIST).TASK-SELECTION	S	" <product-version 4..7>	

**Example**

```
/show-select-product
```

PRODUCT NAME	PROGRAM	TASK	SYSTEM
EDT		17.0	
SDF-A	04.1		

% IM09001 Command successfully processed

## SHOW-SERSLOG-STATUS

Request information on software error logging

**Description status:** BS2000 OSD/BC V10.0A  
**Functional area:** Error logging  
**Domain:** ERROR-LOGGING  
**Privileges:** TSOS  
OPERATING  
**Routing code:** A

### Function

The SHOW-SERSLOG-STATUS command issues a message providing information about the software error logging status (active or inactive). If SERSLOG is active, the name of the current SERSLOG file is also output (see below).

### Format

<b>SHOW-SERSLOG-STATUS</b>

### Return codes

(SC2)	SC1	Maincode	Meaning
2	0	CMD0001	No error
	0	NER0000	Internal error
	32	CMD0221	System error
	32	NER0000	Internal error
	64	NER1000	No authorization for command
	128	NER1010	A SERSLOG command is already being processed

### Example

```
/show-serslog-status  
% NER1060 SERSLOG ACTIVE. FILE : ':SBZ7:$TSOS.SYS.SERSLOG.2012-01-27.006.01'
```



## SHOW-SNAPSET-CONFIGURATION

Display information about existing Snapsets

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	File processing Job variables
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT SNAPSET
<b>Privileges:</b>	STD-PROCESSING TSOS HSMS-ADMINISTRATION OPERATING

### Function

The SHOW-SNAPSET-CONFIGURATION command outputs information concerning the Snapset concerned for a pubset. The output is directed to SYSOUT; it can optionally also be directed to SYSLST. The following information is output:

- Pubset-global information
  - Pubset catalog ID
  - Name of a save pool which is assigned to the pubset
  - Displays whether additional snap copies are to be created for the pubset on a remote disk storage system.  
When concurrent SRDF is used (Symmetrix/VMAX3 systems), the account of the remote disk storage system concerned (RA group) is displayed.
- Snapset-specific information
  - Snapset identification consisting of the Snapset ID (letter identifier) and relative age (historical sequence number)
  - Creation time (date and time) of the Snapset
  - Snapset status: either the CCOPY session ID concerned (created for Snapset access) or another status display

If no Snapset exists for the pubset, the command is rejected with the message DMS13D8.

The command supports structured output in S variables (see [“Output in S variable” on page 7-43](#)).

### *Privileged functions*

If the privileged user (privilege TSOS, OPERATING, HSMS administrator) requests information on a particular Snapset, the VSNs of the pubset volumes and the MNs of the assigned snap units of the local disk storage system are also output (in the case of remote mirroring, possibly also for the remote disk storage system).

### Format

```
SHOW-SNAPSET-CONFIGURATION
```

```
PUBSET = *DEFAULT-PUBSET / <cat-id 1..4>
```

```
,SNAPSET = *ALL / <name 1..1 with-low> / <integer -52..-1>
```

```
,OUTPUT = *SYSOUT / *SYSLST
```

### Operands

**PUBSET = \*DEFAULT-PUBSET / <cat-id 1..4>**

Catalog ID of the pubset about whose Snapsets information is to be provided. The default value is the catalog ID of the calling user's default pubset.

**SNAPSET =**

Specifies the Snapsets about which information is to be provided.

**SNAPSET = \*ALL**

Information about all Snapsets is output.

**SNAPSET = <name 1..1 with-low> / <integer -52..-1>**

Information about the specified Snapset is output, the Snapset being specified by means of the Snapset ID or its relative age (-1 corresponds to the latest Snapset). The maximum of 52 pubsets are distinguished by means of Snapset IDs specified which comprise letters from the 26 lowercase letters a to z and the 26 uppercase letters A to Z.

**OUTPUT =**

Specifies where the information is to be output.

**OUTPUT = \*SYSOUT**

The output is directed to SYSOUT.

**OUTPUT = \*SYSLST**

Output is written to SYSLST.

## Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
1	0	DMS13D8	No Snapset exists on the pubset
	32	CMD0216	Required authorization not available
	64	DMS1351	Internal error
	64	DMS1386	Error in the memory request
	64	DMS1389	Error in MSCF communication
	64	DMS138B	Pubset does not exist (no MRSCAT entry)
	64	DMS138C	Pubset not accessible
	64	DMS13D5	The Snapset specified does not exist
	64	DMS13DF	Subsystem SHC-OSD not available
	64	DMS13E5	No Snapset catalog exists on the pubset
	64	DMS13EC	Error in structured output in S variable
	64	DMS148F	GCF subsystem not available
1	64	DMS13D7	Internal error in Snapset management: Return code of GCF
7	64	DMS13D7	Internal error in Snapset management: Return code of CCOPY

## Output in S variable

The SNAPSET operand identifies the S variables which are to be created. The following specifications are possible for SNAPSET:

Notation used in command	Abbreviated form used in table
SNAPSET = *ALL	1
SNAPSET = <name 1..1 with-low> / <integer -52..-1>	
– Nonprivileged user:	2
– Privileged user:	3

Output information	Name of the S variable	T	Contents	Condition
Number of Snapsets: When SNAPSET=*ALL is specified, the number of Snapsets currently created, otherwise the value is 1	var(*LIST).NUM-OF-SNAPSETS	S	<integer 1..52>	1, 2, 3
Pubset catalog ID	var(*LIST).PUBSET	S	<cat-id>	1, 2, 3
Current setting for keeping additional snap copies on a remote disk storage system	var(*LIST).REMOTE-COPY	S	*NO *YES	1
Name of the save pool which is assigned to the pubset	var(*LIST).SAVE-POOL-NAME	S	*DEFAULT-POOL <name>	1

(Part 1 of 2)

## SHOW-SNAPSET-CONFIGURATION

Output information	Name of the S variable	T	Contents	Condition
Date when the Snapset was created	var(*LIST).SNAPSET(*LIST).CRE-DATE	S	<yyyy-mm-dd>	1, 2, 3
Time when the Snapset was created	var(*LIST).SNAPSET(*LIST).CRE-TIME	S	<hh:mm:ss>	1, 2, 3
Number of pubset volumes	var(*LIST).SNAPSET(*LIST).NUM-OF-VOL	S	<integer 1..255>	3
Displays whether an additional snap copy has been created on a remote disk storage system	var(*LIST).SNAPSET(*LIST).REMOTE-COPY	S	*NO *YES	3
Name of the save pool which is assigned to the Snapset In the case of VMAX3 systems, *DEFAULT-POOL is always displayed as no separate save pool exists here.	var(*LIST).SNAPSET(*LIST).SAVE-POOL-NAME	S	*DEFAULT-POOL <name>	2, 3
Snapset status: When access is possible, the CCOPY session ID (<x-text 8..8>) is displayed, otherwise the corresponding status display	var(*LIST).SNAPSET(*LIST).SESSION-ID	S	<x-text 8..8> CREATING ACTIVATE DELETING NOT_ACC.	1, 2, 3
Snapset ID	var(*LIST).SNAPSET(*LIST).SNAPSET-ID	S	a..z A..Z	1, 2, 3
Relative age of the Snapset	var(*LIST).SNAPSET(*LIST).SNAPSET-NR	S	<integer -52..-1>	1, 2, 3
MN of the assigned snap unit of the local disk storage system	var(*LIST).SNAPSET(*LIST).VOL(*LIST).SOURCE-SNAP-UNIT	S	<mnemo-name>	3
In the case of remote mirroring, MN of the assigned snap unit of the remote disk storage system Otherwise *NO	var(*LIST).SNAPSET(*LIST).VOL(*LIST).TARGET-SNAP-UNIT	S	*NO <mnemo-name>	3
VSN of a pubset volume	var(*LIST).SNAPSET(*LIST).VOL(*LIST).VOL	S	<vsn>	3

(Part 2 of 2)



- If the Snapset cannot be accessed, SESSION-ID (output field or S variable) displays the Snapset status. Meaning of the possible status displays:
- ACTIVATE, CREATING and DELETING are transient statuses which can occur during ongoing Snapset processing.
  - In the case of NOT\_ACC. the Snapset is currently not available or cannot be accessed. The /CHECK-SNAPSET-CONFIGURATION command enables the Snapset configuration to be checked, and under some circumstances the Snapset to be subsequently activated. Configuration problems may need to be rectified beforehand.

## Examples

### *Output in S variables*

```

/declare-var var-name=var1(type=*structure),multi-elem=*list
/exec-cmd cmd=(show-snapset-conf pubset=abn7),
          text-output=*none,structure-out=var1
/show-var var1,inf=*par(val=*c-literal)
VAR1(*LIST).PUBSET = 'ABN7'
VAR1(*LIST).NUM-OF-SNAPSETS = 2
VAR1(*LIST).SNAPSET(*LIST).SNAPSET-NR = ' -1'
VAR1(*LIST).SNAPSET(*LIST).SNAPSET-ID = 'b'
VAR1(*LIST).SNAPSET(*LIST).CRE-DATE = '2015-05-08'
VAR1(*LIST).SNAPSET(*LIST).CRE-TIME = '13:38:51'
VAR1(*LIST).SNAPSET(*LIST).SESSION-ID = '88042577'
*END-OF-VAR
VAR1(*LIST).SNAPSET(*LIST).SNAPSET-NR = ' -2'
VAR1(*LIST).SNAPSET(*LIST).SNAPSET-ID = 'a'
VAR1(*LIST).SNAPSET(*LIST).CRE-DATE = '2015-03-30'
VAR1(*LIST).SNAPSET(*LIST).CRE-TIME = '13:46:21'
VAR1(*LIST).SNAPSET(*LIST).SESSION-ID = '87042577'
*END-OF-VAR
VAR1(*LIST).SAVE-POOL-NAME = '*DEFAULT-POOL'
VAR1(*LIST).REMOTE-COPY = '*YES'
*END-OF-VAR

/declare-var var-name=var2(type=*structure),multiple-elem=*list
/exec-cmd cmd=(show-snapset-conf pubset=abn7,snapset=b),
          text-output=*none,structure-output=var2
/show-var var2,inf=*par(val=*c-literal)
VAR2(*LIST).PUBSET = 'ABN7'
VAR2(*LIST).NUM-OF-SNAPSETS = 1
VAR2(*LIST).SNAPSET(*LIST).SNAPSET-NR = ' -1'
VAR2(*LIST).SNAPSET(*LIST).SNAPSET-ID = 'b'
VAR2(*LIST).SNAPSET(*LIST).CRE-DATE = '2015-05-08'
VAR2(*LIST).SNAPSET(*LIST).CRE-TIME = '13:38:51'
VAR2(*LIST).SNAPSET(*LIST).SESSION-ID = '88042577'
VAR2(*LIST).SNAPSET(*LIST).SAVE-POOL-NAME = '*DEFAULT-POOL'
VAR2(*LIST).SNAPSET(*LIST).REMOTE-COPY = '*YES'
VAR2(*LIST).SNAPSET(*LIST).NUM-OF-VOL = 2
VAR2(*LIST).SNAPSET(*LIST).VOL(*LIST).VOL = 'ABN7.0'
VAR2(*LIST).SNAPSET(*LIST).VOL(*LIST).SOURCE-SNAP-UNIT = '9BED'
VAR2(*LIST).SNAPSET(*LIST).VOL(*LIST).TARGET-SNAP-UNIT = '9DEB'
*END-OF-VAR

```

```
VAR2(*LIST).SNAPSET(*LIST).VOL(*LIST).VOL = 'ABN7.1'  
VAR2(*LIST).SNAPSET(*LIST).VOL(*LIST).SOURCE-SNAP-UNIT = '9BEE'  
VAR2(*LIST).SNAPSET(*LIST).VOL(*LIST).TARGET-SNAP-UNIT = '9DEC'  
*END-OF-VAR  
*END-OF-VAR  
*END-OF-VAR
```

### *Output to SYSOUT*

```
/show-snapset-conf pubset=abn7
```

```
% PUBSET = 20S6 , SAVE-POOL-NAME = *DEFAULT-POOL, REMOTE-COPY = *NO  
% SNAP-ID CREATION-DATE/TIME SESSION-ID SNAP-ID CREATION-DATE/TIME SESSION-ID  
% -1 b 2015-05-08 13:38:51 88042577 -2 a 2015-03-30 13:46:21 87042577
```

```
/show-snapset-conf pubset=abn7,snapset=b
```

```
% PUBSET = ABN7 , SAVE-POOL-NAME = *DEFAULT-POOL  
% SNAP-ID CREATION-DATE/TIME SESSION-ID  
% -1 b 2015-05-08 13:38:51 88042577  
% VOLUME SOURCE-UNIT TARGET-UNIT  
% ABN7.0 9BED 9DEB  
% ABN7.1 9BEE 9DEC
```

## SHOW-SNAPSHOT-STATUS

Display information about the dump generator

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	System control and optimization
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	TSOS OPERATING
<b>Routing code:</b>	R

### Function

The SHOW-SNAPSHOT-STATUS command displays the following information about the dump generator SNAP:

- Status of the SNAP dump function (enabled or disabled)
- Maximum SNAP runtime (value of the system parameter SNAPTIME)
- Information about the system files of SNAP

### Format

<b>SHOW-SNAPSHOT-STATUS</b>

### Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
	1	CMD2201	Error in function call: Function errored
	3	CMD2203	Error in function call: Version errored
	32	CMD0221	System error
	64	CMD0216	Command privilege missing
	64	NSP3182	Semantic error

**Output format**

The information is output on a line-by-line basis.

*Sample output*

```

SNAPSHOT-STATUS: READY
SNAPTIME       : 24                SECONDS
SNAPFILE.DAT   : :4V08:$TSOS.SNAPFILE.DAT
SNAPFILE       : :4V08:$TSOS.SNAPFILE
                SIZE      : 153744          PAM PAGES
                EXTENTS   : 2

                EXTENT#  VSN      EXTENT_SIZE
                1        4V08.0  153600
                2        4V08.1  144
    
```

*Explanation of the output lines*

Output line	Meaning and possible values
SNAPSHOT-STATUS	<p>Shows whether the SNAP dump function is initialized for the active session. Possible values:</p> <ul style="list-style-type: none"> <li>- OFF SNAP dump function is disabled (after system startup with SNAP-ACTIVE-SWITCH=OFF parameter or after /DEACTIVATE-SNAPSHOT)</li> <li>- READY SNAP dump function is enabled (after system startup with SNAP-ACTIVE-SWITCH=ON parameter or after /ACTIVATE-SNAPSHOT)</li> <li>- PREVIOUS Data of a SNAP dump was not copied to the \$SYSSNAP.xxx file</li> <li>- NOT_INIT Not all resources are ready</li> <li>- IN_INIT Resources provided</li> <li>- IN_PROCESS A SNAP dump will be created</li> <li>- IN_COPY Data of a SNAP dump will be copied to the \$SYSSNAP.xxx file</li> <li>- LOCKED The Snapshot process was suspended as the result of an internal error (see messages or SERSLOG entries). Systems support must initiate measures to correct this error.</li> </ul>

Table 160: Output lines of the SHOW-SNAPSHOT-STATUS command



Output line	Meaning and possible values
SNAPTIME	Currently set maximum SNAP runtime in seconds which is set using the system parameter SNAPTIME. Possible values: <integer 8..24>, where a value < 8 is shown with 8 and a value > 24 with 24.
SNAPFILE.DAT	Complete path name of the system file: :\$TSOS.SNAPFILE.DAT. If the file does not exist "-" is output.
SNAPFILE	Complete path name of the system file: :\$TSOS.SNAPFILE. If the file does not exist "-" is output.
SIZE	Size of the file in PAM pages
VSN	VSN of the pubset disk on which the file is located
EXTENTS	Number of file extents
If the system file \$TSOS.SNAPFILE exists further information is output.	
SIZE	Size of the system file \$TSOS.SNAPFILE in PAM pages
EXTENTS	Number of extents of the system file \$TSOS.SNAPFILE
Detailed information on the extents is provided in a table with the following columns:	
EXTENT#	Sequence number of the extent, beginning with 1
VSN	VSN of the pubset disk on which the file is located
EXTENT_SIZE	Size of the extent in PAM pages

Table 160: Output lines of the SHOW-SNAPSHOT-STATUS command

# SHOW-SPACE-SATURATION-LEVELS

Display space saturation thresholds

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS OPERATING SW-MONITOR-ADMINISTRATION
<b>Routing code:</b>	@

### Function

The SHOW-SPACE-SATURATION-LEVELS command provides system support with information for monitoring space saturation on pubsets.

In the case of an SF pubset these attributes are cross-pubset attributes, and in the case of an SM pubset the attributes are defined specifically for each volume set.

The thresholds for monitoring space saturation can be modified using the MODIFY-SPACE-SATURATION-LEVELS command.

The command supports structured output in S variables (see “<catid>” on page 7-56).



The thresholds for space saturation are also contained in the output of the SHOW-PUBSET-PARAMETERS command.

### Restrictions

In the case of SF pubsets in a shared pubset network, only the information displayed on the pubset master is valid. The information displayed on a pubset slave becomes valid if that slave is made the pubset master.

**Format**

```
SHOW-SPACE-SATURATION-LEVELS
```

```

PUBSET = *ALL / <cat-id 1..4>
, SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *LOCAL / *REMOTE / *ACCESSIBLE /
    *LOCAL-ACCESSIBLE / *REMOTE-ACCESSIBLE / *HSMS-SUPPORTED /
    *SPEEDCAT / *PAGING / *SINGLE-FEATURE / *SYSTEM-MANAGED /
    *INACCESSIBLE / *QUIET / *DEFINED-XCS-CONFIGURATED /
    *XCS-CONFIGURATED
, VOLUME-SET = *ALL / <cat-id 1..4>

```

**Operands**

**PUBSET = \*ALL / <cat-id 1..4>**

Specifies the pubsets for which the space saturation values are to be displayed.

**PUBSET = \*ALL**

The space saturation values for all pubsets are displayed. The SELECT-PUBSET operand can be used to restrict the selection to pubsets with specific attributes.

**PUBSET = <cat-id 1..4>**

ID of the subset whose space saturation values are to be displayed.

**SELECT-PUBSET = \*ALL / \*EXCLUSIVE / \*SHARED / \*LOCAL / \*REMOTE / \*ACCESSIBLE / \*LOCAL-ACCESSIBLE / \*REMOTE-ACCESSIBLE / \*HSMS-SUPPORTED / \*SPEEDCAT / \*PAGING / \*SINGLE-FEATURE / \*SYSTEM-MANAGED / \*INACCESSIBLE / \*QUIET / \*DEFINED-XCS-CONFIGURATED / \*XCS-CONFIGURATED**

Specifies whether information is required only for specific pubsets. This restriction is useful if \*ALL is used in the PUBSET operand to select all pubsets.

**SELECT-PUBSET = \*ALL**

The space saturation values for all the pubsets specified in the PUBSET operand are displayed.

**SELECT-PUBSET = \*EXCLUSIVE**

The space saturation values for all pubsets imported exclusively are displayed.

**SELECT-PUBSET = \*SHARED**

The space saturation values for all pubsets imported as shared are displayed.

**SELECT-PUBSET = \*LOCAL**

The space saturation values for all locally imported pubsets are displayed. The space saturation values for the pubsets which cannot be accessed are also displayed.

**SELECT-PUBSET = \*REMOTE**

The space saturation values for all pubsets for which the \*LOCAL attribute does not apply are displayed.

**SELECT-PUBSET = \*ACCESSIBLE**

The space saturation values for all pubsets which can be accessed are displayed.

**SELECT-PUBSET = \*LOCAL-ACCESSIBLE**

The space saturation values for all locally accessible, i.e. imported, pubsets are displayed.

**SELECT-PUBSET = \*REMOTE-ACCESSIBLE**

The space saturation values for all pubsets which have not been imported locally but whose file catalog can be accessed over an MSCF connection are displayed.

**SELECT-PUBSET = \*HSMS-SUPPORTED**

The space saturation values for all pubsets which are supported by the HSMS subsystem are displayed.

**SELECT-PUBSET = \*SPEEDCAT**

The space saturation values for all SF pubsets whose file catalog can be accessed in the local system via SPEEDCAT are displayed.

**SELECT-PUBSET = \*PAGING**

The space saturation values for all pubsets with paging areas which are used locally are displayed.

**SELECT-PUBSET = \*SINGLE-FEATURE**

The space saturation values for all SF pubsets are displayed.

**SELECT-PUBSET = \*SYSTEM-MANAGED**

The space saturation values for all SM pubsets are displayed.

**SELECT-PUBSET = \*INACCESSIBLE**

The space saturation values for all pubsets which cannot be accessed are displayed.

**SELECT-PUBSET = \*QUIET**

The space saturation values for all pubsets whose MSCF connections no longer exist are displayed.

**SELECT-PUBSET = \*DEFINED-XCS-CONFIGURATED**

The space saturation values for all pubsets which are defined as XCS pubsets in the MRS catalog are displayed.

**SELECT-PUBSET = \*XCS-CONFIGURATED**

The space saturation values for all XCS pubsets are displayed.

**VOLUME-SET = \*ALL / <cat-id 1..4>**

Identifies the volume sets whose space saturation values are to be displayed.

**VOLUME-SET = \*ALL**

The space saturation values for all volume sets are displayed.

**VOLUME-SET = <cat-id 1..4>**

ID of the volume set for which the space saturation values are to be displayed.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	32	CMD0221	Internal system error
	32	CMD2009	Error during output in S variables (e.g. subsystem not available)
	64	CMD0216	Privilege error
	64	DMS1381	Volume set conflict
	64	DMS138B	Pubset does not exist or not with specified attribute
	64	DMS138E	Volume set does not exist
	64	DMS1396	Invalid host name
	128	DMS1386	Not enough class 4/5 memory

### Output format

The output starts with a header line consisting of the command name. The output information per pubset breaks down into three groups of output blocks:

1. output block for pubset-global summary information
2. output blocks for pubset-global detailed information
3. output blocks for volume set-specific detailed information

### Pubset-global summary information

The output block for pubset-global summary information consists of a row of values which at the same time acts as a header line introducing the information output for a pubset. The summary information has the following layout:

```
PUBSET <catid>: <type>, CTL-SET = (<ctlid>, <type>), <status>, <hsms>
```

#### *Key to the output values*

<catid>	pubset ID
<type>	Pubset type; possible values: SINGLE-FEATURE or SYSTEM-MANAGED
<ctlid>	Control volume set ID (for SM pubsets)
<type>	Device type of control volume set's system disk (for SM pubsets)
<status>	Pubset accessibility; possible values:
	ACC                    Pubset is locally accessible.
	INACC                  Pubset is not locally accessible.
<hsms>	HSMS subsystem support (for SM pubsets); possible values:
	HSMS-SUP              Pubset is supported by HSMS.
	NO-HSMS-SUP          Pubset is not supported by HSMS.

**Pubset-global detailed information**

Information on the space saturation thresholds and on space reserved for a ZIP startup is displayed only for SF pubsets (for SM pubsets see “<catid>” on page 7-54).

The header line divides the subsequent rows of values into a three-column table. Each row of values contains the parameter name in the first column, the defined pubset-global values (DEFINED) in the second and the currently set values (CURRENT) in the third.

The output block is introduced by the following header line:

```
--- SPACE SATURATION      --- + --- DEFINED --- + --- CURRENT ---
```

Then the following rows of values are displayed:

SPACE SATURATION LEVEL 1	BY SYSTEM	<number> HP
	<number> HP	
SPACE SATURATION LEVEL 2	BY SYSTEM	<number> HP
	<number> HP	
SPACE SATURATION LEVEL 3	BY SYSTEM	<number> HP
	<number> HP	
SPACE SATURATION LEVEL 4	BY SYSTEM	<number> HP
	<number> HP	
SPACE SATURATION LEVEL 5	BY SYSTEM	<number> HP
	<number> HP	
ZIP LEVEL	BY SYSTEM	<number> HP
	<number> HP	

**Volume set-specific information**

In the case of an SM pubset the information on the space saturation thresholds and on space reserved for a ZIP startup is displayed for each volume set. The information on a volume set is preceded by the following header line:

The volume set-specific information begins with the following header line:

```
--- VOLUME SET INFORMATION -----
```

This is followed by the output information for all volume sets of the SM pubset or for the volume set specified explicitly. The output information for each volume set begins with the volume set summary:

```
VOLUME-SET <catid>: <type> <status>
```

Meaning of the output values:

- <catid>        volume set ID
- <type>        VOLRES device type
- <status>       Volume operating status:
  - NORMAL-USE    The volume set is in operation and therefore accessible.
  - IN-HOLD        The volume set is temporarily not in operation.
  - DEFECT         The volume set is defective.
  - DEFINED-ONLY  The volume set is defined but not accessible.

Information on space saturation thresholds and on space reserved for a ZIP startup is then provided.

The header line divides the subsequent rows of values into a three-column table. Each row of values contains the parameter name in the first column, the defined volume-set-specific values (DEFINED) in the second and the currently set values (CURRENT) in the third.

```
--- SPACE SATURATION        --- + --- DEFINED    --- + --- CURRENT ---
```

SPACE SATURATION LEVEL 1	BY SYSTEM	<number> HP
	<number> HP	
SPACE SATURATION LEVEL 2	BY SYSTEM	<number> HP
	<number> HP	
SPACE SATURATION LEVEL 3	BY SYSTEM	<number> HP
	<number> HP	
SPACE SATURATION LEVEL 4	BY SYSTEM	<number> HP
	<number> HP	
SPACE SATURATION LEVEL 5	BY SYSTEM	<number> HP
	<number> HP	
ZIP LEVEL	BY SYSTEM	<number> HP
	<number> HP	



## Output in S variables

Some S variables are generated only for the volume-set-specific information of an SM pubset. These are labeled with "1" in the Condition column of the table below.

Output information	Name of the S variable	T	Contents	Condition
Current value of saturation level 1 *UNDEF=no definition (always this value for SM pubset)	var(*LIST).ALLOC-CURR.SAT-LEVEL1	S	*UNDEF <integer 1..2147483647>	
Current value of saturation level 2 *UNDEF=no definition (always this value for SM pubset)	var(*LIST).ALLOC-CURR.SAT-LEVEL2	S	*UNDEF <integer 1..2147483647>	
Current value of saturation level 3 *UNDEF=no definition (always this value for SM pubset)	var(*LIST).ALLOC-CURR.SAT-LEVEL3	S	*UNDEF <integer 1..2147483647>	
Current value of saturation level 4 *UNDEF=no definition (always this value for SM pubset)	var(*LIST).ALLOC-CURR.SAT-LEVEL4	S	*UNDEF <integer 1..2147483647>	
Current value of saturation level 5 *UNDEF=no definition (always this value for SM pubset)	var(*LIST).ALLOC-CURR.SAT-LEVEL5	S	*UNDEF <integer 1..2147483647>	
Current ZIP level *UNDEF=no definition (always this value for SM pubset)	var(*LIST).ALLOC-CURR.ZIP-LEVEL	S	*UNDEF <integer 0..2147483647>	
Defined saturation level 1	var(*LIST).ALLOC-DEFI.SAT-LEVEL1	S	*BY-SYS <integer 1..2147483647>	
Defined saturation level 2	var(*LIST).ALLOC-DEFI.SAT-LEVEL2	S	*BY-SYS <integer 1..2147483647>	
Defined saturation level 3	var(*LIST).ALLOC-DEFI.SAT-LEVEL3	S	*BY-SYS <integer 1..2147483647>	
Defined saturation level 4	var(*LIST).ALLOC-DEFI.SAT-LEVEL4	S	*BY-SYS <integer 1..2147483647>	
Defined saturation level 5	var(*LIST).ALLOC-DEFI.SAT-LEVEL5	S	*BY-SYS <integer 1..2147483647>	
Defined ZIP level (*UNDEF for SM pubset)	var(*LIST).ALLOC-DEFI.ZIP-LEVEL	S	*BY-SYS <integer 0..2147483647>	
Device type of the system disk of the control volume set; *NO for SF pubsets	var(*LIST).CONTR-DEV-TYPE	S	*NO <c-string 1..8>	

(Part 1 of 3)

## SHOW-SPACE-SATURATION-LEVELS

Output information	Name of the S variable	T	Contents	Condition
ID of the control volume set; *NO for SF pubsets	var(*LIST).CONTR-VOLSET	S	*NO FALSE=none	
HSMS support for the pubset *NO=pubset is not supported *STD=for single-feature pubsets *YES=pubset is supported	var(*LIST).HSMS-SUP	S	*NO *STD *YES	
Pubset ID	var(*LIST).PUBSET-ID	S	FALSE=none	
Pubset type	var(*LIST).PUBSET-TYPE	S	*SINGLE-FEATURE *SYS-MANAGE	
Availability of the pubset *ACCESSIBLE=locally accessible *INACCESSIBLE=not locally accessible	var(*LIST).STA	S	*ACCESSIBLE *INACCESSIBLE	
Device type of the system disk of the volume set	var(*LIST).VOLSET(*LIST).DEV-TYPE	S	*UNKNOWN <device>	1
Current value of saturation level 1	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL1	S	*UNDEF <integer 1..2147483647>	1
Current value of saturation level 2	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL2	S	*UNDEF <integer 1..2147483647>	1
Current value of saturation level 3	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL3	S	*UNDEF <integer 1..2147483647>	1
Current value of saturation level 4	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL4	S	*UNDEF <integer 1..2147483647>	1
Current value of saturation level 5	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL5	S	*UNDEF <integer 1..2147483647>	1
Current ZIP level	var(*LIST).VOLSET(*LIST).SAT-CURR.ZIP-LEVEL	S	*UNDEF <integer 0..2147483647>	1
Defined saturation level 1	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL1	S	*BY-SYS <integer 1..2147483647>	1
Defined saturation level 2	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL2	S	*BY-SYS <integer 1..2147483647>	1
Defined saturation level 3	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL3	S	*BY-SYS <integer 1..2147483647>	1

(Part 2 of 3)

Output information	Name of the S variable	T	Contents	Condition
Defined saturation level 4	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL4	S	*BY-SYS <integer 1..2147483647>	1
Defined saturation level 5	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL5	S	*BY-SYS <integer 1..2147483647>	1
Defined ZIP level	var(*LIST).VOLSET(*LIST).SAT-DEFI.ZIP-LEVEL	S	*BY-SYS <integer 0..2147483647>	1
Status of the volume set *DEFECT=permanently inaccessible (defective) *DEFINED=not available, all that exists is an entry in the configuration file *IN-HOLD=temporarily not accessible (frozen) *NORMAL=available	var(*LIST).VOLSET(*LIST).STA	S	*DEFECT *DEFINED *IN-HOLD *NORMAL	1
Volume set ID	var(*LIST).VOLSET(*LIST).VOLSET	S	<vsid>	1

(Part 3 of 3)

### Example

```

/show-space-saturation-levels pubset=x
%-----
%COMMAND: SHOW-SPACE-SATURATION-LEVELS
%-----
PUBSET X      : SINGLE-FEATURE, ACC
---- SPACE SATURATION      +-----+ ---- DEFINED ---- + ---- CURRENT ----
SPACE SATURATION LEVEL 1   | BY SYSTEM          | 939      HP
SPACE SATURATION LEVEL 2   | BY SYSTEM          | 473      HP
SPACE SATURATION LEVEL 3   | BY SYSTEM          | 240      HP
SPACE SATURATION LEVEL 4   | 6                  HP | 6        HP
SPACE SATURATION LEVEL 5   | BY SYSTEM          | 6        HP
ZIP LEVEL                   | BY SYSTEM          | 6        HP
%-----

```

## SHOW-SPACEPRO-PARAMETERS

Display SPACEPRO parameters

<b>Description status:</b>	SPACEPRO V1.0A
<b>Functional area:</b>	Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS

### Function

The SHOW-SPACEPRO-PARAMETERS command displays the current settings of the SPACEPRO parameters in the local system. If the parameters contain the LOGON password of the user ID for PROP-XT operations, this is only displayed when it is explicitly requested (PASSWORD-INFORMATION=\*FULL operand).

### Format

```
SHOW-SPACEPRO-PARAMETERS
```

```
PASSWORD-INFORMATION = *SUMMARY / *FULL
```

### Operands

#### **PASSWORD-INFORMATION = \*SUMMARY**

Specifies how the LOGON password of the operator user ID is to be displayed. The default value is \*SUMMARY, i.e. the system only shows whether a LOGON password has been entered (output YES, NO or OWN).

#### **PASSWORD-INFORMATION = \*FULL**

An entered LOGON password is output explicitly in interactive mode. In batch mode the output takes place in the same way as for \*SUMMARY.

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	SPP0703	Error reading the SPACEPRO parameters
	130	SDP0099	Insufficient storage space

**Output format**

An information line with the parameter name and its current value is output for each SPACEPRO parameter. The values shown in the sample output below correspond to the default settings after SPACEPRO has been installed.

*Sample output*

```

/show-spacepro-par
LOCK-WAIT-TIME      : 60 second(s)
LOCK-RETRIES       : 3
SATURATION-LEVEL   : 3
BLOCKING-TIME      : 24 hour(s)
CLEAR-VOLUME-TIME  : 300 second(s)
CHECK-PUBSET-MIRROR : NO
OPERATOR-USER-ID   : SYSOPR
OPERATOR-PASSWORD  : *NO
OPERATOR-ROLE      : SYSADM
    
```

*Explanation of the information lines*

Parameter	Meaning
LOCK-WAIT-TIME	Wait time for an operation to be repeated which could not be executed because of a lock conflict. Possible values: <integer 1..3600> seconds
LOCK-RETRIES	Maximum number of retries for an operation which could not be executed because of a lock conflict. Possible values: <integer 1..100> or UNLIM
SATURATION-LEVEL	Saturation level as a trigger criterion for automatic extension: Specification of the operand of the same name if the *BY-PARAMETER value is specified in the MODIFY-PUBSET-SPACEPRO-OPTIONS command. Possible values: <integer 1..5>
BLOCKING-TIME	Minimum time between two automatic extensions: Specification of the operand of the same name if the *BY-PARAMETER value is specified in the MODIFY-PUBSET-SPACEPRO-OPTIONS command. Possible values: <ul style="list-style-type: none"> <li>- &lt;time&gt; for minimum time in the format hh:mm:ss</li> <li>- &lt;integer 0..999&gt; hour(s) when hours are specified</li> <li>- *UNLIMITED</li> </ul>
CLEAR-VOLUME-TIME	Specification of the operand of the same name if the *BY-PARAMETER value is specified in the MOVE-SPACEPRO-DISK command. Possible values: <integer 1..65280> seconds

Table 161: Output of the SHOW-SPACEPRO-PARAMETERS command (Part 1 of 2)

## SHOW-SPACEPRO-PARAMETERS

---

Parameter	Meaning
CHECK-PUBSET-MIRROR	Specification regarding the homogeneity check in the event of a pubset extension: Specification of the operand of the same name if the *BY-PARAMETER value is specified in the MODIFY-PUBSET-SPACEPRO-OPTIONS or MOVE-SPACEPRO-DISK command. Possible values: NO or YES
OPERATOR-USER-ID	User ID for executing PROP-XT operations
OPERATOR-PASSWORD	LOGON password of the user ID. Possible values: <ul style="list-style-type: none"><li>– <i>PASSWORD-INFORMATION</i>=*SUMMARY: Passwords other than *NO and *OWN are displayed with *YES</li><li>– <i>PASSWORD-INFORMATION</i>=*FULL: Passwords other than *NO and *OWN are displayed explicitly (as &lt;c-string&gt; or &lt;x-string&gt;)</li></ul>
OPERATOR-ROLE	Operator role for the PROP-XT interface

Table 161: Output of the SHOW-SPACEPRO-PARAMETERS command (Part 2 of 2)

## SHOW-SPACEPRO-STATUS

Display status of pubset monitoring

<b>Description status:</b>	SPACEPRO V1.0A
<b>Functional area:</b>	Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS

### Function

The SHOW-SPACEPRO-STATUS command displays the status of the SPACEPRO monitor and the version and date of SPACEPRO.

When necessary, internal command processing utilizes commands which require the PROP-ADMINISTRATION privilege.

### Format

<b>SHOW-SPACEPRO-STATUS</b>

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	SPP0305	PROP-XT subsystem not available
	64	SPP0311	Unexpected return code of the command specified in the insert
	64	SPP0312	PROP-XT process could not be started
	64	SPP0314	PROP-XT object could not be generated
	130	SDP0099	Insufficient storage space

### Output format

The version and date of SPACEPRO and the status of the SPACEPRO monitor are output in the following information lines:

```
SPACEPRO /V1.0A00 (2011-11-15)  
SPACEPRO-MONITOR-STATUS: <status>
```

The possible values for <status> are `STARTED` when the SPACEPRO monitor is active or `NOT STARTED` if the monitor is not active.



## SHOW-SPOOL-CHARACTER-SETS

Request information on character sets

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION SPOOL-PRINT-SERVICES
<b>Privileges:</b>	STD-PROCESSING PRINT-SERVICE-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
<b>Routing code:</b>	\$

### Function

The SHOW-SPOOL-CHARACTER-SETS command provides information on data from the specified character set. The number of character sets listed can be freely limited by specifying selection criteria. All those character sets are selected whose entry contains the values specified in the relevant operands (logical ANDing).

The SHOW-SPOOL-CHARACTER-SETS operands have the same names and meanings as the operands of the SPSEIVE statement ADD-SPOOL-CHARACTER-SET. The operand value \*ALL (usually the default) means that the respective operand will not be used as a selection criterion.

The command supports structured output in S variables (see [“Output in S variables” on page 7-71](#)).

## Format

(Part 1 of 2)

## SHOW-SPOOL-CHARACTER-SETS

,**SELECT** = \*ALL / \*PARAMETERS(...)

\*PARAMETERS(...)

**CHARACTER-SET-NAME** = \*ALL / <alphanum-name 1..3 with-wild(24)> /

list-poss(255): \*STD / <alphanum-name 1..3 with-wild(24)> /

,**OWNER** = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*OWN / \*NONE / <name 1..8>

,**COLOUR** = \*ALL / list-poss(9): \*BLACK / \*MAGENTA / \*BLUE / \*GREEN / \*YELLOW /

\*CYAN / \*NEUTRAL / \*RED / \*IGNORE

,**WEIGHT** = \*ALL / list-poss(4): \*LIGHT / \*NORMAL / \*BOLD / \*IGNORE

,**CHARACTER-TYPE** = \*ALL / list-poss(16): \*OCR-A / \*OCR-B / \*GOTHIC / \*GRAPHIC /

\*NONE / \*DATA / \*COURIER / \*FONT-1 / \*FONT-2 / \*FONT-3 / \*FONT-4 /

\*FONT-5 / \*FONT-6 / \*FONT-7 / \*FONT-8 / \*FONT-9 / \*FONT-10 / \*FONT-11 /

\*FONT-12 / \*FONT-13 / \*FONT-14 / \*FONT-15 / \*FONT-16 / \*IGNORE

,**CHARACTER-STYLE** = \*ALL / list-poss(3): \*STRAIGHT / \*ITALICS / \*IGNORE

,**UNDERSCORE** = \*ALL / list-poss(3): \*YES / \*NO / \*IGNORE

,**CHARACTERS-PER-INCH** = \*ALL / \*IGNORE / <integer 1..100> / \*RANGE(...)

\*RANGE(...)

**LOW** = <integer 1..100>

**HIGH** = <integer 1..100>

,**LINES-PER-INCH** = \*ALL / list-poss(9): 3 / 4 / 6 / 8 / 10 / 12 / 15 / 20 / 24

,**LANGUAGE** = \*ALL / list-poss(16): \*INTERNATIONAL / \*ENGLISH / \*USA / \*BELGIAN / \*FRENCH /

\*FRENCH / \*DUTCH / \*GERMAN / \*NORWEGIAN / \*SWEDISH / \*DANISH /

\*SPANISH / \*SWISS / \*ITALIAN / \*ARABIC / \*FARSI / \*NONE / \*ISO-8859-1 /

\*ISO-8859-2 / \*ISO-8859-3 / \*ISO-8859-3 / \*ISO-8859-4 / \*ISO-8859-5 / \*ISO-8859-6 /

\*ISO-8859-7 / \*ISO-8859-8 / \*ISO-8859-9 / \*IGNORE

,**NEAR-LETTER-QUALITY** = \*ALL / list-poss(3): \*YES / \*NO / \*IGNORE

,**ACCESS-DATE** = \*ANY / \*TODAY / \*INTERVAL(...)

\*INTERVAL(...)

**FROM** = 1950-01-01 / <date with-comp>

**TO** = \*TODAY / <date with-comp>

```

,EXCEPT = *NONE / *PARAMETERS(...)
  *PARAMETERS(...)
    CHARACTER-SET-NAME = *NONE / <alphanum-name 1..3 with-wild(24)> /
      list-poss(16): *STD /<alphanum-name 1..3>
    ,OWNER = *NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16): *OWN / <name 1..8>
,SERVER-NAME = *HOME / <alphanum-name 1..8>
,CLUSTER-NAME = *LOCAL-CLUSTER / <alphanum-name 1..8>

```

## Operands

**SELECT = \*ALL / \*PARAMETERS(...)**

Specifies from what character sets information is to be output.

**SELECT = \*PARAMETERS(...)**

Initiates a list of selection criteria.

**CHARACTER-SET-NAME = \*ALL / <alphanum-name 1..3 with-wild(24)> /**

**list-poss(255): \*STD / <alphanum-name 1..3>**

The selection criterion is the name of the character set. Specifying \*STD designates the standard character set of the same name.

**OWNER = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*NONE / \*OWN / <name 1..8>**

The selection criterion is the user ID of the user who created the character set.

Nonprivileged users may only specify \*ALL or \*OWN.

**COLOUR = ALL / list-poss(9): \*BLACK / \*MAGENTA / \*BLUE / \*GREEN / \*YELLOW / \*CYAN / \*RED / \*NEUTRAL / \*IGNORE**

The selection criterion is the color.

**WEIGHT = \*ALL / list-poss(4): \*LIGHT / \*NORMAL / \*BOLD / \*IGNORE**

The selection criterion is the line weight.

**CHARACTER-TYPE = ALL / list-poss(16): \*OCR-A / \*OCR-B / \*GOTHIC / \*GRAPHIC / \*NONE / \*DATA / \*COURIER / \*FONT-1 / \*FONT-2 / \*FONT-3 / \*FONT-4 / \*FONT-5 / \*FONT-6 / \*FONT-7 / \*FONT-8 / \*FONT-9 / \*FONT-10 / \*FONT-11 / \*FONT-12 / \*FONT-13 / \*FONT-14 / \*FONT-15 / \*FONT-16 / \*IGNORE**

The selection criterion is the font.

**CHARACTER-STYLE = \*ALL / list-poss(3): \*STRAIGHT / \*ITALICS / \*IGNORE**

The selection criterion is the type size specified for the character set.

**UNDERScore = \*ALL / list-poss(3): \*YES / \*NO / \*IGNORE**

The selection criterion is whether or not underscoring has been specified for the character set.

**CHARACTERS-PER-INCH = \*ALL / <integer 1..100> / \*IGNORE / \*RANGE(...)**

The selection criterion is the character density. (\*IGNORE and <integer 1..100> are only available as of RSO2.2A.)

**CHARACTERS-PER-INCH = \*RANGE(...)**

Specifies a value range. All character sets whose character density is within the specified range are output.

**LOW = <integer 1..100>**

Lower range limit.

**HIGH = <integer 1..100>**

Upper range limit.

**LINES-PER-INCH = \*ALL / list-poss(9): 3 / 4 / 6 / 8 / 10 / 12 / 15 / 20 / 24**

The selection criterion is the line density.

**LANGUAGE = \*ALL / list-poss(16): \*INTERNATIONAL / \*ENGLISH / \*USA / \*BELGIAN / \*FRENCH / \*DUTCH / \*GERMAN / \*NORWEGIAN / \*SWEDISH / \*DANISH / \*SPANISH / SWISS / ITALIAN / NONE / IGNORE / \*ARABIC / \*FARSI / \*ISO-8859-1 / \*ISO-8859-2 / \*ISO-8859-3 / \*ISO-8859-4 / \*ISO-8859-5 / \*ISO-8859-6 / \*ISO-8859-7 / \*ISO-8859-8 / \*ISO-8859-9**

The selection criterion is the language specified for the character set.

**NEAR-LETTER-QUALITY = \*ALL / list-poss(3): \*YES / \*NO / \*IGNORE**

The selection criterion is the indicator for NLQ quality in the character set.

**ACCESS-DATE = \*ANY / \*TODAY / \*INTERVAL(...)**

The selection criterion is the date of the last change or the last utilization within a print process. This date may be required as an additional criterion for the output of the form entry. It can be a specific date or a date range.

**ACCESS-DATE = \*TODAY**

The last modification or change was performed on the current date.

**ACCESS-DATE = \*INTERVAL(...)**

Specifies a date range.

**FROM = 1950-01-01 / <date with-compl>**

Earliest date in the date range.

**TO = \*TODAY / <date with-compl>**

Latest date in the date range. The current date is set by default.

**EXCEPT = \*NONE / \*PARAMETERS(...)**

Specifies what character sets are to be excluded from the selection (i.e. not taken into account). Specifying NONE (the default) means the operand is not used as a selection criterion.

**EXCEPT = \*PARAMETERS(...)**

Initiates a list of selection criteria.

**CHARACTER-SET-NAME = \*NONE / <alphanum-name 1..3 with-wild(24)> /****list-poss(16): \*STD / <alphanum-name 1..3>**

The character sets with the specified characteristics are not to be taken into account. Specifying \*NONE (the default) means the operand is not used as a selection criterion.

**OWNER = \*NONE / alphanum-name 1..8 with-wild(24)> /****list-poss(16): \*OWN / <name 1..8>**

The character sets with the specified characteristics are not to be taken into account. Specifying \*NONE (the default) means the operand is not used as a selection criterion.

Nonprivileged users may only specify values other than \*NONE for OWNER if they specified SELECT=PARAMETERS(OWNER=\*OWN) above.

**CLUSTER-NAME = \*LOCAL-CLUSTER / <alphanum-name 1..8>**

Specifies the cluster for which information is to be output. Only BS2000 clusters can be specified.

**SERVER-NAME = \*HOME / <alphanum-name 1..8>**

Specifies the server for which information is to be output.

**Notes**

- The value \*STD is supported for reasons of compatibility. Which parameter file is used by default as the information source depends on the operating mode (dynamic, static, from configuration, from command.)
- If a SPOOL parameter file is assigned (statically or dynamically), this is the default source. If no parameter file is assigned, the default source is the SPOOL parameter file of the home system.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SPM0413	No character set present
2	0	SPM0518	No authorization
	1	CMD0202	Syntax error
	32	SCP0974	System error. Command rejected

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning
	64	SCP0975	No authorization for command

(Part 2 of 2)

**Output**

```
C-S-NAME COLOUR WEIGHT CH-TYPE CH-STYLE UND CPI LPI LANGUAGE NLQ OWNER
@@@@@@@@ @@@@@@ @@@@@@ @@@@@@@@ @@@@@@@@ @@ # ## @@@@@@@@ @ @@@@@@@@
ACCESS-DATE : @@@-@@-@@
```

*Note*

The value IGN (IGNORE) in the fields COLOUR, WEIGHT, CH-TYPE, CH-STYLE, UNDERSCORE, LANGUAGE, NLQ and CPI shows that the respective operand is not interpreted by RSO.

*Meaning of the fields*

The name in parentheses is the corresponding operand of the ADD-SPOOL-CHARACTER-SET command.

Output field	Meaning / Contents
ACCESS-DATE	Date of the last modification or utilization
C-S-NAME (CHARACTER-SET-NAME)	Name of the character set
COLOUR (COLOUR)	Color in which the character set is to be printed
WEIGHT (WEIGHT)	Character weight
CH-TYPE (CHARACTER-TYPE)	Font (OCR-A, OCR-B, ...)
CH-STYLE (CHARACTER-STYLE)	Character style (STRAIGHT, ITALICS)
UND (UNDERSCORE)	Underlining
CPI (CHARACTERS-PER-INCH)	Character density
LPI (LINES-PER-INCH)	Line density (in lines per inch)
LANGUAGE (LANGUAGE)	Language for which the character set is intended (INTERNAT, ENGLISH, ...)

Table 162: Output fields of the SHOW-SPOOL-CHARACTER-SETS command (Part 1 of 2)

Output field	Meaning / Contents
NLQ (NEAR-LETTER-QUALITY)	The print quality for printing: YES/NO
OWNER	Under TSOS: User ID of the character set owner, i.e. of the RSO device administrator or system administration who created it. For nonprivileged users, the output field is always blank

Table 162: Output fields of the SHOW-SPOOL-CHARACTER-SETS command (Part 2 of 2)

### Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Character set name	var(*LIST).CHAR-SET-NAME	S	' ' <char-set-name>	
Character style used to print the character set	var(*LIST).CHAR-STYLE	S	*IGNORE *ITALICS *STRAIGHT	
Character type used to print the character set	var(*LIST).CHAR-TYPE	S	*COURIER *DATA *FONT-1 *FONT-10 *FONT-11 *FONT-12 *FONT-13 *FONT-14 *FONT-15 *FONT-16 *FONT-2 *FONT-3 *FONT-4 *FONT-5 *FONT-6 *FONT-7 *FONT-8 *FONT-9 *GOTHIC *GRAPHIC *IGNORE *NONE *OCR-A *OCR-B	

(Part 1 of 3)

## SHOW-SPOOL-CHARACTER-SETS

Output information	Name of the S variable	T	Contents	Condition
Color used to print the character set	var(*LIST).COLOUR	S	*BLACK *BLUE *CYAN *GREEN *IGNORE *MAGENTA *NEUTRAL *RED *YELLOW	
Pitch (in characters per inch)	var(*LIST).CPI	S	*IGNORE 1..100	
Language for which the character set it used	var(*LIST).LANG	S	*ARABIC *BELGIAN *DANISH *DUTCH *ENGLISH *FARSI *FRENCH *GERMAN *IGNORE *INTERNATIONAL *ISO-8859-1 *ISO-8859-2 *ISO-8859-3 *ISO-8859-4 *ISO-8859-5 *ISO-8859-6 *ISO-8859-7 *ISO-8859-8 *ISO-8859-9 *ITALIAN *NONE *NORWEGIAN *SPANISH *SWEDISH *SWISS *USA	
Time stamp	var(*LIST).LAST-ACCESS	S	*NONE <yyyy-mm-dd>	INF=*ALL
Line spacing (in lines per inch)	var(*LIST).LPI	S	3,4,6,8,10,12,15,20, 24	
Near-letter quality (NLQ) printing	var(*LIST).NLQ	S	*IGNORE *NO *YES	
User ID of the character set owner	var(*LIST).OWNER	S	' ' <user-id>	

(Part 2 of 3)



<b>Output information</b>	<b>Name of the S variable</b>	<b>T</b>	<b>Contents</b>	<b>Condition</b>
Underscore printed characters	var(*LIST).UNDERSCORE	S	*IGNORE *NO *YES	
Character weight used to print the character set	var(*LIST).WEIGHT	S	*BOLD *IGNORE *LIGHT *NORMAL	

(Part 3 of 3)

## Examples

### *Output to SYSOUT*

```
/show-spool-character-set char-set=2*
C-S-NAME COLOUR WEIGHT CH-TYPE CH-STYLE UND CPI LPI LANGUAGE NLQ OWNER
208      BLACK  NORMAL DATA   STRAIGHT NO   12   6 NONE      NO TSOS
ACCESS-DATE : 1999-12-29
224      BLACK  NORMAL COURIER STRAIGHT NO   10   6 NONE      NO TSOS
ACCESS-DATE : 1999-12-29
```

### *Output in S variable*

```
/declare-var var-name=out(type=*structure),multiple-elm=*list
/exec-cmd (show-spool-character-sets select=*par(char-set=2*)),
text-output=*none,structure-output=out
/show-var out,inf=*par(val=*c-literal,list-index=*yes)
OUT#1.CHAR-SET.NAME = '208'
OUT#1.COLOUR = '*BLACK'
OUT#1.WEIGHT = '*NORMAL'
OUT#1.CHAR-TYPE = '*DATA'
OUT#1.CHAR-STYLE = '*STRAIGHT'
OUT#1.UNDERSCORE = '*NO'
OUT#1.CPI = '12'
OUT#1.LPI = '6'
OUT#1.LANG = '*NONE'
OUT#1.NLQ = '*NO'
OUT#1.OWNER = 'TSOS'
OUT#1.LAST-ACCESS = '1999-12-29'
*END-OF-VAR
OUT#2.CHAR-SET.NAME = '224'
OUT#2.COLOUR = '*BLACK'
OUT#2.WEIGHT = '*NORMAL'
OUT#2.CHAR-TYPE = '*COURIER'
OUT#2.CHAR-STYLE = '*STRAIGHT'
OUT#2.UNDERSCORE = '*NO'
OUT#2.CPI = '10'
OUT#2.LPI = '6'
OUT#2.LANG = '*NONE'
OUT#2.NLQ = '*NO'
OUT#2.OWNER = 'TSOS'
OUT#2.LAST-ACCESS = '1999-12-29'
*END-OF-VAR
```

## SHOW-SPOOL-DEVICES

Request information on devices

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION SPOOL-PRINT-SERVICES
<b>Privileges:</b>	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION PRINT-SERVICE-ADMINISTRATION
<b>Routing code:</b>	\$

### Function

The SHOW-SPOOL-DEVICES command provides information on data from the device entry of the specified printer or type of printer. Specifying a printer type without specifying a printer name means only a selection of important data will be output, sorted by printer name. The number of devices listed can be freely limited by specifying selection criteria. Those printers are selected whose device entry contains the values specified for the relevant operands (logical ANDing).

The SHOW-SPOOL-DEVICES operands have the same names and meanings as the operands of the SPSEIVE statement ADD-SPOOL-DEVICES. The operand value \*ALL (usually the default) means that the respective operand will not be used as a selection criterion.

The command supports structured output in S variables (see [“Output in S variables” on page 7-107](#)).

## Format

(Part 1 of 7)

## SHOW-SPOOL-DEVICES

,**SELECT** = **\*ALL** / **\*PARAMETERS(...)**

**\*PARAMETERS(...)**

**DEVICE-NAME** = **\*ALL** / <alphanum-name 1..8 with-wild(24)> / list-poss(255): **\*STD** /  
<alphanum-name 1..8>

,**DEVICE-TYPE** = **\*ALL** / <filename 1..16 without-cat-user-gen-vers> /  
list-poss(37): **\*ALL-LOCAL-PRINTERS** / **\*ALL-REMOTE-PRINTERS** /  
**\*HP-PRINTER** / **\*HP90-PRINTER** / **\*LP-PRINTER** /  
**\*LP-EMULATED-PRINTER** / **\*LP48-PRINTER** / **\*LP65-PRINTER** / **\*VIRTUAL** /  
**\*2050-APA-PRINTER** / **\*2090-APA-PRINTER** / **\*PCL-PRINTER** /  
**\*2090-TWIN-PRINTER** / **\*DJET-REMOTE-PRINTER** /  
**\*2030-PCL-PRINTER** / **\*4011-REMOTE-PRINTER** /  
**\*4812-REMOTE-PRINTER** / **\*4813-REMOTE-PRINTER** /  
**\*4818-PCL-REMOTE-PRINTER** / **\*4821-PCL-REMOTE-PRINTER** /  
**\*4822-PCL-REMOTE-PRINTER** / **\*4824-PCL-REMOTE-PRINTER** /  
**\*4825-PCL-REMOTE-PRINTER** / **\*8121-REMOTE-PRINTER** /  
**\*9000-EPFX-REMOTE-PRINTER** / **\*9000-EPLQ-REMOTE-PRINTER** /  
**\*9000-EPSQ-REMOTE-PRINTER** / **\*9000-PCL-REMOTE-PRINTER** /  
**\*9000-PRO-REMOTE-PRINTER** / **\*9000-PS-REMOTE-PRINTER** /  
**\*9000-REMOTE-PRINTER** / **\*9001-REMOTE-PRINTER** /  
**\*9001-31-REMOTE-PRINTER** / **\*9002-REMOTE-PRINTER** /  
**\*9003-REMOTE-PRINTER** / **\*9004-REMOTE-PRINTER** /  
**\*9011-REMOTE-PRINTER** / **\*9012-REMOTE-PRINTER** /  
**\*9013-REMOTE-PRINTER** / **\*9014-REMOTE-PRINTER** /  
**\*9015-REMOTE-PRINTER** / **\*9021-REMOTE-PRINTER** /  
**\*9022-REMOTE-PRINTER** / **\*9022-200-REMOTE-PRINTER** /  
**\*9025-REMOTE-PRINTER** / **\*9026-PCL-REMOTE-PRINTER** /  
**\*9026-RENO-REMOTE-PRINTER** / **\*9045-ANSI-REMOTE-PRINTER** /  
**\*9046-REMOTE-PRINTER** / **\*9097-REMOTE-PRINTER** /  
**\*9645-REMOTE-PRINTER**

,**OWNER** = **\*ALL** / <alphanum-name 1..8 with-wild(24)> / list-poss(16): **\*OWN** /  
**\*NONE** / <name 1..8>

,**ACCESS-DATE** = **\*ANY** / **\*TODAY** / **\*INTERVAL(...)**

**\*INTERVAL(...)**

**FROM** = **1950-01-01** / <date with-comp>

,**TO** = **\*TODAY** / <date with-comp>

```

,DEVICE-ACCESS = *ALL / *NEA-ACCESS(...) / *TCP-ACCESS(...) / *LOCAL-ACCESS(...) /
                *SCSI-ACCESS(...)

*NEA-ACCESS(...)
    ACCESS-TYPE = *ALL / list-poss(6): *DIRECT / *HARDCOPY / *APPLICATION / *HDLC /
                *PC / *HARDCOPY-9751
    ,PROCESSOR-NAME = *ALL / <alphanum-name 1..8 with-wild(24)> /
                list-poss(16): *NONE / <alphanum-name 1..8>
    ,STATION-NAME = *ALL / <alphanum-name 1..8 with-wild(24)> /
                list-poss(16): *NONE / <alphanum-name 1..8>

*TCP-ACCESS(...)
    ACCESS-TYPE = *ALL / *TACLAN / *IPP / *LPD(...)
    *LPD(...)
        LPD-PRINTER-NAME = *ALL / <c-string 1..8>
        ,FROM-PORT-NUMBER = *ALL / *STD / <integer 0..1024> / *RANGE(...)
            RANGE(...)
                LOW = <integer 0 ..1024>
                ,HIGH = <integer 0 ..1024>
        ,TO-PORT-NUMBER = *ALL / *STD / <integer 0..1024> / *RANGE(...)
            RANGE(...)
                LOW = <integer 0 ..1024>
                ,HIGH = <integer 0 ..1024>
        ,INTERNET-ADDRESS = *ALL / <alphanum-name 1..24 with-wild(24)> /
                <composed-name 1..15 with-wild(24)> / list-poss(16): *NONE /
                <alphanum-name 1..15> / <composed-name 7..15>
        ,PORT-NAME = *ALL / <alphanum-name 1..8 with-wild(24)> /
                list-poss(16): *NONE / <alphanum-name 1..8>

*LOCAL-ACCESS(...)
    ACCESS-TYPE = *ALL / list-poss(3): *CHANNEL-TYPE-1 / *CHANNEL-TYPE-2 /
                *BUS-TYPE-1
    ,MNEMONIC-NAME = *ALL / <alphanum-name 1..8 with-wild(24)> /
                list-poss(16): <alphanum-name 2..2> / *NONE
    ,PROGRAM-NAME = *ALL / *NONE / <filename 1..50>

*SCSI-ACCESS(...)
    ACCESS-TYPE = *ALL / *EMULATED-CHANNEL-TYPE-2
    ,MNEMONIC-NAME = *ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16):
                <alphanum-name 2..2>

```

```

,SLAVE-MNEMONIC-NAME = *ALL / <alphanumeric-name 1..8 with-wild(24)> /
                        list-poss(16): <alphanumeric-name 2..2> / *NONE
,ESD-SIZE = *ALL / <integer 1..128> / *RANGE(...)
    *RANGE(...)
        |   LOW = 1 / <integer 1..128>
        |   ,HIGH = 128 / <integer 1..128>
,REDIRECTION-DEVICE = *ALL / <alphanumeric-name 1..8 with-wild(24)> / list-poss(16):
                        *NONE / <alphanumeric-name 1..8>
,LANGUAGE-EXT-TYPE = *ALL / <alphanumeric-name 1..8 with-wild(24)> / list-poss(16):
                        *SYSTEM / <alphanumeric-name 1..8>
,FORMS-OVERLAY-BUFFER = *ALL / *NO / *RANGE(...)
    *RANGE(...)
        |   LOW = <integer 1..32767>
        |   ,HIGH = <integer 1..32767>
,CHARACTER-SET-NUMBER = *ALL / list-poss(7): 1 / 4 / 6 / 23 / 36 / 46 / 64
,ROTATION = *ALL / *YES / *NO
,DUPLEX-PROCESSING = *ALL / *NO / *YES
,FORMS-OVERLAY = *ALL / *YES / *NO
,RASTER-PATTERN-MEM = *ALL / *NONE / *RANGE(...)
    *RANGE(...)
        |   LOW = <integer 4096..65535>
        |   ,HIGH = <integer 4096..65535>
,TRANSMISSION = *ALL / list-poss(3): *IGNORE / *7BIT / *8BIT
,FONT-TYPE = *ALL / list-poss(3): *IGNORE / *7BIT / *8BIT
,FACE-PROCESSING = *ALL / *YES / *NO
,MAXIMUM-INPUT-TRAY = *ALL / <integer 1..99> / *RANGE(...)
    *RANGE(...)
        |   LOW = <integer 1..99>
        |   ,HIGH = <integer 1..99>
,SUP-FORMAT-NAMES = *ALL / *DEFAULT / list-poss(8): *TEXT / *HP / *SPDS / *PCL /
                    *PLAIN-TEXT / *EXCCW / *PML / <c-string 1..63 with-low>
,MONJV = *ALL / *NO / *YES
,NOTIFICATION = *ALL / *NO / *YES
,ENCRYPTION = *ALL / *NO / *YES
,UNICODE = *ALL / *NO / *YES

```

```

,LINE-SIZE = *ALL / *IGNORE / <integer 3..255> / *RANGE(...)
  *RANGE(...)
    |   LOW = <integer 3..255>
    |   ,HIGH = <integer 3..255>

,CHARACTER-IMAGE = *ALL / *NONE / <alphanum-name 1..3 with-wild(24)> /
  list-poss(16): <alphanum-name 1..3>

,USER-IDENTIFICATION = *ALL / *NONE / <alphanum-name 1..8 with-wild(24)> /
  list-poss(16): *OWN / <name 1..8>

,IDENTIFICATION = *ALL / list-poss(16): *NONE / <c-string 1..16>

,TERMINAL = *ALL / NONE / *OWN / *PARAMETERS(...)
  *PARAMETERS(...)
    |   PROCESSOR-NAME = *ALL / <alphanum-name 1..8 with-wild(24)> /
    |   list-poss(16): *ANY / *OWN / <alphanum-name 1..8>
    |   ,STATION-NAME = *ALL / <alphanum-name 1..8 with-wild(24)> /
    |   list-poss(16): *ANY / *OWN / <alphanum-name 1..8>

,LEFT-MARGIN = *ALL / <integer 0..31> / *RANGE(...)
  *RANGE(...)
    |   LOW = <integer 0..31>
    |   ,HIGH = <integer 0..31>

,LINE-FEED-COMPRESS = *ALL / *YES / *NO

,BLANK-COMPRESS = *ALL / *YES / *NO

,START-FORM-FEED = *ALL / *YES / *NO

,FORM-FEED = *ALL / *LISTING(...) / *SINGLE-SHEET(...)
  *LISTING(...)
    |   DEFAULT-TRAY-NUMBER = *ALL / *IGNORE / <integer 1..99> / *RANGE(...)
    |   *RANGE(...)
    |   |   LOW = <integer 1..99>
    |   |   ,HIGH = <integer 1..99>
    |   ,OUTPUT-TRAY-NUMBER = *ALL / <integer 0..99> / *RANGE(...)
    |   *RANGE(...)
    |   |   LOW = <integer 0..99>
    |   |   ,HIGH = <integer 0..99>
  *SINGLE-SHEET(...)
    |   DEFAULT-TRAY-NUMBER = *ALL / *IGNORE / <integer 1..99> / *RANGE(...)
    |   *RANGE(...)
    |   |   LOW = <integer 1..99>
    |   |   ,HIGH = <integer 1..99>

```

```

,OUTPUT-TRAY-NUMBER = *ALL / <integer 0..99> / *RANGE(...)
    *RANGE(...)
        |
        | LOW = <integer 0..99>
        | ,HIGH = <integer 0..99>
,SKIP-TO-CHANNEL-ONE = *ALL / *NORMAL / *OPTIMIZED
,SKIP-TO-NEXT-PAGE = *ALL / *BY-LINES / *BY-FORM-FEED
,ESCAPE-VALUE = *ALL / list-poss(16): *NONE / <x-string 1..2>
,CONTROLLER-RESERVED = *ALL / *YES / *NO
,FORM-NAME = *ALL / <alphanum-name 1..6 with-wild(24)> / list-poss(16): <alphanum-name 1..6>
,DISCONNECTION = *ALL / list-poss(2): *YES / *NO / *FORCE
,BUFFER-SIZE = *ALL / <integer 256..32767> / *RANGE(...)
    *RANGE(...)
        |
        | LOW = <integer 256..32767>
        | ,HIGH = <integer 256..32767>
,RESET = *ALL / *YES / *NO
,REPEAT-MESSAGE = *ALL / *NO / *PARAMETERS(...)
    *PARAMETERS(...)
        |
        | TYPE = *ALL / *SYSTEM / *DUMMY
        | ,LIMIT = *ALL / *NO / <integer 1..255> / *RANGE(...)
        |     *RANGE(...)
        |         |
        |         | LOW = <integer 1..255>
        |         | ,HIGH = <integer 1..255>
        | ,RETRY-TIME = *ALL / GLOBAL / <integer 1..600> / *RANGE(...)
        |     *RANGE(...)
        |         |
        |         | LOW = <integer 1..600>
        |         | ,HIGH = <integer 1..600>
,RESTART-ACTION = *ALL / *NO / *PARAMETERS(...)
    *PARAMETERS(...)
        |
        | LIMIT = *ALL / *NO / <integer 1..255> / *RANGE(...)
        |     *RANGE(...)
        |         |
        |         | LOW = <integer 1..255>
        |         | ,HIGH = <integer 1..255>
        | ,RETRY-TIME = *ALL / GLOBAL / <integer 1..600> / *RANGE(...)
        |     *RANGE(...)
        |         |
        |         | LOW = <integer 1..600>
        |         | ,HIGH = <integer 1..600>
,SYNCHRONIZATION = *ALL / *PRINTER / *NETWORK

```



```

,TIMEOUT-MAX = *ALL / <integer 2..30> / *RANGE(...)
    *RANGE(...)
        | LOW = <integer 2..30>
        | ,HIGH = <integer 2..30>
,PAGES-EJECT-TIMEOUT = *ALL / *NO / <integer 1..255> / *RANGE(...)
    *RANGE(...)
        | LOW = <integer 1..255>
        | ,HIGH = <integer 1..255>
,BAND-IDENTIFICATION = *ALL / <alphanum-name 1..4 with-wild(24)> / list-poss(16):
    *NONE / <alphanum-name 4..4>
,LOAD = *ALL / *YES / *NO
,MODULO2 = *ALL / *YES / *NO
,RECOVERY-RULES = *ALL / <composed-name 1..16 with-wild(24)> /
    list-poss(16): *SYSTEM / <composed-name 1..16>
,POLLING = *ALL / *YES / *NO
,PRINTER-PARAM-FILE = *ALL / <composed-name 1..16 with-wild(24)> /
    *SYSTEM / <composed-name 1..16>
,RESOURCE-FILE-PREFIX = *ALL / <composed-name 1..8 with-wild(16)> /
    *SYSTEM / <composed-name 1..16>
,CONTROLLER-START = *ALL / *AT-PRINTER-START / *AT-JOB-START
,CHARACTER-SET-POS = *ALL / *NONE / *PARAMETERS(...)
    *PARAMETERS(...)
        | POSITION-1 = *ALL / list-poss(16): *OCR-A / *OCR-B / *GOTHIC /
        | *GRAPHIC / *NONE / *DATA / *COURIER / *FONT-1 / *FONT-2 /
        | *FONT-3 / *FONT-4 / *FONT-5 / *FONT-6 / *FONT-7 / *FONT-8 /
        | *FONT-9 / *FONT-10 / *FONT-11 / *FONT-12 / *FONT-13 /
        | *FONT-14 / *FONT-15 / *FONT-16 / *NOT-USABLE
        | .
        | .
        | .
        | POSITION-16 = *ALL / list-poss(16): *OCR-A / *OCR-B / *GOTHIC /
        | *GRAPHIC / *NONE / *DATA / *COURIER / *FONT-1 / *FONT-2 /
        | *FONT-3 / *FONT-4 / *FONT-5 / *FONT-6 / *FONT-7 / *FONT-8 /
        | *FONT-9 / *FONT-10 / *FONT-11 / *FONT-12 / *FONT-13 /
        | *FONT-14 / *FONT-15 / *FONT-16 / *NOT-USABLE

```

```

,EXCEPT = *NONE / *PARAMETERS(...)
  *PARAMETERS(...)
    ,DEVICE-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> /
      list-poss(16): *STD / <alphanum-name 1..8>
    ,OWNER = *NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16): *OWN / <name 1..8>
    ,SLAVE-MNEMONIC-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16):
      <alphanum-name 2..2>
    ,REDIRECTION-DEVICE = *NONE / <alphanum-name 1..8 with-wild(24)> /
      list-poss(16): *CENTRAL / <alphanum-name 1..8>
    ,CHARACTER-IMAGE = *NONE / <alphanum-name 1..3 with-wild(24)> / list-poss(16):
      <alphanum-name 1..3>
    ,USER-IDENTIFICATION = *NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16):
      *OWN / <name 1..8>
    ,TERMINAL = *NONE / *OWN / *PARAMETERS(...)
      *PARAMETERS(...)
        ,PROCESSOR-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16):
          *OWN / <alphanum-name 1..8>
        ,STATION-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16):
          *OWN / <alphanum-name 1..8>
        ,FORM-NAME = *NONE / <alphanum-name 1..6 with-wild(24)> / list-poss(16):
          <alphanum-name 1..6>
        ,BAND-IDENTIFICATION = *NONE / <alphanum-name 1..4 with-wild(24)> / list-poss(16):
          <alphanum-name 4..4>
        ,RECOVERY-RULES = *NONE / <composed-name 1..16 with-wild(24)> / list-poss(16):
          <composed-name 1..16>
        ,PRINTER-PARAM-FILE = *NONE / <composed-name 1..16 with-wild(24)> / list-poss(16):
          <composed-name 1..16>
        ,RESOURCE-FILE-PREFIX = *NONE / <composed-name 1.8 with-wild(16)> / list-poss(16):
          <composed-name 1..8>
    ,SERVER-NAME = *STD / *HOME / <alphanum-name 1..8>
    ,INFORMATION = *SUMMARY / *ALL / list-poss(7): *DEVICE-ACCESS / *TWIN-DEVICE-DEF /
      *DEVICE-INFORMATION / *ADMINISTRATOR / *SPOOL-CONTROL /
      *PROCESSING-CONTROL / *CHARACTER-SET-POS

```

## Operands

### **SELECT = ALL / PARAMETERS(...)**

Specifies the criteria to be used for selecting the printers via which the information is to be output. Specifying \*ALL (default value) means that information is output via all printers entered.

### **SELECT = \*PARAMETERS(...)**

The selection criteria are listed.

#### **DEVICE-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> /**

#### **list-poss(255): \*STD / <alphanum-name 1..8>**

The selection criterion is the device name. The specification \*STD designates the same device name.

#### **DEVICE-TYPE = ....**

The selection criterion is the device type.

#### **OWNER = \*ALL / <alphanum-name 1..8 with-wild(24)> /**

#### **list-poss(16): <name 1..8> / \*OWN / \*NONE**

The selection criterion is the user ID of the user who created the device entry.

The permitted specifications depend on the users' access rights. See ["Access rights" on page 7-98](#).

#### **ACCESS-DATE = \*ANY / \*TODAY / \*INTERVAL(...)**

The selection criterion is the date of the last change or the last utilization within a print process. This date may be required as an additional criterion for the output of the form entry. It can be a specific date or a date range.

#### **ACCESS-DATE = \*TODAY**

The last modification or change was performed on the current date.

#### **ACCESS-DATE = \*INTERVAL(...)**

Specifies a date range.

#### **FROM = 1950-01-01 / <date with-compl>**

Earliest date in the date range.

#### **TO = \*TODAY / <date with-compl>**

Latest date in the date range. The current date is set by default.

**DEVICE-ACCESS = \*ALL / \*NEA-ACCESS(...) / \*TCP-ACCESS(...) / \*LOCAL-ACCESS(...) / \*SCSI-ACCESS(...)**

The selection criterion is the access mode for the various local and RSO printers and the printer address (see also the “RSO” manual [32]). Instead of DEVICE-ACCESS, the old operands ACCESS, PROCESSOR-NAME and STATION-NAME are also still supported, albeit only in procedures and in batch mode.

**DEVICE-ACCESS = \*NEA-ACCESS(...)**

The RSO printer is accessed via the TRANSDATA-NEA network (NEA stands for network architecture).

**ACCESS-TYPE = \*ALL / list-poss(9): \*DIRECT / \*HARDCOPY / \*APPLICATION / \*HDLC / \*PC / \*HARDCOPY-9751**

The selection criterion is the printer access mode.

**PROCESSOR-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): <alphanum-name 1..8> / \*NONE**

The selection criterion is the logical processor name (PDN generation).

**STATION-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*NONE / <alphanum-name 1..8>**

The selection criterion is the logical station name of the RSO printer.

**DEVICE-ACCESS = \*TCP-ACCESS(...)**

The RSO printer is accessed directly via the TCP/IP LAN. The TCP/IP protocol is used.

**ACCESS-TYPE = \*ALL / \*TACLAN / \*IPP / \*LPD(...)**

The selection criterion is the printer access mode.

**ACCESS-TYPE = \*TACLAN**

TACLAN means that the printer is connected to the TCP/IP LAN via a TACLAN (91863-R or 91863-O), or a DOS PC running SPPCS V1.0, or a LAN adapter card (see the “RSO” manual [32]).

**ACCESS-TYPE = \*IPP**

Printer is accessed across the Internet via the IPP protocol (see also the “RSO” [32] manual). This value is only relevant to RSO printers.

**ACCESS-TYPE = \*LPD(...)**

The printer accessed via the BSD-LPD printer daemon serves as the selection criterion.

**LPD-PRINTER-NAME = \*ALL / <c-string 1..8>**

The printer name as defined in the /etc/printcap file of the host to which the printer is connected serves as the selection criterion.

**FROM-PORT-NUMBER = \*ALL / \*STD / <integer 0..1024> / \*RANGE(...)**

Minimum value for the number of the local port to which the printer is connected.

**FROM-PORT-NUMBER = \*RANGE(...)**

Definition of the range for FROM-PORT-NUMBER.

**LOW = <integer 0..1024>**

Lower limit of the range.

**HIGH = <integer 0..1024>**

Upper limit of the range.

**TO-PORT-NUMBER = \*ALL / \*STD / <integer 0..1024> / \*RANGE(...)**

Maximum value for the number of the local port to which the printer is connected.

**TO-PORT-NUMBER = \*RANGE(...)**

Definition of the range for TO-PORT-NUMBER.

**LOW = <integer 0..1024>**

Lower limit of the range.

**HIGH = <integer 0..1024>**

Upper limit of the range.

**INTERNET-ADDRESS = \*ALL / <alphanum-name 1..24 with-wild(24)> /**

**<composed-name 1..15 with-wild(24)> / list-poss(16):**

**<alphanum-name 1..32> / <composed-name 7..15> / \*NONE**

The selection criterion is the Internet address of the TACLAN, or the DOS PC running SPPCS V1.0, or the LAN adapter card, or for the host on which BSD-LPD is running, depending on how the printer is connected. This address is a physical address (nnn.nnn.nnn.nnn). See also the "RSO" manual [32].

**PORT-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> /**

**list-poss(16): <alphanum-name 1..8> / \*NONE**

The selection criterion is the port name of the TACLAN, or the DOS PC running SPPCS V1.0, or the LAN adapter card, or for the host on which BSD-LPD is running, depending on how the printer is connected. For BSD-LPD the port name is usually 515. See also the "RSO" manual [32].

**DEVICE-ACCESS = \*LOCAL-ACCESS(...)**

A local printer is used with a corresponding format.

**ACCESS-TYPE = \*ALL / list-poss(3): \*CHANNEL-TYPE-1 /**

**\*CHANNEL-TYPE-2 / \*BUS-TYPE-1**

The selection criterion is the printer access mode.

**MNEMONIC-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): <alphanum-name 2..2> / \*NONE**

The selection criterion is the mnemonic device name of the twin printer or of the master device of the twin printer for the local host.

**PROGRAM-NAME = \*ALL / \*NONE / <filename 1..50>**

Name of the LOGON procedure called by the virtual controller task.

**DEVICE-ACCESS = \*SCSI-ACCESS(...)**

A SCSI printer and the appropriate format is used.

**ACCESS-TYPE = \*ALL / \*EMULATED-CHANNEL-TYPE-2**

The selection criterion is the connection type of the SCSI printer.

**MNEMONIC-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): <alphanum-name 2..2>**

The selection criterion is the mnemonic device name for the local printer on the SCSI host.

**SLAVE-MNEMONIC-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): <alphanum-name 2..2> / \*NONE**

The selection criterion is the mnemonic device name of the slave device of the twin printer for the local host. The name specified here must not be the same as that of the master device. The slave device is always the second printer in the direction of the paper flow.

**ESD-SIZE = \*ALL / <integer 1..128> / \*RANGE(...)**

The selection criterion is the size (in MB) of the external memory for the twin printer.

**ESD-SIZE = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 256..4096>**

Lower range limit.

**HIGH = <integer 256..4096>**

Upper range limit.

**REDIRECTION-DEVICE = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*NONE / <alphanum-name 1..8>**

The selection criterion is redirected RSO jobs.

**LANGUAGE-EXT-TYPE = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*NONE / <alphanum-name 1..8>**

The selection criterion is the device type for printed output in conjunction with the product DSEM V3.0.

**FORMS-OVERLAY-BUFFER = \*ALL / \*NO / \*RANGE(...)**

The selection criterion is the size of the buffer for FOB data overlays.

**FORMS-OVERLAY-BUFFER = \*RANGE(...)**

Specification of the range of values.

**LOW = <integer 1..32767>**

Lower range limit.

**HIGH = <integer 1..32767>**

Upper range limit.

**CHARACTER-SET-NUMBER = \*ALL / list-poss(7): 1 / 4 / 6 / 23 / 36 / 46 / 64**

The selection criterion is the number of character sets that can be loaded.

**ROTATION = \*ALL / \*YES / \*NO**

The selection criterion is the existence of a page rotation module.

**DUPLEX-PROCESSING = \*ALL / \*YES / \*NO**

The selection criterion is the characteristic of printing on both sides of the page.

**FORMS-OVERLAY = \*ALL / \*YES / \*NO**

The selection criterion is the characteristic of processing film overlays.

**RASTER-PATTERN-MEM = \*ALL / \*NONE / \*RANGE(...)**

All printers with a raster pattern memory of the specified size are selected.

**RASTER-PATTERN-MEM = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 4096..65535>**

Lower range limit.

**HIGH = <integer 4096..65535>**

Upper range limit.

**TRANSMISSION = \*ALL / list-poss(3): \*7BIT / \*8BIT / \*IGNORE**

The selection criterion is the format of the transmission protocol (front-end processor --> printer).

**FONT-TYPE = \*ALL / list-poss(3): \*7BIT / \*8BIT / \*IGNORE**

The selection criterion is the bit format of the printer font.

**FACE-PROCESSING = \*ALL / \*YES / \*NO**

The selection criterion is how the print pages are stacked.

**MAXIMUM-INPUT-TRAY = \*ALL / <integer 1..9> / \*RANGE(...)**

The selection criterion is the maximum number of input trays; it is possible to specify a range of values.

**MAXIMUM-INPUT-TRAY = \*RANGE(...)**

Range of values that contains the value for the maximum number.

**LOW = <integer 1..9>**

Lower range limit.

**HIGH = <integer 1..9>**

Upper range limit.

**SUP-FORMAT-NAMES = \*ALL / list(8): \*TEXT / \*HP / \*SPDS / \*PCL / \*PLAIN-TEXT / <c-string 1..63 with-low>**

The selection criterion is the document format which the printer can process.

**MONJV = \*ALL / \*YES / \*NO**

The selection criterion is whether a monitor job variable was created to trace and, if necessary, control the asynchronous part of the START-PRINTER-OUTPUT command.

**NOTIFICATION = \*ALL / \*NO / \*YES**

The selection criterion is whether notification processing is possible on the printer.

**ENCRYPTION = \*ALL / \*NO / \*YES**

The selection criterion is whether encrypted print files are supported (possible in RSO V3.5B and higher).

**UNICODE = \*ALL / \*NO / \*YES**

The selection criterion is Unicode support.

**LINE-SIZE = \*ALL / \*RANGE(...) / \*IGNORE / <integer 3..255>**

The selection criterion is the maximum number of characters that can be printed in a line; it is possible to specify a range of values.

**LINE-SIZE = \*RANGE(...)**

Specification of a range of values containing the maximum number of lines.

**LOW = <integer 3..255>**

Lower range limit.

**HIGH = <integer 3..255>**

Upper range limit.

**CHARACTER-IMAGE = \*ALL / \*NONE / <alphanumeric-name 1..3 with-wild(24)> / list-poss(16): <alphanumeric-name 1..3>**

The selection criterion is the name of the conversion table.

**USER-IDENTIFICATION = \*ALL / \*NONE / <alphanumeric-name 1..8 with-wild(24)> / list-poss(16): <name 1..8> / \*OWN**

The selection criterion is the user ID of the RSO device administrator.

The permitted specifications depend on the users' access rights. See [“Access rights” on page 7-98](#).



**IDENTIFICATION = \*ALL / list-poss(16): \*NONE / <c-string 1..16>**

The selection criterion is details of the RSO device administrator (name, telephone number, etc.) as given in the device entry.

**TERMINAL = \*ALL / \*OWN / \*NONE / \*PARAMETERS(...)**

The selection criterion is the data display terminal defined for the RSO device administrator.

**TERMINAL = \*PARAMETERS(...)****PROCESSOR-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*OWN / \*ANY / <alphanum-name 1..8>**

The selection criterion is the logical processor name.

The permitted specifications depend on the users' access rights. See [“Access rights” on page 7-98](#).

**STATION-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*OWN / \*ANY / <alphanum-name 1..8>**

The selection criterion is the terminal name.

The permitted specifications depend on the users' access rights. See [“Access rights” on page 7-98](#).

**LEFT-MARGIN = \*ALL / <integer 0..31> / \*RANGE(...)**

The selection criterion is the value for indenting the output text on printing.

**LEFT-MARGIN = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 0..31>**

Lower range limit.

**HIGH = <integer 0..31>**

Upper range limit.

**LINE-FEED-COMPRESS = \*ALL / \*NO / \*YES**

The selection criterion is whether line feed compression is switched on or off.

**BLANK-COMPRESSSION = \*ALL / \*NO / \*YES**

The selection criterion is whether space character compression is switched on or off.

**START-FORM-FEED = \*ALL / \*NO / \*YES**

The selection criterion is whether page feed is automatic at the start of spoolout.

**FORM-FEED = \*ALL / \*LISTING / \*SINGLE-SHEET(...)**

The selection criterion is whether to print on continuous stationery or single-sheet paper and what input tray to use.

**FORM-FEED = \*LISTING(...)****DEFAULT-TRAY-NUMBER = \*ALL / <integer 1..99> / \*IGNORE / \*RANGE(...)**

The selection criterion is the number of the input tray.

**DEFAULT-TRAY-NUMBER = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 1..99>**

Lower range limit.

**HIGH = <integer 1..99>**

Upper range limit.

**OUTPUT-TRAY-NUMBER = \*ALL / \*IGNORE / <integer 0..99> / \*RANGE(...)**

The selection criterion is the number of the output tray.

**OUTPUT-TRAY-NUMBER = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 0..99>**

Lower range limit.

**HIGH = <integer 0..99>**

Upper range limit.

**FORM-FEED = \*SINGLE-SHEET(...)****DEFAULT-TRAY-NUMBER = \*ALL / <integer 1..99> / \*IGNORE / \*RANGE(...)**

The selection criterion is the number of the input tray.

**DEFAULT-TRAY-NUMBER = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 1..99>**

Lower range limit.

**HIGH = <integer 1..99>**

Upper range limit.

**OUTPUT-TRAY-NUMBER = \*ALL / <integer 0..99> / \*RANGE(...)**

The selection criterion is the number of the output tray.

**OUTPUT-TRAY-NUMBER = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 0..99>**

Lower value limit.

**HIGH = <integer 0..99>**

Upper value limit.

**SKIP-TO-CHANNEL-ONE = \*ALL / \*NORMAL / \*OPTIMIZED**

The selection criterion is what the printer does if a skip to the "channel 1" vertical tab is specified twice in succession.

**SKIP-TO-NEXT-PAGE = \*ALL / \*BY-LINES / \*BY-FORM-FEED**

The selection criterion is the indication of how page feed is initiated (by counting lines or by the relevant control characters).

**ESCAPE-VALUE = \*ALL / list-poss(16): \*NONE / <x-string 1..2>**

The selection criterion is the specified escape character to identify the printer commands.

**CONTROLLER-RESERVED = \*ALL / \*NO / \*YES**

The selection criterion is whether an RSO controller is available for the exclusive use of the RSO device.

**FORM-NAME = \*ALL / <alphanum-name 1..6 with-wild(24)> / list-poss(16): <alphanum-name 1..6>**

The selection criterion is the name of the standard form.

**DISCONNECTION = \*ALL / list-poss(2): \*YES / \*NO / \*FORCE**

The selection criterion is the entry specifying whether the connection between RSO and printer is interrupted.

**BUFFER-SIZE = \*ALL / <integer 256..4096> / \*RANGE(...)**

The selection criterion is the maximum buffer size for data transfer.

**BUFFER-SIZE = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 256..4096>**

Lower range limit.

**HIGH = <integer 256..4096>**

Upper range limit.

**RESET = \*ALL / \*YES / \*NO**

The selection criterion is the indication of whether the printer switches are to be reset before and after each spoolout job.

**REPEAT-MESSAGE = \*ALL / \*NO / \*PARAMETERS(...)**

The selection criterion is the indication of the procedure for dealing with errors (printer error, end of paper, etc.).

**REPEAT-MESSAGE = \*NO**

No message is to be displayed in the event of errors.

**REPEAT-MESSAGES = \*PARAMETERS(...)**

Specifies how to react to an error (type, frequency, time limit).

**TYPE = \*ALL / \*SYSTEM / \*DUMMY**

Defines a response in the event of an error.

**TYPE = \*SYSTEM**

A page feed occurs and message SRO1001 is printed (this means that the next page may already be printed). Printing is continued by another page feed operation.

**TYPE = \*DUMMY**

A page feed occurs and, if necessary, the last page is repeated.

**LIMIT = \*ALL / \*NO / <integer 1..255> / \*RANGE(...)**

Defines whether or how often to react to errors.

**LIMIT = \*NO**

No limit has been set.

**LIMIT = \*RANGE(...)**

Specifies a range of values containing the value specified for LIMIT.

**LOW = <integer 1..255>**

Lower range limit.

**HIGH = <integer 1..255>**

Upper range limit.

**RETRY-TIME = \*ALL / \*GLOBAL / <integer 1..600> / \*RANGE(...)**

The selection criterion is the specified delay (in seconds) between two attempts to print the file. It is possible to specify a range of values.

**RETRY-TIME = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 1..600>**

Lower range limit.

**HIGH = <integer 1..600>**

Upper range limit.

**RESTART-ACTION = \*ALL / \*NO / \*PARAMETERS(...)**

The selection criterion is how to react to failure of connection setup (printer not available and/or printer malfunctions). Instead of RESTART-ACTION, the old operand REPEAT-OPEN-CONNECT is also still supported, albeit only in procedures and in batch mode.

**RESTART-ACTION = \*NO**

No limit for the number of retries and the delay has been specified.

**RESTART-ACTION = \*PARAMETERS(...)**

Specifies how to react to errors (frequency, time limit).

**LIMIT = \*ALL / \*NO / <integer 1..255> / \*RANGE(...)**

Specifies the number of attempts to set up the connection.

**LIMIT = \*NO**

No limit has been set.

**LIMIT = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 1..255>**

Lower range limit.

**HIGH = <integer 1..255>**

Upper range limit.

**RETRY-TIME = \*ALL / \*GLOBAL / <integer 1..600> / \*RANGE(...)**

The selection criterion is the specified delay (in seconds) between two attempts to set up the connection.

**RETRY-TIME = \*RANGE(...)**

Specification of a range of values for the delay.

**LOW = <integer 1..600>**

Lower range limit.

**HIGH = <integer 1..600>**

Upper range limit.

**SYNCHRONIZATION = \*ALL / \*PRINTER / \*NETWORK**

The selection criterion is the entry specifying whether printing with the printer acknowledgment (PRINTER) or the network acknowledgment (NETWORK) is to be synchronized.

**TIMEOUT-MAX = \*ALL / <integer 2..30> / \*RANGE(...)**

The selection criterion is the maximum printing time in minutes for each printer transmitted.

**TIMEOUT-MAX = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 2..30>**

Lower range limit.

**HIGH = <integer 2..30>**

Upper range limit.

**PAGES-EJECT-TIMEOUT = \*ALL / \*NO / <integer 1..255> / \*RANGE(...)**

The selection criterion is the maximum delay (in minutes) before print jobs are automatically ejected by the fusing unit into the output tray once the printer is inactive. The value \*NO means that the print jobs are not ejected.

**PAGES-EJECT-TIMEOUT = \*RANGE(...)**

Specification of a range of values.

**LOW = <integer 1..255>**

Lower range limit.

**HIGH = <integer 1..255>**

Upper range limit.

**BAND-IDENTIFICATION = \*ALL / <alphanum-name 1..4 with-wild(24)> /**

**list-poss(16): <alphanum-name 4..4> / \*NONE**

The selection criterion is the name of the type band to be used for printing.

**LOAD = \*ALL / \*YES / \*NO**

The selection criterion is the entry specifying whether an RSO printer that can be loaded with a loop record is to be operated with this function. For 9645 Printers only.

**MODULO2 = \*ALL / \*YES / \*NO**

The selection criterion is whether a second buffer is to be transmitted to the printer while the first one is being printed.

**RECOVERY-RULES = \*ALL / <composed-name 1..4 with-wild(24)> /**

**list-poss(16): \*SYSTEM / <composed-name 1..16>**

The selection criterion is the recovery rules file used for the specified device. The suffix of the file name is specified.

**POLLING = \*ALL / \*YES / \*NO**

The selection criterion is whether RSO can obtain the printer status or printer error functions. This operand applies only to printers for which DEVICE-ACCESS = TCP-ACCESS (ACCESS-TYPE = TACLAN) is specified.

**PRINTER-PARAM-FILE = \*ALL / \*SYSTEM / <composed 1..16>**

The selection criterion is the printer parameter file used for the printer. Here the suffix of the file name is specified explicitly.

**RESOURCE-FILE-PREFIX = \*ALL / \*SYSTEM / <composed 1..8>**

The selection criterion is the prefix of the file name for prolog/epilog/DIA/member files used by the printer.

**CONTROLLER-START = \*ALL / \*AT-PRINTER-START / \*AT-JOB-START**

The selection criterion is the start time and mode of the RSO controller: with START-PRINTER-OUTPUT (\*AT-PRINTER-START) or PRINT-DOCUMENT (\*AT-JOB-START).

**CHARACTER-SET-POS= \*ALL / \*NONE / \*PARAMETERS(...)**

The selection criterion is the entry specifying whether character sets can be selected by their position in the character set memory.

**CHARACTER-SET-POS = \*PARAMETERS(...)**

The selection criterion is the position of the character set in the character set memory.

**POSITION-1 = \*ALL / list-poss(16): \*NONE / \*OCR-A / \*OCR-B / \*GOTHIC / \*GRAPHIC / \*DATA / \*COURIER / \*FONT-1 / \*FONT-2 / \*FONT-3 / \*FONT-4 / \*FONT-5 / \*FONT-6 / \*FONT-7 / \*FONT-8 / \*FONT-9 / \*FONT-10 / \*FONT-11 / \*FONT-12 / \*FONT-13 / \*FONT-14 / \*FONT-15 / \*FONT-16 / \*NOT-USABLE**

.  
.  
.

**POSITION-16 = \*ALL / list-poss(16): \*NONE / \*OCR-A / \*OCR-B / \*GOTHIC / \*GRAPHIC / \*DATA / \*COURIER / \*FONT-1 / \*FONT-2 / \*FONT-3 / \*FONT-4 / \*FONT-5 / \*FONT-6 / \*FONT-7 / \*FONT-8 / \*FONT-9 / \*FONT-10 / \*FONT-11 / \*FONT-12 / \*FONT-13 / \*FONT-14 / \*FONT-15 / \*FONT-16 / \*NOT-USABLE**

The selection criterion is the position in the character set memory.

**EXCEPT = \*NONE / \*PARAMETERS(...)**

Specifies which device entries are to be excluded from the selection (negative list).

**EXCEPT = \*NONE**

No device entries are excluded from the selection.

**EXCEPT = \*PARAMETERS(...)**

Initiates a list of selection criteria.

**DEVICE-NAME = \*NONE / <alphanum-name 1..8 with-wild(24)> /**

**list-poss(16): <alphanum-name 1..8> / \*STD**

Device entries with the specified devices are not taken into account. Specifying \*NONE (the default) means the operand is ignored.

**OWNER = \*NONE / <alphanum-name 1..8 with-wild(24)> /**

**list-poss(16): \*OWN / <name 1..8>**

Device entries with the specified user IDs are not taken into account. Specifying \*NONE (the default) means the operand is ignored.

The permitted specifications depend on the users' access rights. See [“Access rights” on page 7-98](#).

**SLAVE-MNEMONIC-NAME = \*NONE / <alphanum-name 1..8 with-wild(24)> /**

**list-poss(16): <alphanum-name 2..2>**

The mnemonic device name of the “slave device” of the twin printer for the local host is ignored.

**REDIRECTION-DEVICE = \*NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*CENTRAL / <alphanum-name 1..8>**

The specified redirected RSO jobs are ignored.

**CHARACTER-IMAGE = \*NONE / <alphanum-name 1..3 with-wild(24)> / list-poss(16): <alphanum-name 1..3>**

Device entries with the specified conversion tables are not taken into account. Specifying \*NONE (the default) means the operand is ignored.

**USER-IDENTIFICATION = \*NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16): <name 1..8> / \*OWN**

Device entries with the specified user IDs are not taken into account. Specifying \*NONE (the default) means the operand is ignored.

The permitted specifications depend on the users' access rights. See [“Access rights” on page 7-98](#).

**TERMINAL = \*NONE / \*OWN / \*PARAMETERS(...)**

Device entries with the specified data display terminals are not taken into account. Specifying \*NONE (the default) means the operand is ignored.

**TERMINAL = \*PARAMETERS(...)**

Subdividing data display terminals by processor and terminal names.

**PROCESSOR-NAME = \*NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*OWN / <alphanum-name 1..8>**

Specifying the logical processor names. Specifying \*NONE (the default) means the operand is ignored.

The permitted specifications depend on the users' access rights. See [“Access rights” on page 7-98](#).

**STATION-NAME = \*NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16): \*OWN / <alphanum-name 1..8>**

Specifying the terminal names. Specifying \*NONE (the default) means the operand is ignored.

The permitted specifications depend on the users' access rights. See [“Access rights” on page 7-98](#).

**FORM-NAME = \*NONE / <alphanum-name 1..6 with-wild(24)> / list-poss(16): <alphanum-name 1..6>**

Device entries with the specified form name are not taken into account. Specifying \*NONE (the default) means the operand is ignored.

**BAND-IDENTIFICATION = \*NONE / <alphanum-name 1..4 with-wild(24)> / list-poss(16): <alphanum-name 4..4>**

Device entries with the specified type bands are not taken into account. Specifying \*NONE (the default) means the operand is ignored.



**RECOVERY-RULES = \*NONE / <composed-name 1..16 with-wild(24)> / list-poss(16): <composed-name 1..16>**

Devices having this suffix for their recovery rule file are not taken into account.

**PRINTER-PARAM-FILE = \*NONE / <composed-name 1..16 with-wild(24)> / list-poss(16): <composed 1..16>**

Printer parameter files with the specified suffix are not taken into account.

**RESOURCE-FILE-PREFIX = \*NONE / <composed-name 1..8 with-wild(16)> / list-poss(16): <composed 1..8>**

The prolog/epilog/DIA/member files with the specified prefix are not taken into account.

**SERVER-NAME = \*STD / \*HOME / <alphanum-name 1..8>**

Specifies the servers for which information is to be output. \*HOME applies when \*STD is specified. Only for “Distributed Print Services” (see manual of that name [10]).

**INFORMATION =**

Selects the information to be specified.

**INFORMATION = \*SUMMARY**

Only one line with the device name and the device type is displayed for each element.

**INFORMATION = \*ALL**

All informations are displayed for each element.

**INFORMATION = \*list-poss(7): \*DEVICE-ACCESS / \*TWIN-DEVICE-DEV / \*DEVICE-INFORMATION / \*ADMINISTRATOR / \*SPOOL-CONTROL / \*PROCESSING-CONTROL / \*CHARACTER-SET-POS**

Outputs information on the specified information blocks (see “Output formats” on page 7-98). The fields displayed for each INFORMATION value correspond to the operands of the related structure of the ADD-SPOOL-DEVICE statement. The fields not belonging to any structure are displayed only with INFORMATION = \*ALL.

Exception: the fields DEVICE-NAME, DEVICE-TYPE and ACCESS-DATE are displayed with any INFORMATION value.

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SPM0411	No device present
2	0	SPM0518	No authorization
	1	CMD0202	Syntax error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command

## Access rights

### The settings

```
SELECT = PARAM(OWNER/USER-IDENTIFICATION/TERMINAL =  
              PARAM(PROCESSOR-NAME/STATION-NAME)
```

and

```
EXCEPT = PARAM(OWNER/USER-IDENTIFICATION/TERMINAL =  
                PARAM(PROCESSOR-NAME / STATION-NAME)
```

are special values. They allow the user to specify or reject devices, depending on that user's rights.

In order to prevent the specification of contradictory entries, use of these operand values is strictly controlled.

There are three user categories:

- System administration  
System administration is allowed to assign any device (local or RSO), and also to view the various user settings for the devices.
- RSO device administrator  
The RSO device administrator may only assign such devices as he/she manages, and may also only view the corresponding settings. The RSO device administrator may use the following combinations of operand values:

```
SELECT = PARAM(...,USER-IDENTIFICATION = *OWN,TERMINAL = PARAM(  
              STATION-NAME = (*OWN / *ANY), PROCESSOR-NAME = (*OWN / *ANY)),  
              ...)
```

If inadequately precise specifications are made, they are expanded automatically, if permitted (warning SPM0518 is also output). If expansion is not permitted, they are rejected (and error message SPM0405 is output).

- Other users  
Users who are not authorized to assign any devices are likewise not authorized to view any settings. Corresponding commands are rejected or ignored.

## Output formats

Different kinds of layouts are provided, depending on the INFORMATION value.

### Output format when INFORMATION = \*SUMMARY is specified

DEVICE-NAME	DEVICE-TYPE
@@@@@@@@	@@@@@@@@@@@@@@@@

**Output format when INFORMATION = \*DEVICE-ACCESS is specified**

```

DEVICE-NAME      : @@@@@@@@
DEVICE-TYPE      : @@@@@@@@@@@@@@@@@@
ACCESS-DATE      : ####-##-##
-----
DEVICE-ACCESS    : @@@@@@@@@@@@@@
ACCESS-TYPE      : @@@@@@@@@@@@@@@@@@
PROCESSOR-NAME   : @@@@@@@@
STATION-NAME     : @@@@@@@@
MNEMONIC-NAME    : @@
PROGRAM-NAME     : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
INTERNET-ADDRESS : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
PORT-NAME        : @@@@@@@@
LPD-PRINTER-NAME : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
FROM-PORT-NUMBER : ####
TO-PORT-NUMBER  : ####

```

**Output format when INFORMATION = \*TWIN-DEVICE-DEF is specified**

```

DEVICE-NAME      : @@@@@@@@
DEVICE-TYPE      : @@@@@@@@@@@@@@@@@@
ACCESS-DATE      : ####-##-##
-----
SLAVE-MNEMONIC-NAME : @@@@
ESD-SIZE         : ###

```

Output format when INFORMATION = \*DEVICE-INFORMATION is specified

```

DEVICE-NAME      : @@@@@@@@
DEVICE-TYPE      : @@@@@@@@@@@@@@@@@@
ACCESS-DATE      : #####-##-##
----- DEVICE-INFORMATION -----
FORMS-OVERLAY-BUFFER: #####
CHARACTER-SET-NUMBER: ##
ROTATION         : @@@
DUPLEX-PROCESSING : @@@
FORMS-OVERLAY    : @@@
RASTER-PATTERN-MEM : @@@@
TRANSMISSION     : @@@@
FONT-TYPE        : @@@@
FACE-PROCESSING  : @@@
MAXIMUM-INPUT-TRAY : ##
MONJV           : @@@
NOTIFICATION     : @@@@
ENCRYPTION       : @@@@
UNICODE          : @@@@
SUPP-FORMAT-NAMES :
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
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```

Output format when INFORMATION = \*ADMINISTRATOR is specified

```

DEVICE-NAME      : @@@@@@@@
DEVICE-TYPE      : @@@@@@@@@@@@@@@@@@
ACCESS-DATE      : #####-##-##
----- ADMINISTRATOR -----
USER-IDENTIFICATION : @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@
                   @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@
IDENTIFICATION      : @@@@@@@@@@@@@@@@@@
TERMINAL            : PROCESSOR-NAME      : @@@@@@@@
                   STATION-NAME         : @@@@@@@@

```

**Output format when INFORMATION = \*SPOOLOUT-CONTROL is specified**

```

DEVICE-NAME      : @@@@@@@@
DEVICE-TYPE      : @@@@@@@@@@@@@@@@@@@@
ACCESS-DATE      : #####-##-##
----- SPOOLOUT-CONTROL -----
SHIFT           : ##
LINE-FEED-COMPRESS : @@@
BLANK-COMPRESS   : @@@
START-FORM-FEED  : @@@
FORM-FEED        : @@@@@@@@@@@@@@@@@@
                  DEFAULT-TRAY-NUMBER : @@@
                  OUTPUT-TRAY-NUMBER  : @@@
SKIP-TO-CHANNEL  : @@@@@@
SKIP-TO-NEXT-PAGE : @@@@@@@@@@@@@@@@
ESCAPE-VALUE     : @@@@@@

```

**Output format when INFORMATION = \*PROCESSING-CONTROL is specified**

```

DEVICE-NAME      : @@@@@@@@
DEVICE-TYPE      : @@@@@@@@@@@@@@@@@@@@
ACCESS-DATE      : #####-##-##
----- PROCESSING-CONTROL -----
CONTROLLER-RESERVED : @@@
FORM-NAME         : @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
                  @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
DISCONNECTION     : @@@@@@
BUFFER-SIZE       : #####
RESET             : @@@
REPEAT-MESSAGE    : TYPE           : @@@
                  LIMIT             : ###
                  RETRY-TIME        : @@@
RESTART-ACTION    : LIMIT           : ###
                  RETRY-TIME        : @@@
SYNCHRONIZATION  : @@@@@@@@
TIMEOUT-MAX      : ##
PAGE-EJECT-TIMEOUT : @@@
BAND-IDENTIFICATION : @@@@@@
LOAD             : @@@
MODULO2          : @@@
RECOVERY-RULES   : @@@@@@@@@@@@@@@@@@@@
POLLING          : @@@
PRINTER-PARAM-FILE : @@@@@@@@@@@@@@@@@@@@
RESOURCE-FILE-PREFIX : @@@@@@@@
CONTROLLER-START : @@@@@@@@@@@@@@@@@@@@

```

**Output format when INFORMATION = \*CHARACTER-SET-POS is specified**

```

DEVICE-NAME      : @@@@@@@@
DEVICE-TYPE      : @@@@@@@@@@@@@@@@@@
ACCESS-DATE      : ####-##-##
-----
POSITION-1       : @@@@@@@@
POSITION-2       : @@@@@@@@
POSITION-3       : @@@@@@@@
POSITION-4       : @@@@@@@@
POSITION-5       : @@@@@@@@
POSITION-6       : @@@@@@@@
POSITION-7       : @@@@@@@@
POSITION-8       : @@@@@@@@
POSITION-9       : @@@@@@@@
POSITION-10      : @@@@@@@@
POSITION-11      : @@@@@@@@
POSITION-12      : @@@@@@@@
POSITION-13      : @@@@@@@@
POSITION-14      : @@@@@@@@
POSITION-15      : @@@@@@@@
POSITION-16      : @@@@@@@@
-----
CHARACTER-SET-POS -----

```

**Output format when INFORMATION = \*ALL is specified**

All the INFORMATION outputs described above are displayed, i.e. the following first three lines are displayed, then all the other information described above is displayed, and finally the last four lines.

```

DEVICE-NAME      : @@@@@@@@
DEVICE-TYPE      : @@@@@@@@@@@@@@@@@@
ACCESS-DATE      : ####-##-##
...
...
...
-----
REDIRECTION-DEVICE : @@@@@@@@
LANGUAGE-EXT-TYPE  : @@@@@@@@
LINE-SIZE         : @@@
CHARACTER-IMAGE   : @@@@@@@@
-----
MISCELLANEOUS -----

```

### Meanings of the output fields

Output field	Meaning / contents
<b>SUMMARY/any information</b>	
DEVICE-NAME	Device name
DEVICE-TYPE	Device type
ACCESS-DATE	Date of the last modification or use
<b>DEVICE-ACCESS</b>	
DEVICE-ACCESS	Access type to printers
ACCESS-TYPE	Printer connection: <ul style="list-style-type: none"> <li>– With DEVICE-ACCESS = *NEA-ACCESS(...): Printer connection: *STD/*DIRECT/*HARDCOPY/ *APPLICATION/*HDLC/*PC/*HARDCOPY-9751</li> <li>– With DEVICE-ACCESS = *TCP-ACCESS(...): Printer connection: *STD/*TACLAN/*LPD/*IPP</li> <li>– With DEVICE-ACCESS = *LOCAL-ACCESS(...): Printer connection: *STD/*CHANNEL-TYPE-1/ *CHANNEL-TYPE-2/*BUS-TYPE-1</li> <li>– With DEVICE-ACCESS = *SCSI-ACCESS(...): Printer connection: *STD/EMULATED-CHANNEL-TYPE-2</li> </ul>
PROCESSOR-NAME	Processor name as part of the device address
STATION-NAME	RSO device: station name as part of the device address
MNEMONIC-NAME	Device mnemonic for the twin printer or the “master” twin printer
PROGRAM-NAME	Name of the supervisor LOGON procedure
INTERNET-ADDRESS	Internet address of the TACLAN, IPP, LPD, DOS PC or LAN controller card
PORT-NAME	Port name of the TACLAN, IPP, LPD, DOS PC or LAN controller card
LPD-PRINTER-NAME	Printer name as defined in '/etc/printcap' of the host to which the printer is connected
FROM-PORT-NUMBER	Minimum value for the number of local ports to which the printer is connected
TO-PORT-NUMBER	Maximum value for the number of the local port to which the printer is connected

Table 163: Output fields of the SHOW-SPOOL-DEVICES command (Part 1 of 5)

## SHOW-SPOOL-DEVICES

Output field	Meaning / contents
<b>TWIN-DEVICE-DEF</b>	
SLAVE-MNEMONIC-NAME	Device mnemonic for the “slave” twin printer
ESD-SIZE	Size of the external data storage of the twin printer
<b>DEVICE-INFORMATION</b>	
FORMS-OVERLAY-BUFFER	Size of the graphics buffer
CHARACTER-SET-NUMBER	Number of character sets
ROTATION	Page rotation module
DUPLEX-PROCESSING	Specifies whether paper is printed on both sides
FORMS-OVERLAY	Specifies whether form overlays can be processed on the device
RASTER-PATTERN-MEM	Specifies the size of the RPM that contains the FOB overlays and character sets (raster pattern memory)
TRANSMISSION	Format of the transfer protocol
FONT-TYPE	Specifies whether fonts with 7-bit or 8-bit format are used
FACE-PROCESSING	Specifies whether the printer is able to lay the paper “print image up” or “print image down” as required: YES/NO
MAX-INPUT-TRAY	Maximum number of input trays
MONJV	Determines whether a monitor job variable is created to control the sequence of the asynchronous part of the START-PRINTER-OUTPUT command (only from SPOOL V4.1A)
NOTIFICATION	Specifies whether notification processing is possible: YES/NO
ENCRYPTION	Specifies whether encrypted print files can be processed (in RSO V3.5B and higher): YES/NO
UNICODE	Specifies whether Unicode is supported: YES/NO
SUPP-FORMAT-NAMES	Document format that the printer can print
<b>ADMINISTRATOR</b>	
USER-IDENTIFICATION	<ul style="list-style-type: none"> <li>– If the S-S-D statement was issued under TSOS or under an RSO device administrator, up to 8 user IDs which have been defined as RSO device administrators.</li> <li>– If no RSO device administrator was defined (i.e. for public devices), the value *NONE is obtained under TSOS.</li> <li>– If the S-S-D is issued by a non-privileged user ID, blanks are output.</li> </ul>

Table 163: Output fields of the SHOW-SPOOL-DEVICES command (Part 2 of 5)



Output field	Meaning / contents
IDENTIFICATION	Character string of up to 16 characters. Facilitates the contact to the RSO device administrator; the string should therefore include, for example, the administrator's telephone number (string freely definable by system administrator in A-S-D).
PROCESSOR-NAME	Processor name as part of the RSO device administrator address
STATION-NAME	Station name as part of the RSO device administrator address
<b>SPOOL-CONTROL</b>	
SHIFT	Default value for SHIFT if the LEFT-MARGIN operand is not specified in the PRINT-DOCUMENT command (0...31)
LINE-FEED-COMPRESS	Conversion of line feed control characters into the corresponding printer control characters: YES/NO
BLANK-COMPRESSION	Conversion of a sequence of blanks into specific printer control characters: *YES/*NO
START-FORM-FEED	Automatic page feed at the start of each spoolout: YES/NO
FORM-FEED	Paper feed: continuous forms or single-sheet feed
DEFAULT-TRAY-NUMBER	Number of the paper feed tray from which the paper is to be taken on single-sheet printers
OUTPUT-TRAY-NUMBER	Number of the paper output tray
SKIP-TO-CHANNEL	Behaviour in the case of two skips to the vertical tabulator character "channel 1", one after the other
SKIP-TO-NEXT-PAGE	Page feed is activated – BY-FORM-FEED: via the corresponding control character – BY-LINES: by counting down the line feeds
ESCAPE-VALUE	Escape character identifying the printer commands contained in a print file (for printer types 9025 and 9026-RENO)
<b>PROCESSING-CONTROL</b>	
CONTROLLER-RESERVED	One controller is reserved exclusively to support this printer: *YES/*NO
FORM-NAME	Forms which are assigned to the printer by FORM-NAME = *STD
DISCONNECTION	The DCAM connection to this printer will be cleared if there are no further print requests for it: YES/NO/FORCE
BUFFER-SIZE	Maximum buffer size (in bytes) of the blocks sent to the printer via DCAM
RESET	The printer switches are to be reset before each file is printed: YES/NO

Table 163: Output fields of the SHOW-SPOOL-DEVICES command (Part 3 of 5)

## SHOW-SPOOL-DEVICES

Output field	Meaning / contents
<b>REPEAT-MESSAGE</b>	
TYPE	Type of error response <ul style="list-style-type: none"> <li>– SYS: page feed and output of message SRO1001</li> <li>– DUM: page feed and possible repeat of last page</li> </ul>
LIMIT	Specifies whether the error response is executed and, if so, how often
RETRY-TIME	Waiting time (in seconds) between two attempts to print the file
<b>RESTART-ACTION</b>	
LIMIT	Specifies whether SPOOL attempts to set up the connection and, if so, how often
RETRY-TIME	Waiting time (in seconds) between two attempts to set up the connection
SYNCHRONIZATION	Printing is synchronized after every transferred buffer <ul style="list-style-type: none"> <li>– PRINTER: with the printer acknowledgement</li> <li>– NETWORK: with the network acknowledgement</li> </ul>
TIMEOUT-MAX	Maximum time allowed for a buffer transfer
PAGE-EJECT-TIMEOUT	Determines the maximum time (in minutes) during which the printer is inactive before the pages still in the printer are automatically ejected into the stacker.
BAND-IDENTIFICATION	Identifier for the type band of a 9645, LP or LP48 printer
LOAD	An RSO printer equipped with a loadable VFB (loop) can be operated with this function: YES/NO
MODULO2	A second buffer is sent to the printer while the first buffer is being printed: YES/NO
RECOVERY-RULES	Logical name of the recovery rules file: *STD/SYSTEM/1..16
POLLING	Printer status inquiry possible: YES/NO
PRINTER-PARAM-FILE	Suffix for printer parameter file
RESOURCE-FILE-PREFIX	Prefix for files PROLOG/EPILOG/DIA/MEMBER
CONTROLLER-START	Time and mode for start of RSO controller
<b>CHARACTER-SET-POS</b>	
POSITION-1... POSITION-16	Hardware position of character sets in the character set memory of the printer with printer types 9001-31, 9001, 9012, 9013, 9014

Table 163: Output fields of the SHOW-SPOOL-DEVICES command (Part 4 of 5)

Output field	Meaning / contents
<b>MISCELLANEOUS</b>	
REDIRECTION	Specifies whether RSO jobs for the device are to be automatically redirected and, if so, to where.
LANGUAGE-EXT-TYPE	Identifies the device type for “exotic” output with the product DSEM V3.0
LINE-SIZE	Maximum number of characters that can be printed in one line on the specified device (see description under A-S-D)
CHARACTER-IMAGE	Character conversion tables

Table 163: Output fields of the SHOW-SPOOL-DEVICES command (Part 5 of 5)

### Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The following values are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = *ALL	1
INFORMATION = *SUMMARY	2
INFORMATION = *DEVICE-ACCESS	3
INFORMATION = *TWIN-DEVICE-DEF	4
INFORMATION = *DEVICE-INFORMATION	5
INFORMATION = *ADMINISTRATOR	6
INFORMATION = *SPOOL-CONTROL	7
INFORMATION = *PROCESSING-CONTROL	8
INFORMATION = *CHARACTER-SET-POSITION	9

Output information	Name of the S variable	T	Contents	Condition
Printer interface type	var(*LIST).ACCESS	S	*APPLICATION *BUS-TYPE-1 *CHAN-TYPE-1 *CHAN-TYPE-2 *DIRECT *HARDCOPY *HARDCOPY-9751 *HDLC *PC *TACLAN *IPP	1, 3
Identifier (such as the name or telephone number) of the RSO device administrator	var(*LIST).ADM.ID	S	<user-id> *ANY *NONE	

(Part 1 of 7)

## SHOW-SPOOL-DEVICES

---

Output information	Name of the S variable	T	Contents	Condition
Name of the processor to which the terminal is assigned in the network; this is the terminal where the RSO device administrator works	var(*LIST).ADM.PROCESSOR-NAME	S	' ' <proc-name>	1, 6
Name of the station (terminal) where the RSO device administrator works	var(*LIST).ADM.STATION-NAME	S	' ' <stat-name>	1, 6
User ID of the RSO device administrator	var(*LIST).ADM.USER-ID(*LIST)	S	' ' <user-id> *ANY	1, 6
Name of the type band used for printing	var(*LIST).BAND-ID	S	*NONE <band-id>	1, 8
Blank compression active	var(*LIST).BLANK-COMPRESSION	S	' ' *NO *YES	1, 7
Maximum buffer size (in bytes) for data blocks sent to the printer using DCAM	var(*LIST).BUF-SIZE	S	0 256..32767	1, 8
Name of the printer's translation table (*NONE = no translation table is used)	var(*LIST).CHAR-IMAGE(*LIST)	S	*NONE <char-image>	1
Number of character sets that can be downloaded to the printer	var(*LIST).CHAR-SET	S	0,1,4,6,23,36,46,64	1, 5

(Part 2 of 7)

Output information	Name of the S variable	T	Contents	Condition
Hardware position of the character set in the character set memory	var(*LIST).CHAR-SET-POS(*LIST)	S	*COURIER *DATA *FONT-1 *FONT-2 *FONT-3 *FONT-4 *FONT-5 *FONT-6 *FONT-7 *FONT-8 *FONT-9 *FONT-10 *FONT-11 *FONT-12 *FONT-13 *FONT-14 *FONT-15 *GOTHIC *GRAPHIC *NONE *NOT-USABLE *OCR-A *OCR-B	1, 9
Controller is reserved to support the specified printer	var(*LIST).CONTR-RESOURCE	S	'' *NO *YES	1, 8
Start of the RSO controller: when and how is it started?	var(*LIST).CONTROLLER-START	S	*AT-PRINTER-START *AT-JOB-START	1, 8
Device name	var(*LIST).DEV-NAME	S	'' <dev-name>	
Device type	var(*LIST).DEV-TYPE	S	'' <dev-type>	
Type of printer access	var(*LIST).DEVICE-ACCESS	S	*NEA-ACCESS *TCP-ACCESS *LOCAL-ACCESS *SCSI-ACCESS	1, 3
The DCAM connection is cleared down if there are no more print requests outstanding	var(*LIST).DISCONN	S	'' *FORCE *NO *YES	1, 8
Duplex (double-sided) printing supported	var(*LIST).DUPLEX-PROCESS	S	'' *NO *YES	1, 5
Processing of encrypted print files is possible (as of RSO V3.5B)	var(*LIST).ENCRYPTION	S	*YES *NO	1,5

(Part 3 of 7)

## SHOW-SPOOL-DEVICES

Output information	Name of the S variable	T	Contents	Condition
ESCAPE character	var(*LIST).ESCAPE	S	' *NONE <escape-value>	1, 7
ESD size of the twinned printer	var(*LIST).ESD-SIZE	S	0..128	1, 4
Pages are stacked face up or face down	var(*LIST).FACE-PROCESS	S	*NO *YES	1, 5
Size of the forms overlay buffer processed on the device	var(*LIST).FOB	S	*NO 0..32767	1, 5
Character set type	var(*LIST).FONT-TYPE	S	' *7BIT *8BIT *IGNORE	1, 5
Number of the input tray	var(*LIST).FORM-FEED.IN-TRAY	S	1..99 *IGNORE	1, 7
Number of the output tray	var(*LIST).FORM-FEED.OUT-TRAY	S	0..99 *IGNORE	1, 7
Printer form feed type (continuous or single-sheet)	var(*LIST).FORM-FEED.TYPE	S	*LIST *SINGLE-SHEET	1, 7
Form name	var(*LIST).FORM-NAME(*LIST)	S	<form-name>	1, 8
Film overlay processing supported on this device	var(*LIST).FORM-OVERLAY	S	' *NO *YES	1, 5
Minimum value for LOCAL-PORT-NUMBER	var(*LIST).FROM-PORT-NUMBER	S	0..1024	1, 3
Internet address of the TACLAN, IPP, the DOS PC or the LAN controller card	var(*LIST).INTERNET-ADDR	S	' *NONE <internet-add>	1, 3
Device type for "exotic" output using the product ESDM V3.0	var(*LIST).LANG-EXT-TYPE	S	*NONE *SYSTEM <lang. ext.-type>	1
Time stamp	var(*LIST).LAST-ACCESS	S	*NONE <yyyy-mm-dd>	
Line feed compression active	var(*LIST).LINE-FEED-COMPRESS	S	' *NO *YES	1, 7
Maximum number of character per line	var(*LIST).LINE-SIZE	S	*IGNORE 0 3..255	1
LOOP record for RSO printers	var(*LIST).LOAD	S	' *NO *YES	1, 8

(Part 4 of 7)

Output information	Name of the S variable	T	Contents	Condition
Printer accessed via a BSD line printer daemon	var(*LIST).LPD-PRINTER-NAME	S	' <lpd-name>	1, 3
Maximum number of input trays	var(*LIST).MAX-INPUT-TRAY	S	0..99	1, 5
Device mnemonic for the twinned printer or for the master device of the twinned printer in the case of a local host	var(*LIST).MNEM-NAME	S	' <mnemo-name>	1, 3
Load a second buffer while the first is being printed	var(*LIST).MODULO	S	' *NO *YES	1, 8
Generate a monitoring job variable to control the asynchronous part of the START-PRINTER-OUTPUT command	var(*LIST).MONJV	S	*YES *NO	1, 5
Notification processing is possible	var(*LIST).NOTIFICATION	S	*YES *NO	1,5
Maximum time for which the printer is inactive	var(*LIST).PAGE-EJECT-TIMEOUT	S	' *NO 1..255	1, 8
Printer status/malfunction polling by RSO	var(*LIST).POLLING	S	' *NO *YES	1, 8
Port name of the TACLAN, the DOS PC or the LAN controller card	var(*LIST).PORT-NAME	S	' <port-name>	1, 3
Name of the printer parameter file (suffix)	var(*LIST).PRINTER-PARAM-FILE	S	*SYSTEM <pr-param-filename>	1, 8
Processor name	var(*LIST).PROCESSOR-NAME	S	*NONE <proc-name>	1, 3
Name of the procedure assigned to the virtual device	var(*LIST).PROGRAM-NAME	S	' *NONE <filename>	1, 3
Size of the raster pattern memory	var(*LIST).RAST-PAT-MEM	S	' 4096..65535	1, 5
Recovery rules	var(*LIST).REC-RULE	S	' *SYSTEM <rec-rules>	1, 8
Redirected RSO jobs	var(*LIST).REDIRECT	S	' *NONE <redir-name>	1
Maximum number of message repeats following errors (printer failure, paper out, etc.)	var(*LIST).REPEAT-MSGLIM	S	*NO 0..255	1, 8

(Part 5 of 7)

## SHOW-SPOOL-DEVICES

Output information	Name of the S variable	T	Contents	Condition
Delay (in seconds) between attempts to print the file (printer failure, paper out, etc.)	var(*LIST).REPEAT-MSG.RETRY-TIME	S	*GLOBAL 0..600	1, 8
Execute form feed (*DUMMY, *SYSTEM) and print message SRO1001 (*SYSTEM) following error (printer failure, paper out, etc.)	var(*LIST).REPEAT-MSG.TYPE	S	' ' *DUMMY *NO *SYSTEM	1, 8
Reset printer switches before printing each file	var(*LIST).RESET	S	' ' *NO *YES	1, 8
File name prefix for the PROLOG/EPILOG/DIA/ MEMBER files used for the printer	var(*LIST).RESOURCES-PREFIX	S	' ' *SYSTEM <prefix-filenames>	1, 8
Number of attempts to rebuild the connection (following connection setup problems and/or printer faults)	var(*LIST).RESTART-ACTION.LIM	S	*NO 0..255	1, 8
Delay (in seconds) between attempts to rebuild the connection (following connection setup problems and/or printer faults)	var(*LIST).RESTART-ACTION.RETRY-TIME	S	*GLOBAL 0..600	1, 8
Page rotation module function supported by the printer	var(*LIST).ROT	S	' ' *NO *YES	1, 5
Number of columns by which the output text is indented	var(*LIST).SHIFT	S	0..31	1, 7
Behavior in the event of repeated skip to channel 1	var(*LIST).SKIP-TO-CHAN	S	*NORMAL *OPTIM	1, 7
Form feed initiation	var(*LIST).SKIP-TO-NEXT	S	' ' *BY-FORM-FEED *BY-LINE	1, 7
Slave device mnemonic	var(*LIST).SLAVE-MN	S	' ' *NONE <mnemo-name>	1, 4
Automatic form feed at the start of a spoolout job	var(*LIST).START-FORM-FEED	S	' ' *NO *YES	1, 7
Station name	var(*LIST).STATION-NAME	S	' ' <stat-name>	1, 3
Format name supported	var(*LIST).SUPP-FORMAT-NAME	S	<form-name>	1, 5

(Part 6 of 7)



Output information	Name of the S variable	T	Contents	Condition
Synchronize printing with the printer acknowledgment (*PRINTER) the network acknowledgment (*NETWORK)	var(*LIST).SYNCH	S	' ' *NETWORK *PRINTER	1, 8
Maximum printing time (in minutes) for each buffer transmitted	var(*LIST).TIMEOUT-MAX	S	0 2..30	1, 8
Maximum value for LOCAL-PORT-NUMBER	var(*LIST).TO-PORT-NUMBER	S	0..1024	1, 3
Code translation table	var(*LIST).TRANS	S	' ' *7BIT *8BIT *IGNORE	1, 5
Unicode processing is possible	var(*LIST).UNICODE	S	*YES *NO	1,5

(Part 7 of 7)

## SHOW-SPOOL-FILTERS

Show filter definitions

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION SPOOL-PRINT-SERVICES
<b>Privileges:</b>	HARDWARE-MAINTENANCE PRINT-SERVICE-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION STD-PROCESSING

### Function

The SHOW-SPOOL-FILTERS command requests information on the filter definitions from the SPOOL parameter file.

The command supports structured output in S variables (see [“Output in S variables” on page 7-119](#)).

### Format

(Part 1 of 2)

SHOW-SPOOL-FILTERS
<pre> <b>SELECT</b> = <u>*ALL</u> / *PARAMETERS(...)   *PARAMETERS(...)     <b>FILTER-NAME</b> = <u>*ALL</u> / *STD / &lt;alphanum-name 1..8 with-wild(24)&gt; /       list-poss(255);&lt;alphanum-name 1..8&gt;     ,<b>FILTER-LOCATION</b> = <u>*ALL</u> / &lt;composed-name 1..50 with-wild(24)&gt; /       list-poss(255); *SYSTEM / &lt;composed-name 1..50&gt;     ,<b>INPUT-FORMAT-NAME</b> = <u>*ALL</u> / list-poss(16): *TEXT / *HP / *SPDS / *PCL / *PLAIN-TEXT /       &lt;c-string 1..63 with-low&gt;     ,<b>OUTPUT-FORMAT-NAME</b> = <u>*ALL</u> / list-poss(16): *TEXT / *HP / *SPDS / *PCL / *PLAIN-TEXT /       &lt;c-string 1..63 with-low&gt;     ,<b>REDIRECTION</b> = <u>*ALL</u> / *NO / *REMOTE(...)       *REMOTE(...)           <b>DEVICE-NAME</b> = <u>*ALL</u> / &lt;alphanum-name 1..8 &gt;       ,<b>OBJECT-NAME</b> = <u>*ALL</u> / &lt;alphanum-name 1..8 with-wild(24)&gt; / list-poss(16): &lt;alphanum-name 1..8&gt; </pre>

```

,ACCESS-DATE = *ANY / *TODAY / *INTERVAL(...)
    *INTERVAL(...)
        | FROM = 1950-01-01 / <date with-compl>
        | ,TO = *TODAY / <date with-compl>
,EXCEPT = *NONE / *PARAMETERS(...)
    *PARAMETERS(...)
        | FILTER-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> /
            list-poss(255): <alphanum-name 1..8>
        | ,FILTER-LOCATION = *NONE / <composed-name 1..50 with-wild(24)> /
            list-poss(255): *SYSTEM / <composed-name 1..50>
        | ,INPUT-FORMAT-NAME = *NONE / list-poss(16): *TEXT / *HP / *SPDS / *PCL / *PLAIN-TEXT /
            <c-string 1..63 with-low>
        | ,OUTPUT-FORMAT-NAME = *NONE / list-poss(16): *TEXT / *HP / *SPDS / *PCL / *PLAIN-TEXT /
            <c-string 1..63 with-low>
        | ,REDIRECTION = *NONE / *NO / *REMOTE(...)
            *REMOTE(...)
                | DEVICE-NAME = *NONE / <alphanum-name 1..8>
        | ,OBJECT-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> /
            list-poss(255):<alphanum-name 1..8>
,CLUSTER-NAME = *STD / *LOCAL-CLUSTER / <alphanum-name 1..8>
,SERVER-NAME = *STD / *HOME / <alphanum-name 1..8>
,INFORMATION = *SUMMARY / *ALL

```

## Operands

### **SELECT = \*ALL / \*PARAMETERS(...)**

Specifies according to which criteria the filters are to be selected for which information is requested. If \*ALL (default) is specified, information is displayed on all the filters entered.

### **SELECT = \*PARAMETERS(...)**

Starts a list of selection criteria.

**FILTER-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> /**

**list-poss(255): <alphanum-name 1..8>**

The symbolic name of the filter is the selection criterion.

**FILTER-LOCATION = \*ALL / <composed-name 1..50 with-wild(24)> /**

**list-poss(255): \*SYSTEM / <composed-name 1..50>**

The object module of the filter is the selection criterion.

**INPUT-FORMAT-NAME = \*ALL / list-poss(16): \*TEXT / \*HP / \*SPDS / \*PCL / \*PLAIN-TEXT / <c-string 1..63 with-low>**

The input format, i.e. the document format converted by the filter is the selection criterion.

**OUTPUT-FORMAT-NAME = \*ALL / list-poss(16): \*TEXT / \*HP / \*SPDS / \*PCL / \*PLAIN-TEXT / <c-string 1..63 with-low>**

The output format, i.e. the document format into which the filter converts the data is the selection criterion.

**REDIRECTION = \*ALL / \*NO / \*REMOTE(...)**

The remote printer to which the SPOOLOUT jobs that use the filter have to be diverted is the selection criterion.

**DEVICE-NAME = \*ALL / <alphanum-name 1..8>**

Name of the printer.

**OBJECT-NAME = \*ALL / <alphanum-name 1..8 with-wild(24)> / <alphanum-name 1..8>**

The filter object module name (type R library element) is the selection criterion.

**ACCESS-DATE = \*ANY / \*TODAY / \*INTERVAL(...)**

The selection criterion is the date of the last change or the last utilization within a print process. This date may be required as an additional criterion for the output of the form entry. It can be a specific date or a date range.

**ACCESS-DATE = \*TODAY**

The last modification or change was performed on the current date.

**ACCESS-DATE = \*INTERVAL(...)**

Specifies a date range.

**FROM = 1950-01-01 / <date with-compl>**

Earliest date in the date range.

**TO = \*TODAY / <date with-compl>**

Latest date in the date range. The current date is set by default.

**EXCEPT = \*NONE / \*PARAMETERS(...)**

Specifies which filter entries are to be excluded from the selection (negative list).

**EXCEPT = \*NONE**

None of the filter entries are excluded from the selection.

**EXCEPT = \*PARAMETERS(...)**

Introduces a list of exclusion criteria.

**FILTER-NAME = \*NONE / <alphanum-name 1..8 with-wild(24)> /**

**list-poss(255): <alphanum-name 1..8>**

Filter entries with the specified symbolic name are excluded.

**FILTER-LOCATION = \*NONE / <composed-name 1..50 with-wild(24)> /**

**list-poss(255): \*SYSTEM / <composed-name 1..50>**

Filter entries with the specified object module are excluded.

**INPUT-FORMAT-NAME = \*NONE / list-poss(16): \*TEXT / \*HP / \*SPDS / \*PCL /**

**\*PLAIN-TEXT / <c-string 1..63 with-low>**

Filter entries with the specified input format are excluded.

**OUTPUT-FORMAT-NAME = \*NONE / list-poss(16): \*TEXT / \*HP / \*SPDS / \*PCL /**

**\*PLAIN-TEXT / <c-string 1..63 with-low>**

Filter entries with the specified output format are excluded.

**REDIRECTION = \*NONE / \*NO / \*REMOTE(...)**

Filter entries whose SPOOLOUT jobs have to be diverted to the specified remote printers are excluded.

**DEVICE-NAME = \*NONE / <alphanum-name 1..8>**

Specifies the name of the printer.

**OBJECT-NAME = \*NONE / <alphanum-name 1..8 with-wild(24)> /**

**<alphanum-name 1..8>**

Filter entries with the specified filter object module names (type R library element) are excluded.

**CLUSTER-NAME = \*STD / \*LOCAL-CLUSTER / <alphanum-name 1..8>**

Specifies the cluster for which information is to be issued.

\*LOCAL-CLUSTER is presumed for \*STD (see SERVER-NAME for further details).

**SERVER-NAME = \*STD / \*HOME / <alphanum-name 1..8>**

Specifies the servers for which information is to be issued.

\*HOME is presumed for \*STD.

\*STD has been introduced for reasons of compatibility. The default source parameter file for this command depends on the work mode (static, dynamic, on-configuration or command).

If a SPOOL parameter file is specified (mode: static or dynamic), that is the default source parameter file. If no parameter files are specified (mode: on-configuration or command) the default source parameter file is the home system spool parameter file.

**INFORMATION = \*SUMMARY / \*ALL**

Specifies the information to be issued.

**INFORMATION = \*SUMMARY**

Only the first line is output for each element.

**INFORMATION = \*ALL**

All lines are output for each element.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SPM0412	No filter exists
2	0	SPM0518	User is not authorized
	1	CMD0202	Syntax error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for this command

**Output formats**

**(1) INFORMATION = \*SUMMARY**

```
FILTER-NAME  FILTER-LOCATION
@@@@@@@@@  @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
```

**(2) INFORMATION = \*ALL**

```
FILTER-NAME  FILTER-LOCATION
@@@@@@@@@  @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
ACCESS-DATE : @@@@-@@-@@
INPUT-FORMAT-NAMES
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
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OUTPUT-FORMAT-NAME
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
REDIRECTION = @@@@@@@@  (DEVICE-NAME = @@@@@@@@)
OBJECT-NAME = @@@@@@@@
```

*Meaning of the output fields*

Output field	Contents
ACCESS-DATE	Date of the last modification or utilization
FILTER-LOCATION	Library in which the filter and the SDF-P-LOGON procedure allowing the filter to be loaded and executed are stored.
FILTER-NAME	Symbolic filter name.
INPUT-FORMAT-NAMES	Name of the lists of input formats.
OUTPUT-FORMAT-NAME	Output formats.
REDIRECTION	Option allowing SPOOL jobs to be redirected to remote printers.
DEVICE-NAME	Remote printer name
OBJECT-NAME	Object module name

**Output in S variables**

The command's INFORMATION operand identifies the S variables which are to be created. The possible values for INFORMATION are \*ALL and \*SUMMARY.

Output information	Name of the S variable	T	Contents	Condition
Name of the remote printer	var(*LIST).DEVICE-NAME	S	' ' <device-name>	INF=*ALL
Library in which the filter and the LOGON procedure which permits it to be loaded and executed is stored	var(*LIST).FILTER-LOCATION	S	*SYSTEM <filter-location>	INF=*ALL/ *SUM
Symbolic name of filter	var(*LIST).FILTER-NAME	S	' ' <filter-name>	INF=*ALL/ *SUM
Name of the list of input formats	var(*LIST).INPUT-FORMAT-NAME(*LIST)	S	' ' <input-format-name>	INF=*ALL
Time stamp	var(*LIST).LAST-ACCESS	S	*NONE <yyyy-mm-dd>	INF=*ALL
Name of the object module	var(*LIST).OBJECT-NAME	S	' ' <object-name>	INF=*ALL
Output formats	var(*LIST).OUTPUT-FORMAT-NAME	S	' ' <output-format-name>	INF=*ALL
Option to redirect SPOOL jobs to remote printers	var(*LIST).REDIRECTION	S	*REMOTE *YES	INF=*ALL

### SHOW-SPOOL-FORMS

Request information on forms entries

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION SPOOL-PRINT-SERVICES
<b>Privileges:</b>	STD-PROCESSING PRINT-SERVICE-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
<b>Routing code:</b>	\$

#### Function

The SHOW-SPOOL-FORMS command provides information on data from the forms entry for the specified form or the form assigned to the specified type of printer. When a form and a printer type are specified the information is output in full, otherwise only the important data is selected, sorted by form name. The number of forms listed can be freely limited by selection criteria. Those forms are selected whose forms entry includes the values specified for the respective operands (logical ANDing).

The SHOW-SPOOL-FORMS operands have the same names and meanings as the operands of the SPSEVE statement ADD-SPOOL-FORM. The operand value \*ALL (usually the default) means that the respective operand will not be used as a selection criterion.

The command supports structured output in S variables (see [“Output in S variables” on page 7-136](#)).



## Format

(Part 1 of 4)

## SHOW-SPOOL-FORMS

,**SELECT** = **\*ALL** / **\*PARAMETERS(...)**

**\*PARAMETERS(...)**

**FORM-NAME** = **\*ALL** / list-poss(255): **\*STD** / <alphanum-name 1..6 with-wild(24)>

,**DEVICE-TYPE** = **\*ALL** / <filename 1..16 without-cat-user-gen-vers> /

list-poss(51):**\*ALL-LOCAL-PRINTERS** / **\*ALL-REMOTE-PRINTERS** /

**\*HP-PRINTER** / **\*HP90-PRINTER** / **\*LP-PRINTER** /

**\*LP-EMULATED-PRINTER** / **\*LP48-PRINTER** / **\*LP65-PRINTER** / **\*VIRTUAL** /

**\*2050-APA-PRINTER** / **\*2090-APA-PRINTER** / **\*PCL-PRINTER** /

**\*2090-TWIN-PRINTER** / **\*DJET-REMOTE-PRINTER** /

**\*2030-PCL-PRINTER** / **\*4011-REMOTE-PRINTER** /

**\*4812-REMOTE-PRINTER** / **\*4813-REMOTE-PRINTER** /

**\*4818-PCL-REMOTE-PRINTER** / **\*4821-PCL-REMOTE-PRINTER** /

**\*4822-PCL-REMOTE-PRINTER** / **\*4824-PCL-REMOTE-PRINTER** /

**\*4825-PCL-REMOTE-PRINTER** / **\*8121-REMOTE-PRINTER** /

**\*9000-EPFX-REMOTE-PRINTER** / **\*9000-EPLQ-REMOTE-PRINTER** /

**\*9000-EPSQ-REMOTE-PRINTER** / **\*9000-PCL-REMOTE-PRINTER** /

**\*9000-PRO-REMOTE-PRINTER** / **\*9000-PS-REMOTE-PRINTER** /

**\*9000-REMOTE-PRINTER** / **\*9001-REMOTE-PRINTER** /

**\*9001-31-REMOTE-PRINTER** / **\*9002-REMOTE-PRINTER** /

**\*9003-REMOTE-PRINTER** / **\*9004-REMOTE-PRINTER** /

**\*9011-REMOTE-PRINTER** / **\*9012-REMOTE-PRINTER** /

**\*9013-REMOTE-PRINTER** / **\*9014-REMOTE-PRINTER** /

**\*9015-REMOTE-PRINTER** / **\*9021-REMOTE-PRINTER** /

**\*9022-REMOTE-PRINTER** / **\*9022-200-REMOTE-PRINTER** /

**\*9025-REMOTE-PRINTER** / **\*9026-PCL-REMOTE-PRINTER** /

**\*9026-RENO-REMOTE-PRINTER** / **\*9045-ANSI-REMOTE-PRINTER** /

**\*9046-REMOTE-PRINTER** / **\*9097-REMOTE-PRINTER** /

**\*9645-REMOTE-PRINTER**

,**OWNER** = **\*ALL** / <alphanum-name 1..8 with-wild(24)> / list-poss(16): **\*OWN** / <name 1..8>

,**ACCESS-DATE** = **\*ANY** / **\*TODAY** / **\*INTERVAL(...)**

**\*INTERVAL(...)**

**FROM** = **1950-01-01** / <date with-comp>

,**TO** = **\*TODAY** / <date with-comp>

,**LINE-SIZE** = **\*ALL** / <integer 30..180> / **\*RANGE(...)**

**\*RANGE(...)**

**LOW** = <integer 30..180>

,**HIGH** = <integer 30..180>

```

, PAGE-SIZE = *ALL / <integer 1..250> / *RANGE(...)
    *RANGE(...)
        | LOW = <integer 1..250>
        | , HIGH = <integer 1..250>
, HEADER-PAGE = *ALL / list-poss(4): *YES / *NO / *RESPOOL / *ONE
, TRAILER-PAGE = *ALL / list-poss(3): *YES / *NO / *INFO
, VERTICAL-CONTROL = *ALL / *LOOP(...) / *SPACING(...) / *NONE
    *LOOP(...)
        | LOOP-NAME = *ALL / <alphanum-name 1..3 with-wild(24)> /
        | list-poss(16): <alphanum-name 1..3>
    *SPACING(...)
        | LINES-PER-INCH = *ALL / *DENSITY(...) / list-poss(8): 3 / 4 / 6 / 8 / 10 / 12 / 15 / 20
        | *DENSITY(...)
        | | LINES = <integer 1..999>
        | | , INCHES = <integer 1..999>
        | , CHANNEL1-POSITION = *ALL / <integer 1..255> / *RANGE(...)
        | *RANGE(...)
        | | LOW = <integer 1..255>
        | | , HIGH = <integer 1..255>
, ROTATION-CONTROL = *ALL / *LOOP(...) / *SPACING(...) / *NONE
    *LOOP(...)
        | LOOP-NAME = *ALL / <alphanum-name 1..3 with-wild(24)> /
        | list-poss(16): <alphanum-name 1..3>
    *SPACING(...)
        | LINES-PER-INCH = *ALL / *DENSITY(...) / list-poss(8): 3 / 4 / 6 / 8 / 10 / 12 / 15 / 20
        | *DENSITY(...)
        | | LINES = <integer 1..999>
        | | , INCHES = <integer 1..999>
        | , CHANNEL1-POSITION = *ALL / <integer 1..255> / *RANGE(...)
        | *RANGE(...)
        | | LOW = <integer 1..255>
        | | , HIGH = <integer 1..255>
, CHARACTER-SET = *ALL / <alphanum-name 1..3 with-wild(24)> / list-poss(16): *NONE /
    <alphanum-name 1..3>

```

```

,ROTATION-CHARACT-SET = *ALL / <alphanum-name 1..3 with-wild(24)> / list-poss(16): *NONE /
    <alphanum-name 1..3>

,BAND-IDENTIFICATION = *ALL / <alphanum-name 1..4 with-wild(24)> / list-poss(16): *NONE /
    <alphanum-name 4..4>

,PREFORM = *ALL / <alphanum-name 1..4 with-wild(24)> / list-poss(16): *NONE /
    <alphanum-name 1..4>

,CHARACTER-IMAGE = *ALL / <alphanum-name 1..3 with-wild(24)> / list-poss(16): *NONE /
    <alphanum-name 1..3>

,TWO-UP-PROCESSING = *ALL / list-poss(3): *NO / *MODE-1 / *MODE-2

,DIA-PROCESSING = *ALL / *PARAMETERS(...)

    *PARAMETERS(...)
        |
        |   FORMS-OVERLAY = *ALL /<alphanum-name 1..2 with-wild(24)> / list-poss(16): *NONE /
        |   <alphanum-name 2..2>
        |
        |   ,FORMS-OVERLAY-BUFFER = *ALL / <alphanum-name 1..4 with-wild(24)> /
        |   list-poss(16): <alphanum-name 1..4>
        |
        |
    ,PRINTER-RESOURCES = *ALL / *NONE / *LP65(...) / *APA(...)

        *LP65(...)
            |
            |   PAGE-DEFINITION = *ALL / <integer 1..50000> / *RANGE(...)
            |
            |   *RANGE(...)
            |   |
            |   |   LOW = <integer 1..50000>
            |   |   ,HIGH = <integer 1..50000>
            |   |
            |   |
            |   |   ,STACKER-OFFSET = *ALL / *YES / *NO
            |   |
            |   |   ,SEPARATOR-PAGE-TRAY = *ALL / *NONE / <integer 1..3> / *RANGE(...)
            |   |
            |   |   *RANGE(...)
            |   |   |
            |   |   |   LOW = <integer 1..3>
            |   |   |   ,HIGH = <integer 1..3>
            |   |
            |   |
            |   *APA(...)
            |   |
            |   |   FORM-DEFINITION = *ALL / <alphanum-name 1..8 with-wild(24)> /
            |   |   list-poss(16): <alphanum-name 1..8>
            |   |
            |   |   ,PAGE-DEFINITION = *ALL / <alphanum-name 1..8 with-wild(24)> /
            |   |   list-poss(16): <alphanum-name 1..8>

```

```

,EXCEPT = *NONE / *PARAMETERS(...)
*PARAMETERS(...)
    |
    | FORM-NAME = *NONE / <alphanum-name 1..6 with-wild(24)> / list-poss(16): *STD /
    | <alphanum-name 1..6>
    |
    | ,OWNER = *NONE / <alphanum-name 1..8 with-wild(24)> / list-poss(16): *OWN / <name 1..8>
    |
    | ,VERTICAL-CONTROL = *NONE / *LOOP(...)
    |
    | *LOOP(...)
    | | LOOP-NAME = <alphanum-name 1..3 with-wild(24)> / list-poss(16): <alphanum-name 1..3>
    |
    | ,ROTATION-CONTROL = *NONE / *LOOP(...)
    |
    | *LOOP(...)
    | | LOOP-NAME = <alphanum-name 1..3 with-wild(24)> / list-poss(16): <alphanum-name 1..3>
    |
    | ,CHARACTER-SET = *NONE / <alphanum-name 1..3 with-wild(24)> /
    | list-poss(16): <alphanum-name 1..3>
    |
    | ,ROTATION-CHARACT-SET = *NONE / <alphanum-name 1..3 with-wild(24)> /
    | list-poss(16): <alphanum-name 1..3>
    |
    | ,BAND-IDENTIFICATION = *NONE / <alphanum-name 1..4 with-wild(24)> /
    | list-poss(16): <alphanum-name 4..4>
    |
    | ,PREFORM = *NONE / <alphanum-name 1..4 with-wild(24)> / list-poss(16): <alphanum-name 1..4>
    |
    | ,CHARACTER-IMAGE = *NONE / <alphanum-name 1..3 with-wild(24)> /
    | list-poss(16): <alphanum-name 1..3>
    |
    | ,DIA-PROCESSING = *NONE / *PARAMETERS(...)
    |
    | *PARAMETERS(...)
    | | FORMS-OVERLAY = *NONE / <alphanum-name 1..2 with-wild(24)> /
    | | list-poss(16): <alphanum-name 2..2>
    | | ,FORMS-OVERLAY-BUFFER = *NONE / <alphanum-name 1..4 with-wild(24)> /
    | | list-poss(16): <alphanum-name 1..4>
    |
    | ,PRINTER-RESOURCES = *NONE / *APA(...)
    |
    | *APA(...)
    | | FORM-DEFINITION = *NONE / <alphanum-name 1..8 with-wild(24)> /
    | | list-poss(16): <alphanum-name 1..8>
    | | ,PAGE-DEFINITION = *NONE / <alphanum-name 1..8 with-wild(24)> /
    | | list-poss(16): <alphanum-name 1..8>
    |
    | ,SERVER-NAME = *HOME / <alphanum-name 1..8>
    |
    | ,CLUSTER-NAME = *LOCAL-CLUSTER / <alphanum-name 1..8>
    |
    | ,INFORMATION = *SUMMARY / *ALL

```

## Operands

### **SELECT = \*ALL / \*PARAMETERS(...)**

Specifies the criteria to be used for selecting the forms about which information is to be output. Specifying \*ALL (default value) causes information about all forms entered to be output.

### **SELECT = \*PARAMETERS(...)**

Initiates a list of selection criteria.

### **FORM-NAME = \*ALL / list-poss(255): \*STD / <alphanumeric-name 1..6 with-wild(24)>**

The selection criterion is the form name. Wildcards may not be specified within a list.

### **DEVICE-TYPE = \*ALL / ....**

The selection criterion is the type of printer (see syntax format).

### **OWNER = \*ALL / <alphanumeric-name 1..8 with-wild(24)> /**

### **list-poss(16): \*OWN / <name 1..8>**

The selection criterion is the user ID of the user who created the form entry.

Nonprivileged users may only specify \*ALL or \*OWN.

### **ACCESS-DATE = \*ANY / \*TODAY / \*INTERVAL(...)**

The selection criterion is the date of the last change or the last utilization within a print process. This date may be required as an additional criterion for the output of the form entry. It can be a specific date or a date range.

### **ACCESS-DATE = \*TODAY**

The last modification or change was performed on the current date.

### **ACCESS-DATE = \*INTERVAL(...)**

Specifies a date range.

### **FROM = 1950-01-01 / <date with-compl>**

Earliest date in the date range.

### **TO = \*TODAY / <date with-compl>**

Latest date in the date range. The current date is set by default.

### **LINE-SIZE = \*ALL / <integer 30..180> / \*RANGE(...)**

The selection criterion is the maximum form width (in 1/10 of an inch).

### **LINE-SIZE = \*RANGE(...)**

Specification of a range of values that contains the maximum form width.

### **LOW = <integer 30..180>**

Lower range limit.

### **HIGH = <integer 30..180>**

Upper range limit.

**PAGE-SIZE = \*ALL / <integer 1..250> / \*RANGE(...)**

The selection criterion is the height of the form (in 1/10 of an inch).

**PAGE-SIZE = \*RANGE(...)**

Specification of a range of values that includes the maximum form height.

**LOW = <integer 1..250>**

Lower range limit.

**HIGH = <integer 1..250>**

Upper range limit.

**HEADER-PAGE = \*ALL / list-poss(4): \*YES / \*NO / \*RESPOOL / \*ONE**

The selection criterion is the entry specifying whether a header page is to be printed.

**TRAILER-PAGE = \*ALL / list-poss(3): \*YES / \*NO / \*INFO**

The selection criterion is the entry specifying whether a trailer page is to be printed.

**VERTICAL-CONTROL = \*ALL / \*NONE / \*LOOP(...) / \*SPACING(...)**

The selection criterion is the entry specifying the type of feed control.

**VERTICAL-CONTROL = \*LOOP(...)**

Feed control via loop record.

**LOOP-NAME = \*ALL / <alphanum-name 1..3 with-wild(24)> /**

**list-poss(16): <alphanum-name 1..3>**

Name of the loop record.

**VERTICAL-CONTROL = \*SPACING(...)**

Initiates a list of selection criteria.

**LINES-PER-INCH = \*ALL / \*DENSITY(...) /**

**list-poss(8): 3 / 4 / 6 / 8 / 10 / 12 / 15 / 20**

The selection criterion is the line density (number of lines per inch).

**LINES-PER-INCH = \*DENSITY(...)**

The selection criterion is the line density, specified by the number of lines (LINES) and the form length (INCHES).

**LINES = <integer 1..999>**

Number of lines.

**INCHES = <integer 1..999>**

Form length in inches.

**CHANNEL1-POSITION = \*ALL / <integer 1..255> / \*RANGE(...)**

The selection criterion is the position of the line (loop record) on which "channel 1" is located.

**CHANNEL1-POSITION = \*RANGE(...)**

Specification of a range of values for the position.

**LOW = <integer 1..255>**

Lower range limit.

**HIGH = <integer 1..255>**

Upper range limit.

**ROTATION-CONTROL = \*ALL / \*NONE / \*LOOP(...) / \*SPACING(...)**

The selection criterion is whether rotated page feed is controlled by a loop record or an additional line feed controller.

**ROTATION-CONTROL = \*LOOP(...)**

Feed is controlled by a loop record.

**LOOP-NAME - \*ALL / <alphanum-name 1..3 with-wild(24)> /**

**list-poss(16): <alphanum-name 1..3>**

Name of the loop record.

**ROTATION-CONTROL = \*SPACING(...)**

Feed is controlled by an additional line feed controller.

**LINES-PER-INCH = \*ALL / \*DENSITY(...) /**

**list-poss(8): 3 / 4 / 6 / 8 / 10 / 12 / 15 / 20**

The selection criterion is the line density (number of lines per inch).

**LINES-PER-INCH = \*DENSITY(...)**

The selection criterion is the line density, specified by the number of lines (LINES) and the length of the form (INCHES).

**LINES = <integer 1..999>**

Number of lines.

**INCHES = <integer 1..999>**

Form length in inches.

**CHANNEL1-POSITION = \*ALL / <integer 1..255> / \*RANGE(...)**

The selection criterion is the line number in the simulated loop on which the "channel 1" vertical tabulator is defined.

**CHANNEL1-POSITION = \*RANGE(...)**

Specification of a range of values for the line number.

**LOW = <integer 1..255>**

Lower range limit.

**HIGH = <integer 1..255>**

Upper range limit.

**CHARACTER-SET = \*ALL / <alphanum-name 1..3 with-wild(24)> / list-poss(16): \*NONE / <alphanum-name 1..3>**

The selection criterion is the name of the character set.

**ROTATION-CHARACT-SET = \*ALL / <alphanum-name 1..3 with-wild(24)> / list-poss(16): \*NONE / <alphanum-name 1..3>**

The selection criterion is the name of the character set used for rotated pages.

**BAND-IDENTIFICATION = \*ALL / <alphanum-name 1..4 with-wild(24)> / list-poss(16): \*NONE / <alphanum-name 4..4>**

The selection criterion is the name of the type band.

**PREFORM = \*ALL / <alphanum-name 1..24 with-wild> / list-poss(16): \*NONE / <alphanum-name 1..4>**

The selection criterion is the entry specifying the printer control character sequence that must be sent at the start of a job. Only for LP-EMULATED-PRINTER.

**CHARACTER-IMAGE = \*ALL / <alphanum-name 1..3 with-wild(24)> / list-poss(16): \*NONE / <alphanum-name 1..3>**

The selection criterion is the name of the conversion table.

**TWO-UP-PROCESSING = \*ALL / list-poss(3): \*NO / \*MODE-1 / \*MODE-2**

The selection criterion is the entry specifying whether and which two-up mode is to be used for printing. (Only for HP90 printers.)

**DIA-PROCESSING = \*ALL / \*PARAMETERS(...)**

The selection criteria are the default settings for forms when using overlays.

**DIA-PROCESSING = \*PARAMETERS(...)**

Specifies the settings for EFO and FOB data overlays.

**FORMS-OVERLAY = \*ALL / <alphanum-name 1..2 with-wild(24)> / list-poss(16): <alphanum-name 2..2>**

The selection criterion is the description of the EFO data overlay.

**FORMS-OVERLAY-BUFFER = \*ALL / <alphanum-name 1..4 with-wild(24)> / list-poss(16): <alphanum-name 1..4>**

The selection criterion is the description of the FOB data overlay.

**PRINTER-RESOURCES = \*ALL / \*NONE / \*LP65(...) / \*APA(...)**

The selection criterion is the entry specifying whether particular printer functions are to be used.



**PRINTER-RESOURCES = \*LP65(...)**

Designates the printer functions for LP65 printers.

**PAGE-DEFINITION = \*ALL / <integer 1..50000> / \*RANGE(...)**

The selection criterion is the number of the default PCL file.

**PAGE-DEFINITION = \*RANGE(...)**

Specification of a range of values that contains the number.

**LOW = <integer 1..50000>**

Lower range limit.

**HIGH = <integer 1..50000>**

Upper range limit

**STACKER-OFFSET = \*ALL / \*YES / \*NO**

The selection criterion is the agreement whether the individual spoolout jobs are to be separated by offset stacking.

**SEPARATOR-PAGE-TRAY = \*ALL / <integer 1..3> / \*RANGE(...)**

The selection criterion is the number of blank pages between the individual spoolout jobs.

**SEPARATOR-PAGE-TRAY = \*RANGE(...)**

Specification of a range of values for the number of blank pages.

**LOW = <integer 1..3>**

Lower range limit.

**HIGH = <integer 1..3>**

Upper range limit.

**PRINTER-RESOURCES = \*APA(...)**

The selection criteria are the names of the form and page definitions for APA printers.

**FORM-DEFINITION = \*ALL / <alphanum-name 1..8 with-wild(24)> /****list-poss(16): <alphanum-name 1..8>**

The selection criterion is the name of the form definition.

**PAGE-DEFINITION = \*ALL / <alphanum-name 1..8 with-wild(24)> /****list-poss(16): <alphanum-name 1..8>**

The selection criterion is the name of the page definition.

**EXCEPT = \*NONE / \*PARAMETERS(...)**

Names of the forms entries to be excluded from the selection (negative list). If \*NONE is specified, no forms are excluded from the selection.

**EXCEPT = \*PARAMETERS(...)**

Initiates a list of selection criteria.

**FORM-NAME = \*NONE / <alphanumeric-name 1..6 with-wild(24)> /****list-poss(16): <alphanumeric-name 1..6> / \*STD**

The forms with the specified names are not to be taken into account. If \*NONE is specified (the default), the operand is ignored.

**OWNER = \*NONE / <alphanumeric-name 1..8 with-wild(24)> /****list-poss(16): \*OWN / <name 1..8>**

Forms entries created by users with the specified user ID are not taken into account. If \*NONE is specified (the default) the operand is ignored.

Nonprivileged users can only specify values other than \*NONE if they have specified SELECT=\*PARAMETERS(OWNER=\*OWN) above.

**VERTICAL-CONTROL = \*NONE / \*LOOP(...)**

Forms entries with the specified loop record are not taken into account. If \*NONE is specified (the default), the operand is ignored.

**LOOP-NAME = <alphanumeric-name 1..3 with-wild(24)> /****list-poss(16): <alphanumeric-name 1..3>**

Name of the loop record. If \*NONE is specified (this is the default), the operand has no effect.

**ROTATION-CONTROL = \*NONE / \*LOOP(...)**

Forms entries with the specified loop record for rotation are not taken into account. If \*NONE is specified (the default), the operand is ignored.

**LOOP-NAME = <alphanumeric-name 1..3 with-wild(24)> /****list-poss(16): <alphanumeric-name 1..3>**

Name of the loop record. If \*NONE is specified (the default), the operand is ignored.

**CHARACTER-SET = \*NONE / <alphanumeric-name 1..3 with-wild(24)> /****list-poss(16): <alphanumeric-name 1..3>**

Forms entries with the specified character set are not taken into account. If \*NONE is specified (the default), the operand is ignored.

**ROTATION-CHARACT-SET = \*NONE / <alphanumeric-name 1..3 with-wild(24)>/****list-poss(16): <alphanumeric-name 1..3>**

Forms entries with the specified character set for pages to be printed rotated are not taken into account. If \*NONE is specified (the default), the operand is ignored.

**BAND-IDENTIFICATION = \*NONE / <alphanum-name 1..4 with-wild(24)> /  
list-poss(16): <alphanum-name 4..4>**

Forms entries with the specified type band are not taken into account. If \*NONE is specified (the default), the operand is ignored.

**PREFORM = \*NONE / <alphanum-name 1..4 with-wild(24)> /  
list-poss(16): <alphanum-name 1..4>**

Forms entries with the specified printer control character sequence are not taken into account. Only for LP-EMULATED-PRINTER. If \*NONE is specified (the default), the operand is ignored.

**CHARACTER-IMAGE = \*NONE / <alphanum-name 1..3 with-wild(24)> /  
list-poss(16): <alphanum-name 1..3>**

Forms entries with the specified conversion table are not taken into account. If \*NONE is specified (the default), the operand is ignored.

**DIA-PROCESSING = \*NONE / \*PARAMETERS(...)**

The specified settings for forms when using overlays are ignored.

**DIA-PROCESSING = \*PARAMETERS(...)**

Specifies the settings for EFO and FOB data overlays to be ignored.

**FORMS-OVERLAY = \*NONE / <alphanum-name 1..2 with-wild(24)> /  
list-poss(16): <alphanum-name 2..2>**

The specified description of the EFO data overlay is ignored.

**FORMS-OVERLAY-BUFFER = \*NONE / <alphanum-name 1..4 with-wild(24)> /  
list-poss(16): <alphanum-name 1..4>**

The specified description of the FOB data overlay is ignored.

**PRINTER-RESOURCES = \*NONE / \*APA(...)**

Forms entries with the specified printer attributes are not taken into account. For APA printers only.

If \*NONE is specified (the default), the operand is ignored.

**PRINTER-RESOURCES = \*APA(...)**

**FORM-DEFINITION = \*NONE / <alphanum-name 1..8 with-wild(24)> /  
list-poss(16): <alphanum-name 1..8>**

Name of the FORMDEF. If \*NONE is specified (the default), the operand is ignored.

**PAGE-DEFINITION = \*NONE / <alphanum-name 1..8 with-wild(24)> /  
list-poss(16): <alphanum-name 1..8>**

Name of the PAGEDEF. If \*NONE is specified (the default), the operand is ignored.

**CLUSTER-NAME = \*LOCAL-CLUSTER / <alphanum-name 1..8>**

Specifies the cluster for which the information is to be output. Only BS2000 clusters can be specified.

**SERVER-NAME = \*HOME / <alphanum-name 1..8>**

Specifies the servers for which information is to be output.

**INFORMATION = \*SUMMARY / \*ALL**

Specifies which information is output. The output format depends on the contents of the VERTICAL-CONTROL and ROTATION-CONTROL fields.

**INFORMATION = \*SUMMARY**

Only the first line of each element is output.

**INFORMATION = \*ALL**

All the lines of each element are output.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SPM0412	No form present
2	0	SPM0518	No authorization
	1	CMD0202	Syntax error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command

**Outputs**

The output format varies depending on the device type and the values for VERTICAL-CONTROL and ROTATION-CONTROL. The formats shown below are output when INFORMATION=\*ALL is specified. When INFORMATION=\*SUMMARY is specified, only the first line appears in each case.

*Output when line densities are not defined for either VERTICAL-CONTROL or ROTATION-CONTROL*

```

FORM-NAM DEV-TYPE  LI-S PA-S H-P T-P   VERT-CONTROL   ROT-CONTROL   OWNER
                                L-N/LPI/C-P/C-S L-N/LPI/C-P/C-S
@@@@@@@  #####@@@@@  ###  ###  @@@  @@@  @@@  ###  ###  @@@  @@@  ###  ###  @@@  @@@@@@@@
BAND-ID  PREFORM PAGE-DEF FORM-DEF S-O S-P-T T-UP-P CH-IM F-OV F-O-B
@@@@@   @@@@   @@@@@@@@ @@@@@@@@ @@@  #  @@@@@@  @@@@@@ @@@@@@ @@@@@@
ACCESS-DATE : @@@@-@@-@@

```

*Output when line densities are defined for VERTICAL-CONTROL and ROTATION-CONTROL*

```

FORM-NAM DEV-TYPE  LI-S PA-S H-P T-P      VERT-CONTROL      ROT-CONTROL      OWNER
                                L-P-I /C-P/C-S    L-P-I /C-P/C-S
@@@@@@    #####@@@@    ###   ### @@@ @@@    ###/###   ### @@@    ###/###   ### @@@ @@@@@@@@
BAND-ID   PREFORM PAGE-DEF FORM-DEF S-O S-P-T T-UP-P CH-IM F-OV F-O-B
@@@@@    @@@@@    @@@@@@@@@ @@@@@@@@@ @@@    # @@@@@@ @@@@@ @@@@@ @@@@@
ACCESS-DATE : @@@@-@@-@@

```

*Output when line densities are only defined for VERTICAL-CONTROL*

```

FORM-NAM DEV-TYPE  LI-S PA-S H-P T-P      VERT-CONTROL      ROT-CONTROL      OWNER
                                L-N/LPI/C-P/C-S    L-P-I /C-P/C-S
@@@@@@    #####@@@@    ###   ### @@@ @@@    @@@ ###   ### @@@    ###/###   ### @@@ @@@@@@@@
BAND-ID   PREFORM PAGE-DEF FORM-DEF S-O S-P-T T-UP-P CH-IM F-OV F-O-B
@@@@@    @@@@@    @@@@@@@@@ @@@@@@@@@ @@@    # @@@@@@ @@@@@ @@@@@ @@@@@
ACCESS-DATE : @@@@-@@-@@

```

*Output when line densities are only defined for ROTATION-CONTROL*

```

FORM-NAM DEV-TYPE  LI-S PA-S H-P T-P      VERT-CONTROL      ROT-CONTROL      OWNER
                                L-N/LPI/C-P/C-S    L-P-I /C-P/C-S
@@@@@@    #####@@@@    ###   ### @@@ @@@    @@@ ###   ### @@@    ###/###   ### @@@ @@@@@@@@
BAND-ID   PREFORM PAGE-DEF FORM-DEF S-O S-P-T T-UP-P CH-IM F-OV F-O-B
@@@@@    @@@@@    @@@@@@@@@ @@@@@@@@@ @@@    # @@@@@@ @@@@@ @@@@@ @@@@@
ACCESS-DATE : @@@@-@@-@@

```

Note the following points concerning the values for line density:

- The asterisk (\*) before the value in the LPI field indicates that it is the calculated value for line density and not a defined value (DENSITY(...) operand for ADD-/MODIFY-SPOOL-FORM).
- If the field is labeled L-P-I (instead of LPI), the line density has been defined by means of the DENSITY(...) operand and is displayed in the form lines/inches. The loop name (L-N field) is not displayed.

### *Meanings of the fields*

The name in parentheses is the corresponding operand for the SPSERVE statement ADD-SPOOL-FORM. The fields L-N (LOOP-NAME) and LPI are mutually exclusive; in other words, one of the two is always empty.

<b>Output field</b>	<b>Meaning / Contents</b>
ACCESS-DATE	Date of the last modification or utilization
BAND-ID	Name of the BAND-ID (type band)
CH-IM (CHARACTER-IMAGE)	Specifies whether a CHARACTER-IMAGE table has been defined for a specific device type
DEV-TYPE (DEVICE-TYPE)	Device type: only one device type is output per group; In the case of groups ##### stands for: LP-PRINT (3337, 3338, 3339) HP-PRINT (3351, 3353) HP90-PR (2090, 2140) LP65-PR (3365) LP48-PR (3348, 3349) The remaining devices are not combined into groups
FORM-DEF	Standard form definition for APA printers
FORM-NAM (FORM-NAME)	Form name
H-P (HEADER-PAGE)	SPOOL header page: 2 header pages (YES), no header page (NO), 1 header page (ONE), 2 header pages after a restart (RESPOOL)
LI-S (LINE-SIZE)	Line length in 1/10 of an inch
OWNER	Under TSOS: User ID of the form owner, i.e. the RSO device administrator or system administration that created the form; For nonprivileged users, the output field is always blank
PAGE-DEF (PAGE-DEFINITION)	Standard PCL file for controlling print output to the LP65 device;
PA-S (PAGE-SIZE)	Page size in 1/10 of an inch
PREFORM	Control character sequence for LP-EMULATED-PRINTER

Table 164: SHOW-SPOOL-FORMS output fields (Part 1 of 2)

Output field	Meaning / Contents
ROT-CONTROL: (ROTATION-CONTROL)  L-N (LOOP-NAME) LPI (LINES-PER-INCH) L-P-I (LINES-PER-INCH) C-P (CHANNEL1-POSITION) C-S (CHARACTER-SET)	Page feed for rotated pages for HP laser printers and RSO printers 9021, 9022, 9022-200, 9025, 9026-RENO, 9026-LJ and LJII; Name of the rotation loop assigned to the form by default;  Line spacing (RSO mode only);  Line spacing, specified as break (lines/inch)  Line number of the simulated rotation loop on which the “channel 1” vertical tabulator is defined; Name of the character set to be used by default for printout of rotated pages on this form.
S-O (STACKER-OFFSET)	Separation of the jobs by offset output of the paper stacks on the stacker (single page printers)
S-P-T (SEPARATOR-PAGE-TRAY)	Additional blank page between spoolout jobs; addition blank page between copies of the same job if a header page is printed before each copy
T-P (TRAILER-PAGE)	SPOOL trailer page: Of the three parts of the trailer page either 2 (YES) or 3 (INFO) are printed, or no trailer page is printed (NO)
T-UP-P (TWO-UP-PROCESSING)	Output of two pages side by side on HP90 laser printers and APA printers
VERT-CONTROL (VERTICAL-CONTROL): L-N (LOOP-NAME) LPI (LINES-PER-INCH) L-P-I (LINES-PER-INCH) C-P (CHANNEL1-POSITION) C-S (CHARACTER-SET)	Page feed:  Name of the loop assigned to the form by default;  Line spacing (RSO mode only);  Line spacing specified as break (lines/inch)  Line number of the simulated loop on which the “channel 1” vertical tabulator is defined; Name of the character set assigned to the form by default

Table 164: SHOW-SPOOL-FORMS output fields (Part 2 of 2)

### Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The possible values of INFORMATION are \*ALL and \*SUMMARY.

Output information	Name of the S variable	T	Contents	Condition
Type band ID	var(*LIST).BAND-ID	S	*NONE <band-id>	INF=*ALL
Name of the character image table	var(*LIST).CHAR-IMAGE	S	*NONE <char-image>	INF=*ALL
Character set name	var(*LIST).CHAR-SET	S	' ' <char-set-name>	INF=*ALL/ *SUM
Device type	var(*LIST).DEV-TYPE	S	' ' <dev-type>	INF=*ALL/ *SUM
Forms overlay buffer	var(*LIST).FOB	S	*NONE <fob>	INF=*ALL
Default form definition for APA printers	var(*LIST).FORM-DEF	S	*NONE <form-def>	INF=*ALL
Form name	var(*LIST).FORM-NAME	S	' ' <form-name>	INF=*ALL/ *SUM
Forms overlay	var(*LIST).FORM-OVERLAY	S	*NONE <form-overlay>	INF=*ALL
Print a header page *NO: no header page *ONE: 1 header page *RESPOOL: 2 header pages following RESPOOL *YES: 2 header pages	var(*LIST).HEAD-PAGE	S	*NO *ONE *RESPOOL *YES	INF=*ALL/ *SUM
Time stamp	var(*LIST).LAST-ACCESS	S	*NONE <yyyy-mm-dd>	INF=*ALL
Line length in 1/10"	var(*LIST).LINE-SIZE	S	30..180	INF=*ALL /*SUM
User ID of the form owner	var(*LIST).OWNER	S	' ' *NONE <user-id>	INF=*ALL/ *SUM
Number of the default PCL print output control file	var(*LIST).PAGE-DEF	S	*NONE 0..50000 <page-def>	INF=*ALL
Page size in 1/10"	var(*LIST).PAGE-SIZE	S	1..250	INF=*ALL/ *SUM
Control character sequence for LP-EMULATED-PRINTER	var(*LIST).PREFORM	S	*NONE <preform>	INF=*ALL
Character set used for rotated pages	var(*LIST).ROT-CHAR-SET	S	' ' <char-set-name>	INF=*ALL/ *SUM

(Part 1 of 2)



Output information	Name of the S variable	T	Contents	Condition
Line number of the simulated ROTATION loop on which channel 1 is defined (selection criterion for form feed on rotated pages)	var(*LIST).ROT-CONTR.CHAN-1-POS	S	0..255	INF=*ALL/ *SUM
Form length in inches (selection criterion for form feed on rotated pages)	var(*LIST).ROT-CONTR.INCHES	S	0..999	INF=*ALL/ *SUM
Number of lines (selection criterion for form feed on rotated pages)	var(*LIST).ROT-CONTR.LINES	S	0..999	INF=*ALL/ *SUM
Line spacing, number of lines per inch (selection criterion for form feed on rotated pages)	var(*LIST).ROT-CONTR.LPI	S	0..999	INF=*ALL/ *SUM
Name of the ROTATION loop (selection criterion for form feed on rotated pages)	var(*LIST).ROT-CONTR.LOOP	S	' ' <loop-name>	INF=*ALL/ *SUM
Number of blank pages between spoolout jobs	var(*LIST).SEPAR-PAGE-TRAY	S	*NONE 1..3	INF=*ALL
Offset stacking of spoolout jobs	var(*LIST).STACKER-OFFSET	S	*NO *YES	INF=*ALL
Trailer page printing: *INFO: print 3 trailer pages *NO: no trailer pages *YES: print 2 trailer pages	var(*LIST).TRAIL-PAGE	S	*INFO *NO *YES	INF=*ALL/ *SUM
Print two pages side by side	var(*LIST).TWO-UP-PROCESS	S	*MODE-1 *MODE-2 *NO	INF=*ALL
Form feed controlled by LOOP record (position of the line on which channel 1 is located)	var(*LIST).VERT-CONTR.CHAN-1-POS	S	0..255	INF=*ALL/ *SUM
Form length in inches (form feed selection criterion)	var(*LIST).VERT-CONTR.INCHES	S	0..999	INF=*ALL/ *SUM
Number of lines (form feed selection criterion)	var(*LIST).VERT-CONTR.LINES	S	0..999	INF=*ALL/ *SUM
Name of the LOOP record (form feed selection criterion)	var(*LIST).VERT-CONTR.LOOP	S	' ' <loop-name>	INF=*ALL/ *SUM
Line spacing, lines per inch (form feed selection criterion)	var(*LIST).VERT-CONTR.LPI	S	0..999	INF=*ALL/ *SUM

(Part 2 of 2)

# SHOW-SPOOL-PARAMETERS

Request information on global SPOOL parameters

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION SPOOL-PRINT-SERVICES
<b>Privileges:</b>	STD-PROCESSING PRINT-SERVICE-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
<b>Routing code:</b>	\$

### Function

The SHOW-SPOOL-PARAMETERS command requests the values of the global SPOOL parameters and scheduling criteria for local SPOOL and RSO from the current SPOOL parameter file; the values are output to SYSOUT.

The command supports structured output in S variables (see [“Output in S variables” on page 7-150](#)).

### Format

#### SHOW-SPOOL-PARAMETERS

```
CLUSTER-NAME = *LOCAL-CLUSTER / <alphanum-name 1..8>  
,SERVER-NAME = *HOME / <alphanum-name 1..8>  
,INFORMATION = *ALL / list-poss(11): *VERSIONS / *HEADER-PAGE / *PRINT-CMD-DEFAULTS /  
                  *SPOOLOUT-OPTIONS / *SPOOLOUT-SIZE / *SPOOLIN-OPTIONS / *RSO-OPTIONS /  
                  *OLTP-OPTIONS / *DPRINT-OPTIONS / *CENTRAL-SCHEDULING / *RSO-SCHEDULING
```

**Operands****CLUSTER-NAME = \*LOCAL-CLUSTER / <alphanum-name 1..8>**

Specifies the cluster for which information is to be output. Only BS2000 clusters can be specified.

**SERVER-NAME = \*HOME / <alphanum-name 1..8>**

Specifies the servers for which information is to be output.

**INFORMATION =**

Specifies which information is to be output.

**INFORMATION = \*ALL**

Outputs all information.

**INFORMATION = list-poss(11): \*VERSIONS / \*HEADER-PAGE / \*PRINT-CMD-DEFAULTS / \*SPOOLOUT-OPTIONS / \*SPOOLOUT-SIZE / \*SPOOLIN-OPTIONS / \*RSO-OPTIONS / \*OLTP-OPTIONS / \*DPRINT-OPTIONS / \*CENTRAL-SCHEDULING / \*RSO-SCHEDULING**

Specifies which information is to be output. The fields displayed for each INFORMATION value correspond to the operands of the related structure of the MODIFY-SPOOL-PARAMETERS statement.

*Notes*

If \*VERSIONS has been requested in the INFORMATION operand when working with SP SERVE on a user spool parameters file, the statement is rejected with the SRV0004 message. Indeed, INFORMATION=\*VERSIONS provides the caller with the versions of the different Spool&Print subsystems.

- The specification INFORMATION=\*SPOOLIN-OPTIONS is only still accepted for reasons of compatibility. Information on this is no longer output.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SPM0431	Conversion in progress
	32	SCP0974	System error. Command rejected

## Output

*Output format when INFORMATION = \*VERSIONS is specified*

```
----- VERSIONS -----  
SPOOL           : @@@@@@@@  
RSO             : @@@@@@@@@@@@@@@@  
SPS             : @@@@@@@@@@@@@@@@  
DPRINTCM       : @@@@@@@@@@@@@@@@  
DPRINTCL       : @@@@@@@@@@@@@@@@  
DPRINTSV       : @@@@@@@@@@@@@@@@  
SCSIPCL        : @@@@@@@@@@@@@@@@  
IDOM           : @@@@@@@@@@@@@@@@  
SPCONV         : @@@@@@@@@@@@@@@@
```

*Output format when INFORMATION = \*HEADER-PAGE is specified*

```
----- HEADER-PAGE -----  
SPACE-AFTER-HEADER : @@@  
FAMILY-MEMBER-HEADER: @@@  
COPY-HEADER       : @@@  
CHARACTER-SET     : @@@@@@@@  
PRINT-ACCOUNT-NUMBER: @@@
```

*Output format when INFORMATION = \*PRINT-CMD-DEFAULTS is specified*

```
----- PRINT-CMD-DEFAULTS -----  
LINE-SIZE       : ###  
LOCK-FILE       : @@@  
LEFT-MARGIN     : ##  
DESTINATION     : @@@@@@@@  
                 DEVICE-NAME       : @@@@@@@@  
                 POOL-NAME         : @@@@@@@@  
DPRINT-DESTINATION : @@@@@@@@@@@@@@@@  
                 POOL-NAME         : @@@@@@@@  
FAMILY-PROCESSING : LOCAL          : @@@  
                 REMOTE           : @@@  
ACCEPT-EMPTY-FILE : @@@  
ERROR-PROCESSING  : TRUNCATION     : @@@@@@@@@@@@  
RESOURCES-LOCATION : @@@@@@@@
```

*Output format when INFORMATION = \*SPOOLOUT-OPTIONS is specified*

```

----- SPOOLOUT-OPTIONS -----
REMOTE-BUFFER-SIZE : ##
REMOTE-DEVICE-LIMIT : ####
RBP-STATION-LIMIT : 0
MAX-MSG-TASK-NUMBER : ###
START-SPOOL-LOW-VAL : ###
FORM-NAME-LENGTH : #
SECTION-TASK-LIMIT : ###
DEFAULT-SYSLST-FORM : @@@@
DEFAULT-SYSOUT-FORM : @@@@
REC-RULES-PREFIX : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
PRINTER-PARAM-PREF : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
FILTER-TASK-LIMIT : ##
PRIORITY :
    REPLAY-SESSION : ###
    FROM-POSITIONING : ##
    SECTION-POSITIONING : ##
CHECKPOINT-INTERVAL :
    LINE-PRINTERS : #####
    PAGE-PRINTERS : #####
    REMOTE-PRINTERS : #####
DEVICE-TYPE :
    ND-PRINTER : NO
    LP-PRINTER : @@@
    HP-PRINTER : @@@
        FORMS-OVERLAY-BUFFER: ####
        CHARACTER-SET-NUMBER: ##
        ROTATION : @@@
    LP65-PRINTER : @@@
    HP90-PRINTER : @@@
        FORMS-OVERLAY-BUFFER: ####
        CHARACTER-SET-NUMBER: ##
        FORMS-OVERLAY : @@@
        RASTER-PATTERN-MEM : #####
        ROTATION : @@@
    APA-PRINTER : @@@
    TWIN-PRINTER : @@@
    VIRTUAL-PRINTER : @@@@@@@@@@@@@@@
    PCL-PRINTER : @@@

```

*Output format when INFORMATION = \*SPOOLOUT-SIZE is specified*

```

----- SPOOLOUT-SIZE -----
UNIT : @@@
LINES-FACTOR : ###
MIN-LINES-PER-PAGE : ##### (@@@)

```

## SHOW-SPOOL-PARAMETERS

---

*Output format when INFORMATION = \*RSO-OPTIONS is specified*

```
----- RSO-OPTIONS -----  
CONTROLLER-LIMIT      : ###  
CONTROLLER-DEV-LIMIT : ####  
JOB-CONTROLLER-LIMIT : ###  
CHECK-PRINTER-TIME   : ##  
RETRY-TIME           : ###  
RELEASE-MEMORY       : @@@
```

*Output format when INFORMATION = \*OLTP-OPTIONS is specified*

```
----- OLTP-OPTIONS -----  
TASK-LIMIT           : ###  
TASK-DEVICE-LIMIT   : ####
```

*Output format when INFORMATION = \*DPRINT-OPTIONS is specified*

```
----- DPRINT-OPTIONS -----  
SERVER-TASK-LIMIT    : ###  
RESOURCES-TASK-LIMIT : ##  
REMOTE-JOB-PRIORITY : ###  
CONNECTION-TIMEOUT   : #####  
DFTM-WAITING-TIME    : #####
```

*Output format when INFORMATION = \*CENTRAL-SCHEDULING is specified*

```
----- CENTRAL-SCHEDULING -----  
CURRENT-SCHEDULING  
DEVICE-WEIGHT      : ACCOUNT          : ###  
                   CHARACTER-SET-NUMBER : ###  
                   CLASS                : ###  
                   FOB-SIZE              : ###  
                   FORM                  : ###  
                   FORMS-OVERLAY         : ###  
                   PRIORITY              : ###  
                   ROTATION              : ###  
                   SPOOLOUT-NAME        : ###  
                   USER-IDENTIFICATION  : ###  
JOB-SEQUENCE       : @@@@  
JOB-PRIORITY       : @@@@
```

```

NEXT-SCHEDULING
DEVICE-WEIGHT      : ACCOUNT          : ###
                   : CHARACTER-SET-NUMBER: ###
                   : CLASS              : ###
                   : FOB-SIZE           : ###
                   : FORM              : ###
                   : FORMS-OVERLAY      : ###
                   : PRIORITY          : ###
                   : ROTATION         : ###
                   : SPOOLOUT-NAME     : ###
                   : USER-IDENTIFICATION : ###
JOB-SEQUENCE       : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
JOB-PRIORITY       : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@

```

*Output format when INFORMATION = \*RSO-SCHEDULING is specified*

```

----- RSO-SCHEDULING -----
CURRENT-SCHEDULING
DEVICE-WEIGHT      : ACCOUNT          : ###
                   : CLASS              : ###
                   : FORM              : ###
                   : PRIORITY          : ###
                   : SPOOLOUT-NAME     : ###
                   : USER-IDENTIFICATION : ###
JOB-SEQUENCE       : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
JOB-PRIORITY       : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
-----
NEXT-SCHEDULING
DEVICE-WEIGHT      : ACCOUNT          : ###
                   : CLASS              : ###
                   : FORM              : ###
                   : PRIORITY          : ###
                   : SPOOLOUT-NAME     : ###
                   : USER-IDENTIFICATION : ###
JOB-SEQUENCE       : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
JOB-PRIORITY       : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@

```

## SHOW-SPOOL-PARAMETERS

---

*Output format when INFORMATION = \*ALL is specified*

For compatibility reasons, \*ALL is the default value.

The concatenation of all preceding INFORMATION types is displayed.

*Meanings of the fields*

<b>Output field</b>	<b>Contents</b>
<b>VERSIONS:</b>	Versions of the various Spool&Print subsystems
SPOOL	SPOOL version used in the current session
RSO	RSO version used in the current session
SPS	SPS version used in the current session
DPRINTCM	DPRINTCM version used in the current session
DPRINTCL	DPRINTCL version used in the current session
DPRINTSV	DPRINTSV version used in the current session
SCSIPCL	SCSIPCL version used in the current session
IDOM	IDOM version used in the current session
SPCONV	SPCONV version used in the current session
<b>HEADER-PAGE:</b>	Criteria for output of header pages
SPACE-AFTER-HEADER	Skip to channel 1 after output of the header page (YES/NO).
FAMILY-MEMBER-HEADER	Header page for each spoolout of a (partially qualified) spoolout group (YES/NO).
COPY-HEADER	Header page for each print copy of a spoolout job (YES/NO).
CHARACTER-SET	Character set to be used for printing header and trailer pages.
PRINT-ACCOUNT-NUMBER	Account number on HEADER-PAGE (YES/NO)

Table 165: Output fields of the SHOW-SPOOL-PARAMETERS command (Part 1 of 6)



Output field	Contents
<b>PRINT-CMD-DEFAULTS:</b>	Default values for PRINT-DOCUMENT (PRNTDOC macro)
LINE-SIZE	Number of characters after which a print line is to be truncated (132,136).
LOCK-FILE	The file to be printed is locked until printing is completed (YES/NO). Tape files are never locked.
LEFT-MARGIN	For local SPOOL only. Default value for the SHIFT operand in the PRNTDOC macro or LEFT-MARGIN in the PRINT-DOCUMENT command (0...30).
DESTINATION	Default destination of the spoolout job: *CENTRAL: pool of all devices administered from the local server. *REMOTE: specified non-distributed device. *POOL: specified non-distributed device pool.
DEVICE-NAME	Name of the non-distributed printer.
POOL-NAME	Name of the non-distributed printer pool.
DPRINT-DESTINATION	Default destination for Distributed Print Services: *DESTINATION: local DESTINATION is used. *CENTRAL: pool of all distributed printers. *POOL: specified distributed printer pool.
POOL-NAME	Name of the distributed pool
FAMILY-PROCESSING	Default value of the FAMILY-PROCESSING operand in PRINT-DOCUMENT for local and RSO jobs
LOCAL	Default value of the FAMILY-PROCESSING operand in the PRINT-DOCUMENT command for local spoolout jobs
REMOTE	Default value of the FAMILY-PROCESSING operand in the PRINT-DOCUMENT command for RSO jobs
ACCEPT-EMPTY-FILES	Behavior after the PRINT-DOCUMENT command in the event of empty SAM files being specified for printing.
ERROR-PROCESSING:TRUNCATION	Behavior with regard to a file to be deleted after printing (DELETE-AFTER-PRINT), in which lines are truncated during processing of the SPOOL job.
RESOURCES-LOCATION	Specification of the host whose print resources are to be used: *HOME: the host on which the command was issued. *SERVER: the host on which the print job is processed.

Table 165: Output fields of the SHOW-SPOOL-PARAMETERS command (Part 2 of 6)

## SHOW-SPOOL-PARAMETERS

Output field	Contents
<b>SPOOL-OUT-OPTIONS:</b>	Spoolout control criteria
REMOTE-BUFFER-SIZE	Buffer size available to the RSO printer (in Kbytes).
REMOTE-DEVICE-LIMIT	Maximum number of RSO printers (PRIVATE DEVICES) that can be active at the same time (0...9999).
MAX-MSG-TASK-NUMBER	Maximum number of message tasks that may be active concurrently (0...200).
START-SPOOL-LOW-VAL	Smallest value that the user may specify for the START-SPOOL=n operand of the PRINT-DOCUMENT command/PRNTDOC macro (1...32767).
FORM-NAME-LENGTH	Number of characters of the form name interpreted by SPOOL for scheduling purposes.
SECTION-TASK-LIMIT	Maximum number of pseudo-controllers for SECTION-PRINT jobs that can be active at the same time.
DEFAULT-SYSLST-FORM	Default form for SYSLST output if the user does not make any specification.
DEFAULT-SYSOUT-FORM	Default form for SYSOUT output if the user does not make any specification.
REC-RULES-PREFIX	Prefix part of recovery rules files
PRINTER-PARAM-PREFIX	Prefix part of the individual printer parameter files
FILTER-TASK-LIMIT	Number of possible filter tasks
<b>PRIORITY:</b>	
REPLAY-SESSION	For local SPOOL only: Task priority for outputs to replay tapes (60...200).
FROM-POSITIONING	For local SPOOL only: Number of pages or lines before the current position at which the job is to resume on restarting (60...200).
SECTION-POSITIONING	Number of sections (SECTIONS) before the current position in the file at which the job is to resume on restarting (60...200)
<b>CHECKPOINT-INTERVAL:</b>	
LINE-PRINTERS	Interval between spoolout checkpoints for line printers and printers with a loadable VFB (1..32767).
PAGE-PRINTERS	Interval between spoolout checkpoints for laser printers (page printers) (1..32767).
REMOTE-PRINTERS	Interval between spoolout checkpoints for remote printers (1..32767).

Table 165: Output fields of the SHOW-SPOOL-PARAMETERS command (Part 3 of 6)

Output field	Contents
<b>DEVICE-TYPE:</b>	
LP-PRINTER	Output on LP printers possible, PRFILE present (YES/NO).
HP-PRINTER	Output on HP printers possible, PRFILE present (YES/NO).
FORMS-OVERLAY-BUFFER	Output can be directed to HP printers with a graphics buffer (max. no. of sublines: 672).
CHARACTER-SET-NUMBER	Spoolouts can be directed to HP printers with a character memory capable of accommodating up to 64 character sets, or to HP90 printers with a character memory capable of accommodating 46 character sets.
ROTATION	Spoolouts can be directed to HP printers with/without a page rotation module (YES/NO).
LP65-PRINTER	Output on LP65 printers possible, PRFILE present (YES/NO).
HP90-PRINTER	Output on HP90 printers possible, PRFILE present (YES/NO).
FORMS-OVERLAY-BUFFER	Maximum size of the overlay that can be loaded into the buffer of the HP90 printer.
CHARACTER-SET-NUMBER	Number of character sets for HP90 printer
FORMS-OVERLAY	EFO for HP90 printer (YES/NO)
RASTER-PATTERN-MEM	Size of the shared HP90 memory area for character sets and FOB data overlays
ROTATION	Specifies whether page rotation is permitted for HP90 printer (YES/NO).
APA-PRINTER	Output on APA printers possible; (YES/NO).
TWIN-PRINTER	Output on twin printers possible; (YES/NO)
VIRTUAL-PRINTER	Output on VIRT-PRINTER possible; (*ALLOWED/*NOT-ALLOWED).
PCL-PRINTER	Output on PCL printer possible; (YES/NO)

Table 165: Output fields of the SHOW-SPOOL-PARAMETERS command (Part 4 of 6)

## SHOW-SPOOL-PARAMETERS

Output field	Contents
<b>SPOOL-OUT-SIZE:</b>	
UNIT	Specifies the form of output for SHOW-JOB-STATUS: the scope of the spoolout is output in PAM pages or lines.
LINES-FACTOR	If LINES is specified: average number of data records in a PAM page (8..100).
MIN-LINES-PER-PAGE	Smallest value specified for the PAGE-SIZE operand of the *STD standard forms present, multiplied by 6/10. SPOOL computes the value at startup. If *STD is given in parentheses in the output field after the value, the value was calculated by SPOOL and was not specified by systems support or the operator.
<b>RSO-OPTIONS:</b>	Default values for RSO operation.
CONTROLLER-LIMIT	Maximum number of RSO controllers allowed during a system session (1..200).
CONTROLLER-DEV-LIMIT	Maximum number of printers to be served by one controller (1..1024).
JOB-CONTROLLER-LIMIT	Maximum number of job RSO controllers permissible during an RSO run (1..200)
CHECK-PRINTER-TIME	Intervals (in minutes) at which printers are to be checked for the TIMEOUT error condition (2..10).
RETRY-TIME	Interval (in seconds) between two attempts to send a new message to the printer following certain errors (1..600).
RELEASE-MEMORY	DMS I/O areas are to be released if no more jobs are pending for the output device (YES) or only if STOP-PRINTER-OUTPUT is specified (NO).
<b>OLTP-OPTIONS:</b>	Defaults for OLTP operation
TASK-LIMIT	Maximum number of OLTP tasks permitted during a session (1..200).
TASK-DEVICE-LIMIT	Maximum number of printers that can be operated during an OLTP task (1..1024).

Table 165: Output fields of the SHOW-SPOOL-PARAMETERS command (Part 5 of 6)

Output field	Contents
<b>DPRINT-OPTIONS:</b>	Default value for Distributed Print Services
SERVER-TASK-LIMIT	Maximum number of tasks that process remote requests
RESOURCES-TASK-LIMIT	Maximum number of tasks that administer resource containers
REMOTE-JOB-PRIORITY	Maximum priority for remote jobs
CONNECTION-TIMEOUT	Maximum time for setting up a connection to the remote processor
DFTM-WAITING-TIME	Waiting time for the DFTM task check loop
<b>[NEXT-]CENTRAL-SCHEDULING / [NEXT-]RSO-SCHEDULING:</b>	Scheduling criteria, defined separately for local SPOOL and RSO and additionally differentiated according to whether they are to come into effect in the current or the following SPOOL or RSO run.
DEVICE-WEIGHT	“Weight” defined for each scheduling criterion for the current SPOOL run and which can be assigned by means of START-... to the SPOOL devices in order to control device selection through different weights. Possible values: 0 / 1 / 2 / 4 / 8 / 16 / 32 / 64 / 128
ACCOUNT CHARACTER-SET-NUMBER CLASS FORMS-OVERLAY-BUFFER FORM-NAME FORMS-OVERLAY PRIORITY ROTATION SPOOL-OUT-NAME USER-IDENTIFICATION	Weight for the ACCOUNT parameter Weight for the CHARACTER-SET-NUMBER parameter Weight for the SPOOL-OUT-CLASS parameter Weight for the FORMS-OVERLAY-BUFFER parameter Weight for the FORM-NAME parameter Weight for the FORMS-OVERLAY parameter Weight for the PRIORITY parameter Weight for the ROTATION parameter Weight for the SPOOL-OUT-NAME operand Weight for the USER-IDENTIFICATION operand
JOB-SEQUENCE	Fields according to which the various waiting and active jobs are to be sorted.
JOB-PRIORITY	Order in which equivalent jobs are to be processed (waiting time of the spoolout job).

Table 165: Output fields of the SHOW-SPOOL-PARAMETERS command (Part 6 of 6)

## Output in S variables

The INFORMATION operand is used to define which S variables are to be created. The following can be specified for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = *ALL	1
INFORMATION = *VERSIONS	2
INFORMATION = *HEADER-PAGE	3
INFORMATION = *PRINT-CMD-DEFAULT	4
INFORMATION = *SPOOLOUT-OPTIONS	5
INFORMATION = *SPOOLOUT-SIZE	6
INFORMATION = *SPOOLIN-OPTIONS	7
INFORMATION = *RSO-OPTIONS	8
INFORMATION = *OLTP-OPTIONS	9
INFORMATION = *DPRINT-OPTIONS	10
INFORMATION = *CENTRAL-SCHEDULING	11
INFORMATION = *RSO-SCHEDULING	12

Output information	Name of the S variable	T	Contents	Condition
Weighting of the ACCOUNT scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.ACCOUNT	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the CHAR-SET-NUM scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.CHAR-SET-NUM	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the FORMS-OVERLAY-BUFFER scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.FOB-SIZE	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the FORM-NAME scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.FORM-NAME	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the FORMS-OVERLAY scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.FORM-OVERLAY	S	0,1,2,4,8,16,32,64,128	1, 11
Order in which equivalent jobs are processed (for the current SPOOL session)	var(*LIST).CURR-SCHED.JOB-PRIO	S	*AGE *PRIO	1, 11

(Part 1 of 9)

Output information	Name of the S variable	T	Contents	Condition
Fields by which the various waiting and active jobs are sorted (for the current SPOOL session)	var(*LIST).CURR-SCHED.JOB-SEQ	S	*ACCOUNT *CHAR-SET *CLASS *JOB-NAME *FORM *FORM-OVERLAY *NONE *SPOOL-NAME *SEQUENCE *USER-ID	1, 11
Weighting of the PRINT-JOB-CLASS scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.PRINT-JOB-CLASS	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the PRINT-JOB-NAME scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.PRINT-JOB-NAME	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the PRINT-JOB-PRIO scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.PRINT-JOB-PRIO	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the ROTATION scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.ROT	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the USER-ID scheduling parameter (for the current SPOOL session)	var(*LIST).CURR-SCHED.USER-ID	S	0,1,2,4,8,16,32,64,128	1, 11
Maximum time (in minutes) for connection setup to the partner system (Distributed Print Services condition)	var(*LIST).DPRINT-OPT.CONN-TIME	S	1..255	1, 10
Maximum time the DFTM task is to wait for the loop check	var(*LIST).DPRINT-OPT.DFTM-WAITING-T	S	20..1800	1, 10
Maximum priority for a remote print job (Distributed Print Services condition)	var(*LIST).DPRINT-OPT.REM-JOB-PRIO	S	30..255	1, 10
Maximum number of jobs for resource container management (Distributed Print Services condition)	var(*LIST).DPRINT-OPT.RESOURCE-TASK-LIM	S	1..32	1, 10
Maximum number of job for remote request processing (Distributed Print Services condition)	var(*LIST).DPRINT-OPT.SERVER-TASK-LIM	S	1..255	1, 10
Character set used to print the header page	var(*LIST).HEAD-PAGE.CHAR-SET	S	*DEFAULT *FILE	1, 3

## SHOW-SPOOL-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Header page for each copy of a spoolout job	var(*LIST).HEAD-PAGE.COP-HEAD	S	*NO *YES	1, 3
Header page for each spoolout in a spoolout group	var(*LIST).HEAD-PAGE.FAM-MEMB-HEAD	S	*NO *YES	1, 3
Account number printed on the header page	var(*LIST).HEAD-PAGE. PRINT-ACCOUNT-NUM	S	*NO *YES	1, 3
Skip to channel 1 after header page output	var(*LIST).HEAD-PAGE. SPACE-AFTER-HEAD	S	*NO *YES	1, 3
Weighting of the ACCOUNT scheduling parameter (for the next RSO job)	var(*LIST).NEXT-RSO-SCHED.ACCOUNT	S	0,1,2,4,8,16,32,64, 128	1, 12
Weighting of the FORM-NAME scheduling parameter (for the next RSO job)	var(*LIST).NEXT-RSO-SCHED.FORM-NAME	S	0,1,2,4,8,16,32,64, 128	1, 12
Order in which equivalent RSO jobs are processed (for the next RSO job)	var(*LIST).NEXT-RSO-SCHED.JOB-PRIO	S	*AGE *PRIO	1, 12
Fields by which the various waiting and active RSO jobs are sorted (for the next RSO job)	var(*LIST).NEXT-RSO-SCHED.JOB-SEQ	S	*ACCOUNT *CLASS *FORM *SPOOLOUT-NAME *USER-ID	1, 12
Weighting of the PRINT-JOB-CLASS scheduling parameter (for the next RSO job)	var(*LIST).NEXT-RSO-SCHED.PRINT-JOB-CLASS	S	0,1,2,4,8,16,32,64, 128	1, 12
Weighting of the PRINT-JOB-NAME scheduling parameter (for the next RSO job)	var(*LIST).NEXT-RSO-SCHED.PRINT-JOB-NAME	S	0,1,2,4,8,16,32,64, 128	1, 12
Weighting of the PRINT-JOB-PRIORITY scheduling parameter (for the next RSO job)	var(*LIST).NEXT-RSO-SCHED.PRINT-JOB-PRIO	S	0,1,2,4,8,16,32,64, 128	1, 12
Weighting of the USER-ID scheduling parameter (for the next RSO job)	var(*LIST).NEXT-RSO-SCHED.USER-ID	S	0,1,2,4,8,16,32,64, 128	1, 12
Weighting of the ACCOUNT scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.ACCOUNT	S	0,1,2,4,8,16,32,64, 128	1, 11
Weighting of the CHAR-SET-NUM scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.CHAR-SET-NUM	S	0,1,2,4,8,16,32,64, 128	1, 11

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Output information	Name of the S variable	T	Contents	Condition
Weighting of the FORMS-OVERLAY-BUFFER scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.FOB-SIZE	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the FORM-NAME scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.FORM-NAME	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the FORMS-OVERLAY scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.FORM-OVERLAY	S	0,1,2,4,8,16,32,64,128	1, 11
Order in which equivalent jobs are processed (for the next SPOOL session)	var(*LIST).NEXT-SCHED.JOB-PRIO	S	*AGE *PRIO	1, 11
Fields by which the various waiting and active jobs are sorted (for the next SPOOL session)	var(*LIST).NEXT-SCHED.JOB-SEQ	S	*ACCOUNT *CHAR-SET *CLASS *FOB-NAME *FORM *FORM-OVERLAY *NONE *SPOOL-OUT-NAME *SEQUENCE *USER-ID	1, 11
Weighting of the PRINT-JOB-CLASS scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.PRINT-JOB-CLASS	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the PRINT-JOB-NAME scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.PRINT-JOB-NAME	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the PRINT-JOB-PRIO scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.PRINT-JOB-PRIO	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the ROTATION scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.ROT	S	0,1,2,4,8,16,32,64,128	1, 11
Weighting of the USER-ID scheduling parameter (for the next SPOOL session)	var(*LIST).NEXT-SCHED.USER-ID	S	0,1,2,4,8,16,32,64,128	1, 11
Maximum number of printers served during an OLTP task	var(*LIST).OLTP-OPT.TASK-DEV-LIMIT	S	1..1024	1, 9
Maximum number of OLTP tasks permitted during the session	var(*LIST).OLTP-OPT.TASK-LIMIT	S	1..200	1, 9

(Part 4 of 9)

## SHOW-SPOOL-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Empty SAM files accepted (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.ACCEPT-EMPTY-F	S	*NO *YES	1, 4
Spoolout job destination (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.DEST	S	*CENTRAL *POOL *REMOTE	1, 4
Name of the RSO printer (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.DEV-NAME	S	' ' <dev-name>	1, 4
Distributed Print Services destination (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.DPRINT-DEST	S	*CENTRAL *DEST *POOL	1, 4
Distributed Print Services pool name (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.DPRINT-POOL-NAME	S	' ' <pool-name>	1, 4
Error handling (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.ERROR-HAND	S	*IGNORE *KEEP-FILE	1, 4
Common TSN allocated for spoolout jobs (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.FAM-PROCESS.LOC	S	*NO *YES	1, 4
Common TSN allocated for RSO jobs (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.FAM-PROCESS.REM	S	*NO *YES	1, 4
Number of columns by which the output text is indented (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.LEFT-MARGIN	S	0..31	1, 4
Number of characters after which the print line is truncated (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.LINE-SIZE	S	132,136	1, 4
File being printed is locked until printing is complete (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.LOCK-F	S	*NO *YES	1, 4
Pool name (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.POOL-NAME	S	' ' <pool-name>	1, 4
Client or server resources used to print the document (default for PRINT-DOCUMENT commands)	var(*LIST).PRINT-CMD-DEF.RESOURCE-LOC	S	' ' *HOME *SERVER	1, 4
Period (in minutes) between printer timeout checks (default for PRINT-DOCUMENT commands)	var(*LIST).RSO-OPT.CHECK-PRINT-TIME	S	2..10	1, 8

(Part 5 of 9)

Output information	Name of the S variable	T	Contents	Condition
Maximum number of printers running on a single controller (default for RSO operation)	var(*LIST).RSO-OPT.CONTR-DEV-LIM	S	1..1024	1, 8
Maximum number of RSO controllers allowed during a system session (default for RSO operation)	var(*LIST).RSO-OPT.CONTR-LIM	S	1..200	1, 8
Maximum number of job RSO controllers permitted during the session	var(*LIST).RSO-OPT.JOB-CONT-LIM	S	1..200	1, 8
DMS I/O areas released if there are no more jobs outstanding for the output device (default for RSO operation)	var(*LIST).RSO-OPT.REL-MEM	S	*NO *YES	1, 8
Period (in seconds) between attempts to send a new message to the printer (default for RSO operation)	var(*LIST).RSO-OPT.RETRY-TIME	S	1..600	1, 8
Weighting of the ACCOUNT scheduling parameter (for the current RSO job)	var(*LIST).RSO-SCHED.ACCOUNT	S	0,1,2,4,8,16,32,64,128	1, 12
Weighting of the FORM-NAME scheduling parameter (for the current RSO job)	var(*LIST).RSO-SCHED.FORM-NAME	S	0,1,2,4,8,16,32,64,128	1, 12
Order in which equivalent RSO jobs are processed (for the current RSO job)	var(*LIST).RSO-SCHED.JOB-PRIO	S	*AGE *PRIO	1, 12
Fields by which the various waiting and active jobs are sorted (for the current RSO job)	var(*LIST).RSO-SCHED.JOB-SEQ	S	*ACCOUNT *CLASS *FORM *SPOOL-OUT-NAME *USER-ID	1, 12
Weighting of the PRINT-JOB-CLASS scheduling parameter (for the current RSO job)	var(*LIST).RSO-SCHED.PRINT-JOB-CLASS	S	0,1,2,4,8,16,32,64,128	1, 12
Weighting of the PRINT-JOB-NAME scheduling parameter (for the current RSO job)	var(*LIST).RSO-SCHED.PRINT-JOB-NAME	S	0,1,2,4,8,16,32,64,128	1, 12
Weighting of the PRINT-JOB-PRIORITY scheduling parameter (for the current RSO job)	var(*LIST).RSO-SCHED.PRINT-JOB-PRIO	S	0,1,2,4,8,16,32,64,128	1, 12
Weighting of the USER-ID scheduling parameter (for the current RSO job)	var(*LIST).RSO-SCHED.USER-ID	S	0,1,2,4,8,16,32,64,128	1, 12

(Part 6 of 9)

## SHOW-SPOOL-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Indicator showing whether the minimum number of lines per printed page is set by SPOOL (*STD) or by the SPOOL administrator	var(*LIST).SPOOL-SIZE.INDICATOR	S	' '*STD	1, 6
Average number of records per PAM page	var(*LIST).SPOOL-SIZE.LINE-FACT	S	0..100	1, 6
Minimum number of lines per page	var(*LIST).SPOOL-SIZE.MIN-LPP	S	0..32767	1, 6
Unit of spoolout size (PAM pages or lines)	var(*LIST).SPOOL-SIZE.UNIT	S	*LINE *PAM	1, 6
Spoolin job log generated	var(*LIST).SPOOLIN-OPT.LOG-DISK	S	*NO *YES	1, 7
Output on APA printers possible (spoolout control criterion)	var(*LIST).SPOOLOUT-OPT.APA-PRINTER	S	*NO *YES	1, 5
Maximum number of filter tasks	var(*LIST).SPOOLOUT-OPT.CHECK.FILTER-TASK-LIMIT	S	1.32	1, 5
Spoolout checkpoint spacing for line printers and printers with loadable VFB	var(*LIST).SPOOLOUT-OPT.CHECK.LINE-PRINT	S	0..32767	1, 5
Spoolout checkpoint spacing for page printers (laser printers)	var(*LIST).SPOOLOUT-OPT.CHECK.PAGE-PRINT	S	0..32767	1, 5
Spoolout checkpoint spacing for remote printers	var(*LIST).SPOOLOUT-OPT.CHECK.REM-PRINT	S	0..32767	1, 5
Name of the default form for output to SYSLST	var(*LIST).SPOOLOUT-OPT.DEF-SYSLST-FORM	S	' '<form-name>	1, 5
Name of the default form for output to SYSOUT	var(*LIST).SPOOLOUT-OPT.DEF-SYSOUT-FORM	S	' '<form-name>	1, 5
Erase floppy disks before writing	var(*LIST).SPOOLOUT-OPT.ERASE-DISKETTE	S	*NO *YES	
Number of characters in the form name that SPOOL evaluates for scheduling purposes	var(*LIST).SPOOLOUT-OPT.FORM-NAME-LEN	S	1..6	1, 5
Output on HP printers possible	var(*LIST).SPOOLOUT-OPT.HP-PRINTER	S	*NO *YES	1, 5
Number of character sets in the printer's memory (for HP printer output)	var(*LIST).SPOOLOUT-OPT.HP-PRINT.CHAR-SET	S	1..64	1, 5
Maximum FOB size that can be downloaded to the HP printer's buffer	var(*LIST).SPOOLOUT-OPT.HP-PRINT.FOB	S	0..4032	1, 5
Print output can go to an HP printer with a page rotation module	var(*LIST).SPOOLOUT-OPT.HP-PRINT.ROT	S	*NO *YES	1, 5

(Part 7 of 9)

Output information	Name of the S variable	T	Contents	Condition
Output on HP90 printers possible	var(*LIST).SPOOL-OUT-OPT.HP90-PRINTER	S	*NO *YES	1, 5
Number of character sets in the printer's memory (for HP90 printer output)	var(*LIST).SPOOL-OUT-OPT.HP90-PRINT.CHAR-SET	S	1..64	1, 5
Maximum FOB size that can be downloaded to the HP90 printer's buffer	var(*LIST).SPOOL-OUT-OPT.HP90-PRINT.FOB	S	0..4032	1, 5
EFO for HP90 printers	var(*LIST).SPOOL-OUT-OPT.HP90-PRINT.FORM-OVERLAY	S	*NO *YES	1, 5
Size of the common HP90 memory area for character sets and FOB overlay resources	var(*LIST).SPOOL-OUT-OPT.HP90-PRINT.RAST-PAT-MEM	S	*NONE 1536 2048 3072 4096 8192 12288 16384	1, 5
Output can go to an HP90 printer with a page rotation module	var(*LIST).SPOOL-OUT-OPT.HP90-PRINT.ROT	S	*NO *YES	1, 5
Output on LP printers possible	var(*LIST).SPOOL-OUT-OPT.LP-PRINTER	S	*NO *YES	1, 5
Output on LP65 printers possible	var(*LIST).SPOOL-OUT-OPT.LP65-PRINTER	S	*NO *YES	1, 5
Maximum number of message tasks that can be active at one time	var(*LIST).SPOOL-OUT-OPT.MAX-MSG-TASK	S	0..200	1, 5
Output on ND printers possible	var(*LIST).SPOOL-OUT-OPT.ND-PRINTER	S	*NO *YES	1, 5
Output on PLC printers possible	var(*LIST).SPOOL-OUT-OPT.PCL-PRINTER	S	*NO *YES	1, 5
Prefix part of the printer parameter files	var(*LIST).SPOOL-OUT-OPT.PRINTER-PARAM-PREFIX	S	' ' <printer-par.-prefix>	1, 5
Number of pages or lines to go back when restarting a job (for local SPOOL)	var(*LIST).SPOOL-OUT-OPT.PRIO.FROM-POS	S	60..200	1, 5
Task priority for output to replay tapes	var(*LIST).SPOOL-OUT-OPT.PRIO.REPLAY-SESSION	S	60..200	1, 5
Number of sections to go back in the file when restarting a job	var(*LIST).SPOOL-OUT-OPT.PRIO.SECT-POS	S	60..200	1, 5
Maximum number of RBP tasks	var(*LIST).SPOOL-OUT-OPT.RBP-STAT-LIM	S	0..255	1, 5

(Part 8 of 9)

## SHOW-SPOOL-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Prefix component of the recovery rule files	var(*LIST).SPOOL-OUT-OPT.REC-RULES-PR	S	' ' <rec-rules-pr>	1, 5
Size of the buffer available to the RSO printer (in kilobytes)	var(*LIST).SPOOL-OUT-OPT.REM-BUF-SIZE	S	4,8,16	1, 5
Maximum number of concurrently active RSO printers	var(*LIST).SPOOL-OUT-OPT.REM-DEV-LIM	S	0..9999	1, 5
Maximum number of concurrently active dummy controllers for SECTION-PRINT jobs	var(*LIST).SPOOL-OUT-OPT.SECT-TASK-LIM	S	1..255	1, 5
Lowest number of logical pages after which system file spoolout is started automatically	var(*LIST).SPOOL-OUT-OPT.START-SPOOL-LOW-VAL	S	1..32767	1, 5
Output on TWIN printer possible	var(*LIST).SPOOL-OUT-OPT.TWIN-PRINTER	S	*NO *YES	1, 5
Output on VIRTUAL printer possible	var(*LIST).SPOOL-OUT-OPT.VIRTUAL-PRINTER	S	*ALLOWED *NOT-ALLOWED	1, 5
Version of the DPRINTCL subsystem	var(*LIST).VERSION.DPRINT-CLI	S	<version> *NOT-LOADED	1, 2
Version of the DPRINTCM subsystem	var(*LIST).VERSION.DPRINT-COMM	S	<version> *NOT-LOADED	1, 2
Version of the DPRINTSV subsystem	var(*LIST).VERSION.DPRINT-SERVER	S	<version> *NOT-LOADED	1, 2
Version of the IDOM subsystem	var(*LIST).VERSION.IDOM	S	<version> *NOT-LOADED	1, 2
RSO version of the current system session	var(*LIST).VERSION.RSO	S	<version> *NOT-LOADED	1, 2
Version of the SCSIPCL subsystem	var(*LIST).VERSION.SCSIPCL	S	<version> *NOT-LOADED	1, 2
Version of the SPCONV subsystem	var(*LIST).VERSION.SPCONV	S	<version> *NOT-LOADED	1, 2
SPOOL version of the current system session	var(*LIST).VERSION.SPOOL	S	<version> *NOT-LOADED	1, 2
SPS version of the current system session	var(*LIST).VERSION.SPS	S	<version> *NOT-LOADED	1, 2

(Part 9 of 9)

## SHOW-STORAGE-CLASS

Show storage class definitions

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	File processing Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS STD-PROCESSING

### Function

The SHOW-STORAGE-CLASS command outputs the definitions of the storage classes of a system-managed (SM) pubset. If the definitions of more than one storage classes are requested, the set of storage classes to be output can be restricted by means of the SELECT operand to storage classes with specific attributes. Output can be directed either to SYSOUT or to SYSLST.

Storage classes protected by a guard are shown only to users who are authorized to use them.

The user can either request just general information on the storage class or also view the file attributes and the brief description for the storage class.

The SM pubset must have been imported to the local system (in exclusive or shared mode).

The command supports structured output in S variables (see [“Output in S variables” on page 7-169](#)).

### *Privileged functions*

Systems support staff (TSOS privilege) can request information on all storage classes. They can use INFORMATION=\*VOLUME-SET-LIST to find out about the volume set list assigned to a storage class. If they request all information with INFORMATION=\*ALL, in addition to the file attributes and the brief description they are shown information on the protection attributes of a storage class and on the assigned volume set list.

## Format

SHOW-STORAGE-CLASS
<pre> <b>STORAGE-CLASS-NAME</b> = *ALL / &lt;composed-name 1..8 with-wild&gt; , <b>PUBSET</b> = &lt;cat-id 1..4&gt; , <b>INFORMATION</b> = *<u>SUMMARY</u> / *<b>VOLUME-SET-LIST</b> / *ALL , <b>SELECT</b> = *<u>ALL</u> / *<b>PARAMETERS</b>(...)   *<b>PARAMETERS</b>(...)             <b>FILE-ATTRIBUTES</b> = *<u>ANY</u> / *<b>PARAMETERS</b>(...)         *<b>PARAMETERS</b>(...)                         <b>IO-ATTRIBUTES</b> = *<u>ANY</u> / *<b>PARAMETERS</b>(...)               *<b>PARAMETERS</b>(...)                                     <b>PERFORMANCE</b> = *<u>ANY</u> / list-poss(3): *<b>STD</b> / *<b>HIGH</b> / *<b>VERY-HIGH</b>                   , <b>USAGE</b> = *<u>ANY</u> / list-poss(3): *<b>READ-WRITE</b> / *<b>WRITE</b> / *<b>READ</b>                   , <b>DISK-WRITE</b> = *<u>ANY</u> / list-poss(3): *<b>STD</b> / *<b>IMMEDIATE</b> / *<b>BY-CLOSE</b>                   , <b>AVAILABILITY</b> = *<u>ANY</u> / list-poss(2): *<b>STD</b> / *<b>HIGH</b>                   , <b>FILE-PREFORMAT</b> = *<u>ANY</u> / list-poss(4): *<b>BY-PUBSET-DEFAULT</b> / *<b>K</b> / *<b>NK2</b> / *<b>NK4</b>                   , <b>WORK-FILE</b> = *<u>ANY</u> / list-poss(2): *<b>NO</b> / *<b>YES</b>                                     <b>VOLUME-SET-LIST</b> = *<u>ANY</u> / *<b>NONE</b> / &lt;composed-name 1..8&gt;                         <b>OUTPUT</b> = *<u>SYSO</u>T / *<b>SYSLST</b>(...)               *<b>SYSLST</b>(...)                                     <b>SYSLST-NUMBER</b> = *<u>STD</u> / &lt;integer 1..99&gt;         </pre>

## Operands

**STORAGE-CLASS-NAME** = \*ALL / <composed-name 1..8 with-wild>

Specifies the storage classes for which information is required.

**STORAGE-CLASS-NAME** = \*ALL

Information is required for all storage classes which are assigned to the pubset specified in the PUBSET operand and also meet the selection criteria given in the SELECT operand.



**STORAGE-CLASS-NAME = <composed-name 1..8 with-wild>**

Name of the storage class for which information is required. Wildcards can be used to identify more than one storage class.

Information is required for all specified storage classes which are assigned to the pubset specified in the PUBSET operand and also meet the selection criteria given in the SELECT operand.

**PUBSET = <cat-id 1..4>**

Identifies the associated SM pubset. The pubset must have been imported to the local system (in exclusive or shared mode).

**INFORMATION = \*SUMMARY / \*VOLUME-SET-LIST / \*ALL**

Specifies how much of the available information is to be output for each selected storage class.

**INFORMATION = \*SUMMARY**

Only the name of the storage class and the catalog ID of the assigned pubset are output.

**INFORMATION = \*VOLUME-SET-LIST**

*Only allowed for users with TSOS privilege.*

Output is as for INFORMATION=\*SUMMARY, with the addition of the name of the assigned volume set list.

**INFORMATION = \*ALL**

Output is as for INFORMATION=\*SUMMARY, with the addition of the file attributes defined for the storage class and the brief description.

Users with TSOS privilege are also shown information on the protection attributes of the storage class and the name of the volume set list assigned to it.

**SELECT = \*ALL / \*PARAMETERS(...)**

Specifies whether the set of storage classes identified in the STORAGE-CLASS-NAME operand is to be restricted by selection criteria.

**SELECT = \*ALL**

There is no restriction on the set of storage classes identified in the STORAGE-CLASS-NAME operand.

**SELECT = \*PARAMETERS(...)**

Defines selection criteria restricting the set of storage classes identified in the STORAGE-CLASS-NAME operand. Only those storage classes which possess all the attributes specified next are to be output.

The default value, \*ANY, means that the attribute in question is not a selection criterion.

**FILE-ATTRIBUTES = \*ANY / \*PARAMETERS(...)**

Specifies whether the selection of storage classes to be output is to be based on the file attributes defined in them.

**FILE-ATTRIBUTES = \*ANY**

The file attributes are not a selection criterion.

**FILE-ATTRIBUTES = \*PARAMETERS(...)**

The storage classes which are to be output are selected on the basis of the file attributes specified next.

**IO-ATTRIBUTES = \*ANY / \*PARAMETERS(...)**

Specifies whether the performance attributes are to be a selection criterion.

**IO-ATTRIBUTES = \*PARAMETERS(...)**

The storage classes which are to be output must have definitions containing the performance attributes specified next.

**PERFORMANCE = \*ANY / list-poss(3): \*STD / \*HIGH / \*VERY-HIGH**

Selects all storage classes which possess one of the specified performance attributes.

**PERFORMANCE = \*ANY**

The performance attribute is not a selection criterion.

**PERFORMANCE = \*STD**

Selects only those storage classes which have their performance attribute set to \*STD (no special performance requirement).

**PERFORMANCE = \*HIGH**

Selects only those storage classes which have their performance attribute set to \*HIGH (high performance requirement).

**PERFORMANCE = \*VERY-HIGH**

Selects only those storage classes which have their performance attribute set to \*VERY-HIGH (very high performance requirement).

**USAGE = \*ANY / list-poss(3): \*READ-WRITE / \*WRITE / \*READ**

Selects all storage classes which have the performance attribute set for one of the specified I/O operations.

**USAGE = \*ANY**

The I/O operation mode is not a selection criterion.

**USAGE = \*READ-WRITE**

Selects only those storage classes which have the performance attribute for read/write operations set.

**USAGE = \*WRITE**

Selects only those storage classes which have the performance attribute for write operations set.

**USAGE = \*READ**

Selects only those storage classes which have the performance attribute for read operations set.

**DISK-WRITE = \*ANY / list-poss(3): \*STD / \*IMMEDIATE / \*BY-CLOSE**

Specifies whether the attribute governing the time when data consistency is required after write operations is to be a selection criterion.

**DISK-WRITE = \*ANY**

The point at which data consistency is required is not a selection criterion.

**DISK-WRITE = \*STD**

Selects only those storage classes which have their consistency point defined as DISK-WRITE=\*STD.

**DISK-WRITE = \*IMMEDIATE**

Selects only those storage classes which have their consistency point defined as immediately after completion of write operations.

**DISK-WRITE = \*BY-CLOSE**

Selects only those storage classes which have their consistency point defined as only after CLOSE processing.

**AVAILABILITY = \*ANY / list-poss(2): \*STD / \*HIGH**

Specifies whether the availability attribute is to be a selection criterion.

**AVAILABILITY = \*ANY**

The required availability is not to be a selection criterion.

**AVAILABILITY = \*STD**

Selects only those storage classes for which no special availability requirements are defined.

**AVAILABILITY = \*HIGH**

Selects only those storage classes for which high availability requirements are defined.

**FILE-PREFORMAT = \*ANY / list-poss(4): \*BY-PUBSET-DEFAULT / \*K / \*NK2 / \*NK4**

Specifies whether the attribute for preferred file format is to be a selection criterion.

**FILE-PREFORMAT = \*ANY**

The preferred file format is not to be a selection criterion.

**FILE-PREFORMAT = \*BY-PUBSET-DEFAULT**

Selects only those storage classes for which the preferred file format is defined as the pubset-global default.

**FILE-PREFORMAT = \*K**

Selects only those storage classes in which files are set to be created as K files.

**FILE-PREFORMAT = \*NK2**

Selects only those storage classes in which files are set to be created as NK2 files.

**FILE-PREFORMAT = \*NK4**

Selects only those storage classes in which files are set to be created as NK4 files.

**WORK-FILE = \*ANY / list-poss(2): \*NO / \*YES**

Specifies whether the work file attribute is to be a selection criterion.

**WORK-FILE = \*ANY**

The work file attribute is not to be a selection criterion.

**WORK-FILE = \*NO**

Selects only those storage classes in which files are created as normal files.

**WORK-FILE = \*YES**

Selects only those storage classes in which files are created as work files.

**VOLUME-SET-LIST = \*ANY / \*NONE / <composed-name 1..8>**

Specifies whether the storage classes are to be selected on the basis of volume set list assignment.

**VOLUME-SET-LIST = \*ANY**

Volume set list assignment is not to be a selection criterion.

**VOLUME-SET-LIST = \*NONE**

Selects only those storage classes to which no volume set list is assigned.

**VOLUME-SET-LIST = <composed-name 1..8>**

Selects only those storage classes to which the specified volume set list is assigned.

**OUTPUT = \*SYSOUT / \*SYSLST(...)**

Specifies where the information is to be output.

**OUTPUT = \*SYSOUT**

The information is output to the system file SYSOUT.

**OUTPUT = \*SYSLST(...)**

The information is output to the system file SYSLST.

**SYSLST-NUMBER = \*STD / <integer 1..99>**

Specifies whether the information is to be output to the system file SYSLST or to a SYSLST file from the set SYSLST01 through SYSLST99.

The default is \*STD, i.e. output is directed to the system file SYSLST.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	1	CMD0202	Syntax error in command
	32	CMD0221	Internal system error
	32	CMD2009	Error on output to S variables (e.g. subsystem not available)
	64	CMD0216	No authorization for some command parameters
	64	DMS1481	Error accessing storage class catalog
	64	DMS1483	Storage class catalog invalid
	64	DMS1485	Pubset not known
	64	DMS1486	Pubset is not a system-managed pubset
	64	DMS1487	Pubset not available
	64	DMS148A	Storage class not defined
	64	DMS1490	Storage class management not available for this pubset
	64	DMS149A	No storage classes meet the selection criteria
	64	DMS149C	No storage class exists for the specified pubset
	64	DMS149F	No access right for storage class
	129	DMS148D	Not enough class 4/5 memory
	129	DMS148E	Error on MSCF connection to master
	129	DMS148F	GCF subsystem not ready
	129	DMS1498	GUARDS subsystem not ready
	129	DMS149E	Output error: SYSLST file cannot be extended

**Output format**

The output information for each storage class selected breaks down into the following five blocks:

1. General information on the storage class
2. File attributes defined in the storage class
3. Protection attributes of the storage class (for privileged users only)
4. Information on the assigned volume set list (for privileged users only)
5. Brief description of the storage class

Information blocks 3 and 4 are shown to privileged users only.

Which information blocks are output is governed by the privilege that the calling user has and by the value of the INFORMATION operand. The following table shows which information blocks (identified by number) are output and the order in which they appear.

Value of INFORMATION operand	Privilege	
	TSOS	STD-PROCESSING
*SUMMARY	1	1
*VOLUME-SET-LIST	1 + 4	Combination not allowed
*ALL	1 + 2 + 3 + 4 + 5	1 + 2 + 5

Table 166: Scope of SHOW-STORAGE-CLASS command output

### *General information on the storage class*

The following line of general information is output:

NAME: <scname>            PUBSET: <catid>

Key:

<scname>            Name of the storage class

<catid>            ID of the SM pubset for which the storage class is defined

### *File attributes of the storage class*

The information block begins with the header line "FILE-ATTRIBUTES" and has the following layout:

```
----- FILE-ATTRIBUTES -----  
  
PERFORMANCE:            USAGE:            DISK-WRITE:  
  <perf>                <usage>            <diskw>  
  
AVAILABILITY:           FILE-PREFORMAT:    WORK-FILE:  
  <avail>               <format>           <work>
```

The output fields and the values shown correspond to the file attributes selected for the storage class definition in the CREATE-STORAGE-CLASS command.

Output field	Values	Meaning
PERFORMANCE	STANDARD HIGH VERY-HIGH	Performance attribute: no special performance requirement high performance priority very high performance priority
USAGE	READ-WRITE WRITE READ	I/O operation mode in conjunction with performance requirement: read and write operations write operations only read operations only
DISK-WRITE	STANDARD IMMEDIATE BY-CLOSE	Time when data consistency is required For permanent files = IMMEDIATE, for temporary files = BY-CLOSE. The file is to be in a consistent state immediately after write operations. The file does not need to be in a consistent state until after CLOSE processing.
AVAILABILITY	STANDARD HIGH	Availability: no special availability requirements high availability
FILE-PREFORMAT	BY-PUBSET-DEFAULT K-FORMAT NK2-FORMAT NK4-FORMAT	Preferred file format: the pubset-global default applies. files are to be created as K files. files are to be created as NK2 files. files are to be created as NK4 files.
WORK-FILE	NO YES	Work file attribute: normal files are created. only work files are created.

Table 167: Output fields for file attributes with the SHOW-STORAGE-CLASS command

### *Protection attributes of the storage class (for privileged users only)*

The information block begins with the header line “PROTECTION” and has the following layout:

```
----- PROTECTION -----
```

```
*NONE
```

or

```
GUARD-NAME: <profile>
```

If the storage class is not protected by a guard, \*NONE is output on the value line. If it is, the value line shows the name of the guard in place of <profile>.

### *Information on the assigned volume set list (for privileged users only)*

The information block begins with the header line “ASSIGNED VOLUME-SET-LIST” and has the following layout:

```
----- ASSIGNED VOLUME-SET-LIST -----
```

```
*NONE
```

or

```
<list>
```

If the storage class is not assigned a volume set list, \*NONE is output on the value line. If it is, the value line shows the name of the volume set list in place of <list>.

### *Brief description of the storage class*

The information block begins with the header line “STORAGE-CLASS-INFO” and has the following layout:

```
----- STORAGE-CLASS-INFO -----
```

```
*NONE
```

or

```
<text>
```

If no brief description has been defined for the storage class, \*NONE is output on the value line.

If there is a brief description, the value line shows the defined text in place of <text>. The line holds a maximum of 74 characters. If the text is longer, it is split across the appropriate number of lines (no more than 10).



## Output in S variables

The INFORMATION operand identifies the variables which are to be created. The following values are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = *ALL	1
INFORMATION = *SUMMARY	2
INFORMATION = *VOLUME-SET-LIST (only for privileged users)	3

Output information	Name of the S variable	T	Contents	Condition
Requirements with regard to failsafe capability *STD=no particular requirements *HIGH=increased failsafe capability required	var(*LIST).F-ATTR.AVAIL	S	*STD *HIGH	1
Requested file consistency time *STD=permanent files: as with *IMMED; temporary files: as with *BY-CLOSE *IMMED=immediately after terminating the write operation *BY-CLOSE=after CLOSE processing	var(*LIST).F-ATTR.DISK-WRITE	S	*STD *IMMED *BY-CLOSE	1
Intended file format for initial allocation *BY-PUBSET-DEF=default format of the pubset *K=K format *NK2=NK2 format *NK4=NK4 format	var(*LIST).F-ATTR.F-PREFORM	S	*BY-PUBSET-DEF *K *NK2 *NK4	1
Performance requirements *STD=no particular requirements *HIGH=high performance requirements *VERY-HIGH=very high performance requirements	var(*LIST).F-ATTR.IO-ATTR.PERF	S	*STD *HIGH *VERY-HIGH	1
Type of file accesses for which the performance requirement *HIGH or *VERY-HIGH applies *READ-WRITE=for read and write operations *WRITE=for write operations only *READ=for read operations only	var(*LIST).F-ATTR.IO-ATTR.USAGE	S	*READ-WRITE *WRITE *READ	1

(Part 1 of 2)

## SHOW-STORAGE-CLASS

Output information	Name of the S variable	T	Contents	Condition
Indicator relating to work files *NO=storage class for normal files *YES=storage class for work files	var(*LIST).F-ATTR.WORK-F	S	*NO *YES	1
GUARDS protection for the storage class (privileged users only) *NONE=no protection <profile>=name of a GUARDS profile	var(*LIST).PROT-GUARD	S	*NONE <filename 1..18>	1
Catalog ID of the pubset for which the storage class is defined	var(*LIST).PUBSET	S	<cat-id>	1,2,3
Name of the storage class	var(*LIST).STOR-CLASS	S	<comp.-name 1..8>	1,2,3
Free text selected by the system administrator	var(*LIST).STOR-CLASS-INFO	S	" <c-string 1..720>	1
Name of the volume set list assigned to this storage class (for privileged users only)	var(*LIST).VOL-SET-LIST	S	<comp.-name 1..8> *NONE	1,3

(Part 2 of 2)

### Example

```
/show-storage-class storage-class-name = stc1,  
pubset = abcd,  
information = *all
```

```
NAME: STC1          PUBSET: ABCD
```

```
----- FILE-ATTRIBUTES -----
```

```
PERFORMANCE:      USAGE:          DISK-WRITE:  
VERY-HIGH        READ-WRITE      IMMEDIATE  
AVAILABILITY:    FILE-PREFORMAT:  WORK-FILE:  
STANDARD        BY-PUBSET-DEFAULT NO
```

```
----- PROTECTION -----
```

```
GUARD-NAME: $TSOS.STC.GUARD
```

```
----- ASSIGNED VOLUME-SET-LIST -----
```

```
VSL1
```

----- STORAGE-CLASS-INFO -----

Apart from the pubset service requirements that can be represented in the form of attributes, the following additional requirement is defined for this storage class:

Files are to be stored on an SSD volume set.

In this case systems support used the SHOW-STORAGE-CLASS command to request all the available information about storage class STC1, which has been defined for SM pubset ABCD.

# SHOW-SUBSYSTEM-ATTRIBUTES

Show information on the subsystem attributes

<b>Description status:</b>	DSSM V4.3B
<b>Functional area:</b>	Subsystem management
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	STD-PROCESSING SUBSYSTEM-MANAGEMENT

### Function

The SHOW-SUBSYSTEM-ATTRIBUTES command informs the user of the attributes of the global and local subsystems.

The table below shows which information is issued on which subsystem type (global or local), depending on the privileges of the user.

Privilege	Information	Subsystem type
STD-PROCESSING	Attributes of nonprivileged subsystems	local and global in class 5 storage
SUBSYSTEM-MANAGEMENT	Attributes of all subsystems	global

The command supports structured output in S variables (see [“Output in S variables” on page 7-178](#)).

## Format

SHOW-SUBSYSTEM-ATTRIBUTES	
<b>SUBSYSTEM-NAME</b>	= <b>*ALL</b> / <structured-name 1..8>
<b>VERSION</b>	= <b>*ALL</b> / <product-version mandatory-man-corr> / <product-version without-man-corr>
<b>INFORMATION</b>	= <b>*MINIMUM</b> / <b>*ALL-ATTRIBUTES</b> / <b>*PARAMETERS(...)</b>
<b>*PARAMETERS(...)</b>	
<b>GENERAL-ATTRIBUTES</b>	= <b>*NO</b> / <b>*YES</b>
<b>INTERNAL-ENTRIES</b>	= <b>*NO</b> / <b>*YES</b>
<b>MEMORY-ATTRIBUTES</b>	= <b>*NO</b> / <b>*YES</b>
<b>RELATED-FILES</b>	= <b>*NO</b> / <b>*YES</b>
<b>LINK-ATTRIBUTES</b>	= <b>*NO</b> / <b>*YES</b>
<b>REFERENCE-RELATION</b>	= <b>*NO</b> / <b>*YES</b>
<b>DEPENDENCE-RELATION</b>	= <b>*NO</b> / <b>*YES</b>
<b>HOLDER-TASK-INFO</b>	= <b>*NO</b> / <b>*YES</b>
<b>SUBSYSTEM-ENTRIES</b>	= <b>*NO</b> / <b>*YES</b>
<b>OUTPUT</b>	= <b>*SYSOUT</b> / <b>*SYSLST(...)</b> / <b>*NONE</b>
<b>*SYSLST(...)</b>	
<b>SYSLST-NUMBER</b>	= <b>*STD</b> / <integer 1..99>
<b>LINES-PER-PAGE</b>	= <integer 1..99>

## Operands

**SUBSYSTEM-NAME= \*ALL / <structured-name 1..8>**

Specifies the subsystems on which information is requested.

**SUBSYSTEM-NAME = \*ALL**

*It is not possible to specify a version explicitly in the VERSION operand here.*

Information is to be issued for all subsystems in the catalog (depending on the privileges of the user).

**SUBSYSTEM-NAME= <structured-name 1..8>**

Name of the subsystem on which SSCM will provide information from the catalog.

**VERSION = \*ALL / <product-version mandatory-man-corr> / <product-version without-man-corr>**

Specifies the version of the selected subsystem.

**VERSION = \*ALL**

Default: all versions of the subsystem contained in the catalog are to be included in the information output.

**VERSION = <product-version mandatory-man-corr> /  
<product-version without-man-corr>**

*It is not possible to specify a version with SUBSYSTEM-NAME=\*ALL here.*

Version number of the subsystem or a version of the SDF-A operand value PRODUCT-VERSION. Format: “mm.n” or “mm.naso”, where

mm = main version (numeric)

n = revision version (numeric)

aso = update version (a= letter, release level; so=numeric, correction level)

**INFORMATION = \*MINIMUM / \*ALL-ATTRIBUTES / \*PARAMETERS(...)**

Specifies the scope of the information output.

**INFORMATION = \*MINIMUM**

Default.

Only the name, version and status of the subsystem are output.

**INFORMATION = \*ALL-ATTRIBUTES**

All information on the subsystem is output.

**INFORMATION = \*PARAMETERS(...)**

Specifies which information is wanted.

**GENERAL-ATTRIBUTES = \*NO / \*YES**

Specifies whether the following general attributes of the subsystems named are to be read from the catalog (\*YES) or not (\*NO):

- When is the subsystem to be started after the system has been started?  
(CREATION-TIME)
- In which load mode is the subsystem to be loaded?  
(SUBSYSTEM-LOAD-MODE)
- Is the subsystem to be unloaded automatically at shutdown?  
(STOP-AT-SHUTDOWN)
- May the loaded subsystem be stopped or unloaded?  
(SUBSYSTEM-HOLD)
- May the subsystem control commands be used?  
(STATE-CHANGE-CMDS)
- Is the FORCE option allowed? (FORCED-STATE-CHANGE)
- Is the RESET option allowed? (RESET)
- Does the subsystem have to be restarted when the holder task was terminated abnormally? (RESTART-REQUIRED)
- May more than one version of the subsystem be active at the same time?  
(VERSION-COEXISTENCE)
- May two versions of a subsystem be exchanged dynamically?  
(VERSION-EXCHANGE)
- What is the name of the subsystem’s INSTALLATION-UNIT?  
(INSTALLATION-UNIT)
- What is the subsystem’s copyright (text and date)? (COPYRIGHT)

The following information is also output:

- Year from the copyright information
- Status of the subsystem
- Name of the monitoring job variable if this was specified when the subsystem was activated (MONJV operand in the START-SUBSYSTEM command).

**INTERNAL-ENTRIES = \*NO / \*YES**

Specifies whether the following information on the entry points of the subsystem are to be supplied by SSCM (\*YES) or not (\*NO):

- the names of the entry points for the subsystem routines INIT-/STOPCOM-/DEINIT- and CLOSE-CRTL-ROUTINE
- the name of the entry point used for dynamic identity checking (DYNAMIC-CHECK-ENTRY)
- the name of the interface version for calling the INIT-/STOPCOM-/DEINIT-/CLOSE-CTRL routines (INTERFACE-VERSION)

**MEMORY-ATTRIBUTES = \*NO / \*YES**

Specifies whether the following information pertaining to the storage contained in the catalog is to be output (\*YES) or not (\*NO):

Specifies whether the storage attributes of the subsystem are to be output. These are:

- memory class (MEMORY-CLASS)
- size of the address area needed (SIZE)
- start address of the subsystem code (START-ADDRESS)
- privileges and access authorization for the address area (SUBSYSTEM-ACCESS)

**RELATED-FILES = \*NO / \*YES**

Specifies whether information on the subsystem's subcomponents are to be supplied (\*YES) or not (\*NO). The output comprises information on whether a REP file is mandatory for the subsystem (REP-FILE-MANDATORY) and under which user ID the subcomponents are cataloged (INSTALLATION-USERID).

The term subcomponent comprises:

- the subsystem's object module file (LIBRARY)
- the message file (MESSAGE-FILE)
- the syntax file (SYNTAX-FILE)
- the subsystem information file (SUBSYSTEM-INFO-FILE)
- the REP file (REP-FILE)

### **LINK-ATTRIBUTES = \*NO / \*YES**

Specifies whether the information is to be read from the catalog (\*YES) or not (\*NO), which is stored there on linking and loading the subsystem:

- the name of the link module required /ENTRY/CSECT (LINK-ENTRY)
- inclusion of the autolink function (AUTOLINK)
- information on the behavior regarding unresolvable external references (UNRESOLVED)
- inclusion of a check run for reference subsystems (CHECK-REFERENCE)

### **REFERENCE-RELATION = \*NO / \*YES**

Specifies whether the list of subsystems to which there are address references are to be included in the catalog information output (\*YES) or not (\*NO).

### **DEPENDENCE-RELATION = \*NO / \*YES**

Specifies whether the list of subsystems to which there are dependencies are to be included in the catalog information output (\*YES) or not (\*NO).

### **HOLDER-TASK-INFO = \*NO / \*YES**

Specifies whether the identification of the holder task and the list of subsystems contained in a common holder task are to be included in the catalog information output (\*YES) or not (\*NO).

### **SUBSYSTEM-ENTRIES = \*NO / \*YES**

Specifies whether the list of job entries specified when the subsystem was defined and the attributes listed below are to be read from the catalog (\*YES) or not (\*NO):

- type of specified job entry (MODE)
- routine number (for \*SVC or \*SYSTEM-EXIT) (NUMBER)
- function number of the starting point (FUNCTION-NUMBER)
- version of the function number (FUNCTION-VERSION)
- information on calls by system exit routines (CALL-BY-SYSTEM-EXIT)
- privileges and access authorizations regarding entry points (CONNECTION-ACCESS and CONNECTION-SCOPE)

### **OUTPUT = \*SYSOUT / \*SYSLST(...) / \*NONE**

Specifies the system file into which the information is to be directed.

#### **OUTPUT = \*SYSOUT**

Default. The information is output to SYSOUT.

#### **OUTPUT = \*SYSLST(...)**

The information is output to SYSLST.

#### **SYSLST-NUMBER = \*STD / <integer 1..99>**

The number of the SYSLST file into which the information is to be output.

#### **LINES-PER-PAGE = <integer 1..99>**

The number of lines of a SYSLST page.



**OUTPUT = \*NONE**

The information is not output to SYSOUT or SYSLST. The system merely generates S variables (see below). See [section "Working with S variables" on page 1-110](#) for details on S variables.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	ESM0414	Syntax error: invalid version
	32	CMD2009	System error: when writing S variable range
	32	ESM0360	System error: XVT or TCB not accessible
	32	ESM0602	System error: problems with storage administration
	32	ESM0611	System error: connection tables for this task do not exist
	32	ESM0671	System error: while writing to SYSOUT
	64	ESM0600	Operand error: no version with *ALL
	64	ESM0601	Specified system not found
	64	ESM0608	Subsystem version not found
	64	OPS0002	Command canceled
	144	OPS0001	Command cannot be executed due to lack of storage space: repeat command later

**Notes**

1. If a subsystem was found in the local subsystem catalog, the word 'subsystem' is replaced by 'LOCAL SUBSYSTEM' in the output.
2. If the user only has the \*STD-PROCESSING privilege, he receives the attributes of the local subsystem (if any exist) and the attributes of nonprivileged global subsystems (i.e. subsystems for which SUBSYSTEM-ACCESS is not \*SYSTEM).
3. If an error occurs while the information is being written to SYSOUT or SYSLST (ESM0671) the generation of the S variable continues normally.
4. If an error occurs while the S variable is being written (OPS0001 or CMD2009) writing the information to SYSOUT or SYSLST is continued normally.
5. If the cancel key **[K2]** is pressed when the input prompt is issued ('PLEASE ACKNOWLEDGE') both output to SYSOUT and to the S variable is canceled immediately. Return code OPS0002 is set.
6. It can only be guaranteed that the output to SYSOUT/SYSLST is fully identical if the procedure issuing the command prohibits the output being interrupted with INTERRUPTION-ALLOWED=\*NO.

**Output in S variables**

The information output in the S variables matches the output from SYSOUT and SYSLST (see the description of these operands above). The following table groups the S variables according to their assignment to the suboperands of INFORMATION=\*PARAMETERS(...).

<b>Notation used in command</b>	<b>Abbreviated form used in table</b>
INFORMATION=*PARAMETERS(GENERAL-ATTRIBUTES=*NO/*YES)	GEN-ATT
INFORMATION=*PARAMETERS(INTERNAL-ENTRIES=*NO/*YES)	INT-ENT
INFORMATION=*PARAMETERS(MEMORY-ATTRIBUTES=*NO/*YES)	MEM-ATT
INFORMATION=*PARAMETERS(RELATED-FILES=*NO/*YES)	REL-FIL
INFORMATION=*PARAMETERS(LINK-ATTRIBUTES=*NO/*YES)	LINK-ATT
INFORMATION=*PARAMETERS(REFERENCE-RELATION=*NO/*YES)	REF-REL
INFORMATION=*PARAMETERS(DEPENDENCE-RELATION=*NO/*YES)	DEP-REL
INFORMATION=*PARAMETERS(HOLDER-TASK-INFO=*NO/*YES)	HOL-TASK
INFORMATION=*PARAMETERS(SUBSYSTEM-ENTRIES=*NO/*YES)	SUB-ENT

<b>Output information</b>	<b>Name of the S variable</b>	<b>T</b>	<b>Contents</b>	<b>Condition</b>
Integration of the Autolink function	var(*LIST).AUTOLINK	S	*ALLOW *FORBID	LINK-ENT
Integration of the check run for reference subsystems	var(*LIST).CHECK-REF	S	*YES *NO	LINK-ENT
Address of the name of the entry point for the subsystem routine CLOSE-CTRL-ROUTINE (if CRE)	var(*LIST).CLOSE-CTRL-ROUT.ADDR	S	<text 1..8>	INT-ENT
Name of the entry point for the subsystem routine CLOSE-CTRL-ROUTINE	var(*LIST).CLOSE-CTRL-ROUT.NAME	S	<text 1..8> *NO *DYN	INT-ENT
Copyright (text and date) of the subsystem	var(*LIST).COPYRIGHT	S	<string 1..54> *NONE	GEN-ATT
Start time of the subsystem following system initialization	var(*LIST).CRE-TIME	S	*BEFORE-DSSM-LOAD *AT-DSSM-LOAD *MANDATORY-AT-STARTUP *BEFORE-SYS-READY *AFTER-SYS-READY *AT-CRE-REQ *AT-SUBSYS-CALL	GEN-ATT

(Part 1 of 6)

## SHOW-SUBSYSTEM-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Name of the subsystem	var(*LIST).DATA(*LIST).SUBSYS-NAME	S	<structured-name 1..8>	
Version of the subsystem	var(*LIST).DATA(*LIST).SUBSYS-VERSION	S	<product-version>	
Address of the name of the entry point for the subsystem routine DEINIT (if CRE)	var(*LIST).DEINIT-ROUT.ADDR	S	<text 1..8>	INT-ENT
Name of the entry point for the subsystem routine DEINIT	var(*LIST).DEINIT-ROUT.NAME	S	<text 1..8> *NO *DYN	INT-ENT
Address of the name of the entry point used for dynamic identity checks (if CRE)	var(*LIST).DYN-CHECK-ENTRY-NAME.ADDR	S	<text 1..8>	INT-ENT
Name of the entry point used for dynamic identity checks	var(*LIST).DYN-CHECK-ENTRY-NAME.NAME	S	<text 1..8> *NO	INT-ENT
Permission to use FORCE option	var(*LIST).FORCED-STATE-CHA	S	*ALLOW *FORBID	GEN-ATT
Subsystem name in the shared holder task	var(*LIST).HOLDER-TASK.SHARED-WITH-SUBSYS(*LIST).SUBSYS-NAME	S	<structured-name 1..8> *WORK-TASK	HOL-TASK
Product version of the subsystem in the shared holder task	var(*LIST).HOLDER-TASK.SHARED-WITH-SUBSYS(*LIST).SUBSYS-VERSION	S	<product-version>	HOL-TASK
TID of the holder task (if CREATED)	var(*LIST).HOLDER-TASK.TID	S	<text 8>	HOL-TASK
TSN of the holder task	var(*LIST).HOLDER-TASK.TSN	S	<text 4>	HOL-TASK
Address of the name of the entry point for the subsystem routine INIT (if CRE)	var(*LIST).INIT-ROUT.ADDR	S	<text 1..8>	INT-ENT
Name of the entry point for the subsystem routine INIT	var(*LIST).INIT-ROUT.NAME	S	<text 1..8> *NO	INT-ENT
Name of the subsystem's INSTALLATION-UNIT	var(*LIST).INSTALL-UNIT	S	<text 1..30> *NONE	GEN-ATT
User ID under which the related components are cataloged	var(*LIST).INSTALL-USERID	S	<name 1..8> *NONE *DEF	REL-FIL
Address of the name of the interface version used to call the routines INIT-/STOPCOM-/DEINIT-/CLOSE-CTRL (if CRE)	var(*LIST).INTERF-VERSION.ADDR	S	<text 1..8>	INT-ENT

(Part 2 of 6)

## SHOW-SUBSYSTEM-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Name of the interface version used to call the routines INIT-/STOPCOM-/DEINIT-/CLOSE-CTRL	var(*LIST).INTERF-VERSION.NAME	S	<text 1..8> *NO	INT-ENT
Address of the name of the object module /ENTRY/CSECT required for loading (if CRE)	var(*LIST).LINK-ENTRY.ADDR	S	<text 1..8>	LINK-ENT
Name of the object module /ENTRY/CSECT required for loading	var(*LIST).LINK-ENTRY.NAME	S	<text 1..8>	LINK-ENT
Memory class	var(*LIST).MEM-CLASS	S	*SYS-GBL *LOC-PRIVIL *LOC-UNPRIVIL *BY-SLICE	MEM-ATT
Monitoring job variable	var(*LIST).MONJV	S	*YES *NO	GEN-ATT
Default name of the message file (for *INSTALL)	var(*LIST).MSG-F.DEF-NAME	S	<filename 1..54> *NONE	REL-FIL
Logic ID of the message file (for *INSTALL)	var(*LIST).MSG-F.LOGIC-ID	S	<filename 1..30>	REL-FIL
Name of the message file	var(*LIST).MSG-F.NAME	S	<filename 1..54> *INSTALL *NO	REL-FIL
Criterion for automatic loading if CREATION-TIME=*AT-SUBSCALL is set at start time: on the first call to an associated SVC, ISL or other interface	var(*LIST).ON-ACTION	S	*STD *ISL-CALL *ANY	GEN-ATT
Product version of the subsystem for which address references exist (*HIGH=highest product version)	var(*LIST).REF-SUBSYS(*LIST).HIGH-VERSION	S	<product-version> *HIGH	REF-REL
Product version of the subsystem for which address references exist (*LOW=lowest product version)	var(*LIST).REF-SUBSYS(*LIST).LOW-VERSION	S	<product-version> *LOW	REF-REL
Name of the subsystem for which address references exist	var(*LIST).REF-SUBSYS(*LIST).SUBSYS-NAME	S	<structured-name 1..8>	REF-REL
Product version of the subsystem for which dependence relations exist (*HIGH=highest product version)	var(*LIST).RELATED-SUBSYS(*LIST).HIGH-VERSION	S	<product-version> *HIGH	DEP-REL

(Part 3 of 6)

Output information	Name of the S variable	T	Contents	Condition
Product version of the subsystem for which dependence relations exist (*LOW=lowest product version)	var(*LIST).RELATED-SUBSYS(*LIST).LOW-VERSION	S	<product-version> *LOW	DEP-REL
Name of the subsystem for which dependence relations exist	var(*LIST).RELATED-SUBSYS(*LIST).SUBSYS-NAME	S	<structured-name 1..8>	DEP-REL
Default name of the REP file (for *INSTALL)	var(*LIST).REP-F.DEF-NAME	S	<filename 1..54> *NONE	REL-FIL
Logic ID of the REP file (for *INSTALL)	var(*LIST).REP-F.LOGIC-ID	S	<filename 1..30>	REL-FIL
Use of a REP file is mandatory for this subsystem	var(*LIST).REP-F.MANDATORY	S	*YES *NO	REL-FIL
Name of the REP file	var(*LIST).REP-F.NAME	S	<filename 1..54> *INSTALL *NO	REL-FIL
Permit RESET option	var(*LIST).RESET	S	*ALLOW *FORBID	GEN-ATT
Repeat initialization routine on abnormal termination of the holder task	var(*LIST).RESTART-REQ	S	*YES *NO	GEN-ATT
Size of the required address space (for *LOC-PRIVIL and *BY-SLICE)	var(*LIST).SIZE	I	<integer 1..32767>	MEM-ATT
Start address of subsystem code (for *LOC-UNPRIVIL)	var(*LIST).START-ADDR	S	<text 1..8>	MEM-ATT
Use of subsystem control commands	var(*LIST).STATE-CHA-CMDS	S	*ALLOW *FORBID *BY-ADM-ONLY	GEN-ATT
Should the subsystem be automatically unloaded on shutdown?	var(*LIST).STOP-AT-SHUTDOWN	S	*YES *NO	GEN-ATT
Address of the name of the entry point for the subsystem routine STOPCOM (if CRE)	var(*LIST).STOPCOM-ROUT.ADDR	S	<text 1..8>	INT-ENT
Name of the entry point for the subsystem routine STOPCOM	var(*LIST).STOPCOM-ROUT.NAME	S	<text 1..8> *NO *DYN	INT-ENT
Privileges and access authorizations relating to the address space (for *SYS-GBL and *LOC-UNPRIVIL)	var(*LIST).SUBSYS-ACCESS	S	*LOW *SYS *HIGH	MEM-ATT
Addresses of the entry points (if CREATED)	var(*LIST).SUBSYS-ENTRIES(*LIST).ADDR	S	<text 1..8>	SUB-ENT

(Part 4 of 6)

## SHOW-SUBSYSTEM-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Privileges relating to the entry points	var(*LIST).SUBSYS-ENTRIES(*LIST).CONN-ACCESS	S	*ALL *SYS *SIH	SUB-ENT
Access authorizations relating to the entry points	var(*LIST).SUBSYS-ENTRIES(*LIST).CONN-SCOPE	S	*TASK *PROG *FREE *CALL *OPTIM	SUB-ENT
Permit entry points on initial connection	var(*LIST).SUBSYS-ENTRIES(*LIST).FIRST-CONN	S	*ALLOW *FORBID	SUB-ENT
Function number of entry point (for ISL or SVC)	var(*LIST).SUBSYS-ENTRIES(*LIST).FUNC-NUM	I	<integer 0..255>	SUB-ENT
Version of the function number (for ISL or SVC)	var(*LIST).SUBSYS-ENTRIES(*LIST).FUNC-VERSION	I	<integer 1..255>	SUB-ENT
Type of specified incoming job	var(*LIST).SUBSYS-ENTRIES(*LIST).MODE	S	*LINK *ISL *SVC *SYS-EXIT	SUB-ENT
Name of entry point	var(*LIST).SUBSYS-ENTRIES(*LIST).NAME	S	<text 1..8>	SUB-ENT
Stop or unload the loaded subsystem	var(*LIST).SUBSYS-HOLD	S	*ALLOW *FORBID	GEN-ATT
Default name of the subsystem's information file (for *INSTALL)	var(*LIST).SUBSYS-INFO-F.DEF-NAME	S	<filename 1..54> *NONE	REL-FIL
Logic ID of the subsystem's information file (for *INSTALL)	var(*LIST).SUBSYS-INFO-F.LOGIC-ID	S	<filename 1..30>	REL-FIL
Name of the subsystem's information file	var(*LIST).SUBSYS-INFO-F.NAME	S	<filename 1..54> *INSTALL *NO	REL-FIL
Internal status	var(*LIST).SUBSYS-INT-STA	S	INSTALLED INITIALIZED CONNECTABLE WAIT-CLS-CTRL WAIT-DISCON WAIT-DEINIT WAIT-STOP-COM	GEN-ATT
Default name of the subsystem's object module file (for *INSTALL)	var(*LIST).SUBSYS-LIB.DEF-NAME	S	<filename 1..54>	REL-FIL
Logic ID of the subsystem's object module file (for *INSTALL)	var(*LIST).SUBSYS-LIB.LOGIC-ID	S	<filename 1..30>	REL-FIL
Name of the subsystem's object module file	var(*LIST).SUBSYS-LIB.NAME	S	<filename 1..54> *INSTALL *CPLINK	REL-FIL

(Part 5 of 6)

Output information	Name of the S variable	T	Contents	Condition
Load mode in which the subsystem is loaded	var(*LIST).SUBSYS-LOAD-MODE	S	*STD *ADV *ANY	GEN-ATT
Status of the subsystem	var(*LIST).SUBSYS-STA	S	*NOT-CRE *IN-CRE *IN-HOLD *IN-DEL *IN-RESUME *NOT-RESUMED *CRE *LOCK	GEN-ATT
Default name of the syntax file (for *INSTALL)	var(*LIST).SYNTAX-F.DEF-NAME	S	<filename 1..54> *NONE	REL-FIL
Logic ID of the syntax file (for *INSTALL)	var(*LIST).SYNTAX-F.LOGIC-ID	S	<filename 1..30>	REL-FIL
Name of the syntax file	var(*LIST).SYNTAX-F.NAME	S	<filename 1..54> *INSTALL *NO	REL-FIL
Information on behavior in the event of unresolved external references	var(*LIST).UNRESOLVED-EXTERNAL	S	*ALLOW *FORBID	LINK-ENT
More than one version of the subsystem active simultaneously	var(*LIST).VERSION-COEXIST	S	*ALLOW *FORBID	GEN-ATT
Dynamic exchange of two versions of the subsystem	var(*LIST).VERSION-EXCHA	S	*ALLOW *FORBID	GEN-ATT
Year specification (if COPYRIGHT)	var(*LIST).YEAR	S	<string 4>	GEN-ATT

(Part 6 of 6)

## Example

Output of the attributes of nonprivileged subsystems (users with the privilege \*STD-PROCESSING)

```

/show-subsystem-attributes subsystem-name=*all
*****
* 2 * SUBSYSTEM NAME: ACS VERSION: 18.0 *
*****
STATUS OF THE SUBSYSTEM : NOT CREATED
*****
* 3 * SUBSYSTEM NAME: ADAM VERSION: 18.0A00 *
*****
STATUS OF THE SUBSYSTEM : NOT CREATED
*****
* 4 * SUBSYSTEM NAME: AID VERSION: 03.4 *
*****
STATUS OF THE SUBSYSTEM : CONNECTABLE
*****
* 5 * SUBSYSTEM NAME: SMI VERSION: 01.0 *
*****
STATUS OF THE SUBSYSTEM : CONNECTABLE
*****
* 6 * SUBSYSTEM NAME: LLMAID VERSION: 01.1 *
*****
STATUS OF THE SUBSYSTEM : CONNECTABLE
*****
* 7 * SUBSYSTEM NAME: AIDSYS VERSION: 18.0 *
*****
.
.
.
*****
STATUS OF THE SUBSYSTEM : CONNECTABLE
*****
* 129 * SUBSYSTEM NAME: SDFPBIF VERSION: 01.1 *
*****
STATUS OF THE SUBSYSTEM : NOT CREATED
*****
* 130 * SUBSYSTEM NAME: SECOSKRB VERSION: 05.3 *
*****
STATUS OF THE SUBSYSTEM : CONNECTABLE

```



## SHOW-SUBSYSTEM-INFO

Request information on current subsystem configuration

<b>Description status:</b>	DSSM V4.3B
<b>Functional area:</b>	Subsystem management
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	SUBSYSTEM-MANAGEMENT

### Function

The SHOW-SUBSYSTEM-INFO command allows systems support staff to request information relating to the current subsystem configuration. The output, which is to SYSLST only, comprises the complete description of all known subsystems, including the following dynamic aspects:

- the current status
- the load address of started subsystems
- the number of connections registered since startup.
- size of the subsystem (size of storage area required, including subsystem code and metadata).

### Format

SHOW-SUBSYSTEM-INFO
---------------------

<b>SUBSYSTEM-NAME = *ALL</b>
------------------------------

### Operands

**SUBSYSTEM-NAME = \*ALL**

Output is to SYSLST and comprises the entire dynamic subsystem configuration.

### Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No error
	32	ESM0288	Problems with bourse communications
	32	ESM0298	Problems with memory management
	32	ESM0350	Internal DSSM problem during processing
	32	ESM0670	Error during writing to the SYSLST file

**Example**

**/show-subsys-info**

% ESM0254 COMMAND 'SHOW-SUBSYSTEM-INFO' COMPLETELY PROCESSED

**Output is directed to SYSLST ready for printing (the example is only an excerpt):**

```
A
A Fujitsu Technology Solutions 2009          DYNAMIC SUBSYSTEM MANAGEMENT          DATE: 2012-06-22  TIME: 15-12-24  PAGE: 1
CATALOG-LAYOUT       : VERSION 309                      PRINT-LAYOUT       : VERSION 03.6
STARTUP CATALOG-NAME : :4V08:$TSOS.SYS.SSD.CAT.X      FORCED GENERATION  : NO
CATALOG HISTORIC    :
                    :4V08:$TSOS.CAT.SHC-OSD.100      FORCED GENERATION  : YES
DSSM BOURSE ID      : 80A60034
CATALOG ADDRESS IN CLASS 4          : X'7F85F060'      CATALOG ADDRESS IN CLASS 5 : X'70900060'
ADDRESS-STRIPE FOR LOCAL-PRIVILEGED SS : X'00000000' BYTES LENGTH      START ADDRESS      : X'FFFFFFF'
ADDRESS-STRIPE FOR PRIVATE SLICES OF SS: X'02200000' BYTES LENGTH      START ADDRESS      : X'6ED00000'
```

```
A Fujitsu Technology Solutions 2009          DYNAMIC SUBSYSTEM MANAGEMENT          DATE: 2012-06-22  TIME: 15-12-24  PAGE: 2
```

NR	SS-NAME	VERSION	STD	GENERAL ATTRIBUTES														INTERNAL ENTRIES					SUBSYST ENTRIES	MEMORY	RELATED FILES				HOLD	
				C	S	C	F	C	C	X	R	E	S	I	C	D	C	S	D	Y	N	C	C	A	M	R	S	I		N
				RE	HT	OM	OR	HE	KE	CH	XA	RT	IN	CE	PC	IC	HE	CH	CH	SV	CC	AS	SG	FP	FN	FF	IL	LE		
1	CP																													
2	ACS	18.0	YES	ACR	YES	YES	YES	NO	NO	YES	NO	NO	NO	YES	NO	YES	YES	YES	YES	YES	NO	NO	S	SYS	NO	IMO	IMO	NO	NO	38
3	ADAM	18.0A00	YES	ASC	YES	YES	YES	NO	NO	YES	NO	YES	NO	YES	NO	YES	YES	YES	YES	YES	YES	NO	S	SYS	NO	IMO	NO	NO	38	
4	AID	03.4	YES	ACR	NO	YES	YES	NO	NO	YES	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO	S	SYS	NO	IMO	NO	NO	38	
5	SMI	01.0	YES	ASR	NO	YES	YES	NO	NO	YES	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	S	SYS	NO	NO	NO	NO	38	
6	LLMAID	01.1	YES	ASR	NO	YES	YES	YES	NO	YES	YES	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	S	SYS	NO	IMO	NO	NO	38	
7	AIDSYS	18.0	YES	ASC	NO	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	S	SYS	NO	IMO	NO	NO	38	
8	AIDSYSA	18.0	YES	MAS	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	S	SYS	NO	IMO	NO	NO	43	
161	SOC-TP	02.6	YES	ASR	NO	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	S	SYS	NO	NO	NO	NO	38	
162	VM2-MON	09.0	YES	ACR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	S	SYS	IMO	IMO	IMO	NO	38	
163	VM2-MON	09.5	NO	ACR	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	S	SYS	IMO	IMO	IMO	IMO	38	
164	VM2-MON	10.0	NO	ACR	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	S	SYS	IMO	IMO	IMO	IMO	38	
165	SHC-OSD	10.0	YES	ACR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	S	SYS	NO	IMO	NO	NO	43	

```
A Fujitsu Technology Solutions 2009          DYNAMIC SUBSYSTEM MANAGEMENT          DATE: 2012-06-22  TIME: 15-12-24  PAGE: 6
```

```
1      SS NAME : CP                          STATUS: CREATED
A Fujitsu Technology Solutions 2009          DYNAMIC SUBSYSTEM MANAGEMENT          DATE: 2012-06-22  TIME: 15-12-24  PAGE: 7
2      SS NAME : ACS                          VERSION: 18.0          STANDARD VERSION: YES          STATUS: NOT CREATED

LINK ENTRY NAME /@: DACSUB / X'FFFFFFF'      LIBRARY DEFAULT       : $TSOS.SYSLNK.ACS.180
INSTALLATION UNIT : ACS                      LIBRARY LOGID        : SYSLNK

INTERFACE ENTRY : DACDSMV                    REP FILE DEFAULT     : $TSOS.SYSREP.ACS.180
                                                REP FILE LOGID      : SYSREP
                                                USED REP FILE NAME  : *NO

CHECK ID NAME /@: DACDSMC / X'FFFFFFF'      REP FILE MANDATORY   : *NO          SUBSYSTEM LOAD MODE: *ADVANCED

CREATION TIME : AT CREATION REQUEST         MESSAGE FILE NAME    : *NO

AUTO LINK : YES                             INFO FILE NAME       : *NO

CONTINUE (IGNORE UNRESOLVED EXTERNALS) : NO  SYNTAX FILE DEFAULT  : $TSOS.SYSSDF.ACS.180
                                                SYNTAX FILE LOGID   : SYSSDF

ROUTINES :
NAME TYPE ADDRESS
INITIALISATION : DACDSMI BLS X'7FFFFFFF'
CLOSE CONTROL : *NO NONE
STOP COMMISSION : DACDSMS BLS X'7FFFFFFF'
```

DEINITIALISATION : DACDSMD BLS X'63E2D6E2'

CALL ENTRIES:	INDEX	NAME	TYPE	NUMBER	FNUMBER	FVERS	ACCESS	CONNECTION SCOPE	ADDRESS	A-MODE	FIRST CONNECT
	1	DACSUB	ISL	-	-	-	SYS	TASK	---	-	*ALLOWED
	2	DACCMD	ISL	-	-	-	SYS	TASK	---	-	*ALLOWED
	3	DACDSMI	BLS	-	-	-	SYS	TASK	---	-	*ALLOWED
	4	DACDSMD	BLS	-	-	-	SYS	TASK	---	-	*ALLOWED
	5	DACDSMS	BLS	-	-	-	SYS	TASK	---	-	*ALLOWED
	6	DACDSMV	BLS	-	-	-	SYS	TASK	---	-	*ALLOWED
	7	DACDSMC	BLS	-	-	-	SYS	TASK	---	-	*ALLOWED

SUBSYSTEM RELATIONSHIPS :  
 REFERENCED SUBSYSTEM(S): 1  
 RELATED SUBSYSTEM(S): NONE  
 DISJOINTED SUBSYSTEM(S): NONE

ADDRESS SPACE :  
 ACCESS : SYS  
 MEMORY CLASS : 3/4  
 MEMORY POOL : NO  
 MEMORY SIZE :

HOLDERTASK IDENTIFICATION : 38 TSN : HT26  
 Fujitsu Technology Solutions 2009 DYNAMIC SUBSYSTEM MANAGEMENT DATE: 2012-06-22 TIME: 15-12-24 PAGE: 8

3 SS NAME : ADAM VERSION: 18.0A00 STANDARD VERSION: YES STATUS: NOT CREATED

LINK ENTRY NAME /@: NDACTL / X'7FFFFFFF'  
 INSTALLATION UNIT : ADAM LIBRARY DEFAULT : \$TSOS.SYSLNK.ADAM.180  
 LIBRARY LOGID : SYSLNK

INTERFACE ENTRY : NDAEMS REP FILE DEFAULT : \$TSOS.SYSREP.ADAM.180  
 REP FILE LOGID : SYSREP  
 USED REP FILE NAME : \*NO

CHECK ID NAME /@: NDAISNAM / X'7FFFFFFF' REP FILE MANDATORY : \*NO SUBSYSTEM LOAD MODE: \*ADVANCED

CREATION TIME : AT SUBSYSTEM CALL MESSAGE FILE NAME : \*NO  
 ON\_ACTION : \*STD

AUTO LINK : YES INFO FILE NAME : \*NO

CONTINUE (IGNORE UNRESOLVED EXTERNALS) : YES SYNTAX FILE NAME : \*NO

ROUTINES :  
 INITIALISATION : NDAINIT BLS X'7FFFFFFF'  
 CLOSE CONTROL : \*NO NONE --  
 STOP COMMISSION : \*NO NONE --  
 DEINITIALISATION : NDADEIN BLS X'40404040'

CALL ENTRIES:	INDEX	NAME	TYPE	NUMBER	FNUMBER	FVERS	ACCESS	CONNECTION SCOPE	ADDRESS	A-MODE	FIRST CONNECT
	8	ENSVC46	SVC	46	-	-	SYS	PROGRAM	---	-	*ALLOWED
	9	ENSVI15	SVC	115	-	-	SYS	PROGRAM	---	-	*ALLOWED
	10	NDAMAIN	ISL	-	-	-	SYS	PROGRAM	---	-	*ALLOWED
	11	NDATERM	ISL	-	-	-	SYS	PROGRAM	---	-	*ALLOWED
	12	NDACKPT	ISL	-	-	-	SYS	PROGRAM	---	-	*ALLOWED

SUBSYSTEM RELATIONSHIPS :  
 REFERENCED SUBSYSTEM(S): 1  
 RELATED SUBSYSTEM(S): NONE  
 DISJOINTED SUBSYSTEM(S): NONE

.  
 .  
 .  
 .  
 .

# SHOW-SUBSYSTEM-STATUS

Request information on status of subsystems

<b>Description status:</b>	DSSM V4.3B
<b>Functional area:</b>	Subsystem management
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	STD-PROCESSING OPERATING SUBSYSTEM-MANAGEMENT
<b>Routing code:</b>	R

### Function

The SHOW-SUBSYSTEM-STATUS command provides users with information on the status of global subsystems made available to all users in class 5 memory (nonprivileged subsystems) and on the status of their local subsystems if they have loaded a local subsystem catalog.

Errors occurring while the SHOW-SUBSYSTEM-STATUS is executing do not trigger the spin-off mechanism (see the SET-JOB-STEP command).

The output is sorted according to subsystem names in ascending alphabetical order.

Multiple versions of a subsystem are sorted in ascending order of the versions.

During command execution further tasks may set up or clear down connections to the subsystem; as a result, the list of tasks displayed by this command may not reflect the current situation.

The command supports structured output in S variables (see [“Output in S variables” on page 7-192](#)).

### *Privileged functions*

Systems support can use the command to request information on the status of global subsystems. It then shows:

- which tasks have a connection to the specified subsystem (TSN and TID)
- the status of the specified subsystems or their versions
- the number of connections to a specified subsystem since startup
- “Class 5” for all the subsystems loaded into this memory class

## Format

SHOW-SUBSYSTEM-STATUS

**SUBSYSTEM-NAME** = \*ALL / \*NON-PRIVILEGED-CLASS-5 / <structured-name 1..8 with-wild(24)>  
**,VERSION** = \*STD / \*ALL / <product-version mandatory-man-corr> / <product-version without-man-corr>

## Operands

### **SUBSYSTEM-NAME =**

Specifies the name of the subsystem on which information is desired.

### **SUBSYSTEM-NAME = \*ALL**

Displays information on all subsystems.

A version specification in the VERSION operand is not permitted.

### **SUBSYSTEM-NAME = \*NON-PRIVILEGED-CLASS-5**

Displays information on all global subsystems which do not occupy nonprivileged class 5 memory pages (subsystems with the attribute MEMORY-CLASS=\*LOCAL-PRIVILEGED).

### **SUBSYSTEM-NAME = <structured-name 1..8 with-wild(24)>**

Name of the subsystem on which information is desired.

Wildcards can be used, in which case an asterisk "\*" must be specified twice at the start of the line if no further wildcards are used.

A version cannot be specified in the VERSION operand when wildcards are used.

### **VERSION =**

Defines the version number.

### **VERSION = \*STD**

If the version is not specified, or if \*STD is explicitly defined, the assignment is subject to the following order:

1. The information is prepared by the subsystem that deviates from the status NOT CREATED.
2. If a number of versions are in a status other than NOT CREATED, the output text takes all these into account.

### **VERSION = \*ALL**

Information is to be provided on all available versions of the subsystem in question.

**VERSION = <product-version mandatory-man-corr> /  
<product-version without-man-corr>**

Specifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see also [section "SDF syntax representation" on page 1-37](#)).

A version specification is not permitted in combination with the operand SUBSYSTEM-NAME=\*ALL.

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	1	ESM0414	Syntax error: invalid version specified
	32	CMD2009	System error: when writing to S variable area
	32	ESM0360	System error: XVT or TCB not reachable
	32	ESM0602	System error: problems with memory management
	32	ESM0611	System error: connection table for this task does not exist
	32	ESM0671	System error: when writing to SYSOUT
	64	ESM0600	Operand error: no version with *ALL
	64	ESM0601	Specified subsystem not found
	64	ESM0603	Operand error: No version when wildcards are specified in the subsystem name
	64	ESM0604	Operand error: no version with *NON-PRIV-CLASS-5
	64	ESM0608	Subsystem version not found
	64	ESM0610	No subsystem with *NON-PRIV-CLASS-5
	64	OPS0002	Command interrupted
	130	OPS0001	Command not executed for lack of storage space: try again later !

### Notes

- The combination of the operands SUBSYSTEM-NAME=\*ALL and VERSION=\*ALL provides the same scope of information as SUBSYSTEM-NAME=\*ALL and VERSION=\*STD.
- The combination of the operands SUBSYSTEM-NAME=<subsystem with-wild> and VERSION=\*ALL supplies the same volume of information as SUBSYSTEM-NAME=<subsystem with-wild> and VERSION=\*STD.
- If a subsystem is found in the local subsystem catalog, LOCAL is written in the output before the remaining information.
- The information on local subsystems is output in sorted format before the global subsystems.

- SHOW-SUBSYSTEM-STATUS does not provide any information for subsystems declared with the attributes CONNECTION-SCOPE=\*FREE and MEMORY-CLASS=\*SYSTEM-GLOBAL.  
On the other hand, subsystems with the attributes CONNECTION-SCOPE=\*FREE and MEMORY-CLASS=\*LOCAL-PRIVILEGED or \*LOCAL-UNPRIVILEGED are included in the output.
- If there are various versions of a subsystem loaded (as a result of repeated loading in coexistence or exchange mode), privileged users issuing SHOW-SUBSYSTEM-STATUS without specifying a version (VERSION=\*STD/\*ALL) will be shown status information for all the versions of the subsystem which are currently in any state other than NOT-CREATED.
- Tasks connected to a global subsystem with CONNECTION-SCOPE=\*OPTIMAL are included in the total of all connected tasks but are not explicitly listed with their TID and TSN.
- If an error occurs on output to SYSOUT (message ESM0671), output in S variables continues as normal if it has been requested.  
If an error occurs on output in S variables (message ESM0672 or CMD2009), output to SYSOUT continues as normal.
- Interrupting command processing by pressing the **[K2]** key causes both output to SYSOUT and output in S variables to be interrupted. Return code OPS0002 is generated.
- If the **[K2]** interrupt key is pressed at a request for acknowledgment (“PLEASE ACKNOWLEDGE”), output to SYSOUT aborts immediately. Output in S variables continues as normal if it has been requested. No message is issued.
- Output to SYSOUT and in S variables cannot be guaranteed to match in full unless the procedure issuing the command has forbidden output interruption by means of the operand INTERRUPTION-ALLOWED=\*NO.
- If a privileged user requires information about a specific subsystem (SUBSYSTEM-NAME=<structured-name 1...8>) and wants output in S variables, the USED-TASK-LIST field may be empty even though it has been generated.  
The SDF-P builtin function SIZE() can be used to define the number of list elements.

## SHOW-SUBSYSTEM-STATUS

- If the subsystem is in a transient state the following information on the current processing status will be issued (substatus).

Status	Substatus	Meaning
IN CREATE / IN RESUME	*INSTALLED *INITIALIZED *CONNECTABLE	The subsystem is loaded. The 'init' routine was executed. The subsystem is ready.
IN DELETE / IN HOLD	WAIT-CLS-CTRL  WAIT-DISCON  WAIT-STOP-COM  WAIT-DEINIT  INSTALLED	The 'close control' routine was called. DSSM is waiting for it to be concluded. DSSM is waiting for the last disconnection (forced delete possible). No further task is connected, and DSSM is waiting for the 'stop commission' routine to be finished. No further task is connected, the 'deinit' routine was called, and DSSM is waiting for it to finish. The subsystem is loaded but not initialized.
NOT CREATED / NOT RESUMED / LOCKED / CREATED	*NONE	The subsystem is in the status displayed. This is not a transient state, so there is no further information.

Table 168: Information on the SHOW-SUBSYSTEM-STATUS command

### Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Number of connected tasks since starting the subsystem	var(*LIST).CONN-NUM-SINCE-START	I	<integer 0..2 <sup>31</sup> -1>	
Information on the user address space for nonprivileged subsystems *RESERVED=the subsystem is in class 5 memory *UNRESERVED=a privileged user has called the RELEASE-SUBSYSTEM-SPACE command	var(*LIST).SUBSYS-ADDR-SPACE	S	*RESERVED *UNRESERVED	
Internal status; see table on <a href="#">page 7-193</a>	var(*LIST).SUBSYS-INT-STA	S	INSTALLED INITIALIZED CONNECTABLE WAIT-CLS-CTRL WAIT-DISCON WAIT-DEINIT WAIT-STOP-COM NONE	
Name of the subsystem	var(*LIST).SUBSYS-NAME	S	<struc.-name 1..8>	

(Part 1 of 2)



Output information	Name of the S variable	T	Contents	Condition
Status of the subsystem	var(*LIST).SUBSYS-STA	S	*CREATED *IN-CREATE *IN-DELETE *IN-HOLD *IN-RESUME *LOCKED *NOT-CREATED *NOT-RESUMED	
Is the relevant subsystem defined locally or globally? This is evaluated only if a value is set for the VERSION operand.	var(*LIST).SUBSYS-TYPE	S	*GLB *LOC	
Version of the subsystem	var(*LIST).SUBSYS-VERSION	S	<product-version>	
TID of the task currently connected to the subsystem	var(*LIST).USED-TASK-LIST(*LIST).TID	S	<text 8>	
TSN of the task currently connected to the subsystem	var(*LIST).USED-TASK-LIST(*LIST).TSN	S	<text 4>	

(Part 2 of 2)

The content of the S variable var(\*LIST).SUBSYS-IN T-STA depends on the status of the subsystem (S variable var(\*LIST).SUBSYS-STA):

var(*LIST).SUBSYS-STA	var(*LIST).SUBSYS-INT-STA	Meaning
IN-CREATE / IN-RESUME	INSTALLED INITIALIZED CONNECTABLE	The subsystem is loaded. The 'Init' routine was executed. The subsystem is ready.
IN-DELETE / IN-HOLD	WAIT-CLS-CTRL WAIT-DISCON WAIT-STOP-COM  WAIT-DEINIT  INSTALLED	The 'Close Control' routine was called. DSSM is waiting for it to end. DSSM is waiting for final disconnection (forced deletion possible). No tasks remain connected and DSSM is waiting for the 'Stop Commission' routine to end. No tasks remain connected, the 'Deinit' routine was called and DSSM is waiting for it to end. The subsystem is loaded but not initialized.
*CREATED *LOCKED *NOT-CREATED *NOT-RESUMED	NONE	The subsystem is in the displayed state. Since this is not a transition state, there is no further information.

### Example

```
/show-subsystem-status subsystem-name=*non-privil _____ (1)
%SUBSYSTEM VAS-TU /V02.1 IS NOT CREATED IN CL5
% : : : (all other subsystems in CL5)
```

- (1) SYSOUT output of information on all subsystems that occupy nonprivileged class 5 memory. Nonprivileged callers receive the same information as privileged callers.

```
/show-subsystem-status subsystem=edt _____ (2)
% SUBSYSTEM EDT /V17.0 IS USED BY 1 TASKS _____ (3)
% TSN OAKV
% 7 CONNECTIONS SINCE STARTUP
```

- (2) SYSOUT output of information on the subsystem EDT without specification of a version. Only privileged users receive the information reproduced above. Nonprivileged users receive only the following output line:

```
%SUBSYSTEM EDT /V17.0 IS CREATED
%SUBSYSTEM EDT /V17.0 IS IN DELETE / WAIT-DISCON
```

- (3) The output in the example indicates that the EDT subsystem V17.0 is active.

## SHOW-SYNTAX-VERSIONS

Display syntax file versions

<b>Description status:</b>	SDF V4.7D
<b>Functional area:</b>	SDF control
<b>Domain:</b>	SDF
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

The SHOW-SYNTAX-VERSIONS command outputs to SYSOUT information on the system, subsystem and group syntax files currently activated for the task. This information includes the names and version statuses of all currently valid syntax descriptions of the software units and components used.

This information can also be requested for a specific software unit or component or a list of them.

The command supports structured output in S variables (see [“Output in S variables” on page 7-196](#)).

### Format

```
SHOW-SYNTAX-VERSIONS
```

```
SOFTWARE-UNIT-NAME = *ALL / list-poss(2000): <structured-name 1..16>
```

### Operands

**SOFTWARE-UNIT-NAME = \*ALL / list-poss(2000): <structured-name 1..16>**

Specifies the names of the software units on which information is to be output.

## Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
1	32	CMD0500	Syntax description in current syntax file invalid
1	64	CMD0811	Command execution not successful. Guaranteed messages: CMD0300, CMD0500, CMD0811

## Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Syntax file path name	var(*LIST).F-NAME	S	<filename 1..54>	
Software component name	var(*LIST).SW-UNIT(*LIST). COMPONENT(*LIST).NAME	S	<struc.-name 1..15> <struc.-name 16..16>	
Software component version	var(*LIST).SW-UNIT(*LIST). COMPONENT(*LIST).VERSION	S	<product-version> <text 8..8>	
Software unit name	var(*LIST).SW-UNIT(*LIST).NAME	S	<struc.-name 1..15> <struc.-name 16..16>	
Software unit version	var(*LIST).SW-UNIT(*LIST).VERSION	S	<product-version> <text 7..8>	
Syntax file type; no distinction is made between system and subsystem syntax files	var(*LIST).TYPE	S	*GROUP *SYS	

## Examples

*Output to SYSOUT*

```

/show-syntax-versions software-unit=(lms,sdf-p)
%SYNTAX VERSION OF LMS          :
%FOR SYSTEM SYNTAX FILE :
%:1OSH:$TSOS.SYSSDF.LMS.034
%-----
% LMS          = 03.4A100
%              LMS          = 034
%
%FOR SYSTEM SYNTAX FILE :
%:1OSH:$TSOS.SYSSDF.LMS.034
%-----
% LMS          = 03.4A100
%              LMS          = 034
%

```

```

%SYNTAX VERSION OF SDF-P          :
%FOR SYSTEM SYNTAX FILE :
%:1OSH:$TSOS.SYSSDF.SDF-P.025
%-----
% SDF-P          = 02.5C10
%                CLI          = 025

```

*Output in S variable*

```

/declare-var var-name=out(type=*structure),multiple-elem=*list
/exec-cmd cmd=(show-syntax-versions software-unit=(lms,sdf-p)),
            text-output=*none,structure-output=out
/show-var out,inf=*par(list-index=*yes)
OUT#1.F-NAME = :1OSH:$TSOS.SYSSDF.LMS.034
OUT#1.TYPE = *SYS
OUT#1.SW-UNIT#1.NAME = LMS
OUT#1.SW-UNIT#1.VERSION = 03.4A100
OUT#1.SW-UNIT#1.COMPONENT#1.NAME = LMS
OUT#1.SW-UNIT#1.COMPONENT#1.VERSION = 034
OUT#2.F-NAME = :1OSH:$TSOS.SYSSDF.LMS.034
OUT#2.TYPE = *SYS
OUT#2.SW-UNIT#1.NAME = LMS
OUT#2.SW-UNIT#1.VERSION = 03.4A100
OUT#2.SW-UNIT#1.COMPONENT#1.NAME = LMS
OUT#2.SW-UNIT#1.COMPONENT#1.VERSION = 034
OUT#3.F-NAME = :1OSH:$TSOS.SYSSDF.SDF-P.025
OUT#3.TYPE = *SYS
OUT#3.SW-UNIT#1.NAME = SDF-P
OUT#3.SW-UNIT#1.VERSION = 02.5C10
OUT#3.SW-UNIT#1.COMPONENT#1.NAME = CLI
OUT#3.SW-UNIT#1.COMPONENT#1.VERSION = 025
/

```

# SHOW-SYSEVENT-LOG

Show contents of event stream

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Job processingg Operator terminal control
<b>Domain:</b>	CONSOLE-MANAGEMENT JOB
<b>Privileges:</b>	STD-PROCESSING OPERATING

### Function

The SHOW-SYSEVENT-LOG command enables an interactive task to call or start the presentation function of the Event Stream Service (ESS). The presentation function features two presentation modes:

- Static mode  
Static mode allows selections to be made within the event stream being viewed. In this mode, events which have already been recorded can be represented, but new events cannot be shown immediately. In static mode, interactive output control can be exercised with the aid of a menu, by direct input on the command line or using function keys.  
The presentation function always starts up in static mode. The presentation window then shows the current end of the event stream. In the case of active event streams, it is possible to switch instantly to dynamic mode using the **F6** key or the menu.
- Dynamic mode  
In dynamic mode, new events are represented immediately. The current end of the event stream is always shown. Each time a new event occurs, the screen is updated. Consequently dynamic mode is only useful and selectable for active event streams. Events streams which have finished, with logging completed, can only be represented in static mode.  
As the presentation function in dynamic mode is always ready to show new output, interactive operation is not possible. The **K2** key switches from dynamic mode to static.

The event stream is displayed in a full-screen presentation window, in either English or German depending on the task-local setting of the MIP message language (see the MODIFY-MSG-ATTRIBUTES command). The windows are drawn by FHS. In interaction with the presentation function, the full FHS functionality is available (control statements, help system, etc.).

It is not possible to issue system commands from within the presentation function.

*Privileged functions*

Systems support staff (OPERATING privilege) can have the contents of system event streams output.

Furthermore they can have the system messages directed to the operating staff via the routing code displayed at a data display terminal. It is not necessary to allocate an event stream to a user task (LOG-ID=\*SYSTEM-MSG-ONLY).

**Format****SHOW-SYSEVENT-LOG**

**LOG-ID = \*ACTIVE** / <alphanum-name 1..4>(…) / **\*SYSTEM-MSG-ONLY**

<alphanum-name 1..4>(…)

| **TYPE = \*SYSTEM-LOG** / **\*USER-LOG**

**Operands**

**LOG-ID = \*ACTIVE** / <alphanum-name 1..4>(…) / **\*SYSTEM-MSG-ONLY**

Selects which event stream to show.

**LOG-ID = \*ACTIVE**

The event stream which is currently assigned to the user's own task and is active is to be shown.

**LOG-ID = <alphanum-name 1..4>(…)**

The event stream with the specified name is to be shown. The name may also begin with numeric characters (if LOG-ID was set to \*OWN-TSN when the stream was assigned).

**TYPE = \*SYSTEM-LOG** / **\*USER-LOG**

*This operand is reserved for users with OPERATING privilege.*

Defines the type of event stream which is to be shown (system event stream or user event stream).

**LOG-ID = \*SYSTEM-MSG-ONLY**

*This operand is reserved for users with OPERATING privilege.*

System messages directed by routing code to operating personnel are to be output on a terminal without previous assignment of an event stream to a user task. That means that there is no representation of synchronous or asynchronous messages which are addressed to a specific user task (i.e. no interactive elements). Selection of the messages which are represented is based solely on the settings defined for OPERATOR-ROLES, MSG-SUPPRESSION, MSG-SUBSCRIPTION and CONSOLE-FILTER.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	1	CMD0202	Syntax error
	32	NBR3115	FHS-TPR subsystem not available
	32	NBR3199	Internal error on command server
	64	CMD0216	User does not have required privilege
	64	NBR3103	No event stream assigned
	64	NBR3104	No event stream matches selection criteria
	64	NBR3105	No event stream being managed
	64	NBR3114	Associated event stream file not cataloged

**Output form in static mode**

If the task-local MIP message language is English, the following presentation window is displayed when the presentation function is started or when static mode is activated for the referenced event stream (the presentation window shows the current end of the event stream for the setting LOG-ID=\*SYSTEM-MSG-ONLY):

```

File Edit View Help
-----
EVENT STREAM SERVICE
Log-Id: OKUC User-Id: USER1 Owner-TSN: OKUC Mode: Static
-----
Date: 2012-06-29 Time: 15:07:16 Status: Active
Lines 1 thru 4 of 4
More:
MESS % FTR0014 FT-BS2000: CMD REJECTED. ERROR IN TRANSFER-ADMISSION.
TRANSFER-ID 43058448 :15:07:06 :2012-06-29181
MESS % FTR0014 FT-BS2000: CMD REJECTED. ERROR IN TRANSFER-ADMISSION.
TRANSFER-ID 41092378 :15:07:16 :2012-06-29181
* * * End of actual presentation range * * *

Command ==>
F1=Help F3=Exit F6=Dynamic F7=Backward F8=Forward F10=Menu F11=Index ...

```

If the task-local message language is German, the above presentation window appears in German.



*Menu bar*

File

Edit

View

Help

On the menu bar you can select the various menu items (objects) both with the cursor and directly with the **[F10]** key. You move the cursor to the required position and then press the **[DUE]** (send) or **[ENTER]** key.

Some menu items activate pull-down menus. If you select one of these items, a submenu opens, offering various options. Selecting one of these options may in turn open a dialog box. Once the necessary choices have been made in the dialog box, you can start the desired operation by pressing **[DUE]** or **[ENTER]**.

To close a pull-down menu without selecting an option, you press the **[F12]** key.

Many of the options offered on pull-down menus can also be activated with the aid of F keys (see the table on [page 7-204](#)).

The items on the menu bar are as follows:

Menu item	Option	Function
File	Exit	Quit presentation function
Edit	Find	Call search function Selecting the <i>Find</i> option opens a dialog box in which you can enter a search pattern up to 32 characters long. You can also select a starting point for the search function and the search direction (see “Find function”, <a href="#">page 7-205</a> )
	Reply	Call reply function (only for system event stream) Selecting the <i>Reply</i> option opens a dialog box which allows you to answer a question asked by the system (see “Reply function”, <a href="#">page 7-206</a> )
View	Dynamic Mode	Switch to dynamic mode (see “Dynamic Mode function”, <a href="#">page 7-206</a> )
	Display	Define whether presentation is to be with or without header. This option is applicable to the system event stream only (see “Display... function”, <a href="#">page 7-207</a> )
	Top Range	Position presentation area at start of event stream. The presentation area of an event stream consists of a fixed number of display lines (max. 1000) within which it is possible to move by scrolling (see “Top Range function”, <a href="#">page 7-207</a> )

Menu item	Option	Function
View (continued)	Bottom Range	Update event stream Positions the presentation area at the current end of the event stream (cf. "Top Range" option). (see "Bottom Range function", page 7-207)
	Previous Range	Scroll backwards through presentation area The presentation function moves back by one full presentation range (see "Previous Range function", page 7-208)
	Next Range	Scroll forwards through presentation area The presentation function moves forwards by one full presentation range (see "Next Range function, page 7-208)
Help		Switch to help system

If conflicting selections are made, the menu bar selection has top priority. The function keys (F keys) have a lower priority, and the commands have the lowest priority.

*Status area*

```

                                EVENT STREAM SERVICE
Log-Id: @@@@      User-Id: @@@@@@@@      Owner-TSN: @@@@      Mode: Static
-----
```

The status area beneath the menu bar consists of the title line plus the following information about the displayed event stream:

Log-Id	Name (ID) of the displayed event stream. If the presentation function was started with SHOW-SYSEVENT-LOG LOG-ID=*SYSTEM-MSG-ONLY, meaning that only system messages distributed by routing code are to be displayed, the value in the Log-Id field is "*SYS"
User-Id	User ID of the task under which the event stream was started. If the presentation function was started with SHOW-SYSEVENT-LOG LOG-ID=*SYSTEM-MSG-ONLY, meaning that only system messages distributed by routing code are to be displayed, the value in the User-Id field is "*NONE"
Owner-TSN	TSN of the task under which the event stream was started and to which the event stream is consequently assigned. If the presentation function was started with SHOW-SYSEVENT-LOG LOG-ID=*SYSTEM-MSG-ONLY, meaning that only system messages distributed by routing code are to be displayed, the value in the Owner-TSN field is "*NO"
Mode	Display mode of the presentation function (static or dynamic)



*Command area*

Command ==>

F1=Help F3=Exit F6=Dynamic F7=Backward F8=Forward F10=Menu F11=Index ...

The command area (command line) is immediately below the presentation window. Direct input to the presentation function can be entered on the command line, primarily positioning (scrolling) commands, but also all the commands supported by FHS-DM (except for the SYS command) plus the strings which are the written equivalents of the ESS-specific F keys (e.g. **F10**, **F13**; see also table 169 below). The latter option is typically useful on terminals which only have keys **F1** through **F3**. As a rule, the command line is preset to show the positioning (scrolling) command “-” or “+”.

*Function keys*

The penultimate line of the window (line 24) displays a selection of the principal function keys (F keys). The following table lists all the available function keys and indicates what they do and the commands which are equivalent to them:

<b>F key</b>	<b>Command</b>	<b>Meaning</b>
<b>F1</b>	HELP	Call help system
<b>F3</b>	EXIT	Quit presentation function
<b>F5</b>	RESHOW	Reshow last output
<b>F6</b>	F6	Switch to dynamic display mode
<b>F7</b>	-	Scroll up
<b>F8</b>	+	Scroll down
<b>F10</b>	MENUE	Switch to menu bar
<b>F12</b>	CANCEL	Cancel (e.g. selected menu item)
<b>F13</b>	F13	Position to start
<b>F14</b>	F14	Position to end
<b>F15</b>	F15	Call search function
<b>F16</b> <sup>*)</sup>	F16 <sup>*)</sup>	Mark (select)
<b>F18</b>	F18	Call reply function
<b>F21</b>	F21	Previous range
<b>F22</b>	F22	Next range
<b>F24</b>	F24	Switch to with header or without header

<sup>\*)</sup> For terminals which do not have a **MAR** key

Table 169: Function keys and commands for controlling the ESS presentation function

If conflicting selections are made, the menu bar selection has top priority. The function keys (F keys) have a lower priority, and the commands have the lowest priority.

*Message area*

The bottom line of the window (line 25) displays system messages.

Messages generated by the presentation function are output in non-modal message boxes.

**Functions***Find function*

If you select “Edit” from the menu bar, a pull-down menu opens. If you select “Find” from this menu, a dialog box (with “Find” on its title bar) opens in the bottom right-hand corner of the screen, prompting you to enter a search pattern up to 32 characters long. You can also call the Find function directly using function key **F15**.

The characters you enter are interpreted as “character”-type characters, and C'...' will be interpreted as a search pattern. The dialog box also lets you define the position to start from (current presentation window, beginning, end) and the direction to search in (forward, backward). The dialog box remains open until the search function is terminated.

When the Find function is called, the dialog box has the “Start from” position preset to “Current Screen” and the search direction preset to “Backward”. If you change this default setting, the new setting is retained as the default for any subsequent search. Pointless combinations (such as Start from =Top, Direction = Backward) are rejected. To start searching you press **DUE** (send key) or **ENTER**.

If the search finds a match, the message containing the matching string is displayed in the presentation window, beginning on the first line. The reopened dialog box continues to show the search pattern. If you want to continue searching for the next match, you simply need to press **F13**. To start a new search for a different pattern, you replace the old pattern with a new one of your choice and then press **F13**. To cancel the Find function you press **F12**. If you press **F12** and a match has been found, the presentation window will be positioned to the last match. If no match has been found, a message to that effect is issued, and the presentation window is not repositioned but stays where it was when the unsuccessful search began. The following function keys control the Find function:

<b>F key</b>	<b>Command</b>	<b>Meaning</b>
<b>F1</b>	HELP	Call help system
<b>F3</b>	EXIT	Quit Find function
<b>F12</b>	CANCEL	Cancel Find function
<b>F13</b>	F13	Find next match

If you exit the Find function with **F3**, a search is performed first, and if a match is found the window is positioned at the line in question. You can also use the command line to enter the written form of the F key equivalent as a command.

The dialog box supports the **F1** key (which calls the help function).

### *Reply function*

The Reply function is available only for system event stream presentations. With user event streams the function is marked “\*” on the menu to show that it is disabled.

If you select “Edit” from the menu bar, a pull-down menu opens. If you select “Reply” from this menu, a dialog box (with “Reply to pending message” on its title bar) opens in the middle of the output form’s work area, prompting you to enter a reply.

You can, however, also call the Reply function directly using function key **[F18]**. If you mark a system message in the work area before you call the function, the “Sender” field will be preset to the TSN of the task which sent the message or to the device mnemonic of the operator terminal (console) which sent the message, and the “Message Identifier” field will already contain the three-character message identifier. In such cases all you need to enter is the reply text (up to 80 characters, case-sensitive). The message identifier entry box ends with a dot as part of the reply format known from the operator terminal. If you do not mark a system message in the work area before you call the function, you will have to fill out the dialog box in full.

To start the Reply function, i.e. to send the reply to the system, you press **[DUE]** (send key) or **[ENTER]**. A final message indicates whether the function was successful.

To cancel the function you press **[F12]**.

The dialog box supports the **[F1]** key (which calls the help function).

### *Dynamic Mode function*

If you select “View” from the menu bar, a pull-down menu opens. If you select “Dynamic Mode” from this menu, you switch to dynamic mode. You can also call the function directly using function key **[F6]**.

Dynamic mode can only be called for active event streams. Closed events streams can only be displayed in static mode. With a closed event stream, the Dynamic Mode function is marked “\*” on the menu to show that it is disabled.

*Display... function*

The Display... function is available only for system event stream presentations. With user event streams the function is marked with an asterisk to show that it is disabled.

If you select "View" from the menu bar, a pull-down menu opens. If you select "Display..." from this menu, a further menu opens. Here you can decide whether to have the event stream displayed in the presentation window with or without header. Depending on the current setting, there will either be "/" or a blank in the marker field. The characters you are allowed to choose are "/", "x" and "X".

You can also call the function directly using function key **F24**.

The Header option only makes sense with system event streams, because it is only there that system messages which have a header and are distributed via UCON are logged. The header is in the same format as is used for logging on the operator terminal (console) and in the Conslog file.

If output with header is selected as the output form, system messages which have been given a header are output along with their header. Line breaks are inserted in messages which are over 80 characters long or include suitable control characters, and all lines after the first line of the message are then indented by the length of the header (17 characters). Other messages (those which have no header) are output flush with the left-hand margin of the presentation window, without blank padding to allow for the header or indentation following line breaks.

*Top Range function*

If you select "View" from the menu bar, a pull-down menu opens. If you select "Top Range" from this menu, a new presentation range starting at the beginning of the selected event stream is displayed. The presentation window is positioned at the start of the new presentation range. The top end of the range is the first message in the stream, the bottom end is aligned on message boundary.

You can also call the function directly using function key **F13**.

*Bottom Range function*

If you select "View" from the menu bar, a pull-down menu opens. If you select "Bottom Range" from this menu, a new presentation range finishing at the end of the selected event stream is displayed. The presentation window is positioned at the end of the new presentation range. The top end of the range is aligned on message boundary, the bottom end is the last message in the stream. When active event streams are presented in static mode, this function allows you to update the output without switching to dynamic mode, provided that extra events have been recorded in the meantime.

You can also call the function directly using function key **F14**.

### *Previous Range function*

If you select “View” from the menu bar, a pull-down menu opens. If you select “Previous Range” from this menu, you are taken back to the previous range. A new presentation range is displayed, containing the events which precede those of the current presentation range. The presentation window is positioned at the bottom end of the new presentation range. Scrolling can be performed within the newly displayed range just as in the old one. When this function is executed, the boundaries between the presentation ranges are always aligned on the end of a message. This ensures that the full text of a multiline message is always included in a presentation range.

You can also call the function directly using function key **F21**.

### *Next Range function*

If you select “View” from the menu bar, a pull-down menu opens. If you select “Next Range” from this menu, you are taken forward to the next range. A new presentation range is displayed, containing the events which come after those of the current presentation range. The presentation window is positioned at the start of the new presentation range. Scrolling can be performed within the newly displayed range just as in the old one.

The information on presentation range boundaries given under “Previous Range” applies *mutatis mutandis*.

You can also call the function directly using function key **F22**.

### *Help function*

A complete FHS-DM-supported help system is offered for the presentation function.

Function keys **F1** and **F2** call up help screens for keywords and individual fields.

You can activate the help function from a pull-down menu under “Help” on the menu bar. If the help function is active, a form containing general information on ESS and a reference to the INDEX command is displayed. The **F2** key and the INDEX command both take you straight from this form to the help system.



## Output form in dynamic mode

The output form for dynamic mode differs from that for static mode in that it has no menu bar and no command line. The only function key it supports is **K2** for switching to static mode.

Under OMNIS, a change into static mode is effected with the **DUE** or with any F or K key with the exception of the key that functions as the BREAK-KEY in OMNIS (default: **K2**).

Instead of the input capabilities provided in static mode, dynamic mode offers a presentation function with dynamically changing output; interactive operation is not possible.

If the task-local MIP message language is English, the following presentation window is displayed when the presentation function is started or when dynamic mode is activated for the referenced event stream. The presentation window always shows the current end of the event stream:

```
                                EVENT-STREAM-SERVICE
Log-Id: OKUC      User-Id: USER1      Owner-TSN: OKUC      Mode: Dynamic
-----
Date: 2012-06-29   Time: 15:07:16
MESS % FTR0014 FT-BS2000: CMD REJECTED. ERROR IN TRANSFER-ADMISSION.
TRANSFER-ID 43058448                               :15:07:06 :2012-06-29181
MESS % FTR0014 FT-BS2000: CMD REJECTED. ERROR IN TRANSFER-ADMISSION.
TRANSFER-ID 41092378                               :15:07:16 :2012-06-29181

K2=Static Mode
```

### *Status area*

The status area consists of the title line plus the following information about the displayed event stream:

Log-Id	Name (ID) of the displayed event stream. If the presentation function was started with SHOW-SYSEVENT-LOG LOG-ID=*SYSTEM-MSG-ONLY, meaning that only system messages distributed by routing code are to be displayed, the value in the Log-Id field is "**SYS"
User-Id	User ID of the task under which the event stream was started. If the presentation function was started with SHOW-SYSEVENT-LOG LOG-ID=*SYSTEM-MSG-ONLY, meaning that only system messages distributed by routing code are to be displayed, the value in the User-Id field is "**NONE"
Owner-TSN	TSN of the task under which the event stream was started and to which the event stream is consequently assigned. If the presentation function was started with SHOW-SYSEVENT-LOG LOG-ID=*SYSTEM-MSG-ONLY, meaning that only system messages distributed by routing code are to be displayed, the value in the Owner-TSN field is "**NO"
Mode	Display mode of the presentation function (static or dynamic)

### *Work area*

The work area below the status area contains the following information, updated each time the screen is redrawn:

Date	Date when the last message displayed was generated.
Time	Time when the last message displayed was generated.

### *Presentation window*

The presentation window below the work area covers lines 5 through 23. This is where the events are displayed; the lines cannot be marked.

For system event streams, the output by default includes the header specific to the operator terminal (console). The only way to change this default setting is to switch to static mode and make the modification there; thereafter the new setting applies to both modes until it is changed again. This configuration option is not provided for user event streams as there is no need for it in such cases.

Owing to the variable length of the messages, the command server may insert line breaks. The maximum line length of 80 characters as defined in the output form is fully utilized.

## SHOW-SYSEVENT-LOG-ATTRIBUTES

Show event stream attributes

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Job processing Operator terminal control
<b>Domain:</b>	CONSOLE-MANAGEMENT JOB
<b>Privileges:</b>	STD-PROCESSING OPERATING

### Function

The SHOW-SYSEVENT-LOG-ATTRIBUTES command shows which event streams can be represented under the user's own ID and their current attributes. Event streams which are already closed (inactive) can be displayed only if they were not deleted upon termination (see the ASSIGN-SYSEVENT-STREAM, CLOSE-MODE operand).

The command supports structured output in S variables (see [“Output in S variables” on page 7-214](#)).

### *Privileged functions*

Systems support staff (OPERATING privilege) can obtain information on all existing system event streams (operands LOG-ID=\*ALL-ACCESSIBLE and TYPE=\*ANY/\*SYSTEM-LOG).

### Format

**SHOW-SYSEVENT-LOG-ATTRIBUTES**

**LOG-ID** = \*BY-OWN-TASK / \*ALL-ACCESSIBLE / <alphanum-name 1..4>

,**SELECT** = \*ALL / \*BY-ATTRIBUTES(...)

\*BY-ATTRIBUTES(...)

**STATUS** = \*ANY / \*ACTIVE / \*CLOSED

    ,**TYPE** = \*ANY / \*USER-LOG / \*SYSTEM-LOG

### Operands

**LOG-ID = \*BY-OWN-TASK / \*ALL-ACCESSIBLE / <alphanum-name 1..4>**

Identifies the event streams for which information is required.

**LOG-ID = \*BY-OWN-TASK**

Displays the attributes of all event streams which are assigned to the user task and can still be represented.

**LOG-ID = \*ALL-ACCESSIBLE**

Displays the attributes of all event streams for which the user's own task has access authorization. These are all the event streams which are assigned to the user's own task and to tasks with the same user ID.

*Only for users with OPERATING privilege:*

If this value is specified in combination with TYPE=\*SYSTEM-LOG or \*ANY (default), information is supplied for all existing system event streams, regardless of user ID.

**LOG-ID = <alphanum-name 1..4>**

Supplies information on the event stream with the specified name. The name may also begin with numeric characters (if LOG-ID was set to \*OWN-TSN when the stream was assigned).

**SELECT = \*ALL / \*BY-ATTRIBUTES(...)**

Governs whether the set of event streams selected by the LOG-ID operand is to be restricted by applying further selection criteria.

**SELECT = \*ALL**

Information is required for all the event streams selected by the LOG-ID operand.

**SELECT = \*BY-ATTRIBUTES(...)**

Information is required only for those event streams which meet the following selection criteria.

**STATUS = \*ANY / \*ACTIVE / \*CLOSED**

Supplies information on event streams which are in the specified status.

**STATUS = \*ANY**

Information is required for all event streams, regardless of status.

**STATUS = \*ACTIVE**

Information is required for all active event streams (currently assigned and not closed).

**STATUS = \*CLOSED**

Information is required for all closed event streams.

**TYPE = \*ANY / \*USER-LOG / \*SYSTEM-LOG**

*Reserved for users with OPERATING privilege.*

Supplies information on the specified type of event stream.

**TYPE = \*ANY**

Information is required for all event streams, regardless of type.

**TYPE = \*USER-LOG**

Information is required for user event streams only.

**TYPE = \*SYSTEM-LOG**

Information is required for system event streams only.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
1	0	NBR3104	No event stream matches selection criteria
1	0	NBR3105	No event stream being managed
2	0	OPS0002	Interrupt (e.g. K2 key) during S variable generation
	1	CMD0202	Syntax error
	32	NBR3199	Internal error on command server
	32	CMD2009	Error on output to S variables (e.g. subsystem not available)
	64	CMD0216	User does not have required privilege

**Output formats**

Information on event streams is output in a fixed format. The output includes the name of the event stream (Log-Id), the user ID and TSN of the user task, the current status and the type and setting of the event stream being logged. If a number of event streams match the selection criteria, the attributes of that number of event streams are displayed. The output format shown below is output for each matching event stream.

Attribute output for multiple event streams can be aborted with the **K2** key.

*Example: Output format for an active system event stream*

```

SHOW-SYSEVENT-LOG-ATTRIBUTES                                2012-06-29 16:04:34
-----
LOG-ID: OLSI                                                USER-ID:   USERXY01
TYPE:   USER                                                OWNER-TSN: OLSI
STATUS: ACTIVE                                              CLOSE-MODE: DELETE-EVENTS
SYNCHRONOUS-EVENTS LOGGED:
  SYSOUT-MSG: NO                CMD: NO                STMT: NO
-----
SHOW-SYSEVENT-LOG-ATTRIBUTES                                END OF DISPLAY

```

### Output in S variables

If different operands are specified, the results of the command differ in the number of event streams on which information is output. A set of S variables is supplied with values for each event stream.

Output information	Name of the S variable	T	Contents	Condition
The event stream is deleted after canceling the assignment *DELETE-EVENTS=ES entry and logged events are deleted *KEEP-EVENTS=ES entry and logged events are not deleted	var(*LIST).CLOSE-MODE	S	*DELETE-EVENTS *KEEP-EVENTS	
The command inputs from the user task executed via SDF are logged	var(*LIST).CMD	S	*NO *YES	
Name of the event stream	var(*LIST).LOG-ID	S	<alphan.-name 1..4>	
Status of the event stream	var(*LIST).STA	S	*ACTIVE *CLOSED	
The command inputs from statements within a user program in the user task which are executed via SDF are logged	var(*LIST).STMT	S	*NO *YES	
The messages from command servers and user programs sent to SYSOUT are logged	var(*LIST).SYSOUT-MSG	S	*NO *YES	
TSN of the dialog task	var(*LIST).TSN	S	<alphan.-name 1..4>	
Type of the event stream which is assigned to the user task *SYS-LOG=system event stream (associated events are logged in the system ESF) *USER-LOG=user event stream (associated events are logged in the user ESF)	var(*LIST).TYPE	S	*SYS-LOG *USER-LOG	
User ID of the dialog task	var(*LIST).USER-ID	S	<name 1..8>	

## SHOW-SYSTEM-FILE-ASSIGNMENTS

Display information on system files

<b>Description status:</b>	SYSFILE V19.0A
<b>Functional area:</b>	Job processing File processing
<b>Domain:</b>	JOB PROGRAM FILE PROCEDURE
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

The SHOW-SYSTEM-FILE-ASSIGNMENTS command displays the current assignments of the system files and of the module file TASKLIB for the user's own task. Optionally a nonprivileged user can request this information for every task which executes under his/her user ID (JOB-IDENTIFICATION=\*TSN operand).

The assignments refer to the procedure level on which the command is entered (see [""](#) on [page 7-217](#)).

The command supports structured output in S variables (see ["Output of the SHOW-SYSTEM-FILE-ASSIGNMENTS command"](#) on [page 7-218](#)).

### *Privileged functions*

The command supplies the systems support staff (privilege TSOS) with all information about a single job started under any user ID.

## Format

<b>SHOW-SYSTEM-FILE-ASSIGNMENTS</b>	Alias: <b>SHSFA</b>
<p><b>SYSTEM-FILE</b> = <u>*ALL</u> / *SYSLST-NUMBER(...) / list-poss(5): *SYSCMD / *SYSDTA / *SYSLST / *SYSOUT / *TASKLIB</p> <p>*SYSLST-NUMBER(...)   <b>NUMBER</b> = &lt;integer 1..99&gt;</p> <p>,<b>JOB-IDENTIFICATION</b> = <u>*OWN</u> / &lt;alphanum-name 1..4&gt; / *TSN(...)</p> <p>*TSN(...)   <b>TSN</b> = &lt;alphanum-name 1..4&gt;</p>	

## Operands

**SYSTEM-FILE** = \*ALL / \*SYSLST-NUMBER(...) / list-poss(5): \*SYSCMD / \*SYSDTA / \*SYSLST / \*SYSOUT / \*TASKLIB

Name of the desired system file.

**SYSTEM-FILE** = \*ALL

All system files.

**SYSTEM-FILE** = \*SYSLST-NUMBER(...)

SYSLST files from the series SYSLST01 to SYSLST99.

**NUMBER** = <integer 1..99>

Number of the SYSLST file.

**JOB-IDENTIFICATION** = \*OWN / <alphanum-name 1..4>

Specifies the task for which the current assignment of the system files is to be displayed.

**JOB-IDENTIFICATION** = \*OWN

Displays the current assignment for the user's own task.

**JOB-IDENTIFICATION** = <alphanum-name 1..4>

TSN of the task for which the current assignment is to be displayed (see also JOB-IDENTIFICATION=\*TSN). The non-privileged caller can only specify tasks which run under his/her own user ID.



**JOB-IDENTIFICATION = \*TSN(...)**

The job is identified by its task serial number (TSN). The command is rejected if the TSN does not exist or if a job from a foreign user ID is involved.

**TSN = <alphanum-name 1..4>**

TSN of the task for which the current assignment is to be specified. Leading zeros may be omitted. The non-privileged caller can only specify tasks which run under his/her own user ID.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	SSM2036	Syntax error
	1	SSM1206	TSN not found or command processing illegal
	1	SSM1013	System error
	1	CMD0216	Requested privilege missing

**Output format**

The user receives the following display:

```
PROCEDURE LEVEL NUMBER i
TSN          : tsn
system file 1 : assignment
.           .
.           .
.           .
system file n : assignment
```

where:

- i=                    current level number of the (nested) procedure;  
i=0 means: primary command input (no procedure)
- tsn                    TSN of the task for which the information in the JOB-IDENTIFICATION  
operand was requested explicitly. This information line is omitted in the case  
of JOB-ID=\*OWN.
- system file 1,...system file n  
                      system files corresponding to the operand specifications
- assignment            current assignment at the specified procedure level (i=0 indicates primary  
command input)

The following assignments may be output:

System file	Possible assignment and explanation
SYSCMD	<p>(PRIMARY)            Primary assignment, see <a href="#">section "System files" on page 1-73</a></p> <p>*PRIMARY (DIALOG-BLOCK)            Input is effected from a dialog block (see the "SDF-P" manual [34])</p> <p>filename            Path name for the procedure file of the called non-S procedure; if called with ENTER-PROCEDURE, path name of the S.PROC. file</p> <p>filename (PROCEDURE)            Path name for the procedure file of the S procedure called by CALL-PROCEDURE; if called with ENTER-PROCEDURE, path name of the S.PROC. file</p> <p>filename (INCLUDE)            Path name for the procedure file of the S procedure called by INCLUDE-PROCEDURE</p> <p>*VAR(s-variable) (PROCEDURE)            Name of an S variable of the list type in which the S procedure called by CALL-PROCEDURE is stored</p> <p>*VAR(s-variable) (INCLUDE)            Name of an S variable of the list type in which the S procedure called by INCLUDE-PROCEDURE is stored</p> <p>*LIB-ELEM(library,element(version)) (PROCEDURE)            Name of the PLAM library and the element containing the S procedure called by CALL-PROCEDURE</p> <p>*LIB-ELEM(library,element(version)) (INCLUDE)            Name of the PLAM library and the element containing the S procedure called by INCLUDE-PROCEDURE</p>
SYSDTA	<p>(PRIMARY)            Primary assignment, see <a href="#">section "System files" on page 1-73</a></p> <p>(SYSCMD)            The SYSCMD system file assignment applies.</p> <p>filename            Path name of the assigned file</p> <p>*LIB-ELEM(library,element(version),type)            A PLAM library element is assigned. Library name, element name, version and element type are displayed</p> <p>*VAR(s-variable)            An S variable (list type) is assigned</p>
SYSIPT	<p>This system file is still available for reasons of compatibility, but it is not described.</p>

Table 170: Output of the SHOW-SYSTEM-FILE-ASSIGNMENTS command (Part 1 of 2)

System file	Possible assignment and explanation
SYSOUT	(PRIMARY) Primary assignment, see <a href="#">section "System files" on page 1-73</a> *DUMMY A dummy file is assigned (see ADD-FILE-LINK command) filename Path name of the assigned file *VAR(s-variable) An S variable (list type) is assigned *LIB-ELEM(library,element(version),type) A PLAM library element is assigned. Library name, element name, version and element type are displayed
SYSLST	(PRIMARY) Primary assignment, see <a href="#">section "System files" on page 1-73</a> *DUMMY A dummy file is assigned (see ADD-FILE-LINK command) filename Path name of the assigned file *VAR(s-variable) An S variable (list type) is assigned *LIB-ELEM(library,element(version),type) A PLAM library element is assigned. Library name, element name, version and element type are displayed
SYSLSTnn	*SYSLSTmm A system file SYSLSTmm is assigned, where mm ≠ nn. *DUMMY A dummy file is assigned (see ADD-FILE-LINK command) filename Path name of the assigned file *VAR(s-variable) An S variable (list type) is assigned
SYSOPT	This system file is still available for reasons of compatibility, but it is not described.
TASKLIB	filename Path name of the assigned object module library

Table 170: Output of the SHOW-SYSTEM-FILE-ASSIGNMENTS command (Part 2 of 2)

**Output in S variables**

The command's SYSTEM-FILE operand identifies the S variables which are to be created. The following specifications are possible for SYSTEM-FILE:

Notation used in command	Abbreviated form used in table
SYSTEM-FILE=*ALL	1
SYSTEM-FILE=*SYSCMD	2
SYSTEM-FILE=*SYSDTA	3
SYSTEM-FILE=*SYSLST	4
SYSTEM-FILE=*SYSOUT	5
SYSTEM-FILE=*TASKLIB	6
SYSTEM-FILE=*SYSLST-NUMBER(xy) mit xy=01..99	7
SYSTEM-FILE=*ALL and the assignment of SYSLSTxy is not *PRIMARY	8

Note that the S variables are not generated until the conditions defined in the “Condition” column are met. There is a supplementary condition set by the var(\*LIST).SYSxxx.ASS-TYPE S variable. Only for particular contents of this S variable are S variables generated in the same structure (e.g. var(\*LIST).SYSxxx.ELEM or var(\*LIST).SYSxxx.F-NAME).

Supplementary conditions:

Notation used in command	Abbreviated form used in table
var(*LIST).SYSxxx.ASS-TYPE=*LIB-ELEM	a
var(*LIST).SYSxxx.ASS-TYPE=*FILE	b
var(*LIST).SYSxxx.ASS-TYPE=*VAR	c
var(*LIST).SYSLSTnn.ASS-TYPE=*SYSLST	d

Output information	Name of the S variable	T	Contents	Condition
Current level number of the (nested) procedure	var(*LIST).PROC-LEV-NUM	I	<integer 0..nn>	
Current assignment of the SYSCMD system file	var(*LIST).SYSCMD.ASS-TYPE	S	*DIALOG-BLOCK *FILE *LIB-ELEM *PRIMARY *VAR	1,2
Name of the element assigned to SYSCMD	var(*LIST).SYSCMD.ELEM	S	<comp.-name 1..64>	1,2 a
Type of element assigned to SYSCMD	var(*LIST).SYSCMD.ELEM-TYPE	S	<alphan.-name 1..8>	1,2 a
Version of the element assigned to SYSCMD	var(*LIST).SYSCMD.ELEM-VERSION	S	<comp.-name 1..24>	1,2 a

(Part 1 of 4)

## SHOW-SYSTEM-FILE-ASSIGNMENTS

Output information	Name of the S variable	T	Contents	Condition
Path name of the file assigned to SYSCMD	var(*LIST).SYSCMD.F-NAME	S	<filename 1..54>	1,2 b
Name of the PLAM library assigned to SYSCMD	var(*LIST).SYSCMD.LIB	S	<filename 1..54>	1,2 a
Name of the S variable assigned to SYSCMD	var(*LIST).SYSCMD.VAR-NAME	S	<comp.-name 1..255>	1,2 c
Current assignment of the SYSDTA system file	var(*LIST).SYSDTA.ASS-TYPE	S	*FILE *LIB-ELEM *PRIMARY *SYSCMD *VAR	1,3
Name of the element assigned to SYSDTA	var(*LIST).SYSDTA.ELEM	S	<comp.-name 1..64>	1,3 a
Type of element assigned to SYSDTA	var(*LIST).SYSDTA.ELEM-TYPE	S	<alphan.-name 1..8>	1,3 a
Version of the element assigned to SYSDTA	var(*LIST).SYSDTA.ELEM-VERSION	S	<comp.-name 1..24>	1,3 a
Path name of the file assigned to SYSDTA	var(*LIST).SYSDTA.F-NAME	S	<filename 1..54>	1,3 b
Name of the PLAM library assigned to SYSDTA	var(*LIST).SYSDTA.LIB	S	<filename 1..54>	1,3 a
Name of the S variable assigned to SYSDTA	var(*LIST).SYSDTA.VAR-NAME	S	<comp.-name 1..255>	1,3 c
Output only for reasons of compatibility	var(*LIST).SYSIPT.ASS-TYPE	S	*FILE *NOT-ASS *SYSCMD	1
Output only for reasons of compatibility	var(*LIST).SYSIPT.F-NAME	S	<filename 1..54>	1b
Current assignment of the SYSLST system file	var(*LIST).SYSLST.ASS-TYPE	S	*DUMMY *FILE *LIB-ELEM *PRIMARY *VAR	1,4
Name of the element assigned to SYSLST	var(*LIST).SYSLST.ELEM	S	<comp.-name 1..64>	1,4 a
Type of element assigned to SYSLST	var(*LIST).SYSLST.ELEM-TYPE	S	<alphan.-name 1..8>	1,4 a
Version of the element assigned to SYSLST	var(*LIST).SYSLST.ELEM-VERSION	S	<comp.-name 1..24>	1,4 a
Path name of the file assigned to SYSLST	var(*LIST).SYSLST.F-NAME	S	<filename 1..54>	1,4 b

(Part 2 of 4)

## SHOW-SYSTEM-FILE-ASSIGNMENTS

Output information	Name of the S variable	T	Contents	Condition
Name of the PLAM library assigned to SYSLST	var(*LIST).SYSLST.LIB	S	<filename 1..54>	1,4 a
Name of the S variable assigned to SYSLST	var(*LIST).SYSLST.VAR-NAME	S	<comp.-name 1..255>	1,4 c
Current assignment of system file SYSLSTnn (where nn = 01...99)	var(*LIST).SYSLSTnn.ASS-TYPE	S	*DUMMY *FILE *LIB-ELEM *PRIMARY *SYSLST *VAR	7,8
Name of the element assigned to SYSLSTnn (where nn = 01...99)	var(*LIST).SYSLSTnn.ELEM	S	<comp.-name 1..64>	1,7 a
Type of element assigned to SYSLSTnn (where nn = 01...99)	var(*LIST).SYSLSTnn.ELEM-TYPE	S	<alphan.-name 1..8>	1,7 a
Version of the element assigned to SYSLSTnn (where nn = 01...99)	var(*LIST).SYSLSTnn.ELEM-VERSION	S	<comp.-name 1..24>	1,7 a
Path name of the file assigned to SYSLSTnn (where nn = 01...99)	var(*LIST).SYSLSTnn.F-NAME	S	<filename 1..54>	1,7 b
Name of the PLAM library assigned to SYSLSTnn (where nn = 01...99)	var(*LIST).SYSLSTnn.LIB	S	<filename 1..54>	1,7 a
Number of the SYSLST file which is assigned to SYSLSTnn (when nn = 01...99, but is not equal to the number)	var(*LIST).SYSLSTnn.SYSLST-NUM	S	<integer 0..99>	1,7 d
Name of the S variable assigned to SYSLSTnn (where nn = 01...99)	var(*LIST).SYSLSTnn.VAR-NAME	S	<comp.-name 1..255>	1,7c
Output only for reasons of compatibility	var(*LIST).SYSOPT.ASS-TYPE	S	*DUMMY *FILE *PRIMARY	1
Output only for reasons of compatibility	var(*LIST).SYSOPT.F-NAME	S	<filename 1..54>	1 b
Current assignment of the SYSOUT system file	var(*LIST).SYSOUT.ASS-TYPE	S	*DUMMY *FILE *LIB-ELEM *PRIMARY *VAR	1,5
Name of the element assigned to SYSOUT	var(*LIST).SYSOUT.ELEM	S	<comp.-name 1..64>	1,5 a

(Part 3 of 4)

Output information	Name of the S variable	T	Contents	Condition
Type of element assigned to SYSOUT	var(*LIST).SYSOUT.ELEM-TYPE	S	<alphan.-name 1..8>	1,5 a
Version of the element assigned to SYSOUT	var(*LIST).SYSOUT.ELEM-VERSION	S	<comp.-name 1..24>	1,5 a
Path name of the file assigned to SYSOUT	var(*LIST).SYSOUT.F-NAME	S	<filename 1..54>	1,5 b
Name of the PLAM library assigned to SYSOUT	var(*LIST).SYSOUT.LIB	S	<filename 1..54>	1,5 a
Name of the S variable assigned to SYSOUT	var(*LIST).SYSOUT.VAR-NAME	S	<comp.-name 1..255>	1,5 c
Current assignment of the TASKLIB object module file	var(*LIST).TASKLIB.ASS-TYPE	S	*FILE *PRIMARY	1,6
Path name of the object module file assigned to TASKLIB	var(*LIST).TASKLIB.F-NAME	S	<filename 1..54>	1,6 b

(Part 4 of 4)

## Examples

### *Output in S variables*

```

/declare-var var-name=var(type=*structure),multiple-elem=*list
/assign-syslst to=*var(library=plamlib1,element=lst.file.1)
/exec-cmd (show-system-file-ass system-file=*syslst),
          text-output=*none,structure-output=var
/show-var var,inf=*par(val=*c-literal)
VAR#1.PROC-LEV-NUM = 0
VAR#1.SYSLST.ASS-TYPE = '*LIB-ELEM'
VAR#1.SYSLST.LIB = ':20SG:$USER1.PLAMLIB1'
VAR#1.SYSLST.ELEM = 'LST.FILE.1'
VAR#1.SYSLST.ELEM-VERSION = '*UPPER-LIMIT'
VAR#1.SYSLST.ELEM-TYPE = 'P'
*END-OF-VAR

```

### *Output to SYSOUT*

```
/show-sys-file _____ (1)
%PROCEDURE LEVEL NUMBER 0 %SYSCMD : (PRIMARY) %SYSDTA : (PRIMARY) %SYSIPT
: NOT ASSIGNED %SYSOUT : (PRIMARY) %SYSLST : (PRIMARY) %SYSOPT : (PRIMARY)
%TASKLIB : (PRIMARY) /call-proc proc.test1 _____ (2)
. . [K2] . % CMD0170 DO YOU WANT TO INSERT COMMANDS? REPLY (Y=YES; N=NO)?y
% SSM2014 TASK IN ESCAPE MODE AT LEVEL NUMBER '1' /show-sys-file _____ (3)
%PROCEDURE LEVEL NUMBER 1
%SYSCMD : :N:$USERXY01.PROC.TEST1 (PROCEDURE)
%SYSDTA : (SYSCMD)
%SYSIPT : NOT ASSIGNED
%SYSOUT : (PRIMARY)
%SYSLST : (PRIMARY)
%SYSOPT : (PRIMARY)
%TASKLIB : (PRIMARY)
```

- (1) Information on the assignment of system files for the dialog task.
- (2) Calling procedure *PROC.TEST1*. Interrupting procedure execution with [K2].
- (3) Information on the assignment of system files for the dialog task on procedure level 1. The system file SYSCMD is assigned to procedure file *PROC.TEST1*.



## SHOW-SYSTEM-INFORMATION

Show information on current system

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	System control and optimization
<b>Domain:</b>	SYSTEM-TUNING
<b>Privileges:</b>	alle Privilegien
<b>Routing code:</b>	@

### Function

The SHOW-SYSTEM-INFORMATION command allows the user to obtain information about data relating to the system currently running.

If a live migration has taken place, the live migration counter displays a value > 0. The SERVER-UNIT operand controls whether the information on the current system or on the IPL system is output.

The user can request all system information or individual parts of that information. These informations can be output to SYSOUT or SYSLST.

The following items of system information can be requested:

- machine designation (type and model details)
- Information about whether and to where live migration took place
- identification of the available CPUs
- information about the hardware/software interface (HSI)
- size of the usable physical main memory
- smallest size of main memory which can be used for software
- identification of the operating system running
- identification of the BS2000 input/output configuration
- time of system initialization for the current session
- information about the current system configuration (Sysid, home pubset, host name, possibly the VM identification under VM2000, system name and origin of the system parameters upon system initialization)
- in VM2000 mode, the VM2000 version
- in VM2000 mode, information about the Monitor System (BS2000 OSD/BC version and host name)
- information about the system time setting (time zone, changeover time, synchronization and TODR epoch)

The command supports structured output in S variables (see [“Output in S variable” on page 7-235](#)).

### *Restrictions*

If the command is issued from an console, only OUTPUT=\*SYSOUT is allowed.

### **Format**

**SHOW-SYSTEM-INFORMATION**

**INFORMATION** = \*ALL / \*CONFIGURATION / \*CPU-ID-LIST / \*HSI-ATTRIBUTES / \*MEMORY-SIZE /  
\*MINIMAL-MEMORY-SIZE / \*BS2000-IDENTIFICATION / \*IOCONF-IDENTIFICATION /  
\*IPL-TIME / \*SYSTEM-CONFIGURATION / \*VM2000-VERSION /  
\*VM2000-MONITOR-SYSTEM / \*SYSTEM-TIME-PARAMETER

**,OUTPUT** = \*SYSOUT / \*SYSLST

**,SERVER-UNIT** = \*STD / \*INITIAL / \*CURRENT

### **Operands**

#### **INFORMATION =**

Specifies which system information is to be output.

#### **INFORMATION = \*ALL**

All the information described in the following is to be output.

#### **INFORMATION = \*CONFIGURATION**

Provides information about the machine designation as follows:

CONFIGURATION            = <id-of-actual-machine>

After live migration the original system name is output.

*Meaning of the output values of <id-of-actual-machine>*

Machine type (model range) in the new extended format (21 bytes), e.g.: e.g. for an S200 system:

7.500- S210-120-.....

If the machine type is not entered in the system, 7.500-7000..... is output. The machine designation is subdivided into the four following sections:

Section	Byte	Meaning
1	0 - 4	Base type (e.g. 7.500)
2	6 - 10	Model range
3	12 - 15	Model identifier
4	17 - 20	Special model features (e.g. vector processor)

Bytes 5, 11 and 16 act as section separators and always contain the character '-' (hyphen). If no information is available for section 4, bytes 16-20 contain blanks.

#### INFORMATION = \*CPU-ID-LIST

Provides information about identifications of the CPUs available at startup as follows:

```
CPU-ID-LIST :  ADR   0 = <cpu-id0>
                :
                :
                ADR   n = <cpu-idn>
```

*Meaning of the output values:*

<cpu-id<sub>i</sub>>      identification of the i-th CPU. The information output is the internal form (8 bytes) as supplied by the hardware, in printable form (i.e. 16 characters). As many identifications are output as there exist CPUs. However, the output does not indicate how many CPUs are actually online.

#### INFORMATION = \*HSI-ATTRIBUTES

Provides information about the hardware/software interface (HSI) as follows:

```
HSI-ATT:      TYPE           = IX / KM / UD
              ASF            = NO / YES
              OPERATION-MODE = NATIVE / VM2000
```

*Meaning of the output values:*

TYPE Information about the HSI type:  
=IX: The HSI type is CFCS3/2 or higher. The CPU type is IX (/390 architecture).  
=KM It is the HSI for x86 architecture (Server Unit x86 or SQ server).  
=UD: The HSI type is not defined.

ASF Information about address space extension:  
=NO: No extended address space is available.  
=YES: The operating system is running on a machine whose virtual address space is capable of extension (advanced address space facility). Optional access to a program space and two or more data spaces is thus possible. An additional set of registers (access registers) is available for this purpose.

OPERATION-MODE:  
Information about the use of VM2000:  
=NATIVE: The operating system is running on a real machine.  
=VM2000: The operating system is running on a virtual machine under VM2000.

### **INFORMATION = \*MEMORY-SIZE**

Provides information about the size of the usable physical main memory as follows:

MEMORY-SIZE = <memory-size> <unit>

*Meaning of the output values:*

<memory-size> Size of main memory as a decimal number. Leading zeros are truncated. The output is left-justified.  
Value range:  $1 \leq \text{<memory-size>} \leq 2,147,483,647$

<unit> unit type (KByte / MByte / GByte)

### **INFORMATION = \*MINIMAL-MEMORY-SIZE**

Returns information on the smallest size of main memory which can be used for software in the form:

MINIMAL-MEMORY-SIZE = <min-memory-size> <unit>

*Meaning of the output values:*

<min-memory-size> Smallest size of main memory which can be used for software in nbytes; a decimal number. Leading zeros are truncated. The output is left-justified. Value range:  $1 \leq \text{<min-memory-size>} \leq 2.147.483.647$

<unit> unit type (KByte / MByte / GByte)

**INFORMATION = \*BS2000-IDENTIFICATION**

Provides information about the identification of the operating system running as follows:

```
BS2000-ID:   NAME           = <bs2-name>
             VERSION        = <bs2-version>
             OSD-BC-VERSION  = <osd-bc-version>
             UGEN-TIME       = <bs2-gen-date>,<bs2-gen-time>
```

*Meaning of the output values:*

```
<bs2-name>           Program name (8 bytes, left-justified), e.g. 'BS2V190'
<bs2-version>       Version specification in DOD format, e.g. 'V19.0A00pp', pp is the
                    PVLU information
<osd-bc-version>    Version specification in DOD format, e.g. 'V10.0A0000'
<bs2-gen-date>      Date of generation of the operating system in ISO4 format: yyyy-
                    mm-dd
<bs2-gen-time>      Time of generation of the operating system in ISO4 format:
                    hh:mm:ss
```

**INFORMATION = \*IOCONF-IDENTIFICATION**

Provides information about the identification of the BS2000 input/output configuration as follows:

```
IOCONF-ID:   NAME           = <iocf-name>
             VERSION        = <iocf-version>
             CREATED        = <iocf-gen-date>,<iocf-gen-time>
             FORMAT         = <iocf-format>
```

*Meaning of the output values:*

```
<iocf-name>         Program name (8 bytes, left-justified) e.g. 'BS2V190'
                    The first 8 bytes of the ID block (NAME operand of IOGEN gener-
                    ation) of the current IOCF are output.
                    In the case of Server Units x86 or SQ servers, the value *NONE...
                    is output.
<iocf-version>     The version from the current IOCF e.g. 'V19.0A00..'
                    In the case of Server Units x86 or SQ servers, blanks are output.
```

<iocf-gen-date>	Date of generation of the I/O configuration in ISO4 format: yyyy-mm-dd  In the case of Server Units x86 or SQ servers, blanks are output.
<iocf-gen-time>	Time of generation of the I/O configuration in ISO4 format: hh:mm:ss  In the case of Server Units x86 or SQ servers, only blanks are output.
<iocf-format>	IOCF format (7 bytes, for diagnostic purposes only)

### INFORMATION = \*IPL-TIME

Provides information about the time of system initialization for the current session as follows:

IPL-TIME = <ipl-date>,<ipl-time>

*Meaning of the output values:*

<ipl-date>	Date of startup of the current session in ISO4 format: yyyy-mm-dd
<ipl-time>	Time of startup of the current session in ISO4 format: hh:mm:ss

### INFORMATION = \*SYSTEM-CONFIGURATION

Provides information about the configuration of the BS2000 system in the form:

SYSTEM-CONF:	SYSID	= <sysid>
	HOME-PUBSET	= <cat-id>
	HOST-NAME	= <host-name>
	VM-INDEX	= <vm-index>
	VM-NAME	= <vm-name>
	SYSTEM-NAME	= <sys-name>
	SYSPAR-BS2-SEL	= *STD / *BY-VM-NAME / *BY-IOCONF-ID-NAME / *BY-SYSTEM-NAME / *BY-DIALOG
	LIVE-MIG-COUNT	= <live-migration-counter>

*Meaning of the output values:*

<sysid>	System ID (3 characters)
<cat-id>	Catalog ID of the home pubset in the format <cat-id 1..4>
<host-name>	BCAM name of the local system in (8 characters) e.g. 'D02ZE01'
<vm-index>	In VM2000 mode, the VM index in the format <integer 1..99>; in native mode the value 0 (for the operating modes, see OPERATION-MODE, <a href="#">page 7-227</a> )

---

<vm-name>	In VM2000 mode, the VM name in the format <name 1..8>; in native mode *NONE (for the operating modes, see OPERATION-MODE, <a href="#">page 7-227</a> )
<sys-name>	System name in the format <name 1..8> if available, otherwise *NONE
SYSPAR-BS2-SEL	The value displayed in this field provides information on the origin of the system parameters at system startup (for automatic selection of the parameter file, see also the “Introduction to System Administration” [14] manual).
*STD	From the parameter file SYSPAR.BS2.vvv vvv corresponds to the BS2000 version without a period (displayed in the output of <bs2-version> in “ <a href="#">INFORMATION = *BS2000-IDENTIFICATION</a> ” on <a href="#">page 7-229</a> ) e.g. SYSPAR.BS2.190
*BY-SYSTEM-NAME	From the parameter file SYSPAR.BS2.vvv.<sys-name> vvv corresponds to the BS2000 version without a period (see *STD); <sys-name> corresponds to the system name (see above)
*BY-VM-NAME	From the parameter file SYSPAR.BS2.vvv.<vm-name> vvv corresponds to the BS2000 version without a period (see *STD); <sys-name> corresponds to the VM name (see above)
*BY-IOCONF-ID-NAME	From the parameter file SYSPAR.BS2.vvv.<iocf-name> vvv corresponds to the BS2000 version without a period (see *STD); <iocf-name> corresponds to the program name (displayed in NAME with “ <a href="#">INFORMATION = *IOCONF-IDENTIFICATION</a> ” on <a href="#">page 7-229</a> )
*BY-DIALOG	The system parameters were entered fully or partially via the parameter files specified in the dialog or directly on the console.
<live-migration-counter>	Number of live migrations which have taken place The display has the format <integer 0..99999999>; the value 0 means that no live migration has taken place.

### **INFORMATION = \*VM2000-VERSION**

In VM2000 mode (see OPERATION-MODE, [page 7-227](#)) provides information about the VM2000 version:

VM2000-VERSION = <vm2000-version>

*Meaning of the output values:*

<vm2000-version> Version specification in DOD format e.g. 'V11.0A'

### **INFORMATION = \*VM2000-MONITOR-SYSTEM**

In VM2000 mode (see OPERATION-MODE, [page 7-227](#)) provides information about the Monitor System:

VM2000-MONITOR- OSD-BC-VERSION = <osd-bc-version>  
SYSTEM : HOST-NAME = <host-name>

*Meaning of the output values:*

<osd-bc-version> Version specification in DOD format, e.g. 'V10.0A0000'

<host-name> BCAM name of the Monitor System e.g. 'D027ZE01'

### **INFORMATION = \*SYSTEM-TIME-PARAMETER**

Provides information about the BS2000 system time settings in the form:

SYSTEM-TIME- ZONE = <zone-time-diff>  
PARAMETER: SEASON = <actual-season>  
SEASON-DIFFERENCE = <season-time-diff>  
PREV-CHANGE-DATE = <prev-change-date>, <prev-change-time>  
NEXT-CHANGE-DATE = <next-change-date>, <next-change-time>  
SYNCHRONISATION = <synch-value>  
EPOCH = <epoch-value>

*Meaning of the output values:*

<zone-time-diff> Time difference between the local time zone and UTC time in the format: +hh:mm or -hh:mm

<actual-season> Current season in the local time zone; possible values: W (winter time=normal time) / S (summer time)

<season-time-diff> Time difference in the local time zone between summer time and normal time in the format: hh:mm

<prev-change-date> Date of the last time changeover in ISO4 format: yyyy-mm-dd

<prev-change-time> Time of the last time changeover in ISO4 format: hh:mm:ss

<next-change-date> Date of the next time changeover in ISO4 format: yyyy-mm-dd



- <next-change-time> Time of the next time changeover in ISO4 format: hh:mm:ss
- <synch-value> Source of external time synchronization. The table below shows the possible values for the various server types in ascending order of priority of the synchronization types. If more than one timer exists, the highest-priority synchronization is shown.
- <epoch-value> TODR epoch (see system parameter file)

<synch-value>	SUs /390 (or S servers)	SUs x86 (or SQ servers)
*NONE	In the event of an error: SVP clock (SKP on S server) currently not available or difference between system time and timer too great to permit synchronization	In the event of an error: SVP clock currently not available or difference between system time and timer too great to permit synchronization
X2000	Not applicable	Without external synchronization (default)
SKP-X	Without external synchronization (default)	Not applicable
DCE/NTP	Synchronization by NTP network (in BS2000)	Synchronization by NTP network (in BS2000)
XCS	Synchronization by XCS network	Synchronization by XCS network
SERVER-CONN-EXT-REF	External timer via MU (SKP on S server) or (for VM2000 guest systems) connected in the monitor system	External timer via MU or (for VM2000 guest systems) connected in the monitor system
BS2-CONN-EXT-REF	External timer connected via NTP (in BS2000)	External timer connected via NTP (in BS2000)

Table 171: Time synchronization displays (SHOW-SYSTEM-INFORMATION)

**OUTPUT = \*SYSOUT / \*SYSLST**

Specifies whether output is to be to SYSOUT (default) or SYSLST. Output to SYSLST is not possible on the console.

**SERVER-UNIT = \*STD / \*INITIAL / \*CURRENT**

Specifies the Server Unit whose data is to be displayed. The setting is only relevant when a live migration has taken place and the value requested using the INFORMATION operand can change as a result of a migration.

### **SERVER-UNIT = \*STD**

The currently valid setting of the system parameter MIGHOST is to be used.

The system parameter MIGHOST can be modified dynamically with the MODIFY-SYSTEM-PARAMETERS command.

When a live migration has taken place and the value \*ALL, \*CONFIGURATION, \*CPU-ID-LIST, \*IOCONF-IDENTIFICATION, \*SYSTEM-CONFIGURATION, \*VM2000-VERSION or \*VM2000-MONITOR-SYSTEM is specified for INFORMATION, message NSI6231 or NSI6232 shows what the output will look like before the data is output.

### **SERVER-UNIT = \*INITIAL**

The data of the Server Unit on which IPL was performed (IPL system) is displayed.

### **SERVER-UNIT = \*CURRENT**

The data of the Server Unit on which the BS2000 session is currently running is displayed (possibly after a live migration).

### **Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
1	0	CMD0001	Command output interrupted
2	0	NBR1099	Output to SYSLST not allowed
	32	CMD2009	Internal error during S variable generation
	64	OPS0002	Command interrupted during generation of S variables
	130	OPS0001	Not enough memory to generate S variables

## Output in S variable

The INFORMATION operand identifies the S variables which are to be created. All variables are output with INFORMATION=\*ALL.

Notation used in command	Abbreviated form used in table
INFORMATION = *CONFIGURATION	1
INFORMATION = *CPU-ID-LIST	2
INFORMATION = *HSI-ATTRIBUTES	3
INFORMATION = *MEMORY-SIZE	4
INFORMATION = *MINIMAL-MEMORY-SIZE	5
INFORMATION = *BS2000-IDENTIFICATION	6
INFORMATION = *IOCONF-IDENTIFICATION	7
INFORMATION = *IPL-TIME	8
INFORMATION = *SYSTEM-CONFIGURATION	9
INFORMATION = *VM2000-VERSION	10
INFORMATION = *VM2000-MONITOR-SYSTEM	11
INFORMATION = *SYSTEM-TIME-PARAMETER	12

Output information	Name of the S variable	T	Contents	Condition
BS2000 program name	var(*LIST).BS2000-ID.NAME	S	<c-string 8..8>	6
Version specification (OSD-BC) for BS2000	var(*LIST).BS2000-ID.OSD-BC-VERSION	S	<c-string 10..10>	6
BS2000 generation date	var(*LIST).BS2000-ID.UGEN-DATE	S	<yyyy-mm-dd>	6
BS2000 generation time	var(*LIST).BS2000-ID.UGEN-TIME	S	<hh:mm:ss>	6
Version specification for BS2000	var(*LIST).BS2000-ID.VERSION	S	<c-string 10..10>	6
Machine designation Bytes 0-4: base type Bytes 6-10: model range Bytes 12-15: model identifier Bytes 17-20: special model features	var(*LIST).CONF	S	<c-string 21..21>	1
CPU identifier	var(*LIST).CPU-ID(*LIST)	S	<c-string 16>	2
Address space extension supported	var(*LIST).HSI-ATTR.ASF	B	FALSE TRUE	3
Operating mode of the operating system	var(*LIST).HSI-ATTR.OPERATION-MODE	S	NATIVE VM2000 VIRTUALIZED	3
CPU type	var(*LIST).HSI-ATTR.TYPE	S	IX KM UD	3
IOCF format (only for debugging)	var(*LIST).IOCONF-ID.FORMAT	S	<c-string 7..7>	7

(Part 1 of 3)

## SHOW-SYSTEM-INFORMATION

Output information	Name of the S variable	T	Contents	Condition
First 8 bytes of the current IOCF's ID block; for SQ servers the value *NONE	var(*LIST).IOCONF-ID.NAME	S	<c-string 8..8> *NONE	7
Generation date of the BS2000 I/O configuration or blanks in the case of SQ servers	var(*LIST).IOCONF-ID.UGEN-DATE	S	<yyyy-mm-dd>	7
Generation time of the BS2000 I/O configuration or blanks in the case of SQ servers	var(*LIST).IOCONF-ID.UGEN-TIME	S	<hh:mm:ss>	7
Version specification of the BS2000 I/O configuration or blanks in the case of SQ servers	var(*LIST).IOCONF-ID.VERSION	S	<c-string 10..10>	7
Startup date	var(*LIST).IPL.DATE	S	<yyyy-mm-dd>	8
Startup time	var(*LIST).IPL.TIME	S	<hh:mm:ss>	8
Unit of measurement for the main memory size	var(*LIST).MEM-SIZE.DIM	S	GB KB MB	4
Size of main memory	var(*LIST).MEM-SIZE.VAL	I	<integer 1..2147483647>	4
Smallest unit of size of the main memory which is usable for software	var(*LIST).MIN-MEM-SIZE.DIM	S	GB KB MB	5
Smallest size of main memory usable for software	var(*LIST).MIN-MEM-SIZE.VAL	I	<integer 1..2147483647>	5
catalog ID of the home pubset	var(*LIST).SYS-CONF.HOME-PUBSET	S	<cat-id 4..4>	9
Host name	var(*LIST).SYS-CONF.HOST-NAME	S	<c-string 8..8>	9
Number of live migrations which have taken place	var(*LIST).SYS-CONF.LIVE-MIG-COUNT	I	<integer 0..99999999>	9
System ID	var(*LIST).SYS-CONF.SYSID	S	<c-string 3..3>	9
System name; if not available, the value *NONE	var(*LIST).SYS-CONF.SYS-NAME	S	<c-string 8..8> *NONE	9
Origin of the system parameters	var(*LIST).SYS-CONF.SYSPAR-BS2-SEL	S	*STD *BY-DIALOG *BY-SYS-NAME *BY-VM-NAME *BY-IOCONF-ID-NAME	9
VM index (in VM2000 mode, otherwise 0)	var(*LIST).SYS-CONF.VM-INDEX	I	<integer 0..99>	9
VM name (in VM2000 mode, otherwise *NONE)	var(*LIST).SYS-CONF.VM-NAME	S	<c-string 1..8> *NONE	9

(Part 2 of 3)

Output information	Name of the S variable	T	Contents	Condition
Epoch	var(*LIST).SYS-TIME.EPOCH	S	00..FF	12
Source of external time synchronization; for meaning of values see <a href="#">table 171 on page 7-233</a>	var(*LIST).SYS-TIME.EXTERNAL-SYNCH	S	<c-string 20..20> mit einem der folgenden Werte und aufgefüllt mit Blanks: X2000 SKP-X DCE/NTP XCS SERVER-CONN-EXT-REF BS2-CONN-EXT-REF	12
Date of the next time change	var(*LIST).SYS-TIME.NEXT-CHA-DATE	S	<yyyy-mm-dd>	12
Time of the next time change	var(*LIST).SYS-TIME.NEXT-CHA-TIME	S	<hh:mm:ss>	12
Date of the most recent time change	var(*LIST).SYS-TIME.PREVIOUS-CHA-DATE	S	<yyyy-mm-dd>	12
Time of the most recent time change	var(*LIST).SYS-TIME.PREVIOUS-CHA-TIME	S	<hh:mm:ss>	12
Current season in the local time zone; possible values: W=winter or normal time S=summertime	var(*LIST).SYS-TIME.SEASON	S	W S	12
Difference between summer and normal time	var(*LIST).SYS-TIME.SEASON-DIFFERENCE	S	<hh:mm>	12
Time zone of the local system (difference from UTC time)	var(*LIST).SYS-TIME.ZONE	S	+<hh:mm> -<hh:mm>	12
VM2000 version for VM2000 operation, otherwise *NONE	var(*LIST).VM2000-VERSION	S	<c-string 6..6> *NONE	10
Host name of the monitor system (for VM2000 operation), otherwise *NONE	var(*LIST).VM-MONITOR.HOST-NAME	S	<c-string 8..8> *NONE	11
BS2000 OSD/BC version of the monitor system (for VM2000 operation), otherwise *NONE	var(*LIST).VM-MONITOR.OSD-BC-VERSION	S	<c-string 10..10> *NONE	11

(Part 3 of 3)

For reasons of compatibility the S variable var(\*LIST).CURRENT-CONF is generated when INFORMATION=\*ALL and SERVER-UNIT=\*STD.

**Example**

*Output on the VM on an SU /390 of an SE server*

```
/show-sys-inf
%CONFIGURATION                = 390SU- 700-20
%CPU-ID-LIST :   ADR    0      = 1102000621600000
%                   ADR    1      = 1112000621600000
%                   ADR    2      = 1122000621600000
%HSI-ATT :       TYPE      = IX
%                   ASF      = YES
%                   OPERATION-MODE = VM2000
%MEMORY-SIZE                = 512 MB
%MINIMAL-MEMORY-SIZE        = 256 MB
%BS2000-ID :   NAME      = K10BXS
%                   VERSION  = V19.0A00K1
%                   OSD-BC-VERSION = V10.0A0000
%                   CREATED   = 2014-06-04,15:08:33
%IOCONF-ID :   NAME      = S1900006
%                   VERSION  = V18.0A00
%                   CREATED   = 2013-04-30,11:35:33
%                   FORMAT    = IORSF01
%IPL-TIME                = 2014-07-17,16:58:56
%SYSTEM-CONF :   SYSID     = 175
%                   HOME-PUBSET = 4IVR
%                   HOST-NAME  = D020ZE01
%                   VM-INDEX   = 1
%                   VM-NAME    = M4IVR
%                   SYSTEM-NAME = *NONE
%                   SYSPAR-BS2-SEL = *STD
%                   LIVE-MIG-COUNT = 0
%VM2000-VERSION          = V11.0A
%VM2000-MONITOR- OSD-BC-VERSION = V10.0A0000
%  SYSTEM:             HOST-NAME  = D020ZE01
%SYSTEM-TIME- ZONE      = +01:00
%  PARAMETER:         SEASON      = S
%                   SEASON-DIFFERENCE = 01:00
%                   PREV-CHANGE-DATE = 2014-03-30,02:00:00
%                   NEXT-CHANGE-DATE = 2014-10-26,03:00:00
%                   SYNCHRONIZATION = SERVER-CONN-EXT-REF
%                   EPOCH        = 04
/
```

## SHOW-SYSTEM-PARAMETERS

Output system parameters

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	System control and optimization
<b>Domain:</b>	SYSTEM-TUNING
<b>Privileges:</b>	all privileges
<b>Routing code:</b>	@

### Function

The SHOW-SYSTEM-PARAMETERS command allows the user to obtain information about important options in the BS2000 system (system parameters). System parameters are generated with default settings and can be modified by systems support by means of the parameter service during system initialization or during system operation using the MODIFY-SYSTEM-PARAMETERS command. System parameters serve to configure BS2000 to individual requirements. The nonprivileged user only receives information about the nonprivileged system parameters. The information is output to SYSOUT or to SYSLST.

The command supports structured output in S variables (see [“Nonprivileged system parameters” on page 7-240](#)).

### *Privileged functions*

Privileged users are shown information about all system parameters currently defined. There are detailed descriptions of all the system parameters in the “Introduction to System Administration” [14].

### *Restrictions*

The OUTPUT operand is not available if the command is issued at the operator terminal (console).

### Format

**SHOW-SYSTEM-PARAMETERS**

**PARAMETER** = \*ALL / list-poss(2000): <name 1..8>

, **OUTPUT** = \*SYSOUT / \*SYSLST

**Operands**

**PARAMETER = \*ALL / list-poss(2000): <name 1..8>**

Specifies which system parameters the user wishes to obtain information about. The default value is \*ALL, i.e. nonprivileged users receive information about all nonprivileged system parameters. The user can specify the names of those system parameters about which he wishes to receive information in a list. The nonprivileged system parameters in the [table "Nonprivileged system parameters"](#) below are available as standard.

**OUTPUT = \*SYSOUT / \*SYSLST**

*This operand is not available if the command is issued at the operator terminal.* Specifies whether output is to be to SYSOUT (default) or SYSLST.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
1	0	CMD0001	Command output interrupted
2	0	NSI6250	System parameter does not exist or privilege is inadequate
	32	CMD2009	Internal error during S variable generation
2	0	NBR1099	Output to SYSLST not allowed
	64	OPS0002	Command interrupted during generation of S variables
	130	OPS0001	Not enough memory to generate S variables

**Output values**

System parameters	Key to output values
ASRSW1	Operator subterminals are allowed to run the ASR command with the ADD operand as long as the command affects the status of the issuing subterminal. 0 Execution allowed at operator subterminals. 1 Execution allowed at main operator terminal only.
ASRSW2	With regard to the ASR command, applications acting as operator terminals have the same privileges as the main operator terminal. 0 Applications do not have the same privileges as the main operator terminal. 1 Applications have the same privileges.
AUDALLOW	Determines whether the AUDIT function (hardware and linkage AUDIT) should be available throughout the system in the current session. YES: AUDIT is available throughout the system NO: AUDIT is not available A linkage AUDIT which has been started will be completed if required.

Table 172: Nonprivileged system parameters (Part 1 of 7)



System parameters	Key to output values
BLKCTRL	Standard value for the file attribute BLOCK-CONTROL-INFO depending on the PAMKEY characteristic of a disk (K or NK disk). The following values are possible: PAMKEY (compatible mode): On K disks the default value BLOCK-CONTROL-INFO=PAMKEY applies to all files. On NK disks the default value BLOCK-CONTROL-INFO=DATA applies to SAM and ISAM files BLOCK-CONTROL-INFO=NO applies to UPAM files. NONKEY (migration modes): On both K and NK disks the default value BLOCK-CONTROL-INFO=DATA applies to SAM and ISAM files, BLOCK-CONTROL-INFO=NO applies to UPAM files.
BLSCOPYN	Standard value for the COPYRIGHT operand with the BINDER utility routine.
BLSCOPYR	Standard value for the COPYRIGHT operand with the TSOSLNK utility routine.
BLSLDPXS	Provides information about the program load address value used by TSOSLNK if the operand LOADPT=*XS is specified in the OVERLAY or PROGRAM statement.
CMDFILE	Automatically process command file immediately after system initialization. No     blank Yes    file name
DEFLUID	Specifies the default user ID value used by the system if \$.file or \$file is specified, or used for the "secondary read" if no user ID is specified.
DIATTL	Limits the amount of time available to a dialog task. N    The dialog task is not terminated when "Task-Time-Runout" is reached. Y    The dialog task is terminated when "Task-Time-Runout" is reached. Q    For a dialog task as with DIATTL=Y. For a batch task the message to the console is suppressed and the additional times are shortened to one second.
DMCMAXP	Maximum number of entries in the MRS catalog for the home pubset. Possible values: <integer 1..4096>
DUMPCL5P	Governs whether the privileged class 5 memory is contained in the user or area dumps output by CDUMP. 1    The entire class 5 memory is contained in the dump. 2    The privileged class 5 memory is not output with user or area dumps.
DUMPSEPA	Specifies the output of secret pages in user or system dumps. Possible values: 1    The output of secret pages is not suppressed. 2    The output of secret pages of class 6 memory is suppressed; secret pages of class 1/2/3/4/5 memory are output. 3    The output of secret pages of class 1/2/3/4/5 memory is suppressed; only secret pages of class 6 memory are output. 4    The output of all secret pages is suppressed.

Table 172: Nonprivileged system parameters (Part 2 of 7)

## SHOW-SYSTEM-PARAMETERS

System parameters	Key to output values
ENCRYPT	Specifies whether passwords are encrypted internally in the system. Y The passwords are encrypted on entry into file catalog / user entry. N The passwords are entered without encryption.
FILECRYP	Specifies the encryption method currently used for file encryption. Values currently possible: AES Advanced Encryption Standard (default) DES Data Encryption Standard The method used for encryption and stored in the file's catalog entry is used for decryption of a file.
FMTYFNLG	Specifies how the file names of various logging files (CONSLOG, ACCOUNT) are to be formed with respect to the date: 2 The file<prefix> .yy.mm.dd.<suffix> name contains, as before, a 2-digit year value: <prefix> .yy.mm.dd.<suffix> 4 The file name contains a 4-digit year value: <prefix> .yyyy.mm.dd.<suffix>
FREFCRYP	User ID which can specify a freely defined crypto password when encryption takes place (see the ENCRYPT-FILE command). The other user IDs may only specify an already encrypted reference file when encryption takes place. If no user ID is entered, this restriction does not apply.
FST32GB	Specifies the scope with files $\geq$ 32 GB. Possible values: 0 All FSTAT interfaces with version=0 or version=1 ( $\neq$ Version=710 or Version=800) for which the FNAM operand is not specified are rejected with return code 0576 if a file $\geq$ 32 GB is contained in the hit list. 1 (Ignore 3-byte data field overflow) If a file $\geq$ 32 GB is contained in the hit list, no error is displayed. The data fields which cannot be displayed are assigned the value X'FFFFFF'.
HOSTCODE	Specifies the system's default character set (XHCS).
MSGDEST	If no destination is specified when text is output by a INFORM-OPERATOR command or a macro (MSG7, TYPIO, ...), the destination defaults to the routing code specified here (x), the authorized user process (nnnn) or the operator console (mn). Values: see the parameter service statement SET-CODE in the "Introduction to System Administration" [14] If an ungenerated authorized user process, an ungenerated operator terminal or an invalid routing code is specified, the default value is used when the system is loaded.
NBACODE	Defines the default routing code for when new operator commands are entered (dynamic setting).

Table 172: Nonprivileged system parameters (Part 3 of 7)

System parameters	Key to output values
NBESSIZE	<p>Defines the maximum size in PAM pages of the central system event stream file \$SYSAUDIT.SYSLOG.ESS.SYSTEM. When the maximum size is reached, the oldest events are deleted from the logfile and the free space is used for the new data. When the maximum size is reached, the oldest events are deleted from the logfile and the free space is used for the new data.</p> <p>When the size is 0, the file is not created and the system event stream services are not available.</p>
NBLOGENF	<p>Governs whether CONSLOG can be reactivated with the CHANGE-CONSLOG command after an unrecoverable DMS054D error.</p> <p>E When SYS.CONSLOG is opened, an extra file is created as a placeholder. If this is not possible, the operator is sent a warning. If message DMS054D still appears, message NBR0953 is sent to prompt the operator to resume console logging once space has been created (reply "R") or to abort the system session (reply "H").</p> <p>N After message DMS054D appears, the message EXC0991 CONSLOG-IN-ACTIVE is issued. Once the space problems have been eliminated, CHANGE-CONSLOG can be used to open a new logging file. The serial number of SYS.CONSLOG incremented by two in order to log the failure.</p> <p>If the maximum CONSLOG serial number defined by NBKESNR has already been reached, the CHANGE-CONSLOG command is rejected (NBLOGENF=E) or the current logging file is closed and console logging is deactivated (NBLOGENF=N).</p>
NBMESLG	<p>Specifies whether INFORM-JOB, INFORM-ALL-JOBS or BROADCAST messages are to be output with their full length:</p> <p>L Output with full length</p> <p>S Output with a maximum length of one line</p>
NBMSGCSD	<p>Governs whether system messages generated when all (physical) consoles are defective are to be held to have been output even if they have not been displayed at a physical console.</p> <p>N All messages with a physical console as authorized recipient are buffered in system storage until output on a physical console is possible.</p> <p>Y The messages are released once they have been distributed to other recipients (such as CONSLOG). This avoids problems with space shortfall on the system.</p>
NBOPTINT	<p>Interval in minutes after which message NBR0750 containing the date is issued on all operator terminals. The routing code of this message is "E".</p> <p>0 The routing code of this message is "E".</p>
NBRCILU	<p>Defines the unit of time in milliseconds by which the time interval for commands (CLI) is multiplied to set the effective operator task allocation time.</p> <p>If message NBR0974 occurs too many times, this unit should be increased.</p>

Table 172: Nonprivileged system parameters (Part 4 of 7)

## SHOW-SYSTEM-PARAMETERS

System parameters	Key to output values
NBRCSCK	Defines the message output delay in minutes after which the connection of an authorized user process to the UCON task (\$CONSOLE) will be aborted. (NBRCSCK: CONSOLE CHECK)
NBRCSCKN	Defines the period in minutes after which the connection of a nonprivileged authorized user process (non-TSOS application on the local host) to the UCON task (\$CONSOLE) is aborted if no more message are fetched by the process.
NBRUNSP	Governs whether commands from RUN sequences are to be output on the operator terminal from which the RUN command was entered.
NBRUNWT	Provides information as to how long (in seconds) the system is to wait between a ASTOP and an AGOGO command (console).
RDTESTPR	Limits the global read test privileges. In addition to the user-ID-specific test values, this maximum value must also be observed. Value range 0..9, default is 9
SECSTART	Activates or deactivates the secure system start. If the secure system start is activated, session-specific logging files \$SYSAUDIT.SYS.REPLOG... from previous sessions are not automatically deleted. If the message buffer overflows, system initialization is aborted. If outputs to consoles come from system components, they are identified by a # character ahead of the time. Possible values: Y Secure system start is activated. N Secure system start is deactivated.
SECSTENF	Specifies whether system initialization is aborted if REPs cannot be logged in their entirety. Possible values: Y System initialization is aborted. N System initialization is not aborted.
SHUTARCH	Specifies whether a check is performed on initiation of SHUTDOWN to determine whether the subsystem ARCHIVE is still being used. N No checking. Y Check is made. The operator is informed if ARCHIVE is in use.
SHUTPROC	Specifies how a shutdown request from the carrier system should be executed on an SQ server:  BY-SHUTDOWN-CMD System shutdown is initiated immediately. BY-ENTER-JOB System shutdown is initiated by an Enter job.

Table 172: Nonprivileged system parameters (Part 5 of 7)

System parameters	Key to output values
SSMLGOF1	<p>Specifies how the spoolout of the system files SYSLST and SYSOUT is handled when a job is completed.</p> <p>REQ-SPOOL: The spoolout jobs are always accepted.</p> <p>NO-SPOOL: No spoolout jobs are accepted.</p> <p>STA-SPOOL: Spoolout jobs are only accepted if SPOOL is loaded.</p>
SSMLGOF2	<p>Specifies whether messages are output in dialog tasks for the cases REQ-SPOOL/STA-SPOOL.</p> <p>NO: No message and spoolout as defined in SSMLGOF1.</p> <p>YES: Messages SSM2066/SSM2075 are output and the user can decide whether spoolout is to take place.</p> <p>SPOOL: Message SSM2066 is output if SPOOL is not loaded. The user can decide whether he/she wishes to wait and whether spoolout should take place after SPOOL has been loaded.</p>
SSMOUT	<p>Specifies the default value of the system output for the ENTER-PROCEDURE, EXIT-JOB, LOGOFF and CANCEL-JOB commands. In a computer network SSMOUT is evaluated on the target computer.</p> <p>PRINT: System outputs are output with SPOOL.</p> <p>MAIL: System outputs are sent by email to the receiver addresses (EMAIL-ADDRESS) entered in the user ID's user entry. If transfer is not possible, the same procedure applies as for PRINT.</p>
SVC79	<p>Specifies restrictions on the use of the SVC79 (switching from nonprivileged (TU) to privileged (TPR) system status).</p> <p>Possible values:</p> <ul style="list-style-type: none"> <li>0 SVC79 may only be executed by tasks running under the user ID TSOS or SERVICE (with ETCBWOPT). On the first SVC79 a corresponding message is output on the console.</li> <li>1 SVC79 may only be executed by tasks running under the user ID TSOS or SERVICE (with ETCBWOPT). Additionally, with the first SVC79 for a task the operator must confirm the transition from TU to TPR.</li> <li>2 SVC79 may only be executed by tasks running under the user ID TSOS or SERVICE (with ETCBWOPT). Additionally, the operator must confirm every transition from TU to TPR. ally, the operator must confirm every transition from TU to TPR.</li> <li>3 There is no possibility for the user to switch from TU to TPR.</li> </ul>
TEMPFILE	<p>Character identifying temporary files and job variables; character from the set (#,/,@) or NO.</p>

Table 172: Nonprivileged system parameters (Part 6 of 7)

## SHOW-SYSTEM-PARAMETERS

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System parameters	Key to output values
WRTESTPR	Limits the global write test privileges. In addition to the user-ID-specific test values, this maximum value must also be observed. Value range 0..9, default is 9

Table 172: Nonprivileged system parameters (Part 7 of 7)

### *Note*

The privileged and nonprivileged system parameters are described in detail in the “Introduction to System Administration” [14].

### Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Output format of the system parameter	var(*LIST).SYS-PAR(*LIST).FORM	S	*CHAR *HEX-VAL *INTEGER-VAL *PAR-NOT-ACCESS *PAR-NOT-DEFI	
Name of the system parameter	var(*LIST).SYS-PAR(*LIST).NAME	S	<c-string 1..8>	
Value of the system parameter	var(*LIST).SYS-PAR(*LIST).VAL	S	<c-string 1..4096>	

**Example**

Output of all currently available system parameters (nonprivileged):

```
/show-sys-par
%ASRSW1 : 0
%ASRSW2 : 1
%AUDALLOW : C 'YES '
%BLKCTRL : C 'PAMKEY '
%BLSCOPYN : C 'FUJITSU TECHNOLOGY SOLUTIONS
%BLSCOPYR : C '
%BLSLDPXS : X '10000000 '
%CCPUNORM : C 'Y '
%CMDFILE : C 'CMDFILE
%DEFLUID : C '$TSOS
%DIATTL : C 'N '
%DMCMAXP : 512
%DUMPCL5P : X '00 '
%DUMPSEPA : 1
%ENCRYPT : C 'Y '
%FILECRYP : C 'AES '
%FMTYFNLG : C '2 '
%FREFCRYP : C 'ENCRYPTO '
%FST32GB : 0
%HOSTCODE : C 'EDF03IRV '
%MSGDEST : C '<*'
%NBACODE : C 'E '
%NBESSIZE : 40.000
%NBLOGENF : C 'E '
%NBMESLG : C 'L '
%NBMSGCSD : C 'Y '
%NBOPINT : 120
%NBRCILU : 5.000
%NBRCSCK : 10
%NBRCSCKN : 10
%NBUNSP : C 'N '
%NBUNWT : 180
%RDTESTPR : 1
%SECSTART : C 'N '
%SECSTENF : C 'N '
%SHUTARCH : C 'N '
%SHUTPROC : C 'BY-SHUTDOWN-CMD '
%SSMLGOF1 : C 'REQ-SPOOL '
%SSMLGOF2 : C 'YES '
%SSMOUT : C 'MAIL '
%SVC79 : 0
%TEMPFILE : C '# '
%WRTESTPR : 1
```

# SHOW-SYSTEM-STATUS

Output system status information

<b>Description status:</b>	STATUS V15.2A
<b>Functional area:</b>	Job processing
<b>Domain:</b>	JOB
<b>Privileges:</b>	all privileges
<b>Routing code:</b>	E

### Function

The SHOW-SYSTEM-STATUS command provides information on the processing status in the system. The following information can be requested (by specifying the appropriate value in the INFORMATION operand):

- \*SUMMARY (default):  
Actual number of jobs, according to job type.
- \*SYSTEM-PARAMETERS:  
Maximum permitted number of resident main memory pages
- \*CATEGORY:  
Maximum number and actual number of active jobs, according to category (system, interactive, batch, transaction jobs).
- \*REMOTE:  
Information on RSO printers, e.g. name, status display, station and processor name, user ID and TSN of jobs.
- \*SATURATION-QUEUE (privileged):  
Information on saturation queues, such as the hold queue for a paging device, pre-reservation of paging areas and main memory.
- \*WHEN-QUEUE (privileged):  
Information on jobs in the WHEN queue, such as TSN, user ID, time of entry in the queue and maximum dwell time.
- \*REPLAY-QUEUE (privileged):  
Information on jobs in the REPLAY queue, such as TSN, user ID, volume ID, form, output device.
- \*JOB-CLASS:  
Information on job classes, such as name, maximum number of jobs, weight, status, name of responsible job stream.



- \*JOB-STREAM (privileged):  
Information on job streams, such as name, status, number of waiting jobs, start time and stop time.

The command supports structured output in S variables (see [“Output in S variables” on page 7-257](#)).

### *Privileged functions*

System support staff are shown all the available information on the processing status in the system. Among other things they can request information relating to the saturation, WHEN and REPLAY queues and to job streams.

### Format

SHOW-SYSTEM-STATUS	Alias: SHSS
<b>INFORMATION</b> = * <u>SUMMARY</u> (...) / *SYSTEM-PARAMETERS / *CATEGORY / *REMOTE(...) / *SATURATION-QUEUE(...) / *WHEN-QUEUE(...) / *REPLAY-QUEUE(...) / *JOB-CLASS(...) / *JOB-STREAM(...)	
* <u>SUMMARY</u> (...)   <b>SELECT</b> = * <u>ALL</u> / *JOBS / *SPOOLOUT / *REMOTE-SPOOLOUT   <b>USER-IDENTIFICATION</b> = * <u>STD</u> / *ALL / <name 1..8> / *OWN	
* <u>REMOTE</u> (...)   <b>DEVICE</b> = * <u>MANAGED-DEVICES</u> / *ALL / <alphanum-name 1..8 with-wild>	
* <u>SATURATION-QUEUE</u> (...)   <b>OUTPUT-INFORMATION</b> = * <u>USER-IDENTIFICATION</u> / *NAME / *NONE	
* <u>WHEN-QUEUE</u> (...)   <b>OUTPUT-INFORMATION</b> = * <u>USER-IDENTIFICATION</u> / *NAME / *NONE	
* <u>REPLAY-QUEUE</u> (...)   <b>OUTPUT-INFORMATION</b> = * <u>USER-IDENTIFICATION</u> / *NAME / *NONE	
* <u>JOB-CLASS</u> (...)   <b>STATE</b> = * <u>ALL</u> / *ACT / *INACT / *HOLD / *DEL	
* <u>JOB-STREAM</u> (...)   <b>STATE</b> = * <u>ALL</u> / *ACT / *INACT / *HOLD	

### Operands

#### **INFORMATION** =

Type of information to be output:

number of jobs / system utilization / categories / saturation, WHEN and REPLAY queues / job classes / job streams.

**INFORMATION = \*SUMMARY(...)**

Outputs the actual number of jobs, according to job type (job types T4 through T8 are only included if SPOOL is loaded).

Job type	Meaning
T1 (DO) (WT) (HO) (HOP) (HOT) (HOC)	Waiting batch jobs Dormant: the responsible job scheduler is not yet active; or job run J(i) (where $i \geq 1$ ) of a repeat job. Waiting: the job is waiting to be started by the system. <i>HELD-BY-COMMAND</i> : Job was paused with HOLD-JOB; also displayed if one of the wait statuses HOP, HOT or HOC is in effect due to a lack of resources <i>HELD-BY-PUBSET</i> : job waiting for pubset import <i>HELD-BY-TSN</i> : job waiting for TSN release <i>HELD-BY-CALENDAR</i> : job waiting for import of the pubset that contains the calendar file
T2	Batch jobs in progress
T3	Interactive jobs in progress
T4 (PR) (TP)	Spoolout jobs waiting for: printer tape
T5 (AC) (KP)	Spoolout jobs in progress, in state: active suspended; on explicit request from the operator, these jobs are returned to the job queue (T4).
T7 (WT) (AC) (KP)	RSO spoolout jobs in state: waiting active suspended
T8	RSO devices

**SELECT =**

Job types on which information is required.

**SELECT = \*ALL**

Outputs all job types (T1 through T8); T1 and T7 are output without status information.

**SELECT = \*JOBS**

Outputs job types T1 through T3.

**SELECT = \*SPOOLOUT**

Outputs job types T4 through T8.

**SELECT = \*REMOTE-SPOOLOUT**

Outputs job types T7 and T8.

**USER-IDENTIFICATION = \*STD / \*ALL / <name 1..8> / \*OWN**

Specifies the user ID of the jobs for which information is to be output. By default, all user IDs are included.

Nonprivileged users are only provided with information relating to jobs running under their own user ID.

**USER-IDENTIFICATION = <name 1..8>**

Only the jobs of the user ID specified here are to be included in the overview.

**USER-IDENTIFICATION = \*OWN**

Only the user's own jobs are included. The output also includes information about devices managed by the user. USER-IDENTIFICATION=\*OWN is not allowed at consoles.

**INFORMATION = \*SYSTEM-PARAMETERS**

Outputs the maximum permitted number of resident main memory pages under "CORE".

**INFORMATION = \*CATEGORY**

Outputs the maximum permitted and the actual number of active jobs, according to category.

The following table lists the output fields and their meaning:

Field	Meaning / contents
CATEGORY NAME	Name of the category, e.g.: SYS: System jobs DIALOG: Interactive jobs BATCH: Batch jobs TP: Transaction jobs
MINMPL	Minimum number of active jobs.
MAXMPL	Maximum permitted number of active jobs.
WEIGHT	Value for calculating the index for this category. This determines the activation sequence.
#EXISTING	Number of existing jobs.
#ACTIVE	Number of active jobs.
#READY INACT	Number of inactive jobs that are ready for activation.
#RDY NOT ADMITTED	Number of inactive jobs that are ready to run but that are not permitted in this category (this column is only relevant if the software product PCS is used).
IO-PRIO	I/O priority of the category

**INFORMATION = \*REMOTE(...)****DEVICE = \*MANAGED-DEVICES / \*ALL / <alphanum-name 1..8 with-wild>**

Specifies the device name of an RSO printer about which information is required. The device name can also be specified using wildcards. The default value \*MANAGED-DEVICES supplies information about all printers for which the user is defined as device manager.

Field	Meaning / contents
DEVICE	Name of printer
A	Status display for RSO printers: "A" : printer attached but not active "D" : no virtual connection (detached) "I" : no spoolout jobs available "M" : a message is outstanding at the operator terminal for this device "R" : output of a spoolout job "S" : printer stopped due to error "W" : 9025 or 9645 printer currently inaccessible, since it is being used by the SPSEIVE program
STA/PORT	Station name of an RSO printer which is not connected to TACLAN, or port name of an RSO printer on TACLAN.
PROC /INTERNET@	Name of processor if the relevant RSO printer is not connected to TACLAN, or Internet address if the printer is on TACLAN. Note: If the Internet address is more than 16 bytes long, the first 15 bytes are displayed, followed by an asterisk.
USERID	For privileged users only: User ID of the RSO job.
TSN	For privileged users only: TSN of the spoolout job to be output.
ERCOD	Return information from DCAM, PDN or printer.
ERMSG	Message number of error (HELP-MSG-INF).
E	For privileged users only: Exit routine activated, "Y" or "N".
CTRL TSK	TSN of the RSO control task for the device. Output only if a device name has been specified.

**INFORMATION = \*SATURATION-QUEUE(...)**

*Only privileged users are allowed to select this value.*

Outputs information on the saturation queue.

The information specified in the OUTPUT-INFORMATION operand is output for each queue. If a queue does not contain any tasks, NO TASK ON QUEUE is output for the queue involved.

PD HOLD : Hold queue for a paging device

PD PRERESERVE : Queue for pre-reservation of a paging area

CORE PRERESERVE : Queue for pre-reservation of main memory

**OUTPUT-INFORMATION = \*USER-IDENTIFICATION / \*NAME / \*NONE**

Specifies whether the name or user ID of the jobs in the saturation queue is to be output in addition to the TSN.

**OUTPUT-INFORMATION = \*USER-IDENTIFICATION**

Outputs the user ID.

**OUTPUT-INFORMATION = \*NAME**

Outputs the job name, as specified in the SET-LOGON-PARAMETERS or PRINT-DOCUMENT command.

**INFORMATION = \*WHEN-QUEUE(...)**

*Only privileged users are allowed to select this value.*

Outputs information on the WHEN queue.

If the queue is empty, message EXC0354 is output.

Field	Meaning / contents
TSN	TSN of the jobs waiting for a condition to become true.
NAME	User ID, job name or blanks, depending on the specification made in the OUTPUT-INFORMATION operand.
IN QUEUE SINCE	Date and time at which the job was entered in the WHEN queue
MINLIMIT	Maximum number of minutes the job may remain in the queue or SHUTDWN.

**OUTPUT-INFORMATION = \*USER-IDENTIFICATION / \*NAME / \*NONE**

Specifies whether the name or user ID of the jobs in the WHEN queue is to be output in addition to the TSN.

**OUTPUT-INFORMATION = \*USER-IDENTIFICATION**

Outputs the user ID.

**OUTPUT-INFORMATION = \*NAME**

Outputs the job name, as specified in the SET-LOGON-PARAMETERS or PRINT-DOCUMENT command.

**INFORMATION = \*REPLAY-QUEUE(...)**

*Only privileged users are allowed to select this value.*

Outputs information on the REPLAY queue.

If the queue is empty, the message "NO TASK ON REPLAY QUEUE" is output.

Field	Meaning / contents
NAME	User ID, job name or blanks, depending on the specification made in the OUTPUT-INFORMATION operand.
TSN	Task serial number.
SESSID	VSN of the first replay tape.
CLASS	Spoolout class according to entry in user catalog.
FORM	Form name.
DIA	Form overlay name.
SIZE	Size of original file written to tape, specified in PAM blocks.
DEV	The desired output device: SD Printer with loadable VFB (3341, 3342, 3343) SD7 Printer with loadable VFB (3337, 3338, 3339, 3348, 3349, 3365, 9xxx) NSD Printer with loadable VFB or ND Laser Printer HP HP/SD/SD7 Printer or devices which are no longer supported NHS HP Laser Printer or printer with loadable VFB NHP HP Laser Printer or devices which are no longer supported HSD HP/SD/SD7 Printer

**OUTPUT-INFORMATION = \*USER-IDENTIFICATION / \*NAME / \*NONE**

Specifies whether the name or user ID of the jobs in the REPLAY queue is to be output in addition to the TSN.

**OUTPUT-INFORMATION = \*USER-IDENTIFICATION**

Outputs the user ID.

**OUTPUT-INFORMATION = \*NAME**

Outputs the job name, as specified in the SET-LOGON-PARAMETERS or PRINT-DOCUMENT command.

**INFORMATION = \*JOB-CLASS(...)**

Outputs information on job classes.

The following table lists the output fields and their meaning:

Field	Meaning / contents
JCLASS	Name of job class.
CLIM	Maximum number of jobs that can run at the same time in the job class; further batch jobs are not started and they wait in type 1.
OPTM	Optimum number of jobs that should run at the same time in the job class.
W	Weight (urgency) of the job class.
STATE	State of the job class (ACT/INACT/HOLD/DEL) ACT      Job class active HOLD    Job class in the "hold" state; waiting jobs are no longer started and new jobs are placed in the queue (T1). INACT    The relevant job scheduler is inactive; waiting jobs are not started and new jobs are placed in the queue (T1). DEL      Job class is in the "in delete" state.
JSTREAM	Name of the responsible job scheduler (job stream).
The following outputs DORM, ANCD, WAIT, STRT and HOLD apply to the relevant job class.	
DORM	Number of jobs waiting because the responsible job scheduler is not yet active; or <i>i</i> th job run of a repeat job ( $i \geq 1$ ) that has not yet been started.
ANCD	Number of jobs administered by the job scheduler.
WAIT	Number of jobs waiting to be started.
STRT	Number of started jobs.
HOLD	Number of suspended jobs

**STATE =**

Selects the job classes according to their state.

**STATE = \*ALL**

Outputs information on all job classes.

**STATE = \*ACT**

Outputs information on active job classes.

**STATE = \*INACT**

Outputs information on inactive job classes.

**STATE = \*HOLD**

Outputs information on job classes in the "hold" state.

**STATE = \*DEL**

Outputs information on job classes in the "in delete" state.

**INFORMATION = \*JOB-STREAM(...)**

*Only privileged users are allowed to select this value.*

Outputs information on job streams.

If a user job was started with the REPEAT option, this is displayed in the "DORM" column.

The relevant job scheduler is active. The following table lists the output fields and their meaning:

Field	Meaning / contents
JSTREAM	Name of the job stream.
STATE	State of the job stream (ACT/INACT/HOLD)
The following outputs apply to the relevant job stream:	
DORM	Number of jobs waiting because the responsible job scheduler is not yet active.
ANCD	Total number of existing jobs.
WAIT	Number of waiting jobs.
STRT	Number of started jobs
HOLD	Number of suspended jobs.
START	Start time of the job stream: ATLOAD: during system initialization BYOPER: started by the operator or system administration using the START-JOB-STREAM command hh:mm : at a specified time (JMU statement DEFINE-JOB-STREAM)
STOP	Time at which the job stream is terminated: ATSHUTD: during system shutdown BYOPER: terminated by the operator or system administration using the STOP-JOB-STREAM command hh:mm : at a specified time (JMU statement DEFINE-JOB-STREAM)
LIFETIME	In conjunction with the contents of the STOP column, this means that the job stream is terminated once the specified time has elapsed.

**STATE =**

Selects the job stream according to its state.

**STATE = \*ALL**

Outputs information on all job streams.

**STATE = \*ACT**

Outputs information on active job streams.



**STATE = \*INACT**

Outputs information on inactive job streams.

**STATE = \*HOLD**

Outputs information on suspended job streams.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	An attempt was made to create S variables for job types TYPE4 through TYPE8
2	0	EXC0152	Requested information does not exist
2	0	SPA0003	SPOOL subsystem not loaded
2	0	SPS0266	ADM task bourse destroyed
2	0	SPS0420	RSO subsystem not loaded
2	0	SPS0242	No job in REPLAY queue
	1	CMD0202	Syntax or semantic error
	32	CMD2009	Error during S variable generation
	64	EXC0252	Specified user ID does not exist
	64	EXC0153	No authorization for command

**Output in S variables**

The INFORMATION operand identifies the S variables which are to be assigned values. If there is no current value to pass to an S variable, a null string (type S) or the number 0 (type I) is assigned instead. The following specifications are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = *SUMMARY	1
INFORMATION = *SYSTEM-PARAMETERS	2
INFORMATION = *CATEGORY	3
INFORMATION = *JOB-CLASS	4
INFORMATION = *SATURATION-QUEUE	5
INFORMATION = *WHEN-QUEUE	6
INFORMATION = *JOB-STREAM	7

## SHOW-SYSTEM-STATUS

Output information	Name of the S variable	T	Contents	Condition
Number of active jobs	var(*LIST).ACTIVE	I	<integer>	3
Number of jobs managed by the job scheduler	var(*LIST).ANNOUNCED	I	<integer>	4, 7
Name of the category	var(*LIST).CATEG	S	<name 1..8>	3
Maximum permitted number of resident main memory pages	var(*LIST).CORE	I	<integer>	2
Names of the jobs in the queue for main memory prereservation	var(*LIST).CORE-PRERES(*LIST).JOB-NAME	S	" <name 1..8>	5
TSNs of the jobs in the queue for main memory prereservation	var(*LIST).CORE-PRERES(*LIST).TSN	S	<alphan.-name 4..4>	5
User IDs of the jobs in the queue for main memory prereservation	var(*LIST).CORE-PRERES(*LIST).USER-ID	S	" <alphan.-name 1..8>	5
Date on which the job was entered in the condition queue	var(*LIST).DATE	S	<yyyy-mm-dd>	6
Number of jobs waiting because the job scheduler is not yet active, or n-th job run of a repeat job not yet started	var(*LIST).DORMANT	I	<integer>	4, 7
Number of existing jobs	var(*LIST).EXIST	I	<integer>	3
Number of jobs on hold	var(*LIST).HOLD	I	<integer>	4, 7
I/O priority of the category	var(*LIST).IO-PRIO	S	*NONE / *LOW *MEDIUM / *HIGH	3
Name of the job class	var(*LIST).JOB-CLASS	S	<name 1..8>	4
Job name in the condition queue; empty string if OUPUT-INF≠*NAME	var(*LIST).JOB-NAME	S	" <name 1..8>	6
Name of the job stream	var(*LIST).JOB-STREAM	S	<name 1..8>	4, 7
Time after which the job stream is terminated	var(*LIST).LIFE-TIME	S	" <hh:mm:00>	7
Maximum number of jobs that can run concurrently in the job class	var(*LIST).LIM	I	<integer>	4
Specification in minutes as to how long the job may remain in the queue	var(*LIST).LIM	S	SHUTDOWN <integer>	6
Maximum number of jobs that may be active	var(*LIST).MAXMPL	I	<integer>	3
Minimum number of jobs that should be active	var(*LIST).MINMPL	I	<integer>	3
Ideal number of jobs that should run concurrently in the job class	var(*LIST).OPTIMUM	I	<integer>	4

(Part 1 of 3)

Output information	Name of the S variable	T	Contents	Condition
Names of the jobs in the HOLD queue	var(*LIST).PAGING-DEV-HOLD(*LIST).JOB-NAME	S	" <name 1..8>	5
TSNs of the jobs in the HOLD queue	var(*LIST).PAGING-DEV-HOLD(*LIST).TSN	S	<alphan.-name 4..4>	5
User IDs of the jobs in the HOLD queue	var(*LIST).PAGING-DEV-HOLD(*LIST).USER-ID	S	" <alphan.-name 1..8>	5
Names of the jobs in the queue for paging area prereservation	var(*LIST).PAGING-DEV-PRERES(*LIST).JOB-NAME	S	" <name 1..8>	5
TSNs of the jobs in the queue for paging area prereservation	var(*LIST).PAGING-DEV-PRERES(*LIST).TSN	S	<alphan.-name 4..4>	5
User IDs of the jobs in the queue for paging area prereservation	var(*LIST).PAGING-DEV-PRERES(*LIST).USER-ID	S	" <alphan.-name 1..8>	5
Number of inactive jobs ready for activation	var(*LIST).READY-INACTIVE	I	<integer>	3
Number of ready, inactive but not admitted tasks in this category	var(*LIST).READY-NOT-ADMITTED	I	<integer>	3
Number of jobs started in the job class/job stream	var(*LIST).START	I	<integer>	4, 7
Starting time of the job stream	var(*LIST).START-TIME	S	ATLOAD BYOPER <hh:mm:00>	7
State of the job class/job stream	var(*LIST).STATE	S	ACT DEL HOLD INACT	4, 7
Stop time of the job stream	var(*LIST).STOP-TIME	S	" ATSHUTD BYOPER <hh:mm:00>	7
Number of waiting batch jobs	var(*LIST).T1	I	<integer>	1
Number of batch jobs waiting because the job scheduler is not yet active, or n-th job run of a repeat job	var(*LIST).T1-DO	I	<integer>	1
Number of batch jobs waiting because they were placed on hold	var(*LIST).T1-HO	I	<integer>	1
Number of batch jobs waiting to be started by the system	var(*LIST).T1-WT	I	<integer>	1
Number of running batch jobs	var(*LIST).T2	I	<integer>	1
Number of running interactive jobs	var(*LIST).T3	I	<integer>	1

(Part 2 of 3)

## SHOW-SYSTEM-STATUS

---

Output information	Name of the S variable	T	Contents	Condition
Time at which the job was entered in the condition queue	var(*LIST).TIME	S	<hh:mm:ss>	6
TSNs of the jobs waiting for the condition to be fulfilled	var(*LIST).TSN	S	<alphan.-name 4..4>	6
User IDs of the jobs waiting for the condition to be fulfilled; empty string if OUPUT-INF≠*USER-ID	var(*LIST).USER-ID	S	" <name 1..8>	6
Number of jobs waiting for start	var(*LIST).WAIT	I	<integer>	4, 7
Weighting (urgency) of the category or job class	var(*LIST).WEIGHT	I	<integer>	3, 4

(Part 3 of 3)

## SHOW-TAPE-STATUS

Display information on tapes and assigned devices

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT TAPE-ADMINISTRATION
<b>Routing code:</b>	E

### Function

The SHOW-TAPE-STATUS command provides information about tapes reserved for a user's job. The VSN of the tape may also be specified using a wildcard character. The result is written to SYSOUT.

The information shown on online reserved tapes includes volume serial numbers, assigned device and the status of device monitoring (not with ATTRIBUTE=\*UNMONITORED). The output for offline reserved tapes (without monitoring and device assignment) shows the volume serial numbers not with ATTRIBUTE=\*MONITORED).

The various output fields and their functions are described in [section "Information services of device management: Meanings of the output values of SHOW commands" on page 1-86](#).

The command supports structured output in S variables (see ["Output in S variables" on page 7-265](#)).

## Format

SHOW-TAPE-STATUS
<pre> <b>UNIT</b> = <b>*SELECT</b> (...) / <b>*VOLUME</b>(...) / list-poss(26): &lt;alphanum-name 2..2 with-wild(20)&gt; /           &lt;alphanum-name 4..4 with-wild(20)&gt; <b>*SELECT</b>(...)         <b>ATTRIBUTE</b> = <b>*ALL</b> / <b>*FREE</b> / <b>*EXCLUSIVE</b> / <b>*MONITORED</b> / <b>*UNMONITORED</b> / <b>*WORK</b> /                   <b>*ONLINE</b> / <b>*PREMOUNT</b> / <b>*MOUNTING</b> / <b>*IN-USE</b> / <b>*CANCELLED</b> / <b>*NO-DEVICE</b> /                   <b>*RECOVER</b> / <b>*DMS</b> / <b>*SPECIAL</b> / <b>*DISMOUNT</b> / <b>*POSITION</b> / <b>*STD</b> / <b>*NON-STD</b> /                   <b>*TAPE-MARK</b>         <b>*VOLUME</b>(...)       <b>VOLUME</b> = list-poss(10): &lt;vsn 1..6&gt; / &lt;filename 1..6 with-wild(30)&gt;     <b>,INFORMATION</b> = <b>*STD</b> / <b>*CARTRIDGE-LOADER</b> </pre>

## Operands

**UNIT =**

Specifies the tape devices for which information is to be output.

**UNIT = \*SELECT**(...) / **\*VOLUME**(...) /  
**list-poss(26):** <alphanum-name 2..2 with-wild(20)> /  
 <alphanum-name 4..4 with-wild(20)>

The tapes about which information is desired may be selected by specifying a specific attribute (**\*SELECT**), specific volume serial numbers (**\*VOLUME**) or the mnemonic device names (two or four characters) of the devices on which the tapes are mounted. A maximum of 26 mnemonic device names may be specified. Mnemonic device names that cannot be generated are handled like non-generated devices.

**UNIT = \*SELECT(...)**

Selection of tapes via particular attributes.

**ATTRIBUTE = \*ALL / \*FREE / \*EXCLUSIVE / \*MONITORED / \*UNMONITORED / \*WORK / \*ONLINE / \*PREMOUNT / \*MOUNTING / \*IN-USE / \*CANCELLED / \*NO-DEVICE / \*RECOVER / \*DMS / \*SPECIAL / \*DISMOUNT / \*POSITION / \*STD / \*NON-STD / \*TAPE-MARK**

Attribute. Information is supplied for all tapes with the specified attribute.

<b>Operand value (attribute)</b>	<b>Meaning</b>
*ALL	any attribute
*FREE	<i>volume-allocation-state</i> free tape (see Note)
*EXCLUSIVE	exclusively reserved (see Note)
*MONITORED	<i>volume-phase</i> device is subject to monitoring (see Note)
*UNMONITORED	device is not subject to monitoring (see Note)
*ONLINE	free mounted tape
*PREMOUNT	tape assigned
*MOUNTING	tape assigned, must still be mounted
*IN-USE	tape assigned for use
*CANCELLED	<i>action-state</i> tape locked
*NO-DEVICE	no device assignment present
*RECOVER	interrupt handling taking place
*DISMOUNT	REMOUNT or MOUNT message still pending
*POSITION	tape being positioned
*DMS	<i>use-mode</i> occupied by DMS application
*SPECIAL	occupied by special application
*WORK	work tape
*STD	<i>label-type</i> tape has standard labels
*NON-STD	tape has nonstandard labels
*TAPE-MARK	tape begins with tape mark

*Notes on the output when ATTRIBUTE is specified:*

- \*FREE: All tape devices on which tapes are mounted but not in use are listed.
- \*MONITORED: All tapes subject to volume monitoring are listed.
- \*UNMONITORED: All tapes which have been reserved offline are listed.
- \*EXCLUSIVE: All tapes which are in use or which have been reserved are listed.

The output is grouped according to the following:

- all tapes monitored by NDM
- all tapes reserved offline

**UNIT = \*VOLUME(...)**

Specifies the volume serial numbers of the tapes about which information is to be output.

**VOLUME = list-poss(10): <vsn 1..6> / <alphanum-name 1..6 with-wild(30)>**

Specifies the volume serial numbers (VSN, max. 6 characters) of the tapes about which information is to be output. Up to 10 VSNs can be specified.

**INFORMATION =**

Amount of information to be displayed

**INFORMATION = \*STD**

A standard output record is generated for each device with the selected attributes.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
2	0	NKD0030	Warning: INFORMATION parameter changed
2	0	NKD0035	Warning: no information on remaining VSNs
	1	NKD0001	Syntax error in input; correct the command parameter to eliminate the error
4	1	NKD0001	Syntax error in subprocedure
	32	CMD2009	Error on output to S variable (e.g. subsystem not available)
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server
	64	NKD0025	No information on MN list and INF parameter
	64	NKD0032	No information available on attribute
	64	NKD0033	No information on VSN and INFORMATION parameter
	64	OPS0002	Interrupt (e.g. by K2 key) during S variable generation
8	130	NKD0010	Tape monitor temporarily unavailable; command could not be processed
	130	OPS0001	SDF-P reporting space problems (possible response: FREE-VARIABLE and repeat command)



## Output format

A header line is displayed along with one values line for each tape device specified. For the meaning of the output columns and possible values, see [section “Information services of device management: Meanings of the output values of SHOW commands” on page 1-86](#).

Header line for tapes reserved online:

```
MNEM  VSN   USE   LABEL  DEV-A          VOL-A          PHASE   ACTION  CAR
```

### Values

```
mn     vsn    use    label  device        volume        volume      action  cartr.
      mode  type  allocation  allocation    phase        state      loader
                        state          state          state        state      state
```

Header line for tapes reserved offline:

```
DMS RESERVED UNMONITORED TAPES
```

### Values:

( <vsn>,<tsn> ) ... a maximum of 4 value pairs are output per line

## Notes

In response to a UNIT-related request, two output lines may be provided if a volume is online on a device and another volume is to be mounted on the same device.

In response to a VSN-related request, two output records may likewise be provided if the VSN is ambiguous or if the tape is mounted on one device but is to be made available on some other device.

## Output in S variables

The INFORMATION and SELECT operands identify the S variables which are to be created. The following specifications are possible:

Notation used in command	Abbreviated form used in table
INFORMATION = *STD	INF=STD
UNIT = *SELECT(ATTRIBUTE=*UNIMONITORED)	UNIT=SEL(ATTR=UNMONI)

## SHOW-TAPE-STATUS

Output information	Name of the S variable	T	Contents	Condition
(Re)mount operation being performed for the volume by the volume monitoring system	var(*LIST).ACTION	S	" *CANCEL *DISMOUNT INOP *MOUNT NO-ACTION NO-DEV POS *PREMOUNT *RECOVER REMOUNT SNATCHED WP-MISSING	INF=STD
Cartridge loader operating mode	var(*LIST).CARTRIDGE	S	" OFF ON	INF=STD
Device allocation mode: *DMS: allocated for DMS application *FREE: free device	var(*LIST).DEV-ALLOC	S	" *DMS *FREE	INF=STD
A MOUNT or DISMOUNT message is pending on this device for the DISMOUNT volume	var(*LIST).DISMOUNT-ACTION	S	" *DISMOUNT	INF=STD
DISMOUNT volume	var(*LIST).DISMOUNT-VOL	S	" <vsn>	INF=STD
Device's volume label type	var(*LIST).LABEL	S	" *NON-STD *STD *TAPE-MARK	INF=STD
Tape monitoring mode	var(*LIST).PHASE	S	" *IN-USE *MOUNT *ONLINE *PREMOUNT	INF=STD
Tape device mnemonic	var(*LIST).UNIT	S	" <mnemo-name>	INF=STD
TSN for reserved offline tape	var(*LIST).UNMON.TSN	S	" <tsn>	UNIT= SEL(ATTR= UNMONI)
VSN for reserved offline tape	var(*LIST).UNMON.VOL	S	" <vsn>	UNIT= SEL(ATTR= UNMONI)

(Part 1 of 2)

Output information	Name of the S variable	T	Contents	Condition
Usage mode of the mounted volume	var(*LIST).USE	S	" *DMS *SPECIAL *WORK	INF=STD
Volume serial number	var(*LIST).VOL	S	" <vsn>	INF=STD
Usage mode of the mounted disk	var(*LIST).VOL-ALLOC	S	" *CANCEL *EXCL *FREE *SHARE	INF=STD

(Part 2 of 2)

**Example**

*Reserving one MTC device and several magnetic tape cartridges*

```

/sec-res tape=((vol=m5658k,type=tape-c4),
              (vol=m5660k,type=tape-c4,mount=*no),
              (vol=m5661k,type=tape-c4,mount=*no)),wait=*par(time=300)  (1)
/show-res-alloc  (2)
% MNEM  TYPE      VSN      VOL-A  TSN  NAME/ID  PHASE  ACTION
% EO    TAPE-C4   M5658K  EXCL  2DR5  ULF      PREMOUNT  NO ACTION
%      LOCATION : ROBOTER2
%      M5660K    EXCL  2DR5  ULF      NO ACTION
%      M5661K    EXCL  2DR5  ULF      NO ACTION
/show-tape-sta  (3)
% MNEM  VSN  USE  LABEL  DEV-A  VOL-A  PHASE  ACTION  CAR
% EO    M5658K  DMS          2DR5  EXCL  PREMOUNT  NO ACTION  OFF
% DMS RESERVED UNMONITORED TAPES
% (M5660K,2DR5 M5661K,2DR5)

```

- (1) The SECURE-RESOURCE-ALLOCATION command reserves several magnetic tape cartridges of volume type *TAPE-C4*. An MTC device is simultaneously reserved for the magnetic tape cartridge *M5658K* (premount request). No device is yet to be made available for magnetic tape cartridges *M5660K* and *M5661K*.
- (2) The reserved volumes and devices are displayed by means of the SHOW-RESOURCE-ALLOCATION command.
- (3) The SHOW-TAPE-STATUS command shows the user which tapes (or tape cartridges and associated devices his task is occupying.

## SHOW-TERMINAL-ATTRIBUTES

Show terminal attributes

**Description status:** TIAM V13.2

**Functional area:** Job processing

**Domain:** JOB

**Privileges:** STD-PROCESSING  
TSOS  
HARDWARE-MAINTENANCE  
SAT-FILE-EVALUATION  
SAT-FILE-MANAGEMENT  
SECURITY-ADMINISTRATION

### Function

The SHOW-TERMINAL-ATTRIBUTES command allows the user to have the entire range of attributes of his or her terminal output to SYSOUT. The command is not allowed in batch operation.

By default, the logical attributes of the terminal are shown which are defined in the system through system parameters at the time of system generation, when the terminal was generated, by the terminal itself and through the VTSU operating parameters. These values apply at the beginning of the dialog task, but the user can modify them in the course of the task using the MODIFY-TERMINAL-OPTIONS command. The output is the same as the output for the SHOW-TERMINAL-OPTIONS command.

Furthermore, the user can obtain information on the terminal's hardware attributes and connection.

The command supports structured output in S variables (see [“Output in S variables” on page 7-275](#)).

### Format

<b>SHOW-TERMINAL-ATTRIBUTES</b>
<b>INFORMATION</b> = *OPTIONS / *IDENTIFICATION / *DIMENSION / *CAPABILITIES / *ALL

### Operands

#### **INFORMATION = \*OPTIONS / \*IDENTIFICATION / \*DIMENSION / \*CAPABILITIES / \*ALL**

Specifies the attributes that are displayed.

#### **INFORMATION = \*OPTIONS**

The terminal's logical attributes which can be modified with the MODIFY-TERMINAL-OPTIONS command are displayed. Output is the same as for the SHOW-TERMINAL-OPTIONS command.

#### **INFORMATION = \*IDENTIFICATION**

All attributes that identify the terminal uniquely are displayed:

- terminal type
- partner type
- station name
- processor name
- hardcopy device available
- ID card reader available
- chipcard reader available

#### **INFORMATION = \*DIMENSION**

The attributes concerning the presentation dimensions are displayed:

- supports 24 lines and 80 columns
- supports 32 lines and 80 columns
- supports 43 lines and 80 columns
- supports 27 lines and 132 columns
- maximum number of lines
- maximum number of columns
- screen buffer size

#### **INFORMATION = \*CAPABILITIES**

Other attributes are displayed:

- number of colors supported
- hardware information line
- line mode supported
- extended line mode supported
- physical mode supported
- form mode supported
- protocol type (810 or 3270 protocol)
- extended field attributes supported
- status query
- encryption
- Number of 8-bit and Unicode character sets supported
- CCS displayed

**INFORMATION = \*ALL**

All the terminal's attributes are displayed.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed successfully
2	0	TIA0200	Information on terminal attributes not available
	1	CMD0202	Syntax error (command not allowed in batch mode)
	32	CMD2009	Error during generation of S variables
	64	CMD0216	Privilege error

**Output format**

*Output fields with INFORMATION = \*OPTIONS*

The output fields and their possible values correspond to the operands and operand values of the MODIFY-TERMINAL-OPTIONS command.

Output field	Possible values	Meaning
ACKNOWLEDGE-OUTPUT	YES / NO	Acknowledgment procedure
APL-CHARACTER-SET	YES / NO	APL character set used
CODED-CHARACTER-SET	7-BIT / 8-BIT-DEFAULT / <name 1..8>	Coding table
GRAPHICS	YES / NO	Graphics used
HARDCOPY	NO / LOCAL / CENTRAL	Hardcopy printer supported
LINE-END-CHARACTER	(<x-string 2..2>)	Line end character
LINE-LENGTH	<integer 10..255>	Length of output line
LOWER-CASE	YES / NO	Uppercase/lowercase
MAXIMUM-LINES	<integer 3..255>	Number of lines to screen overflow
OVERFLOW-CONTROL	USER-ACKNOWLEDGE / NO-CONTROL / TIME(TIMEOUT=<integer 0..60>)	Control type for screen overflow
WRITE-READ-MODE	MODIFIED-FIELDS / NO-FIELDS	Output presentation control and type of input
SUBSTITUTE-CHARACTER	(<x-string 2..2>)	Substitute characters for non-presentable characters

Table 173: Output fields for SHOW-TERMINAL-ATTRIBUTES, INF=\*OPTIONS (Part 1 of 2)

## SHOW-TERMINAL-ATTRIBUTES

Output field	Possible values	Meaning
SYSTEM-PROMPT	Slash (/) or <c-string 1..32 with-low>	System input prompt
PROGRAM-PROMPT	Asterisk (*) or <c-string 1..32 with-low>	Program input prompt (read with RDATA)
ROLL-UP	*YES *NO	Terminal roll-up mode

Table 173: Output fields for SHOW-TERMINAL-ATTRIBUTES, INF=\*OPTIONS (Part 2 of 2)

### *Output fields for INFORMATION = \*IDENTIFICATION*

Output field	Possible values	Meaning
TERMINAL-TYPE	<text 1..8>	Terminal type
PARTNER-TYPE	TERMINAL / APPL	Partner type
STATION-NAME	<text 1..8>	Station name
PROCESSOR-NAME	<text 1..8>	Processor name
LOCAL-HARDCOPY	*YES / *NO	Hardcopy devices
ID-CARD-READER	*YES / *NO	ID card reader
CHIP-CARD-READER	*YES / *NO	Chipcard reader
HOST-NAME	<text 1..8>	Host name (real or virtual host)

Table 174: Output fields for SHOW-TERMINAL-ATTRIBUTES, INF=\*IDENTIFICATION

### *Output fields for INFORMATION = \*DIMENSION*

Output field	Possible values	Meaning
DIM-24-80-SUPPORT	*YES / *NO	Support of 24 lines and 80 columns
DIM-32-80-SUPPORT	*YES / *NO	Support of 32 lines and 80 columns
DIM-43-80-SUPPORT	*YES / *NO	Support of 43 lines and 80 columns
DIM-27-132-SUPPORT	*YES / *NO	Support of 27 lines and 132 columns
PHYSICAL-MAX-LINES	<integer 1..32767>	Maximum number of lines
PHYSICAL-LINE-LENGTH	<integer 1..32767>	Maximum number of columns
PHYSICAL-MAX-BUFFER	<integer 1..32767>	Size of screen buffer

Table 175: Output fields for SHOW-TERMINAL-ATTRIBUTES, INF=\*DIMENSION



Output fields for INFORMATION = \*CAPABILITIES

Output field	Possible values	Meaning
COLOUR-SUPPORT	*NO / 4 / 8	Number of colors supported
HARDWARE-INFOLINE	*YES / *NO	Hardware information line
LINE-MODE	*YES / *NO	Line mode supported
EXTENDED-LINE-MODE	*YES / *NO	Extended line mode supported
PHYSICAL-MODE	*YES / *NO	Physical mode supported
FORM-MODE	*YES / *NO	Form mode supported
PROTOCOL-TYPE	810 / 3270	Protocol type (810 or 3270 protocol)
EXTEND-FIELD-ATTRIB	*YES / *NO	Extended field attributes supported
STATUS-REQUEST	*YES / *NO	Status request
ENCRYPTION-SUPPORT	*YES / *NO	Encryption
DOORS-SUPPORT	*YES / *NO	Output only supported for reasons of compatibility
DESK2000-SUPPORT	*YES / *NO	Output only supported for reasons of compatibility
NUMBER-OF-8-BIT-CHARACTER-SET-SUPPORTED	<integer 0..16>	Number of 8-bit character sets supported (CCS)
CHARACTER-SET-1 . . . CHARARCTER-SET-16	*NO / <integer 1..16> / <integer 240>	Display of CCS 1 to 16 (Example: The value i from 1 through 16 corresponds to the ISO standard ISO 8859-i, i.e. for i=1 Latin 1 Western European applies, 240 corresponds to Unicode)

Table 176: Output fields for SHOW-TERMINAL-ATTRIBUTES, INF=\*CAPABILITIES

**Example**

```

/show-terminal-attributes info=all
%----- OPTIONS -----
%OVERFLOW-CONTROL      = USER-ACKNOWLEDGE
%MAXIMUM-LINES         = 24          LINE-LENGTH           = 80
%LINE-END-CHARACTER    = X'00'      WRITE-READ-MODE       = MODIFIED-FIELDS
%LOWER-CASE            = YES         GRAPHICS               = NO
%APL-CHARACTER-SET     = NO          HARDCOPY               = LOCAL
%SUBSTITUTE-CHARACTER  = X'07'      ACKNOWLEDGE-OUTPUT    = NO
%CODED-CHARACTER-SET   = 7-BIT      ROLL-UP               = NO
%SYSTEM-PROMPT         = /
%PROGRAM-PROMPT        = *
%----- IDENTIFICATION -----
%TERMINAL-TYPE         = DSS-9763    PARTNER-TYPE          = TERMINAL
%STATION-NAME          = STATOXXX     PROCESSOR-NAME        = PROC1234
%LOCAL-HARDCOPY        = YES         ID-CARD-READER       = NO
%CHIP-CARD-READER     = YES         HOST-NAME             = HOSTXXXX
%----- DIMENSION -----
%DIM-24-80-SUPPORT     = YES         DIM-32-80-SUPPORT    = YES
%DIM-43-80-SUPPORT     = YES         DIM-27-132-SUPPORT   = YES
%PHYSICAL-MAX-LINES   = 24          PHYSICAL-LINE-LENGTH = 80
%PHYSICAL-MAX-BUFFER   = 4095
%----- CAPABILITIES -----
%COLOUR-SUPPORT        = 8          HARDWARE-INFOLINE    = YES
%LINE-MODE             = YES         EXTENDED-LINE-MODE   = YES
%PHYSICAL-MODE         = YES         FORM-MODE             = YES
%PROTOCOL-TYPE         = 810        EXTEND-FIELD-ATTRIB = YES
%STATUS-REQUEST        = YES         ENCRYPTION-SUPPORT   = NO
%DOORS-SUPPORT         = NO          DESK2000-SUPPORT     = NO
%NUMBER-OF-8-BIT-CHARACTER-SET-SUPPORTED = 7
%CHARACTER-SET-1       = 240        CHARACTER-SET-2       = 1
%CHARACTER-SET-3       = 2          CHARACTER-SET-4       = 5
%CHARACTER-SET-5       = 7          CHARACTER-SET-6       = 9
%CHARACTER-SET-7       = 15         CHARACTER-SET-8       = NO
%CHARACTER-SET-9       = NO         CHARACTER-SET-10      = NO
%CHARACTER-SET-11      = NO         CHARACTER-SET-12      = NO
%CHARACTER-SET-13      = NO         CHARACTER-SET-14      = NO
%CHARACTER-SET-15      = NO         CHARACTER-SET-16      = NO

```

The output was generated on a data display terminal (or terminal emulation) of the type 9763 and in the terminal mode Unicode. The value 240 for CHARACTER-SET-1 indicates that the Unicode code table is supported for this terminal. In this case CODED-CHARACTER-SET=UTF8 can be entered with a corresponding MODIFY-TERMINAL-OPTION command (7-bit mode is currently still entered, see CODED-CHARACTER-SET).

## Output in S variables

The command's INFORMATION operand identifies the S variables which are to be created. The following specifications are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = *OPTIONS	1
INFORMATION = *IDENTIFICATION	2
INFORMATION = *DIMENSIONS	3
INFORMATION = *CAPABILITIES	4

Output information	Name of the S variable	T	Contents	Condition
Terminal output acknowledgment	var(*LIST).ACK-OUT	S	*NO *YES	1
Use of an APL character set supported	var(*LIST).APL-CHAR-SET	S	*NO *YES	1
Display of CCS 1 to 16 (example: the ISO standard ISO 8859-i corresponds to the value i from 1 through 16, i.e. for i=1 Latin 1 Western European; the value 240 corresponds to Unicode)	var(*LIST).CHAR-SET-1 . . . var(*LIST).CHAR-SET-16	S	*NO / <integer 1..16> / <integer 240>	4
Chipcard reader fitted	var(*LIST).CHIP-CARD-READER	S	*YES / *NO	2
Terminal operating mode (7-bit/8-bit/Unicode)	var(*LIST).CODED-CHAR-SET	S	<name 1..8> *7-BIT	1
Number of colors supported	var(*LIST).COLOUR	S	*NO / 4 / 8	4
Output only supported for reasons of compatibility	var(*LIST).DESK-SUPPORT	S	*YES / *NO	4
Supports 24 lines and 80 columns	var(*LIST).DIM-24-80	S	*YES / *NO	3
Supports 27 lines and 132 columns	var(*LIST).DIM-27-132	S	*YES / *NO	3
Supports 32 lines and 80 columns	var(*LIST).DIM-32-80	S	*YES / *NO	3
Supports 43 lines and 80 columns	var(*LIST).DIM-43-80	S	*YES / *NO	3
Output only supported for reasons of compatibility	var(*LIST).DOORS-SUPPORT	S	*YES / *NO	4
Encryption	var(*LIST).ENCRYPTION	S	*YES / *NO	4
Extended field attribute supported	var(*LIST).EXT-FIELD-ATTR	S	*YES / *NO	4
Extended line mode supported	var(*LIST).EXTEND-LINE-MODE	S	*YES / *NO	4
Form mode supported	var(*LIST).FORM-MODE	S	*YES / *NO	4

(Part 1 of 3)

## SHOW-TERMINAL-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Use of a graphics option supported	var(*LIST).GRAPHIC	S	*NO *YES	1
Hardcopy logging mode	var(*LIST).HARDCOPY	S	*CENTRAL *LOC *NO	1
ID card reader fitted	var(*LIST).ID-CARD-READER	S	*YES / *NO	2
Hardware information line present	var(*LIST).INFOLINE	S	*YES / *NO	4
End-of-line character	var(*LIST).LINE-END-CHAR	S	*NONE <c-string 1..1>	1
Line length	var(*LIST).LINE-LEN	I	<integer 10..255>	1
Line mode supported	var(*LIST).LINE-MODE	S	*YES / *NO	4
Hardcopy device fitted	var(*LIST).LOCAL-HARDCOPY	S	*YES / *NO	1
Lowercase output supported	var(*LIST).LOW-CASE	S	*NO *YES	1
Maximum number of lines before screen overflow	var(*LIST).MAX-LINE	I	<integer 3..255>	1
Number of 8-bit / Unicode encoded character sets (CCS)	var(*LIST).NUM-OF-8B-CHAR-SET	I	<integer 1..16>	4
Screen overflow control mode (no control, control by acknowledgment, control by timeout)	var(*LIST).OV-CONTR	S	*NO-CONTR *TIME(TIMEOUT = xxx) *USER-ACK	1
Partner type	var(*LIST).PARTNER-TYPE	S	TERMINAL / APPL	2
Maximum line length	var(*LIST).PHYS-LINE-LEN	I	<integer 1..32767>	3
Maximum number of lines	var(*LIST).PHYS-MAX-LINES	I	<integer 1..32767>	3
Size of screen buffer	var(*LIST).PHYS-MAX-BUF	I	<integer 1..32767>	3
Physical mode supported	var(*LIST).PHYS-MODE	S	*YES / *NO	4
Processor name	var(*LIST).PROCESSOR-NAME	S	<text 1..8>	2
Program prompts that read using RDATA (default “*”)	var(*LIST).PROGRAM-PROMPT	S	”* <c-string 1..32>	1
Protocol type (810 or 3270 protocol)	var(*LIST).PROTOCOL-TYPE	S	810 / 3270	4
Terminal roll-up mode	var(*LIST).ROLL-UP		*YES *NO	1
Station name	var(*LIST).STATION-NAME	S	<text 1..8>	2
Status request	var(*LIST).STATUS-REQUEST	S	*YES / *NO	4
Substitutes for non-displayable characters	var(*LIST).SUBST-CHAR	S	<c-string 1..1>	1

(Part 2 of 3)

<b>Output information</b>	<b>Name of the S variable</b>	<b>T</b>	<b>Contents</b>	<b>Condition</b>
System prompt (default "/")	var(*LIST).SYSTEM-PROMPT	S	'/' <c-string 1..32>	1
Terminal type	var(*LIST).TERMINAL-TYPE	S	<text 1..8>	2
Output message display control and input mode control	var(*LIST).WRITE-READ-MODE	S	*MOD-FIELD *NO-FIELD	1

(Part 3 of 3)

# SHOW-TERMINAL-OPTIONS

Display logical terminal properties

<b>Description status:</b>	TIAM V13.2
<b>Functional area:</b>	Job processing
<b>Domain:</b>	JOB
<b>Privileges:</b>	STD-PROCESSING TSOS HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

The MODIFY-TERMINAL-OPTIONS command allows users to output the logical properties of their terminals to SYSOUT.

The logical properties of the terminal are defined in the system by means of class 2 system parameters at system generation time, through generation of the terminal, by the terminal itself, and through VTSU operating parameters. These defined values are in force at the start of the interactive task; they can be modified within the user's task by means of the MODIFY-TERMINAL-OPTIONS command.

Information on the terminal's entire range of attributes can be requested with the SHOW-TERMINAL-ATTRIBUTES command.

The command supports structured output in S variables (see [“Output in S variables” on page 7-280](#)).

### Format

<b>SHOW-TERMINAL-OPTIONS</b>

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
2	0	TIA0200	Information about terminal properties not available
	1	CMD0202	Syntax error
	32	CMD2009	Error during S variable generation
	64	CMD0216	Privilege error

**Output format**

The output fields and the values displayed correspond to the operands and operand values of the MODIFY-TERMINAL-OPTIONS command.

Output field	Possible values	Meaning
ACKNOWLEDGE-OUTPUT	YES / NO	Acknowledgment mechanism
APL-CHARACTER-SET	YES / NO	Use of APL character set
CODED-CHARACTER-SET	7-BIT / <name 1..8>	Code table
GRAPHICS	YES / NO	Use of graphics characters
HARDCOPY	NO / LOCAL / CENTRAL	Support for hardcopy printer
LINE-END-CHARACTER	<x-string 2..2>	Line-end character
LINE-LENGTH	<integer 10..255>	Output line length
LOWER-CASE	YES / NO	Uppercase/lowercase differentiation
MAXIMUM-LINES	<integer 3..255>	Number of lines after which screen overflow occurs
OVERFLOW-CONTROL	USER-ACKNOWLEDGE / NO-CONTROL / TIME(TIMEOUT=<integer 0..60>)	Type of screen overflow control
WRITE-READ-MODE	MODIFIED-FIELDS / NO-FIELDS	Control of display of outputs and the type of input
SUBSTITUTE-CHARACTER	<x-string 2..2>	Substitute characters for displaying nonprinting characters
SYSTEM-PROMPT	Slash (/) or <c-string 1..32 with-low>	System prompt
PROGRAM-PROMPT	Asterisk (*) or <c-string 1..32 with-low>	Program prompt (read with RDATA)

Table 177: Output fields of the SHOW-TERMINAL-OPTIONS command (Part 1 of 2)

Output field	Possible values	Meaning
ROLL-UP	*YES *NO	Terminal roll-up mode

Table 177: Output fields of the SHOW-TERMINAL-OPTIONS command (Part 2 of 2)

### Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Terminal output acknowledgment	var(*LIST).ACK-OUT	S	*NO *YES	
Use of an APL character set supported	var(*LIST).APL-CHAR-SET	S	*NO *YES	
Terminal operating mode (7-bit/8-bit/Unicode)	var(*LIST).CODED-CHAR-SET	S	<name 1..8> *7-BIT	
Use of a graphics option supported	var(*LIST).GRAPHIC	S	*NO *YES	
Hardcopy logging mode	var(*LIST).HARDCOPY	S	*CENTRAL *LOC *NO	
End-of-line character	var(*LIST).LINE-END-CHAR	S	*NONE <c-string 1..1>	
Line length	var(*LIST).LINE-LEN	I	<integer 10..255>	
Lowercase output supported	var(*LIST).LOW-CASE	S	*NO *YES	
Maximum number of lines of screen overflow	var(*LIST).MAX-LINE	I	<integer 3..255>	
Screen overflow control mode (no control, control by acknowledgment, control by timeout)	var(*LIST).OV-CONTR	S	*NO-CONTR *TIME(TIMEOUT=xx) *USER-ACK	
Program prompts that read using RDATA (default “*”)	var(*LIST).PROGRAM-PROMPT	S	* <c-string 1..32>	
Terminal roll-up mode	var(*LIST).ROLL-UP	S	*YES *NO	
Substitutes for non-displayable characters	var(*LIST).SUBST-CHAR	S	<c-string 1..1>	
System prompt (default “/”)	var(*LIST).SYSTEM-PROMPT	S	/' <c-string 1..32>	
Output message display control and input mode control	var(*LIST).WRITE-READ-MODE	S	*MOD-FIELD *NO-FIELD	



**Example**

```

/show-term _____ (1)
%OVERFLOW-CONTROL      = USER-ACKNOWLEDGE
%MAXIMUM-LINES         = 24          LINE-LENGTH           = 80
%LINE-END-CHARACTER    = X'00'      WRITE-READ-MODE       = MODIFIED-FIELDS
%LOWER-CASE            = YES         GRAPHICS               = NO
%APL-CHARACTER-SET     = NO          HARDCOPY               = LOCAL
%SUBSTITUTE-CHARACTER  = X'07'      ACKNOWLEDGE-OUTPUT    = NO
%CODED-CHARACTER-SET   = 7-BIT      ROLL-UP               = NO
%SYSTEM-PROMPT         = /
%PROGRAM-PROMPT        = *

/mod-term ov-contr=*time(timeout=10) _____ (2)
/show-term _____ (3)
%OVERFLOW-CONTROL      = TIME(TIMEOUT = 10)
%MAXIMUM-LINES         = 24          LINE-LENGTH           = 80
%LINE-END-CHARACTER    = X'00'      WRITE-READ-MODE       = MODIFIED-FIELDS
%LOWER-CASE            = YES         GRAPHICS               = NO
%APL-CHARACTER-SET     = NO          HARDCOPY               = LOCAL
%SUBSTITUTE-CHARACTER  = X'07'      ACKNOWLEDGE-OUTPUT    = NO
%CODED-CHARACTER-SET   = 7-BIT      ROLL-UP               = NO
%SYSTEM-PROMPT         = /
%PROGRAM-PROMPT        = *

```

- (1) Outputs the logical terminal properties.
- (2) Overflow control is effected on a time basis at 10-second intervals.
- (3) Outputs the logical terminal properties again.

## SHOW-TEST-OPTIONS

Display task-specific settings for testing and diagnostics

<b>Description status:</b>	AIDSYSA V19.0A
<b>Functional area:</b>	Program control
<b>Domain:</b>	PROGRAM
<b>Privileges:</b>	all privileges bar OPERATING

### Function

The SHOW-TEST-OPTIONS command displays the test options set with the MODIFY-TEST-OPTIONS command. Optionally context information is also displayed on settings in the user entry and in system parameters which are relevant to testing and on the number of user/area dumps created for the task (see the CONTEXT-INFORMATION operand).

### *Privileged functions*

The privileged user (TSOS privilege) can access tasks of foreign user IDs and password information for foreign tasks. The optional context information also contains privileged system parameters and cross-system information on the system dumps generated.

### Format

SHOW-TEST-OPTIONS	Alias: SHTSO
<b>TASK-IDENTIFICATION</b> = <u>*OWN</u> / *TSN(...) / *TID(...)	
*TSN(...)	
<b>TSN</b> = <alphanum-name 1..4> / <c-string 1..4>	
*TID(...)	
<b>TID</b> = <x-text 5..8>	
<b>,INFORMATION</b> = <u>*ALL</u> /	
list-poss(4): *PRIVILEGE / *USERDUMP-OPTIONS / *AUDIT / *OWN-UID-DEBUGGING	
<b>,PASSWORD-INFORMATION</b> = *SUMMARY / *FULL(...)	
*FULL(...)	
<b>DEBUG-PASSWORD</b> = <u>*NONE</u> / <c-string 1..8>	
<b>,CONTEXT-INFORMATION</b> = <u>*NO</u> / *YES	

**Operands****TASK-IDENTIFICATION = \*OWN / \*TSN(...) / \*TID(...)**

Identifies the task whose test options are to be displayed.

Only a privileged user (TSOS privilege) can also specify tasks of foreign user IDs.

**TASK-IDENTIFICATION = \*OWN**

The test options of the local task are to be displayed.

**TASK-IDENTIFICATION = \*TSN(...)**

The task is determined by specifying its task sequence number (TSN).

**TSN = <alphanum-name 1..4> / <c-string 1..4>**

TSN of the selected task. When &lt;alphanum-name 1..4&gt; is specified, the specified value is, if necessary, filled on the left with zeros. When &lt;c-string 1..4&gt; is specified, the specified value is filled on the left with zeros.

**TASK-IDENTIFICATION = \*TID(...)**

The task is determined by specifying its task ID (TID).

**TID = <x-text 5..8>**

TID of the selected task. The specified value is, if necessary, filled on the left with zeros.

**INFORMATION = \*ALL / list-poss(4): \*PRIVILEGE / \*USERDUMP-OPTIONS / \*AUDIT / \*OWN-UID-DEBUGGING**

Determines the output blocks of the summary information. When a list is specified, output takes place in the specified order. Repeated specifications are ignored.

**INFORMATION = \*ALL**

All settings which can be specified using the MODIFY-TEST-OPTIONS command are displayed.

**INFORMATION = \*PRIVILEGE**

All settings which can be specified in the PRIVILEGE operand of the MODIFY-TEST-OPTIONS command are displayed.

**INFORMATION = \*USERDUMP-OPTIONS**

All settings which can be specified in the USERDUMP-OPTIONS operand of the MODIFY-TEST-OPTIONS command are displayed.

**INFORMATION = \*AUDIT**

All settings which can be specified in the AUDIT operand of the MODIFY-TEST-OPTIONS command are displayed.

**INFORMATION = \*OWN-UID-DEBUGGING**

All settings which can be specified in the OWN-UID-DEBUGGING operand of the MODIFY-TEST-OPTIONS command are displayed.

**PASSWORD-INFORMATION = \*SUMMARY / \*FULL(...)**

Determines the output of passwords when INFORMATION=\*OWN-UID-DEBUGGING.

### **PASSWORD-INFORMATION = \*SUMMARY**

An overview is displayed. Individual passwords for OWN-UID-DEBUGGING are not displayed.

### **PASSWORD-INFORMATION=\*FULL(...)**

All passwords for OWN-UID-DEBUGGING are to be displayed.

The nonprivileged user is shown the passwords only if his/her own task is selected and a password is specified in the DEBUG-PASSWORD operand which matches one of the passwords defined in the MODIFY-TEST-OPTIONS command (ACCEPT- or ENABLE-ACCESS operand).

### **DEBUG-PASSWORD = \*NONE / <c-string 1..8>**

Specifies a DEBUG password for the task.

The default \*NONE means that no password is specified: Only a privileged user (TSOS privilege) requires no password, or in this case any password entered is ignored.

### **CONTEXT-INFORMATION = \*NO / \*YES**

Determines whether additional information is to be displayed which goes beyond the information of the MODIFY-TEST-OPTIONS command.

### **CONTEXT-INFORMATION = \*NO**

No additional information is to be shown.

### **CONTEXT-INFORMATION=\*YES**

Additional information, some of which depends on the TSOS command privilege, is to be displayed (see output format on [page 7-284](#)).

### **Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed successfully
	1	IDA0300	Syntax error
	32	CMD0221	System error
	64	CMD0216	Error: command privilege missing
	64	IDA0301	Semantic error

## Output formats

All numerical specifications in the display are hexadecimal.

### Summary information

```

/show-test-options task-id=*own,information=*all
PRIVILEGE: -----
  current: (READ = 1, WRITE = 1)
USERDUMP-OPTIONS: -----
  DUMP                = *SYSTEM          DATA-IN-VIRTUAL    = *STD
  DATA-SPACES        = *NO              MEMORY-MAP          = *YES
  OUTPUT-PUBSET       = *DEFAULT-PUBSET  SUPPRESS-DUPLICATES = *YES
  MAXIMUM-NUMBER     = *UNLIMITED
AUDIT: -----
  HARDWARE-AUDIT     = *ALLOWED          LINKAGE-AUDIT      = *NOT-ALLOWED
OWN-UID-DEBUGGING: -----
  ACCEPT-ACCESS      = *NO              PASSWORD            : n/a
  ENABLE-ACCESS      = *YES             PASSWORD            : given,2

```

The names correspond to the operand names and values of the MODIFY-TEST-OPTIONS command. The display of the individual information blocks depends on the specifications in the INFORMATION operand.

Key for password display:

n/a	Not applicable (value does not exist)
4	A password is not required
given	No existing password is displayed
given,n	n existing passwords are not displayed (n = 1..8)

### Task information

```

/show-test-opt task-id=*tsn(tsn=snap),information=*privilege
TSN                = |SNAP|                TID                = 00010019  (1)
PRIVILEGE: -----
  current: (READ = 0, WRITE = 0)

```

- (1) Outputs for a task other than a user's own task are introduced with the TSN and TID of the selected task.

*Information on passwords*

```
/show-test-opt task-id=*own,information=*own-uid-debug,debug-pass='hugo'
OWN-UID-DEBUGGING: -----
ACCEPT-ACCESS   = *NO                PASSWORD           : n/a
ENABLE-ACCESS   = *YES               PASSWORD           = |HUGO           |
ENABLE-ACCESS   = *YES               PASSWORD           = |EMILHANS|
```

If the required authorization is available, existing ACCEPT and ENABLE passwords are displayed. The order of the ENABLE passwords is the reverse of the chronological order in which they were entered using the MODIFY-TEST-OPTIONS command. In other words the most recent password is output first.

*Context information for nonprivileged users*

```
/show-test-opt task-id=*own,information=*all,context-info=*yes
PRIVILEGE: -----
current: (READ = 1, WRITE = 1)  MODIFICATION      = *UNCONTROLLED (1)
maximal: (READ = 8, WRITE = 2)
CL2-opt: (READ = 9, WRITE = 9)
USERDUMP-OPTIONS: -----
DUMP                = *SYSTEM          DATA-IN-VIRTUAL   = *STD
DATA-SPACES         = *NO              MEMORY-MAP         = *YES
OUTPUT-PUBSET       = *DEFAULT-PUBSET  SUPPRESS-DUPLICATES = *YES
MAXIMUM-NUMBER      = *UNLIMITED
# user dumps        = 007E ----- (2)
CL2-options:
DUMPCL5P            = 01              DUMPSEPA           = 04
AUDIT: -----
HARDWARE-AUDIT     = *NOT-ALLOWED     LINKAGE-AUDIT      = *NOT-ALLOWED
USER-ATTR           : *ALLOWED         USER-ATTR          : *NOT-ALLOWED (3)
CL2-option          : not allowed      CL2-option         : not allowed
HSI-CFCS            : not available    HSI-CFCS           : available
OWN-UID-DEBUGGING: -----
ACCEPT-ACCESS      = *NO                PASSWORD           : n/a
ENABLE-ACCESS       = *YES               PASSWORD           : given,2
```

A nonprivileged user obtains the following additional information with CONTEXT-INFO=\*YES:

- (1) In the PRIVILEGE output block:
  - Modification mode and maximum values for the test privilege according to the user entry. See SHOW-USER-ATTRIBUTES command, output fields *READ-PRIVILEGE*, *WRITE-PRIVILEGE* and *MODIFICATION*, grouped under *TEST-OPTIONS*.
  - Maximum values for the test privilege according to system parameters (CL2-opt) RDTESTPR and WRTESTPR

- (2) In the `USERDUMP-OPTIONS` output block:
- Number of user/area dumps generated in the task
  - The values for the nonprivileged system parameters for `CDUMP` are displayed under `CL2-options`.
- (3) In the `AUDIT` output block:
- `USER-ATTR` displays the permission for linkage/hardware audits according to the user entry. See `SHOW-USER-ATTRIBUTES` command, output fields `LINKAGE-AUDIT` and `HARDWARE-AUDIT`, grouped under `AUDIT`.
  - `CL2-option` displays the permission for linkage/hardware audits according to the system parameter (`CL2-option`) `AUDALLOW`
  - `HSI-CFCS` displays the availability of linkage/hardware audits according to the hardware/software interface (HSI)

*Context information for users with TSOS privilege*

```

/show-test-opt task-id=*own,information=*all,context-info=*yes
PRIVILEGE: -----
  current: (READ = 1, WRITE = 1)   MODIFICATION           = *UNCONTROLLED   (1)
  maximal: (READ = 8, WRITE = 2)
  CL2-opt: (READ = 9, WRITE = 9)
USERDUMP-OPTIONS: -----
  DUMP = *SYSTEM           DATA-IN-VIRTUAL       = *STD
  DATA-SPACES = *NO       MEMORY-MAP             = *YES
  OUTPUT-PUBSET = *DEFAULT-PUBSET SUPPRESS-DUPPLICATES = *YES
  MAXIMUM-NUMBER = *UNLIMITED
  # user dumps = 007E (task)   # system dumps        = 0000 (task)   (2)
  # autom. SD's = 0000 (system) # system dumps        = 0000 (system)
  CL2-options:
  DUMPCL5P = 01           DUMPSEPA              = 04
  DUMPCTRL = 0F           DUMPSD#               = FF
  DUMPSREF = 01           SNAPTIME              = 0018
AUDIT: -----
  HARDWARE-AUDIT = *NOT-ALLOWED   LINKAGE-AUDIT         = *NOT-ALLOWED
  USER-ATTR      : *ALLOWED       USER-ATTR             : *NOT-ALLOWED   (3)
  CL2-option     : not allowed    CL2-option            : not allowed
  HSI-CFCS      : not available   HSI-CFCS             : available
OWN-UID-DEBUGGING: -----
  ACCEPT-ACCESS = *NO           PASSWORD              : n/a
  ENABLE-ACCESS = *YES         PASSWORD              : given,2

```

A privileged user (TSOS privilege) obtains the following additional information with `CONTEXT-INFO=*YES`:

- (1) In the `PRIVILEGE` output block:
  - Modification mode and maximum values for the test privilege according to the user entry. See `SHOW-USER-ATTRIBUTES` command, output fields `READ-PRIVILEGE`, `WRITE-PRIVILEGE` and `MODIFICATION`, grouped under `TEST-OPTIONS`.
  - Maximum values for the test privilege according to system parameters (`C12-opt`) `RDTESTPR` and `WRTESTPR`
- (2) In the `USERDUMP-OPTIONS` output block:
  - Number of user/area dumps and system dumps generated in the task
  - Number of system dumps generated automatically or throughout the system
  - The values for the system parameters for `CDUMP` and `SNAP` are displayed under `C12-options`.
- (3) In the `AUDIT` output block:
  - `USER-ATTR` displays the permission for linkage/hardware audits according to the user entry. See `SHOW-USER-ATTRIBUTES` command, output fields `LINKAGE-AUDIT` and `HARDWARE-AUDIT`, grouped under `AUDIT`.
  - `CL2-option` displays the permission for linkage/hardware audits according to the system parameter (`C12-option`) `AUDALLOW`
  - `HSI-CFCS` displays the availability of linkage/hardware audits according to the hardware/software interface (HSI)

For the nonprivileged user, the context information in the `USERDUMP-OPTIONS` output block also displays information on the system dumps generated automatically and throughout the system and on privileged system parameters.



# SHOW-TRACE-STATUS

Output attributes and status of system traces

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Error logging
<b>Domain:</b>	ERROR-LOGGING
<b>Privileges:</b>	TSOS OPERATING SW-MONITOR-ADMINISTRATION
<b>Routing code:</b>	R

## Function

The command provides an overview of all system traces. The default output includes a list of permanent, non-switchable traces as well as those temporary traces which system administrators can explicitly activate and deactivate with the START-TRACE and STOP-TRACE commands.

The command supports structured output in S variables (see [“Output in S variables” on page 7-297](#)).

## Format

(Part 1 of 2)

SHOW-TRACE-STATUS
<pre> <b>TRACE-IDENTIFICATION</b> = <b>*ALL</b>(...) / list-poss(51): &lt;name 1..8&gt;(…)    <b>*ALL</b>(…)           <b>SUBSYSTEM-NAME</b> = <b>*ALL</b> / &lt;name 1..8&gt; / <b>*NONE</b>       <b>,SUBSYSTEM-VERSION</b> = <b>*ALL</b> / &lt;product-version without-man-corr&gt; /                           &lt;product-version mandatory-man-corr&gt;         &lt;name 1..8&gt;(…)           <b>SUBSYSTEM-NAME</b> = <b>*ALL</b> / &lt;name 1..8&gt; / <b>*NONE</b>       <b>,SUBSYSTEM-VERSION</b> = <b>*ALL</b> / &lt;product-version without-man-corr&gt; /                           &lt;product-version mandatory-man-corr&gt;     <b>,SELECT</b> = <b>*ALL</b> / <b>*BY-ATTRIBUTES</b>(…)    <b>*BY-ATTRIBUTES</b>(…)           <b>STATUS</b> = <b>*ANY</b> / <b>*ON</b> / <b>*OFF</b>       <b>,TYPE</b> = <b>*ANY</b> / <b>*PERMANENT</b> / <b>*TEMPORARY</b> </pre>

```

,INFORMATION = *NONE / *PARAMETERS(...)
  *PARAMETERS(...)
    |   TRACE-INFORMATION = *NO / *YES
    |   ,BUFFER-INFORMATION = *NO / *YES
,OUTPUT = *SYSOUT / *SYSLST(...)
  *SYSLST(...)
    |   SYSLST-NUMBER = 0 / <integer 0..99>

```

## Operands

### TRACE-IDENTIFICATION =

Specifies the traces on which information is to be output.

### TRACE-IDENTIFICATION = \*ALL(...)

Information is to be provided on all defined traces.

If the traces involved are not statically defined, they are assigned to a specific subsystem that can be defined in more detail in the following operands.

### SUBSYSTEM-NAME =

Specifies the subsystem to which the trace is assigned.

### SUBSYSTEM-NAME = \*ALL

Displays information in all cases, regardless of the subsystem to which the trace is assigned.

### SUBSYSTEM-NAME = <name 1..8>

Exact specification of the subsystem to which the trace is assigned and about which information is to be output.

### SUBSYSTEM-NAME = \*NONE

Displays information only on statically defined traces that are not assigned to any subsystem.

### SUBSYSTEM-VERSION =

Specifies the version of the subsystem to which the trace is assigned.

### SUBSYSTEM-VERSION = \*ALL

Information on the specified traces is to be provided for all versions of the selected subsystem.

**SUBSYSTEM-VERSION = <product-version without-man-corr> /  
<product-version mandatory-man-corr>**

Specifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see also [“product-version” on page 1-45](#)).

Possible values (for TRACE-ID=\*ALL) are listed in the following table:

Trace ID	Subsystem name	Switchable	Brief description
AIDSYS	*NONE	N	AIDSYS trace
ASTRA	*NONE	N	ASTRA trace
CCOPY	CCOPY	Y	CCOPY trace
CMSTRACE	*NONE	Y	CMS trace
CUIRTR	*NONE	Y	CUIR trace
DISKAI	*NONE	Y	Trace for disk attention interrupt processing
DIVTRACE	DIV	Y	DIV trace
DLMTRACE	DLMUSER	Y	DLMUSER trace
DPRTCOM	DPRINTCM	Y	DPRINTCM communication trace
EMMIO	*NONE	Y	EMMIO trace
FITC	BS2CP	Y	FITC trace
GSVOLERR	GSVOL	N	Error trace for GSVOL
GSVOLEVT	GSVOL	Y	Trace for GSVOL
MRSCAT	*NONE	Y	MRSCAT occupation trace
MSCFLOG	MSCF	Y	Trace for MSCF errors
NDVMTRAC	*NONE	Y	BAVOLMON I/O trace
PAGING	*NONE	N	PAGING trace
RECTRACE	*NONE	N	Reconfiguration trace
SM2EVENT	SM2	Y	SM2 error trace
SM2FUNCT	SM2	Y	SM2 trace for user call
SYNTRACE	*NONE	N	ETMSYNCH trace
TBOURSE	*NONE	Y	ETMBOWK trace
TDISAM	*NONE	Y	K-ISAM trace
TDISAMNK	*NONE	Y	NK-ISAM trace
TDJCTRL	*NONE	N	DJCTRL trace

Table 178: Possible values for SHOW-TRACE-STATUS TRACE-ID=\*ALL (Part 1 of 3)

Trace ID	Subsystem name	Switchable	Brief description
TDRSRLER	*NONE	N	DRSRL error trace
TDRSRLSY	*NONE	N	DRSRL error trace
TEMMSLT	*NONE	N	EMMSLT trace
TFASPAM	FASTPAM	Y	Access method trace
TJLOGLOW	*NONE	Y	JMS trace
TJOBPOOL	*NONE	Y	JMS-JOBPOOL trace
TLOCK	*NONE	Y	Task lock management trace
TNBCADB	*NONE	N	NBCADS character trace
TNBCADG	*NONE	N	NBCADS big trace
TNBCCER	*NONE	N	NBCCER character trace
TNBCCNT	*NONE	N	NBCCNT character trace
TNBCCS	*NONE	N	NBCCNTS character trace
TNBCCSG	*NONE	N	NBCCNTS I/O trace
TNBCENT	*NONE	N	NBCENTR I/O trace
TNBCONS	*NONE	N	NBCONS trace
TNBCREC	*NONE	N	NBCRECK I/O trace
TNBROUTE	*NONE	N	NBROUTE trace
TNDIDARM	*NONE	N	DAR manager trace
TNDM#ALL	BS2CP	Y	Trace for all NDM FE
TNDM#ERR	BS2CP	N	NDM error trace
TNDM#NKA	BS2CP	Y	Trace for FE NKA module
TNDM#NKD	BS2CP	Y	Trace for FE NKD module
TNDM#NKG	BS2CP	Y	Trace for FE NKG module
TNDM#NKL	DRV	Y	Trace for FE NKL module
TNDM#NKR	BS2CP	Y	Trace for FE NKR module
TNDM#NKS	NKS	Y	Trace for FE NKS module
TNDM#NKT	BS2CP	Y	Trace for FE NKT module
TNDM#NKV	NKVD	Y	Trace for FE NKV module
TRFA	*NONE	Y	Remote file access trace
TRSOADM	*NONE	N	RSO trace (old RSO version)
TRSOADM	RSO	Y	RSO trace
TSDVINT	*NONE	N	SDV and interrupt trace

Table 178: Possible values for SHOW-TRACE-STATUS TRACE-ID=\*ALL (Part 2 of 3)

Trace ID	Subsystem name	Switchable	Brief description
TSSVADM	*NONE	N	SPOOL trace (old SPOOL v.)
TSSVADM	SPOOL	Y	SPOOL trace
UTLTRACE	*NONE	N	User table load trace
VMMALLOC	BS2CP	Y	Trace for VM allocation

Table 178: Possible values for SHOW-TRACE-STATUS TRACE-ID=\*ALL (Part 3 of 3)

**TRACE-IDENTIFICATION = list-poss(51): <name 1..8>(…)**

Specifies up to 51 names of traces on which information is to be requested. If the traces involved are not statically defined, they are assigned to a specific subsystem that can be defined in more detail in the following operands.

**SUBSYSTEM-NAME =**

Specifies the subsystem to which the trace is assigned.

**SUBSYSTEM-NAME = \*ALL**

Displays information in all cases, regardless of the subsystem to which the trace is assigned.

**SUBSYSTEM-NAME = <name 1..8>**

Exact specification of the subsystem to which the trace is assigned and about which information is to be output.

**SUBSYSTEM-NAME = \*NONE**

Displays information only on statically defined traces that are not assigned to any subsystem.

**SUBSYSTEM-VERSION =**

Specifies the version of the subsystem to which the trace is assigned.

**SUBSYSTEM-VERSION = \*ALL**

Information on the specified traces is to be provided for all versions of the selected subsystem.

**SUBSYSTEM-VERSION = <product-version without-man-corr> / <product-version mandatory-man-corr>**

Specifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see “[product-version](#)” on page 1-45).

**SELECT =**

Selects the traces according to their attributes.

**SELECT = \*ALL**

No attributes are specified.

**SELECT = \*BY-ATTRIBUTES(...)**

Specifies the attributes according to which traces are selected.

**STATUS =**

Selects traces according to their status.

**STATUS = \*ANY**

All traces are to be output, regardless of status.

**STATUS = \*ON**

Only traces which are activated (ON), or which are in an intermediate state (ON/OFF), are to be output.

**STATUS = \*OFF**

Only traces which are deactivated (OFF), or which are in an intermediate state (ON/OFF), are to be output.

**TYPE =**

Selects traces according to whether they can be switched on and off.

**TYPE = \*ANY**

All traces are to be output, regardless of whether or not they can be switched on and off.

**TYPE = \*PERMANENT**

Only traces which are permanently switched on are to be output.

**TYPE = \*TEMPORARY**

Only traces which can be switched with a command are to be output.

**INFORMATION =**

Type of output.

**INFORMATION = \*NONE**

Only the trace ID and its current trace status are to be output.

**INFORMATION = \*PARAMETERS(...)**

Specifies further trace attributes to be output in addition to the trace ID and current status.

**TRACE-INFORMATION =**

Specifies whether the scope and type of the traces is also to be output.

**TRACE-INFORMATION = \*NO**

The scope and type of the traces are not to be output by default.

**TRACE-INFORMATION = \*YES**

The scope and type of the traces is also to be output.

**BUFFER-INFORMATION =**

Specifies whether the size and memory class of the trace buffer are also to be output.

**BUFFER-INFORMATION = \*NO**

The size and memory class of the trace buffer are not to be output by default.

**BUFFER-INFORMATION = \*YES**

The size and memory class of the trace buffer are also to be output.

**OUTPUT =**

Specifies the output destination.

**OUTPUT = \*SYSOUT**

The tabular list is to be output to SYSOUT.

Interactive job: output is directed to the terminal.

Batch job: output is directed to the printer.

This is the only allowable operand value for the operator at the console.

OUTPUT=\*SYSLST will be rejected and an error message issued.

**OUTPUT = \*SYSLST(...)**

The tabular list is to be output to SYSLST in both interactive and batch mode.

**SYSLST-NUMBER = 0 / <integer 0..99>**

Number of the SYSLST file to which output is directed.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1		CMD0001	Requested trace does not exist
1	1	PDT0213	OUTPUT=*SYSLST operand not permitted for console
	32	CMD0221	Internal error
1	64	PDT0200	No trace processed
2	64	PDT0200	One of the traces specified in the list was not processed
	64	PDT0209	No authorization for command

## Description of the output fields

Field	Meaning / contents
TRACE-IDENTIFICATION NAME SS-NAME SS-VERS	Global information that describes the trace in more detail: Name of the trace. Name of the subsystem to which the trace is assigned. Version number of the subsystem.
STATUS	Current status of the trace. The status description is divided into two parts; any combination may occur. Part 1 describes the buffer status: DEF No buffer available for trace. INI Trace is initialized and buffer data is known to the trace manager. Part 2 describes the activation status: ON Trace is switched on. OFF Trace is switched off. ON/OFF Trace is only partially activated.
SCOPE	Scope of a trace: SYSTEM Global system trace. TASK Task-specific trace.
TYPE	Indicates whether the trace is one that is permanently switched on or one that can be switched on and off: PERMANENT Trace is switched on permanently. TEMPORARY Trace can be switched on and off.
BUFFER SIZE CLASS	Information on the trace buffer: Size of the trace buffer in bytes. Memory class of the trace buffer: 1 Class 1 memory 2 Class 2 memory 3 Class 3 memory 4 Class 4 memory 5 Class 5 memory

Table 179: Output fields of the SHOW-TRACE-STATUS command



## Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The following specifications are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION=*NONE	1
INFORMATION=*PAR(TRACE-INFORMATION=*YES, BUFFER-INFORMATION=*NO)	2
INFORMATION=*PAR(TRACE-INFORMATION=*NO, BUFFER-INFORMATION=*YES)	3
INFORMATION=*PAR(TRACE-INFORMATION=*YES, BUFFER-INFORMATION=*YES)	4

Output information	Name of the S variable	T	Contents	Condition
Trace buffer memory class	var(*LIST).BUF-CLASS	I	<integer 1..5>	3,4
Trace buffer size	var(*LIST).BUF-SIZE	I	<integer 0..2 <sup>31</sup> >	3,4
Trace buffer status	var(*LIST).BUF-STA	S	*DEFI *INIT	1,2,3,4
Trace scope	var(*LIST).SCOPE	S	*SYS *TASK	2,4
Trace switch status	var(*LIST).STA	S	*ON *OFF *ON-OFF	1,2,3,4
Name of the subsystem assigned the trace	var(*LIST).SUBSYS-NAME	S	<c-string 1..8>	1,2,3,4
Version number of the subsystem	var(*LIST).SUBSYS-VERSION	S	<c-string 1..4> <c-string 1..7>	1,2,3,4
Trace identifier	var(*LIST).TRACE-ID	S	<c-string 1..8>	1,2,3,4
Trace switchability	var(*LIST).TYPE	S	*PERM *TEMP	2,4

## Example

```
/declare-var var-name=var(type=*structure),multiple-elem=*list
/exec-cmd cmd=(show-trace-status inf=*par(trace-inf=*yes,buffer-inf=*no)),
text-output=*none,structure-output=var
/show-var var,inf=*par(val=*c-literal,list-index=*yes)
VAR#1.TRACE-ID = 'AIDSYS'
VAR#1.SUBSYS-NAME = '*NONE'
VAR#1.SUBSYS-VERSION = '00.0'
VAR#1.BUF-STA = '*DEFI'
VAR#1.STA = '*ON'
```

## SHOW-TRACE-STATUS

---

```
VAR#1.SCOPE = '*TASK'  
VAR#1.TYPE = '*PERM'  
*END-OF-VAR  
VAR#2.TRACE-ID = 'ASTRA'  
VAR#2.SUBSYS-NAME = '*NONE'  
VAR#2.SUBSYS-VERSION = '00.0'  
VAR#2.BUF-STA = '*INIT'  
VAR#2.STA = '*ON'  
VAR#2.SCOPE = '*SYS '  
VAR#2.TYPE = '*PERM'  
*END-OF-VAR  
VAR#3.TRACE-ID = 'CMSTRACE'  
VAR#3.SUBSYS-NAME = '*NONE'  
VAR#3.SUBSYS-VERSION = '00.0'  
VAR#3.BUF-STA = '*DEFI'  
VAR#3.STA = '*OFF'  
VAR#3.SCOPE = '*SYS '  
VAR#3.TYPE = '*TEMP'  
*END-OF-VAR  
.....  
.....  
.....  
VAR#58.TRACE-ID = 'TSSVADM'  
VAR#58.SUBSYS-NAME = 'SPOOL'  
VAR#58.SUBSYS-VERSION = '04.9'  
VAR#58.BUF-STA = '*INIT'  
VAR#58.STA = '*ON'  
VAR#58.SCOPE = '*SYS '  
VAR#58.TYPE = '*TEMP'  
*END-OF-VAR  
VAR#59.TRACE-ID = 'UTLTRACE'  
VAR#59.SUBSYS-NAME = '*NONE'  
VAR#59.SUBSYS-VERSION = '00.0'  
VAR#59.BUF-STA = '*DEFI'  
VAR#59.STA = '*ON'  
VAR#59.SCOPE = '*SYS '  
VAR#59.TYPE = '*PERM'  
*END-OF-VAR  
VAR#60.TRACE-ID = 'VMMALLOC'  
VAR#60.SUBSYS-NAME = 'BS2CP'  
VAR#60.SUBSYS-VERSION = '18.0'  
VAR#60.BUF-STA = '*INIT'  
VAR#60.STA = '*OFF'  
VAR#60.SCOPE = '*SYS '  
VAR#60.TYPE = '*TEMP'  
*END-OF-VAR
```

## SHOW-USER-ATTRIBUTES

Display information on entries in user catalog

<b>Description status:</b>	SRPMNUC V19.0A
<b>Functional area:</b>	User management
<b>Domain:</b>	USER-ADMINISTRATION
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION USER-ADMINISTRATION
<b>Routing code:</b>	\$

### Function

The SHOW-USER-ATTRIBUTES command displays all data from the user entry except for the LOGON password and the user switches. The entry for a user ID is created by the systems support staff or the authorized group administrator in the user catalog of the pubset. Output can be either to SYSLST or to SYSOUT. The user can only access files and job variables of a pubset if a user entry also exists for this pubset and the protection attributes allow this. The user can also ascertain from the user entry, for example, whether he may use public storage space on the corresponding pubset.

The command supports structured output in S variables (see [“Output in S variable” on page 7-346](#)).

### *Privileged functions*

Systems support staff (USER-ADMINISTRATION privilege) can request information for any user ID (by specifying \*ALL or a list of user IDs in the USER-IDENTIFICATION operand). Selection criteria in the SELECT operand can be used to restrict information output to user IDs with specific characteristics. In interactive mode the systems support staff can explicitly have user IDs output with PASSWORD-INFORMATION=\*FULL. With the INFORMATION operand, statistical information (\*SUMMARY for SF pubsets, \*PUBSET-SUMMARY for SM pubsets) and user lists (\*USER-LIST) can be requested, classified by pubset.

Authorized group administrators can request the same information for all the user IDs they manage.

## Format

SHOW-USER-ATTRIBUTES	Alias: SHUA
<p><b>USER-IDENTIFICATION</b> = <u>*OWN</u> / <u>*ALL</u> / list-poss(127): &lt;name 1..8 with-wild(32)&gt;</p> <p><b>,INFORMATION</b> = <u>*ATTRIBUTES</u> (...) / <u>*SUMMARY</u> / <u>*USER-LIST</u> / <u>*PUBSET-ATTRIBUTES</u> / <u>*PUBSET-SUMMARY</u></p> <p><u>*ATTRIBUTES</u>(...)</p> <p>      <b>PASSWORD-INFORMATION</b> = <u>*SUMMARY</u> / <u>*FULL</u></p> <p><b>,PUBSET</b> = <u>*HOME</u> / <u>*DEFAULT-PUBSET</u> / <u>*ALL</u> / list-poss(36): &lt;cat-id 1..4&gt;</p> <p><b>,OUTPUT</b> = <u>*SYSOUT</u> / list-poss(2): <u>*SYSOUT</u> / <u>*SYSLST</u>(...)</p> <p><u>*SYSLST</u>(...)</p> <p>      <b>SYSLST-NUMBER</b> = <u>00</u> / &lt;integer 0..99&gt;</p> <p>      <b>,PAGE-SIZE</b> = <u>64</u> / &lt;integer 20..255&gt;</p> <p><b>,SELECT</b> = <u>*ALL</u> / [<u>*BY-ATTRIBUTES</u>](...)</p> <p>[<u>*BY-ATTRIBUTES</u>](...)</p> <p>      <b>ACCOUNT-ATTRIBUTES</b> = <u>*ANY</u> / <u>*NONE</u> / [<u>*PARAMETERS</u>](...)</p> <p>          [<u>*PARAMETERS</u>](...)</p> <p>              <b>ACCOUNT-NUMBER</b> = <u>*ANY</u> / &lt;alphanum-name 1..8 with-wild(16)&gt;</p> <p>              <b>,CPU-LIMIT</b> = <u>*ANY</u> / <u>*STD</u> / <u>*MAXIMUM</u> / &lt;integer 0..2147483647 seconds&gt; /</p> <p>                  [<u>*INTERVAL</u>](...)</p> <p>                      [<u>*INTERVAL</u>](...)</p> <p>                          <b>FROM</b> = <u>0</u> / &lt;integer 0..2147483647 seconds&gt;</p> <p>                          <b>,TO</b> = <u>2147483647</u> / &lt;integer 0..2147483647 seconds&gt;</p> <p>              <b>,LOGON-DEFAULT</b> = <u>*ANY</u> / <u>*NO</u> / <u>*YES</u></p> <p>              <b>,INHIBIT-DEACTIVATION</b> = <u>*ANY</u> / <u>*NO</u> / <u>*YES</u></p> <p>              <b>,MAX-ALLOWED-CATEGORY</b> = <u>*ANY</u> / <u>*STD</u> / <u>*TP</u> / <u>*SYSTEM</u></p> <p>              <b>,MAXIMUM-RUN-PRIORITY</b> = <u>*ANY</u> / <u>*STD</u> / &lt;integer 30..255&gt; / [<u>*INTERVAL</u>](...)</p> <p>                  [<u>*INTERVAL</u>](...)</p> <p>                      <b>FROM</b> = <u>30</u> / &lt;integer 30..255&gt;</p> <p>                      <b>,TO</b> = <u>255</u> / &lt;integer 30..255&gt;</p> <p>              <b>,NO-CPU-LIMIT</b> = <u>*ANY</u> / <u>*NO</u> / <u>*YES</u></p> <p>              <b>,POSIX-RLOGIN-DEFAULT</b> = <u>*ANY</u> / <u>*NO</u> / <u>*YES</u></p>	

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```

, SPOOLOUT-CLASS = *ANY / *STD / <integer 0..255> / [*INTERVAL](...)
  [*INTERVAL](...)
    FROM = 0 / <integer 0..255>
    , TO = 255 / <integer 0..255>
, START-IMMEDIATE = *ANY / *NO / *YES
, PUBSET-ATTRIBUTES = *ANY / [*PARAMETERS](...)
  [*PARAMETERS](...)
    FILE-NUMBER-LIMIT = *ANY / *MAXIMUM / <integer 0..16777215> / [*INTERVAL](...)
      [*INTERVAL](...)
        FROM = 0 / <integer 0..16777215>
        , TO = 16777215 / <integer 0..16777215>
    , FILE-NUMBER-USED = *ANY / <integer 0..16777215> / [*INTERVAL](...)
      [*INTERVAL](...)
        FROM = 0 / <integer 0..16777215>
        , TO = 16777215 / <integer 0..16777215>
    , JV-NUMBER-LIMIT = *ANY / *MAXIMUM / <integer 0..16777215> / [*INTERVAL](...)
      [*INTERVAL](...)
        FROM = 0 / <integer 0..16777215>
        , TO = 16777215 / <integer 0..16777215>
    , JV-NUMBER-USED = *ANY / <integer 0..16777215> / [*INTERVAL](...)
      [*INTERVAL](...)
        FROM = 0 / <integer 0..16777215>
        , TO = 16777215 / <integer 0..16777215>
    , PERM-SPACE-LIMITS = *ANY / <integer 0..2147483647 2Kbyte> / *INTERVAL(...) /
      [*PARAMETERS](...)
        *INTERVAL(...)
          FROM = 0 / <integer 0..2147483647 2Kbyte>
          , TO = 2147483647 / <integer 0..2147483647 2Kbyte>
        [*PARAMETERS](...)
          TOTAL-SPACE = *ANY / *MAXIMUM / <integer 0..2147483647 2Kbyte> /
            [*INTERVAL](...)
              [*INTERVAL](...)
                FROM = 0 / <integer 0..2147483647 2Kbyte>
                , TO = 2147483647 / <integer 0..2147483647 2Kbyte>
          , S0-LEVEL-SPACE = *ANY / *MAXIMUM / <integer 0..2147483647 2Kbyte> /
            [*INTERVAL](...)
              [*INTERVAL](...)
                FROM = 0 / <integer 0..2147483647 2Kbyte>
                , TO = 2147483647 / <integer 0..2147483647 2Kbyte>

```

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		<pre> , <b>HIGH-PERF-SPACE</b> = <u>*ANY</u> / *MAXIMUM / &lt;integer 0..2147483647 2Kbyte&gt; / [*INTERVAL](...)   [*INTERVAL](...)         <b>FROM</b> = <u>0</u> / &lt;integer 0..2147483647 2Kbyte&gt;         <b>TO</b> = <u>2147483647</u> / &lt;integer 0..2147483647 2Kbyte&gt; , <b>VERY-HIGH-PERF-SPACE</b> = <u>*ANY</u> / *MAXIMUM / &lt;integer 0..2147483647 2Kbyte&gt; / [*INTERVAL](...)   [*INTERVAL](...)         <b>FROM</b> = <u>0</u> / &lt;integer 0..2147483647 2Kbyte&gt;         <b>TO</b> = <u>2147483647</u> / &lt;integer 0..2147483647 2Kbyte&gt; , <b>HIGH-AVAILABLE-SPACE</b> = <u>*ANY</u> / *MAXIMUM / &lt;integer 0..2147483647 2Kbyte&gt; / [*INTERVAL](...)   [*INTERVAL](...)         <b>FROM</b> = <u>0</u> / &lt;integer 0..2147483647 2Kbyte&gt;         <b>TO</b> = <u>2147483647</u> / &lt;integer 0..2147483647 2Kbyte&gt; , <b>PERM-SPACE-USED</b> = <u>*ANY</u> / &lt;integer 0..2147483647 2Kbyte&gt; / *INTERVAL(...) / [*PARAMETERS](...) *INTERVAL(...)         <b>FROM</b> = <u>0</u> / &lt;integer 0..2147483647 2Kbyte&gt;         <b>TO</b> = <u>2147483647</u> / &lt;integer 0..2147483647 2Kbyte&gt; [*PARAMETERS](...)         <b>TOTAL-SPACE</b> = <u>*ANY</u> / *MAXIMUM / *UNLIMITED /     &lt;integer 0..2147483647 2Kbyte&gt; / [*INTERVAL](...)         [*INTERVAL](...)             <b>FROM</b> = <u>0</u> / &lt;integer 0..2147483647 2Kbyte&gt;             <b>TO</b> = <u>2147483647</u> / &lt;integer 0..2147483647 2Kbyte&gt; , <b>S0-LEVEL-SPACE</b> = <u>*ANY</u> / *MAXIMUM / &lt;integer 0..2147483647 2Kbyte&gt; / [*INTERVAL](...)   [*INTERVAL](...)         <b>FROM</b> = <u>0</u> / &lt;integer 0..2147483647 2Kbyte&gt;         <b>TO</b> = <u>2147483647</u> / &lt;integer 0..2147483647 2Kbyte&gt; , <b>HIGH-PERF-SPACE</b> = <u>*ANY</u> / *MAXIMUM / &lt;integer 0..2147483647 2Kbyte&gt; / [*INTERVAL](...)   [*INTERVAL](...)         <b>FROM</b> = <u>0</u> / &lt;integer 0..2147483647 2Kbyte&gt;         <b>TO</b> = <u>2147483647</u> / &lt;integer 0..2147483647 2Kbyte&gt; </pre>
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```

,VERY-HIGH-PERF-SPACE = *ANY / *MAXIMUM /
                        <integer 0..2147483647 2Kbyte> / [*INTERVAL](...)
    [*INTERVAL](...)
        FROM = 0 / <integer 0..2147483647 2Kbyte>
        ,TO = 2147483647 / <integer 0..2147483647 2Kbyte>
,HIGH-AVAILABLE-SPACE = *ANY / *MAXIMUM /
                        <integer 0..2147483647 2Kbyte> / [*INTERVAL](...)
    [*INTERVAL](...)
        FROM = 0 / <integer 0..2147483647 2Kbyte>
        ,TO = 2147483647 / <integer 0..2147483647 2Kbyte>
,TEMP-SPACE-LIMITS = *ANY / <integer 0..2147483647 2Kbyte> / *INTERVAL(...) /
                    [*PARAMETERS](...)
*INTERVAL(...)
    FROM = 0 / <integer 0..2147483647 2Kbyte>
    ,TO = 2147483647 / <integer 0..2147483647 2Kbyte>
[*PARAMETERS](...)
    TOTAL-SPACE = *ANY / *MAXIMUM / *UNLIMITED /
                 <integer 0..2147483647 2Kbyte> / [*INTERVAL](...)
        [*INTERVAL](...)
            FROM = 0 / <integer 0..2147483647 2Kbyte>
            ,TO = 2147483647 / <integer 0..2147483647 2Kbyte>
        ,HIGH-PERF-SPACE = *ANY / *MAXIMUM / <integer 0..2147483647 2Kbyte> /
                          [*INTERVAL](...)
            [*INTERVAL](...)
                FROM = 0 / <integer 0..2147483647 2Kbyte>
                ,TO = 2147483647 / <integer 0..2147483647 2Kbyte>
        ,VERY-HIGH-PERF-SPACE = *ANY / *MAXIMUM /
                                <integer 0..2147483647 2Kbyte> / [*INTERVAL](...)
            [*INTERVAL](...)
                FROM = 0 / <integer 0..2147483647 2Kbyte>
                ,TO = 2147483647 / <integer 0..2147483647 2Kbyte>
,TEMP-SPACE-USED = *ANY / <integer 0..2147483647 2Kbyte> / *INTERVAL(...) /
                  [*PARAMETERS](...)
*INTERVAL(...)
    FROM = 0 / <integer 0..2147483647 2Kbyte>
    ,TO = 2147483647 / <integer 0..2147483647 2Kbyte>

```

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```

[*PARAMETERS](...)
    TOTAL-SPACE = *ANY / *MAXIMUM / <integer 0..2147483647 2Kbyte> /
        [*INTERVAL](...)
        [*INTERVAL](...)
            FROM = 0 / <integer 0..2147483647 2Kbyte>
            , TO = 2147483647 / <integer 0..2147483647 2Kbyte>
        , HIGH-PERF-SPACE = *ANY / *MAXIMUM / <integer 0..2147483647 2Kbyte> /
            [*INTERVAL](...)
        [*INTERVAL](...)
            FROM = 0 / <integer 0..2147483647 2Kbyte>
            , TO = 2147483647 / <integer 0..2147483647 2Kbyte>
        , VERY-HIGH-PERF-SPACE = *ANY / *MAXIMUM /
            <integer 0..2147483647 2Kbyte> / [*INTERVAL](...)
        [*INTERVAL](...)
            FROM = 0 / <integer 0..2147483647 2Kbyte>
            , TO = 2147483647 / <integer 0..2147483647 2Kbyte>
, WORK-SPACE-LIMITS = *ANY / [*PARAMETERS](...)
[*PARAMETERS](...)
    TOTAL-SPACE = *ANY / *MAXIMUM / *UNLIMITED /
        <integer 0..2147483647 2Kbyte> / [*INTERVAL](...)
    [*INTERVAL](...)
        FROM = 0 / <integer 0..2147483647 2Kbyte>
        , TO = 2147483647 / <integer 0..2147483647 2Kbyte>
    , HIGH-PERF-SPACE = *ANY / *MAXIMUM / <integer 0..2147483647 2Kbyte> /
        [*INTERVAL](...)
    [*INTERVAL](...)
        FROM = 0 / <integer 0..2147483647 2Kbyte>
        , TO = 2147483647 / <integer 0..2147483647 2Kbyte>
    , VERY-HIGH-PERF-SPACE = *ANY / *MAXIMUM /
        <integer 0..2147483647 2Kbyte> / [*INTERVAL](...)
    [*INTERVAL](...)
        FROM = 0 / <integer 0..2147483647 2Kbyte>
        , TO = 2147483647 / <integer 0..2147483647 2Kbyte>
, WORK-SPACE-USED = *ANY / [*PARAMETERS](...)
[*PARAMETERS](...)
    TOTAL-SPACE = *ANY / *MAXIMUM / <integer 0..2147483647 2Kbyte> /
        [*INTERVAL](...)
    [*INTERVAL](...)
        FROM = 0 / <integer 0..2147483647 2Kbyte>
        , TO = 2147483647 / <integer 0..2147483647 2Kbyte>

```

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```

, HIGH-PERF-SPACE = *ANY / *MAXIMUM / <integer 0..2147483647 2Kbyte> /
    [*INTERVAL](...)
    [*INTERVAL](...)
    | FROM = 0 / <integer 0..2147483647 2Kbyte>
    | TO = 2147483647 / <integer 0..2147483647 2Kbyte>
, VERY-HIGH-PERF-SPACE = *ANY / *MAXIMUM /
    <integer 0..2147483647 2Kbyte> / [*INTERVAL](...)
    [*INTERVAL](...)
    | FROM = 0 / <integer 0..2147483647 2Kbyte>
    | TO = 2147483647 / <integer 0..2147483647 2Kbyte>
, DEF-STORAGE-CLASS = *ANY / *NONE / *YES / <structured-name 1..8 with-wild(16)>
, DMS-TUNING-RESOURCES = *ANY / *NONE / *CONCURRENT-USE / *EXCLUSIVE-USE
, NET-STORAGE-USAGE = *ANY / *NOT-ALLOWED / *ALLOWED
, PHYSICAL-ALLOCATION = *ANY / *NOT-ALLOWED / *ALLOWED
, PUBLIC-SPACE-EXCESS = *ANY / *NO / *ALLOWED / *TEMPORARILY-ALLOWED
, ADDRESS-SPACE-LIMIT = *ANY / *STD / *MAXIMUM / <integer 1..2147483647 Mbyte> /
    [*INTERVAL](...)
    [*INTERVAL](...)
    | FROM = 1 / <integer 1..2147483647 Mbyte>
    | TO = 2147483647 / <integer 1..2147483647 Mbyte>
, CODED-CHARACTER-SET = *ANY / *STD / <name 1..8 with-wild(16)>
, CRYPTO-SESSION-LIMIT = *ANY / *STD / *MAXIMUM / <integer 0..32767> / [*INTERVAL](...)
    [*INTERVAL](...)
    | FROM = 0 / <integer 0..32767>
    | TO = 32767 / <integer 0..32767>
, CRYPTO-SESSION-USED = *ANY / <integer 0..32767> / [*INTERVAL](...)
    [*INTERVAL](...)
    | FROM = 0 / <integer 0..32767>
    | TO = 32767 / <integer 0..32767>
, CSTMP-MACRO-ALLOWED = *ANY / *NO / *YES
, DEFAULT-MSG-LANGUAGE = *ANY / *STD / <name 1..1 with-wild(16)>
, DEFAULT-PUBSET = *ANY / *HOME / <alphanum-name 1..4 with-wild(16)>
, EMAIL-ADDRESS = *ANY / *NONE / *YES / <c-string 1..1800 with-low with-wild>(…) /
    <x-string 1..3600>
    <c-string 1..1800 with-low with-wild>(…)
    | CASE-SENSITIVE = *YES / *NO
, FILE-AUDIT = *ANY / *NO / *ALLOWED

```

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```

, HARDWARE-AUDIT = *ANY / *ALLOWED / *NOT-ALLOWED
, LINKAGE-AUDIT = *ANY / *ALLOWED / *NOT-ALLOWED
, LOCK-USER = *ANY / *NO / *YES
, LOGON-PASSWORD = *ANY / *NONE / *YES
, MAILING-ADDRESS = *ANY / *NONE / *YES / <c-string 1..64 with-low>(…) / <x-string 1..128>
    <c-string 1..64 with-low>(…)
    | CASE-SENSITIVE = *YES / *NO
, MAX-ACCOUNT-RECORDS = *ANY / *NO-LIMIT / <integer 0..32767> / [*INTERVAL](…)
    [*INTERVAL](…)
    | FROM = 0 / <integer 0..32767>
    | TO = 32767 / <integer 0..32767>
, PASSWORD-MANAGEMENT = *ANY / *BY-USER / *BY-ADMINISTRATOR /
    *USER-CHANGE-ONLY
, PROFILE-ID = *ANY / *NONE / *YES / <structured-name 1..30 with-wild(48)>
, RESIDENT-PAGES = *ANY / *STD / *MAXIMUM / <integer 0..2147483647 4Kbyte> /
    [*INTERVAL](…)
    [*INTERVAL](…)
    | FROM = 0 / <integer 0..2147483647 4Kbyte>
    | TO = 2147483647 / <integer 0..2147483647 4Kbyte>
, TAPE-ACCESS = *ANY / *STD / *PRIVILEGED / *READ / *BYPASS-LABEL / *ALL
, TEST-OPTIONS = *ANY / [*PARAMETERS](…)
    [*PARAMETERS](…)
    | MODIFICATION = *ANY / *CONTROLLED / *UNCONTROLLED
    | READ-PRIVILEGE = *ANY / <integer 1..9> / [*INTERVAL](…)
        [*INTERVAL](…)
        | FROM = 1 / <integer 1..9>
        | TO = 9 / <integer 1..9>
    | WRITE-PRIVILEGE = *ANY / <integer 1..9> / [*INTERVAL](…)
        [*INTERVAL](…)
        | FROM = 1 / <integer 1..9>
        | TO = 9 / <integer 1..9>

```

(Part 7 of 7)

## Operands

**USER-IDENTIFICATION = \*OWN / \*ALL / list-poss(127): <name 1..8 with-wild(32)>**

Displays information on entries in the user catalog for the specified user ID. The default value is \*OWN, i.e. the user's own ID. Nonprivileged users can only obtain information on the user entry for their own user ID.

**INFORMATION = \*ATTRIBUTES(...) / \*SUMMARY / \*USER-LIST**

Specifies the type and scope of information to be displayed.

**INFORMATION = \*ATTRIBUTES(...)**

Displays all information on the selected user IDs.

**PASSWORD-INFORMATION = \*SUMMARY**

The default value is \*SUMMARY, i.e. the display shows only whether a LOGON password has been entered (output YES or NO).

**PASSWORD-INFORMATION = \*FULL**

*Only for systems support staff or for the group administrator for the specified user ID:* An entered LOGON password is output explicitly in interactive mode. In batch mode the output takes place in the same way as for \*SUMMARY.

**INFORMATION = \*SUMMARY**

*Only for systems support staff or for the group administrator for the specified user ID:* Displays the following information, separated according to subsets. All information only relates to the set of user IDs selected by means of the USER-IDENTIFICATION and SELECT operands:

- USER(S) Number of user IDs entered in the user catalog
- USER(S) LOCKED Number of locked user IDs
- USER(S) WITH PASSWORD Number of user IDs protected with a password
- ACCOUNT-NUMBER(S) Number of explicitly assigned accounting numbers.
- (K-)PAM-PAGES OF SPACE AVAILABLE Maximum total number of storage blocks permitted for the users on public volumes. When "PAM-PAGES" is output, the total is displayed in 2-KB units or when "K-PAM-PAGES" is output, the total is displayed in 2-MB units. If the total number of permitted storage blocks exceeds 2147483647 "K-PAM-PAGES", "\*\*\*\*\*" is output.
- (K-)PAM-PAGES OF SPACE USED Total amount of storage space on public volumes already occupied by users. When "PAM-PAGES" is output, the total is displayed in 2-KB units or when "K-PAM-PAGES" is output, the total is displayed in 2-MB units. If the total number of occupied storage blocks exceeds 2147483647 "K-PAM-PAGES", "\*\*\*\*\*" is output.

Beyond that, the ratio of SPACE USED to SPACE AVAILABLE is output in percent.

A value > 999 is represented as "\*\*\*\*".

**INFORMATION = \*USER-LIST**

*Only for systems support staff or for the group administrator for the specified user ID:* Displays only the names of the selected user IDs. The information for each subset specified is output separately.

**INFORMATION = \*PUBSET-ATTRIBUTES**

Displays the pubset-specific user attributes of the selected user IDs.

*Note*

The operand is primarily intended for SM pubsets. If it is used for SF pubsets, a simplified output layout is used (see Examples).

**INFORMATION = \*PUBSET-SUMMARY**

*Only for systems support staff or for the group administrator for the specified user ID:* Totals are to be calculated and output for the quantitative attributes, notably the limits and counters. All information only relates to the set of user IDs selected by means of the USER-IDENTIFICATION and SELECT operands.

*Note*

The operand is primarily intended for SM pubsets. If it is used for SF pubsets, a simplified output layout is used (see Examples).

**PUBSET = \*HOME / \*DEFAULT-PUBSET / \*ALL / list-poss(36): <cat-id 1..4>**

Specifies the public volume set for which user-catalog information is to be displayed. Information can only be output for locally imported pubsets.

**PUBSET = \*HOME**

Displays information on entries in the user catalog of the home pubset.

**PUBSET = \*DEFAULT-PUBSET**

Displays information on entries in the user catalog of the default pubset (corresponds to specifying the default catalog name of the user).

**PUBSET = \*ALL**

Displays information on entries in the user catalogs of all pubsets.

**PUBSET = list-poss(36): <cat-id 1..4>**

Displays information on entries in the user catalogs of the specified pubsets. A maximum of 36 catalog names may be specified.

**OUTPUT =**

Specifies where the information is to be output.

**OUTPUT = \*SYSOUT**

The output is directed to SYSOUT.

**OUTPUT = \*SYSLST(...)**

Output is written to SYSLST.

**SYSLST-NUMBER = 00 / <integer 0..99>**

Output to SYSLST (specify 00) or to a SYSLST file from the series SYSLST01 to SYSLST99.

**PAGE-SIZE = 64 / <integer 20..255>**

Number of lines per print page.

**SELECT = \*ALL / \*BY-ATTRIBUTES(...)**

Criteria for selecting user entries.

**SELECT = \*ALL**

Informs about all user entries for which the user has access authorization.

**SELECT = \*BY-ATTRIBUTES(...)**

Restricts the user entries defined in USER-IDENTIFICATION to user entries which satisfy the specifications. The default value \*ANY or ANY means that no restrictions of the user entries regarding the attribute concerned are required.

**ACCOUNT-ATTRIBUTES = \*ANY / \*NONE / \*PARAMETERS(...)**

Informs about user entries in conjunction with their account-specific ID attributes.

**ACCOUNT-ATTRIBUTES = \*ANY**

The account-specific ID attributes are not a selection criterion.

**ACCOUNT-ATTRIBUTES = \*NONE**

Informs about user entries without account number. Such user IDs can be created when an SM pubset is generated or a user catalog is restored.

**ACCOUNT-ATTRIBUTES = \*PARAMETERS(...)**

Informs about user entries which have the following account-specific ID attributes.

**ACCOUNT-NUMBER = \*ANY / <alphanum-name 1..8 with-wild(16)>**

Informs about user entries in conjunction with an account number.

**ACCOUNT-NUMBER = \*ANY**

An account number is not a selection criterion.

**ACCOUNT-NUMBER = <alphanum-name 1..8 with-wild(16)>**

Informs about user entries for which the specified account number is defined.

**CPU-LIMIT = \*ANY / \*STD / \*MAXIMUM / <integer 0..2147483647 seconds> / \*INTERVAL(...)**

Informs about user entries in conjunction with the CPU time available under an existing account number.

**CPU-LIMIT = \*ANY**

The CPU time is not a selection criterion.

**CPU-LIMIT = \*STD**

Informs about user entries for which the default value set in the system parameter SYSGJCPU is available.

**CPU-LIMIT = \*MAXIMUM**

Informs about user entries for which the maximum CPU time of 2147483647 seconds is available.

**CPU-LIMIT = <integer 0..2147483647 seconds>**

Informs about user entries for which the specified CPU time is available.

**CPU-LIMIT = \*INTERVAL(...)**

Informs about user entries for which a CPU time is available in the specified interval.

**FROM = 0 / <integer 0..2147483647 seconds>**

User entries with a CPU time  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 seconds>**

User entries with a CPU time  $\leq$  the specified value.

**LOGON-DEFAULT = \*ANY / \*NO / \*YES**

Informs about user entries in conjunction with the definition of a default account number for interactive and batch jobs.

**LOGON-DEFAULT = \*ANY**

The definition of a default account number is not a selection criterion.

**LOGON-DEFAULT = \*NO**

Informs about user entries without default account number.

**LOGON-DEFAULT = \*YES**

Informs about user entries with default account number.

**INHIBIT-DEACTIVATION = \*ANY / \*NO / \*YES**

Informs about user entries in conjunction with the option of inhibiting deactivation for individual account numbers.

**INHIBIT-DEACTIVATION = \*ANY**

The option of inhibiting deactivation is not a selection criterion.

**INHIBIT-DEACTIVATION = \*NO**

Informs about user entries for which individual account numbers may not inhibit deactivation.

**INHIBIT-DEACTIVATION = \*YES**

Informs about user entries for which individual account numbers may inhibit deactivation.

**MAX-ALLOWED-CATEGORY = \*ANY / \*STD / \*TP / \*SYSTEM**

Informs about user entries in conjunction with possible task attributes for individual account numbers.

**MAX-ALLOWED-CATEGORY = \*ANY**

The task attribute is not a selection criterion.

**MAX-ALLOWED-CATEGORY = \*STD**

Informs about user entries for which individual account numbers may not utilize the task attributes BATCH and DIALOG.

**MAX-ALLOWED-CATEGORY = \*TP**

Informs about user entries for which individual account numbers may utilize the task attributes BATCH, DIALOG and TP.

**MAX-ALLOWED-CATEGORY = \*SYSTEM**

Informs about user entries for which individual account numbers may utilize every task attribute.

**MAXIMUM-RUN-PRIORITY = \*ANY / \*STD / <integer 30..255> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum possible priority for individual account numbers.

**MAXIMUM-RUN-PRIORITY = \*ANY**

The priority is not a selection criterion.

**MAXIMUM-RUN-PRIORITY = \*STD**

Informs about user entries with a maximum possible priority for individual account numbers whose value corresponds to the system parameter SYSGJPRI.

**MAXIMUM-RUN-PRIORITY = <integer 30..255>**

Informs about user entries with the specified priority for individual account numbers.

**MAXIMUM-RUN-PRIORITY = \*INTERVAL(...)**

Informs about user entries for which the maximum possible priority is in the specified value range.

**FROM = 30 / <integer 30..255>**

User entries with a priority  $\geq$  the specified value.

**TO = 255 / <integer 30..255>**

User entries with a priority  $\leq$  the specified value.

**NO-CPU-LIMIT = \*ANY / \*NO / \*YES**

Informs about user entries in conjunction with permission to exceed the CPU limit for individual account numbers.

**NO-CPU-LIMIT = \*ANY**

Permission to exceed the CPU limit for individual account numbers is not a selection criterion.

**NO-CPU-LIMIT = \*NO**

Informs about user entries for which individual account numbers may not exceed the CPU limit.

**NO-CPU-LIMIT = \*YES**

Informs about user entries for which individual account numbers may exceed the CPU limit.

**POSIX-RLOGIN-DEFAULT = \*ANY / \*NO / \*YES**

Informs about user entries in conjunction with the option of using an individual account number for a POSIX remote login session.

**POSIX-RLOGIN-DEFAULT = \*ANY**

An account number for a POSIX remote login session is not a selection criterion.

**POSIX-RLOGIN-DEFAULT = \*NO**

Informs about user entries for which individual account numbers may not be used for a POSIX remote login session.

**POSIX-RLOGIN-DEFAULT = \*YES**

Informs about user entries for which individual account numbers may be used for a POSIX remote login session.

**SPOOLOUT-CLASS = \*ANY / \*STD / <integer 0..255> / \*INTERVAL(...)**

Informs about user entries in conjunction with the spoolout class for individual account numbers.

**SPOOLOUT-CLASS = \*ANY**

The spoolout class is not a selection criterion.

**SPOOLOUT-CLASS = \*STD**

Informs about user entries whose spoolout class has the value of the system parameter SYSGJCLA for individual account numbers.

**SPOOLOUT-CLASS = <integer 0..255>**

Informs about user entries whose spoolout class has the specified value for individual account numbers.

**SPOOLOUT-CLASS = \*INTERVAL(...)**

Informs about user entries whose spoolout class is in the specified value range.

**FROM = 0 / <integer 30..255>**

User entries with a spoolout class  $\geq$  the specified value.

**TO = 255 / <integer 30..255>**

User entries with a spoolout class  $\leq$  the specified value.

**START-IMMEDIATE = \*ANY / \*NO / \*YES**

Informs about user entries in conjunction with the option of using the Job Express function for individual account numbers.

**START-IMMEDIATE = \*ANY**

The option of using the Job Express function is not a selection criterion.

**START-IMMEDIATE = \*NO**

Informs about user entries for which individual account numbers may not use the Job Express function.

**START-IMMEDIATE = \*YES**

Informs about user entries for which individual account numbers may use the Job Express function.

**PUBSET-ATTRIBUTES = \*ANY / \*PARAMETERS(...)**

Informs about user entries in conjunction with their pubset attributes.



**PUBSET-ATTRIBUTES = \*ANY**

The pubset attributes are not a selection criterion.

**PUBSET-ATTRIBUTES = \*PARAMETERS(...)**

Informs about user entries which have the following pubset attributes.

**FILE-NUMBER-LIMIT = \*ANY / \*MAXIMUM / <integer 0..16777215> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum permissible number of files.

**FILE-NUMBER-LIMIT = \*ANY**

The maximum permissible number of files is not a selection criterion.

**FILE-NUMBER-LIMIT = \*MAXIMUM**

Informs about user entries for which the maximum possible number of files (16 777 215) is permissible.

**FILE-NUMBER-LIMIT = <integer 0..16777215>**

Informs about user entries for which the specified number of files is permissible.

**FILE-NUMBER-LIMIT = \*INTERVAL(...)**

Informs about user entries for which the permissible number of files is within the specified value range.

**FROM = 0 / <integer 0..16777215>**

User entries with the permissible number of files  $\geq$  specified value.

**TO = 16777215 / <integer 0..16777215>**

User entries with the permissible number of files  $\leq$  specified value.

**FILE-NUMBER-USED = \*ANY / \*MAXIMUM / <integer 0..16777215> / \*INTERVAL(...)**

Informs about user entries in conjunction with the current number of files.

**FILE-NUMBER-USED = \*ANY**

The current number of files is not a selection criterion.

**FILE-NUMBER-USED = \*MAXIMUM**

Informs about user entries for which the current number corresponds to the maximum possible number of files (16 777 215).

**FILE-NUMBER-USED = <integer 0..16777215>**

Informs about user entries for which the specified number of files currently exists.

**FILE-NUMBER-USED = \*INTERVAL(...)**

Informs about user entries for which the number of files which currently exist is within the specified value range.

**FROM = 0 / <integer 0..16777215>**

User entries whose current number of files  $\geq$  specified value.

**TO = 16777215 / <integer 0..16777215>**

User entries whose current number of files  $\leq$  specified value.

**JV-NUMBER-LIMIT = \*ANY / \*MAXIMUM / <integer 0..16777215> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum permissible number of job variables.

**JV-NUMBER-LIMIT = \*ANY**

The maximum permissible number of job variables is not a selection criterion.

**JV-NUMBER-LIMIT = \*MAXIMUM**

Informs about user entries for which the maximum possible number of job variables (16 777 215) is permissible.

**JV-NUMBER-LIMIT = <integer 0..16777215>**

Informs about user entries for which the specified number of job variables is permissible.

**JV-NUMBER-LIMIT = \*INTERVAL(...)**

Informs about user entries for which the permissible number of job variables is within the specified value range.

**FROM = 0 / <integer 0..16777215>**

User entries with the permissible number of job variables  $\geq$  specified value.

**TO = 16777215 / <integer 0..16777215>**

User entries with the permissible number of job variables  $\leq$  specified value.

**JV-NUMBER-USED = \*ANY / \*MAXIMUM / <integer 0..16777215> / \*INTERVAL(...)**

Informs about user entries in conjunction with the current number of job variables.

**JV-NUMBER-USED = \*ANY**

The current number of job variables is not a selection criterion.

**JV-NUMBER-USED = \*MAXIMUM**

Informs about user entries for which the current number corresponds to the maximum possible number of job variables (16 777 215).

**JV-NUMBER-USED = <integer 0..16777215>**

Informs about user entries for which the specified number of job variables currently exists.

**JV-NUMBER-USED = \*INTERVAL(...)**

Informs about user entries for which the number of job variables which currently exist is within the specified value range.

**FROM = 0 / <integer 0..16777215>**

User entries whose current number of job variables  $\geq$  specified value.

**TO = 16777215 / <integer 0..16777215>**

User entries whose current number of job variables  $\leq$  specified value

**PERM-SPACE-LIMITS = \*ANY / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...) / \*PARAMETERS(...)**

Informs about user entries in conjunction with the maximum permanent storage space available.

Only the operand values PERM-SPACE-LIMITS=<integer> and \*INTERVAL(...) are meaningful for selecting the permanent storage space on SF pubsets. Alternately, selection can also take place via \*PARAMETERS(...,S0-LEVEL-SPACE=...).

**PERM-SPACE-LIMITS = \*ANY**

The maximum permanent storage space available is not a selection criterion.

**PERM-SPACE-LIMITS = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as permanent storage space.

**PERM-SPACE-LIMITS = \*INTERVAL(...)**

Informs about user entries for which the maximum permanent storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum permanent storage space  $\geq$  specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum permanent storage space  $\leq$  specified value.

**PERM-SPACE-LIMITS = \*PARAMETERS(...)**

Informs about user entries for which the maximum permanent storage space on SM pubsets satisfies the following attributes:

**TOTAL-SPACE = \*ANY / \*MAXIMUM / \*UNLIMITED / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum permanent storage space available.

**TOTAL-SPACE = \*ANY**

The maximum permanent storage space available is not a selection criterion.

**TOTAL-SPACE = \*MAXIMUM**

Informs about user entries whose maximum (2 147 483 647 PAM pages) is available as the maximum permanent storage space.

**TOTAL-SPACE = \*UNLIMITED**

Informs about user entries for which unlimited permanent storage space is available.

**TOTAL-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum permanent storage space.

**TOTAL-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum permanent storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum permanent storage space  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum permanent storage space  $\leq$  the specified value.

**S0-LEVEL-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum permanent storage space available on storage level S0.

**S0-LEVEL-SPACE = \*ANY**

The maximum permanent storage space available on storage level S0 is not a selection criterion.

**S0-LEVEL-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) is available as the maximum permanent storage space on S0.

**S0-LEVEL-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum permanent storage space on S0.

**S0-LEVEL-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum permanent storage space on S0 is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum permanent storage space on S0  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum permanent storage space on S0 ≤ the specified value.

**HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum high-performance permanent storage space available.

**HIGH-PERF-SPACE = \*ANY**

The maximum high-performance permanent storage space available is not a selection criterion.

**HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) is available as the maximum high-performance permanent storage space.

**HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum high-performance permanent storage space.

**HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum high-performance permanent storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum high-performance permanent storage space ≥ the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum high-performance permanent storage space ≤ the specified value.

**VERY-HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum very high-performance permanent storage space available.

**VERY-HIGH-PERF-SPACE = \*ANY**

The maximum very high-performance permanent storage space available is not a selection criterion.

**VERY-HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) is available as the maximum very high-performance permanent storage space.

**VERY-HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum very high-performance permanent storage space.

**VERY-HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum very high-performance permanent storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum very high-performance permanent storage space  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum very high-performance permanent storage space  $\leq$  the specified value.

**HIGH-AVAILABLE-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum high-availability permanent storage space available.

**HIGH-AVAILABLE-SPACE = \*ANY**

The maximum high-availability permanent storage space available is not a selection criterion.

**HIGH-AVAILABLE-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) is available as the maximum high-availability permanent storage space.

**HIGH-AVAILABLE-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum high-availability permanent storage space.

**HIGH-AVAILABLE-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum high-availability permanent storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum high-availability permanent storage space  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum high-availability permanent storage space  $\leq$  the specified value.

**PERM-SPACE-USED = \*ANY / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...) / \*PARAMETERS(...)**

Informs about user entries in conjunction with the permanent storage space used.

Only the operand values PERM-SPACE-USED=<integer> and \*INTERVAL(...) are meaningful for selecting the permanent storage space used on SF pubsets. Alternately, selection can also take place via \*PARAMETERS(...,S0-LEVEL-SPACE=...).

**PERM-SPACE-USED = \*ANY**

The permanent storage space used is not a selection criterion.

**PERM-SPACE-USED = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the permanent storage space is used.

**PERM-SPACE-USED = \*INTERVAL(...)**

Informs about user entries for which the permanent storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose permanent storage space used  $\geq$  specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose permanent storage space used  $\leq$  specified value.

**PERM-SPACE-USED = \*PARAMETERS(...)**

Informs about user entries for which the permanent storage space used on SM pubsets satisfies the following attributes:

**TOTAL-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum permanent storage space used.

**TOTAL-SPACE = \*ANY**

The permanent storage space used is not a selection criterion.

**TOTAL-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) permanent storage space is used.

**TOTAL-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the permanent storage space is used.

**TOTAL-SPACE = \*INTERVAL(...)**

Informs about user entries for which the permanent storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose permanent storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose permanent storage space used  $\leq$  the specified value.

**S0-LEVEL-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the permanent storage space used on storage level S0.

**S0-LEVEL-SPACE = \*ANY**

The permanent storage space used on storage level S0 is not a selection criterion.

**S0-LEVEL-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) permanent storage space on S0 is used.

**S0-LEVEL-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the permanent storage space on S0 is used.

**S0-LEVEL-SPACE = \*INTERVAL(...)**

Informs about user entries for which the permanent storage space on S0 is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose permanent storage space used on S0  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose permanent storage space used on S0  $\leq$  the specified value.

**HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the high-performance permanent storage space used.

**HIGH-PERF-SPACE = \*ANY**

The high-performance permanent storage space used is not a selection criterion.

**HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) high-performance permanent storage space is used.

**HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the high-performance permanent storage space is used.

**HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the high-performance permanent storage space used is in the specified value range.



**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose high-performance permanent storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose high-performance permanent storage space used  $\leq$  the specified value.

**VERY-HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the very high-performance permanent storage space used.

**VERY-HIGH-PERF-SPACE = \*ANY**

The very high-performance permanent storage space used is not a selection criterion.

**VERY-HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) very high-performance permanent storage space is used.

**VERY-HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the very high-performance permanent storage space is used.

**VERY-HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the very high-performance permanent storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose very high-performance permanent storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose very high-performance permanent storage space used  $\leq$  the specified value.

**HIGH-AVAILABLE-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the high-availability permanent storage space used.

**HIGH-AVAILABLE-SPACE = \*ANY**

The high-availability permanent storage space used is not a selection criterion.

**HIGH-AVAILABLE-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) high-availability permanent storage space is used.

**HIGH-AVAILABLE-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the high-availability permanent storage space is used.

**HIGH-AVAILABLE-SPACE = \*INTERVAL(...)**

Informs about user entries for which the high-availability permanent storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose high-availability permanent storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose high-availability permanent storage space used  $\leq$  the specified value.

**TEMP-SPACE-LIMITS = \*ANY / <integer 0..2147483647 2Kbyte> /****\*INTERVAL(...) / \*PARAMETERS(...)**

Informs about user entries in conjunction with the maximum temporary storage space available.

Only the operand values TEMP-SPACE-LIMITS=<integer> and \*INTERVAL(...) are meaningful for selecting the temporary storage space on SF pubsets. Alternately, selection can also take place via \*PARAMETERS(...,TOTAL-SPACE=...).

**TEMP-SPACE-LIMITS = \*ANY**

The maximum temporary storage space available is not a selection criterion.

**TEMP-SPACE-LIMITS = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as temporary storage space.

**TEMP-SPACE-LIMITS = \*INTERVAL(...)**

Informs about user entries for which the maximum temporary storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum temporary storage space  $\geq$  specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum temporary storage space  $\leq$  specified value.

**TEMP-SPACE-LIMITS = \*PARAMETERS(...)**

Informs about user entries for which the maximum temporary storage space on SM pubsets satisfies the following attributes:

**TOTAL-SPACE = \*ANY / \*MAXIMUM / \*UNLIMITED / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum temporary storage space available.

**TOTAL-SPACE = \*ANY**

The maximum temporary storage space available is not a selection criterion.

**TOTAL-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) is available as the maximum temporary storage space.

**TOTAL-SPACE = \*UNLIMITED**

Informs about user entries for which unlimited temporary storage space is available.

**TOTAL-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum temporary storage space.

**TOTAL-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum temporary storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum temporary storage space  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum temporary storage space  $\geq$  the specified value.

**HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum high-performance temporary storage space available.

**HIGH-PERF-SPACE = \*ANY**

The maximum high-performance temporary storage space available is not a selection criterion.

**HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) is available as the maximum high-performance temporary storage space.

**HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum high-performance temporary storage space.

**HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum high-performance temporary storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum high-performance temporary storage space  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum high-performance temporary storage space  $\leq$  the specified value.

**VERY-HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum very high-performance temporary storage space available.

**VERY-HIGH-PERF-SPACE = \*ANY**

The maximum very high-performance temporary storage space available is not a selection criterion.

**VERY-HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) is available as the maximum very high-performance temporary storage space.

**VERY-HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum very high-performance temporary storage space.

**VERY-HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum very high-performance temporary storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum very high-performance temporary storage space  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum very high-performance temporary storage space  $\leq$  the specified value.

**TEMP-SPACE-USED = \*ANY / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the temporary storage space used.

Only the operand values TEMP-SPACE-USED=<integer> and \*INTERVAL(...) are meaningful for selecting the temporary storage space on SF pubsets. Alternately, selection can also take place via \*PARAMETERS(...,TOTAL-SPACE=...).

**TEMP-SPACE-USED = \*ANY**

The temporary storage space used is not a selection criterion.

**TEMP-SPACE-USED = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the temporary storage space is used.

**TEMP-SPACE-USED = \*INTERVAL(...)**

Informs about user entries for which the temporary storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose temporary storage space used  $\geq$  specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose temporary storage space used  $\leq$  specified value.

**TEMP-SPACE-USED = \*PARAMETERS(...)**

Informs about user entries for which the temporary storage space used on SM pubsets satisfies the following attributes:

**TOTAL-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with maximum temporary storage space used.

**TOTAL-SPACE = \*ANY**

The temporary storage space used is not a selection criterion.

**TOTAL-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) temporary storage space is used.

**TOTAL-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the temporary storage space is used.

**TOTAL-SPACE = \*INTERVAL(...)**

Informs about user entries for which the temporary storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose temporary storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose temporary storage space used  $\leq$  the specified value.

**HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the high-performance temporary storage space used.

**HIGH-PERF-SPACE = \*ANY**

The high-performance temporary storage space used is not a selection criterion.

**HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) high-performance temporary storage space is used.

**HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the high-performance temporary storage space is used.

**HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the high-performance temporary storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose high-performance temporary storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose high-performance temporary storage space used  $\leq$  the specified value.

**VERY-HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the very high-performance temporary storage space used.

**VERY-HIGH-PERF-SPACE = \*ANY**

The very high-performance temporary storage space used is not a selection criterion.

**VERY-HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) very high-performance temporary storage space is used.

**VERY-HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the very high-performance temporary storage space is used.

**VERY-HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the very high-performance temporary storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose very high-performance temporary storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose very high-performance temporary storage space used  $\leq$  the specified value.

**WORK-SPACE-LIMITS = \*ANY / \*PARAMETERS(...)**

Informs about user entries in conjunction with the maximum available work file storage space. This storage space is available only on the SM pubset.

**WORK-SPACE-LIMITS = \*ANY**

The maximum available work file storage space is not a selection criterion.

**WORK-SPACE-LIMITS = \*PARAMETERS(...)**

Informs about user entries for which work file storage space with the following attributes is available on SM pubsets:

**TOTAL-SPACE = \*ANY / \*MAXIMUM / \*UNLIMITED / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum available work file storage space.

**TOTAL-SPACE = \*ANY**

The maximum available work file storage space is not a selection criterion.

**TOTAL-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) work file storage space is available.

**TOTAL-SPACE = \*UNLIMITED**

Informs about user entries for which unlimited work file storage space is available.

**TOTAL-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum available work file storage space.

**TOTAL-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum available work file storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum available work file storage space  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum available work file storage space  $\leq$  the specified value.

**HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum available high-performance work file storage space.

**HIGH-PERF-SPACE = \*ANY**

The maximum available high-performance work file storage space is not a selection criterion.

**HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) is available as the maximum high-performance work file storage space.

**HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum high-performance work file storage space.

**HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum high-performance work file storage space is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum high-performance work file storage space  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum high-performance work file storage space  $\leq$  the specified value.

**VERY-HIGH-PERF-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum available very high-performance work file storage space.

**VERY-HIGH-PERF-SPACE = \*ANY**

The maximum available very high-performance work file storage space is not a selection criterion.

**VERY-HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) is available as the maximum very high-performance work file storage space.

**VERY-HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages is available as the maximum very high-performance work file storage space.

**VERY-HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the maximum very high-performance work file storage space is in the specified value range.



**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum very high-performance work file storage space  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose maximum very high-performance work file storage space  $\leq$  the specified value.

**WORK-SPACE-USED = \*ANY / \*PARAMETERS(...)**

Informs about user entries in conjunction with the work file storage space used.

**WORK-SPACE-USED = \*ANY**

The work file storage space used is not a selection criterion.

**WORK-SPACE-USED = \*PARAMETERS(...)**

Informs about user entries for which the work file storage space used satisfies the following attributes:

**TOTAL-SPACE = \*ANY / \*MAXIMUM / <integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum work file storage space used.

**TOTAL-SPACE = \*ANY**

The work file storage space used is not a selection criterion.

**TOTAL-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) work file storage space is used.

**TOTAL-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the work file storage space is used.

**TOTAL-SPACE = \*INTERVAL(...)**

Informs about user entries for which the work file storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose work file storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose work file storage space used  $\leq$  the specified value.

**HIGH-PERF-SPACE = \*ANY / \*MAXIMUM /**  
**<integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the high-performance work file storage space used.

**HIGH-PERF-SPACE = \*ANY**

The high-performance work file storage space used is not a selection criterion.

**HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) high-performance work file storage space is used.

**HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the high-performance work file storage space is used.

**HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the high-performance work file storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose high-performance work file storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose high-performance work file storage space used  $\leq$  the specified value.

**VERY-HIGH-PERF-SPACE = \*ANY / \*MAXIMUM /**  
**<integer 0..2147483647 2Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the very high-performance work file storage space used.

**VERY-HIGH-PERF-SPACE = \*ANY**

The very high-performance work file storage space used is not a selection criterion.

**VERY-HIGH-PERF-SPACE = \*MAXIMUM**

Informs about user entries for which the maximum (2 147 483 647 PAM pages) very high-performance work file storage space is used.

**VERY-HIGH-PERF-SPACE = <integer 0..2147483647 2Kbyte>**

Informs about user entries for which the specified number of PAM pages of the very high-performance work file storage space is used.

**VERY-HIGH-PERF-SPACE = \*INTERVAL(...)**

Informs about user entries for which the very high-performance work file storage space used is in the specified value range.

**FROM = 0 / <integer 0..2147483647 2Kbyte>**

User entries whose very high-performance work file storage space used  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 2Kbyte>**

User entries whose very high-performance work file storage space used  $\leq$  the specified value.

**DEF-STORAGE-CLASS = \*ANY / \*NONE / \*YES /**

**<structured-name 1..8 with-wild(16)>**

Informs about user entries in conjunction with the default storage class for files on SM pubsets.

**DEF-STORAGE-CLASS = \*ANY**

Definition of a default storage class is not a selection criterion.

**DEF-STORAGE-CLASS = \*NONE**

Informs about user entries for which no default storage class is specified.

**DEF-STORAGE-CLASS = \*YES**

Informs about user entries for which a default storage class is specified.

**DEF-STORAGE-CLASS = <structured-name 1..8 with-wild(16)>**

Informs about user entries with the specified default storage class.

**DMS-TUNING-RESOURCES = \*ANY / \*NONE / \*CONCURRENT-USE / \*EXCLUSIVE-USE**

Informs about user entries in conjunction with permissible tuning measures.

**DMS-TUNING-RESOURCES = \*ANY**

Permissible tuning measures are not a selection criterion.

**DMS-TUNING-RESOURCES = \*NONE**

Informs about user entries which may not use tuning measures.

**DMS-TUNING-RESOURCES = \*CONCURRENT-USE**

Informs about user entries which may reserve preferred resources, but thus compete with users with the same privilege.

**DMS-TUNING-RESOURCES = \*EXCLUSIVE-USE**

Informs about user entries which may reserve preferred resources exclusively.

**NET-STORAGE-USAGE = \*ANY / \*NOT-ALLOWED / \*ALLOWED**

Informs about user entries in conjunction with permission to use Net-Storage volumes.

**PHYSICAL-ALLOCATION = \*ANY / \*NOT-ALLOWED / \*ALLOWED**

Informs about user entries in conjunction with permission for physical storage space allocation.

**PUBLIC-SPACE-EXCESS = \*ANY / \*NO / \*ALLOWED / \*TEMPORARILY-ALLOWED**

Informs about user entries in conjunction with permission to exceed the defined storage space limit.

**PUBLIC-SPACE-EXCESS = \*ANY**

Permission to exceed the defined storage space limit is not a selection criterion.

**PUBLIC-SPACE-EXCESS = \*NO**

Informs about user entries which do not have permission to exceed the defined storage space limit.

**PUBLIC-SPACE-EXCESS = \*ALLOWED**

Informs about user entries which may exceed the defined storage space limit.

**PUBLIC-SPACE-EXCESS = \*TEMPORARILY-ALLOWED**

Informs about user entries which may exceed the defined storage space limit if the limit was not reached when the task started.

**ADDRESS-SPACE-LIMIT = \*ANY / \*STD / \*MAXIMUM/  
<integer 1..2147483647 Mbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum user address space.

**ADDRESS-SPACE-LIMIT = \*ANY**

The maximum user address space is not a selection criterion.

**ADDRESS-SPACE-LIMIT = \*STD**

Informs about user entries whose user address space corresponds to the value of the system parameter SYSGJASL (the system parameter SYSGJASL has the default value 16 MB, see the "Introduction to System Administration" [14]).

**ADDRESS-SPACE-LIMIT = \*MAXIMUM**

Informs about user entries with the maximum address space (2 147 483 647 MB).

**ADDRESS-SPACE-LIMIT = <integer 1..2147483647 Mbyte>**

Informs about user entries with a user address space of the specified size.

**ADDRESS-SPACE-LIMIT = \*INTERVAL(...)**

Informs about user entries whose maximum user address space is in the specified value range.

**FROM = 1 / <integer 1..2147483647 Mbyte>**

User entries with a user address space  $\geq$  the specified value.

**TO = 32767 / <integer 1..2147483647 Mbyte>**

User entries with a user address space  $\leq$  the specified value.

**CODED-CHARACTER-SET = \*ANY / \*STD / <name 1..8>**

Informs about user entries in conjunction with the coding table entered.

**CODED-CHARACTER-SET = \*ANY**

The coding table entered is not a selection criterion.

**CODED-CHARACTER-SET = \*STD**

Informs about user entries with the system's default coding table (system parameter HOSTCODE).

**CODED-CHARACTER-SET = <name 1..8 with-wild(16)>**

Informs about user entries with the specified coding table.

**CRYPTO-SESSION-LIMIT = \*ANY / \*STD / \*MAXIMUM / <integer 0..32767> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum number of openCRYPT sessions.

**CRYPTO-SESSION-LIMIT = \*ANY**

The maximum number of openCRYPT sessions is not a selection criterion.

**CRYPTO-SESSION-LIMIT = \*STD**

Informs about user entries with the maximum number of 128 openCRYPT sessions.

**CRYPTO-SESSION-LIMIT = \*MAXIMUM**

Informs about user entries with the maximum number of 32767 openCRYPT sessions.

**CRYPTO-SESSION-LIMIT = <integer 0..32767>**

Informs about user entries with the specified maximum number of openCRYPT sessions.

**CRYPTO-SESSION-LIMIT = \*INTERVAL(...)**

Informs about user entries whose maximum number of openCRYPT sessions is in the specified value range.

**FROM = 0 / <integer 1..32767>**

User entries with a maximum number of openCRYPT sessions  $\geq$  the specified value.

**TO = 32767 / <integer 0..32767>**

User entries with a maximum number of openCRYPT sessions  $\leq$  the specified value.

**CRYPTO-SESSION-USED = \*ANY / \*STD / <integer 0..32767> / \*INTERVAL(...)**

Informs about user entries in conjunction with the current number of openCRYPT sessions.

**CRYPTO-SESSION-USED = \*ANY**

The current number of openCRYPT sessions is not a selection criterion.

**CRYPTO-SESSION-USED = <integer 0..32767>**

Informs about user entries with the specified current number of openCRYPT sessions.

**CRYPTO-SESSION-USED = \*INTERVAL(...)**

Informs about user entries whose current number of openCRYPT sessions is in the specified value range.

**FROM = 0 / <integer 0..32767>**

User entries with a current number of openCRYPT sessions  $\geq$  the specified value.

**TO = 32767 / <integer 0..32767>**

User entries with a current number of openCRYPT sessions  $\leq$  the specified value.

**CSTMP-MACRO-ALLOWED = \*ANY / \*NO / \*YES**

Informs about user entries in conjunction with permission to use the CSTMP macro.

**CSTMP-MACRO-ALLOWED = \*ANY**

Permission to use the CSTMP macro is not a selection criterion.

**CSTMP-MACRO-ALLOWED = \*NO**

Informs about user entries which may not use the CSTMP macro.

**CSTMP-MACRO-ALLOWED = \*YES**

Informs about user entries which may use the CSTMP macro.

**DEFAULT-MSG-LANGUAGE = \*ANY / <name 1..1 with-wild(16)> / \*STD**

Informs about user entries in conjunction with the message language entered.

**DEFAULT-MSG-LANGUAGE = \*ANY**

The message language entered is not a selection criterion.

**DEFAULT-MSG-LANGUAGE = \*STD**

Informs about user entries which by default use the message language defined with the system parameter MSGLPRI.

**DEFAULT-MSG-LANGUAGE = <name 1..1 with-wild(16)>**

Informs about user entries which by default use the specified message language.

**DEFAULT-PUBSET = \*ANY / \*HOME / <alphanum-name 1..4 with-wild(16)>**

Informs about user entries in conjunction with the default pubset.

**DEFAULT-PUBSET = \*ANY**

The default pubset is not a selection criterion.

**DEFAULT-PUBSET = \*HOME**

Informs about user entries which use the home pubset as the default pubset.

**DEFAULT-PUBSET = <alphanum-name 1..4 with-wild(16)>**

Informs about user entries which use the specified pubset as the default pubset.

**EMAIL-ADDRESS = \*ANY / \*NONE / \*YES /**

**<c-string 1800 with-low with-wild>(…) / <x-string 1..3600>**

Informs about user entries in accordance with the email address entered.

**EMAIL-ADDRESS = \*ANY**

The email address entered is not a selection criterion.

**EMAIL-ADDRESS = \*NONE**

Informs about user entries without an email address.

**EMAIL-ADDRESS = \*YES**

Informs about user entries with one or more email addresses.

**EMAIL-ADDRESS = <c-string 1800 with-low with-wild>(…)**

Informs about user entries with the specified address entry. When one particular email address is being searched for, wildcards can be used to find address entries which contain this address in a list of email addresses. By default a distinction is made between upper/lower case in the search (corresponding to CASE-SENSITIVE=\*YES).

**CASE-SENSITIVE = \*YES / \*NO**

Specifies whether uppercase/lowercase notation should be taken into account when checking the email address.

**EMAIL-ADDRESS = <x-string 1..3600>**

Informs about user entries with the address entry in hexadecimal format.

**FILE-AUDIT = \*ANY / \*NO / \*ALLOWED**

Informs about user entries in conjunction with permission to activate AUDIT mode.

**FILE-AUDIT = \*ANY**

Permission to activate AUDIT mode is not a selection criterion.

**FILE-AUDIT = \*NO**

Informs about user entries which may not activate AUDIT mode.

**FILE-AUDIT = \*ALLOWED**

Informs about user entries which may activate AUDIT mode.

**HARDWARE-AUDIT = \*ANY / \*ALLOWED / \*NOT-ALLOWED**

Informs about user entries in conjunction with permission to control Hardware Audit mode.

**HARDWARE-AUDIT = \*ANY**

Permission to control Hardware Audit mode is not a selection criterion.

**HARDWARE-AUDIT = \*ALLOWED**

Informs about user entries which may control Hardware Audit mode.

**HARDWARE-AUDIT = \*NOT-ALLOWED**

Informs about user entries which may not control Hardware Audit mode.

**LINKAGE-AUDIT = \*ANY / \*ALLOWED / \*NOT-ALLOWED**

Informs about user entries in conjunction with permission to control Linkage Audit mode.

**LINKAGE-AUDIT = \*ANY**

Permission to control Linkage Audit mode is not a selection criterion.

**LINKAGE-AUDIT = \*ALLOWED**

Informs about user entries which may control Linkage Audit mode.

**LINKAGE-AUDIT = \*NOT-ALLOWED**

Informs about user entries which may not control Linkage Audit mode.

**LOCK-USER = \*ANY / \*NO / \*YES**

Informs about user entries in conjunction with a user ID lock.

**LOCK-USER = \*ANY**

The user ID lock is not a selection criterion.

**LOCK-USER = \*NO**

Informs only about the user entries which are not locked.

**LOCK-USER = \*YES**

Informs only about the user entries which are locked.

**LOGON-PASSWORD = \*ANY / \*NONE / \*YES**

Informs about user entries in conjunction with the assignment of a user password.

**LOGON-PASSWORD = \*ANY**

Assignment of a user password is not a selection criterion.

**LOGON-PASSWORD = \*NONE**

Informs about user entries for which no user password is assigned.

**LOGON-PASSWORD = \*YES**

Informs about user entries for which a user password is assigned.

**MAILING-ADDRESS = \*ANY / \*NONE / \*YES / <c-string 1..64 with-low>(...) / <x-string 1..128>**

Informs about user entries in conjunction with the mailing address for SPOOLOUT lists.

**MAILING-ADDRESS = \*ANY**

The mailing address for SPOOLOUT lists is not a selection criterion.

**MAILING-ADDRESS = \*NONE**

Informs about user entries without a mailing address for SPOOLOUT lists.

**MAILING-ADDRESS = \*YES**

Informs about user entries with a mailing address for SPOOLOUT lists.

**MAILING-ADDRESS = <c-string 1..64 with-low>(...)**

Informs about user entries with the specified mailing address for SPOOLOUT lists. By default a distinction is made between upper/lower case in the search (corresponding to CASE-SENSITIVE=\*YES).



**CASE-SENSITIVE = \*YES / \*NO**

Specifies whether a distinction is to be made between upper/lower case when checking the mailing address.

**MAILING-ADDRESS = <x-string 1..128>**

Informs about user entries with the hexadecimal mailing address for SPOOLOUT lists.

**MAX-ACCOUNT-RECORDS = \*ANY / \*NO-LIMIT / <integer 0..32767> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum permitted number of user-specific accounting records.

**MAX-ACCOUNT-RECORDS = \*ANY**

The maximum permitted number of user-specific accounting records is not a selection criterion.

**MAX-ACCOUNT-RECORDS = \*NO-LIMIT**

Informs about user entries for which the permitted number of user-specific accounting records is not limited.

**MAX-ACCOUNT-RECORDS = <integer 0..32767>**

Informs about user entries with the specified maximum permitted number of user-specific accounting records.

**MAX-ACCOUNT-RECORDS = \*INTERVAL(...)**

Informs about user entries for which the permitted number of user-specific accounting records is in the specified value range.

**FROM = 0 / <integer 0..32767>**

User entries whose maximum permitted number of user-specific accounting records  $\geq$  the specified value.

**TO = 32767 / <integer 0..32767>**

User entries whose maximum permitted number of user-specific accounting records  $\leq$  the specified value.

**PASSWORD-MANAGEMENT = \*ANY / \*BY-USER / \*BY-ADMINISTRATOR / \*USER-CHANGE-ONLY**

Informs about user entries in conjunction with the rights for managing the user password.

**PASSWORD-MANAGEMENT = \*ANY**

The rights for managing the user password are not a selection criterion.

**PASSWORD-MANAGEMENT = \*BY-USER**

Informs about user entries for which the user can define, modify and delete the password.

**PASSWORD-MANAGEMENT = \*BY-ADMINISTRATOR**

Informs about user entries for which only the system administrator can define, modify and delete the password.

**PASSWORD-MANAGEMENT = \*USER-CHANGE-ONLY**

Informs about user entries for which the user cannot define, but can modify the password.

**PROFILE-ID = \*ANY / \*NONE / \*YES / <structured-name 1..30 with-wild(48)>**

Informs about user entries in conjunction with a profile ID for assigning group syntax files.

**PROFILE-ID = \*ANY**

The profile ID is not a selection criterion.

**PROFILE-ID = \*NONE**

Informs about user entries without profile ID.

**PROFILE-ID = \*YES**

Informs about user entries with a profile ID.

**PROFILE-ID = <structured-name 1..30 with-wild(48)>**

Informs about user entries the specified profile ID.

**RESIDENT-PAGES = \*ANY / \*STD / \*MAXIMUM / <integer 0..2147483647 4Kbyte> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum resident main memory.

**RESIDENT-PAGES = \*ANY**

The maximum resident main memory is not a selection criterion.

**RESIDENT-PAGES = \*STD**

Informs about user entries which may occupy a maximum of 32 767 resident main memory pages.

**RESIDENT-PAGES = \*MAXIMUM**

Informs about user entries which may occupy a maximum of 2 147 483 647 resident main memory pages.

**RESIDENT-PAGES = <integer 0..2147483647 4Kbyte>**

Informs about user entries which may occupy a maximum of the specified number of resident main memory pages.

**RESIDENT-PAGES = \*INTERVAL(...)**

Informs about user entries for which the maximum resident main memory is in the specified value range.

**FROM = 0 / <integer 0..2147483647 4Kbyte>**

User entries with a maximum resident main memory  $\geq$  the specified value.

**TO = 2147483647 / <integer 0..2147483647 4Kbyte>**

User entries with a maximum resident main memory  $\leq$  the specified value.

**TAPE-ACCESS = \*ANY / \*STD / \*PRIVILEGED / \*READ / \*BYPASS-LABEL / \*ALL**  
Informs about user entries in conjunction with the access rights to tapes.

**TAPE-ACCESS = \*ANY**

The access rights to tapes are not a selection criterion.

**TAPE-ACCESS = \*STD**

Informs about user entries with restricted access rights to tapes.

**TAPE-ACCESS = \*PRIVILEGED**

Informs about user entries mit with extended access rights to tapes.

**TAPE-ACCESS = \*READ**

Informs about user entries with extended read access to tapes.

**TAPE-ACCESS = \*BYPASS-LABEL**

Informs about user entries with unrestricted read access to tapes.

**TAPE-ACCESS = \*ALL**

Informs about user entries with unrestricted access to tapes.

**TEST-OPTIONS = \*ANY / \*PARAMETERS(...)**

Informs about user entries in conjunction with the maximum possible test privilege.

**TEST-OPTIONS = \*ANY**

The maximum possible test privileges are not a selection criterion.

**TEST-OPTIONS = \*PARAMETERS(...)**

Informs about user entries with the specified maximum test privileges.

**MODIFICATION = \*ANY / \*CONTROLLED / \*UNCONTROLLED**

Informs about user entries in conjunction with permission to modify the test privileges.

**MODIFICATION = \*ANY**

Permission to modify the test privileges is not a selection criterion.

**MODIFICATION = \*CONTROLLED**

Informs about user entries which may modify their test privileges only with the agreement of the operator.

**MODIFICATION = \*UNCONTROLLED**

Informs about user entries which may modify their test privileges without restriction.

**READ-PRIVILEGE = \*ANY / <integer 1..9> / \*INTERVAL(...)**

Informs about user entries in conjunction with the maximum read privileges.

**READ-PRIVILEGE = \*ANY**

The maximum read privileges are not a selection criterion.

**READ-PRIVILEGE = <integer 1..9>**

Informs about user entries with the specified maximum read privileges.

**READ-PRIVILEGE = \*INTERVAL(...)**

Informs about user entries whose read privileges are in the specified value range.

**FROM = 1 / <integer 1..9>**

User entries with read privileges  $\geq$  the specified value.

**TO = 9 / <integer 1..9 >**

User entries with read privileges  $\leq$  the specified value.

**WRITE-PRIVILEGE = \*ANY / <integer 1..9> / \*INTERVAL(...)**

Informs about user entries in conjunction with maximum write privileges.

**WRITE-PRIVILEGE = \*ANY**

The maximum write privileges are not a selection criterion.

**WRITE-PRIVILEGE = <integer 1..9>**

Informs about user entries with the specified maximum write privileges.

**WRITE-PRIVILEGE = \*INTERVAL(...)**

Informs about user entries whose write privileges are in the specified value range.

**FROM = 1 / <integer 1..9>**

User entries with write privileges  $\geq$  the specified value.

**TO = 9 / <integer 1..9 >**

User entries with write privileges  $\leq$  the specified value.

**Return codes**

(SC2)	SC1	Maincode	Bedeutung
	0	CMD0001	Command executed without error
	1	SRM6010	Syntax error in command
	32	SRM6020	System error during command processing
	64	SRM6040	Semantic error during command processing
	130	SRM6030	Command cannot temporarily be executed

## Output fields and meaning

The output from the SHOW-USER-ATTRIBUTES command can be directed to SYSOUT or to SYSLST (see OUTPUT operand). Each user entry that is output begins with a header line containing the catalog ID and user ID of the entry concerned, together with the date and time of the output. Each user entry output ends with a trailer line which again contains the catalog ID and user ID of the entry concerned (see example). The following table contains all the output fields, sorted alphabetically, with their meanings and possible values.

Output field	Meaning and possible values
ACCOUNT-#	Account number (1 to 8 characters)
ADDRESS-SPACE-LIMIT=	User address space (1 to 2 147 483 647 MB)
AUDIT...	Header line summarizing the authorization to control the hardware audit mode and the linkage audit mode
CODED-CHARACTER-SET	CCS name (*STD or 8 characters)
CPU-LIMIT	Maximum available CPU time, with reference to the account number (0 to 2147483647 CPU seconds)
CRYPTO-SESSION-LIMIT	Max. number of openCRYPT sessions in a BS2000 session (0 through 32767)
CRYPTO-SESSION-USED	Number of openCRYPT sessions used in a BS2000 session (0 through 32767)
CSTMP-MACRO-ALLOWED	Specifies whether the user is authorized to use the CSTMP macro (YES or NO)
DEFAULT-ACCOUNT-# FOR LOGON	<i>Display only for HOME pubset:</i> Default account number for interactive and batch jobs (specification ACCOUNT=*NONE at task startup)
DEFAULT-JOB-CLASS FOR BATCH-JOBS	<i>Indicated only for home pubset:</i> Default job class for batch jobs (JOB-CLASS=*STD specified at start of job)
DEFAULT-JOB-CLASS FOR DIALOG-JOBS	<i>Indicated only for home pubset:</i> Default job class for interactive jobs (JOB-CLASS=*STD specified at start of job)
DEFAULT-JOB-CLASS FOR POSIX-JOBS	<i>Indicated only for home pubset:</i> Default job class for POSIX jobs (JOB-CLASS=*STD specified at start of job)
DEF-STORAGE-CLASS	<i>With INFORMATION=*PUBSET-ATTRIBUTES:</i> Default storage class for files in SM pubsets (*NONE or 1 to 8 characters)

Table 180: Output fields for the SHOW-USER-ATTRIBUTES command (Part 1 of 5)

## SHOW-USER-ATTRIBUTES

Output field	Meaning and possible values
DEFAULT-MSG-LANGUAGE	Language in which messages are to be output (1 character) e.g. D = German, E = English. If no entry exists, the messages are output in the language specified by the system parameter MSGLPRI.
DEFAULT-ACCOUNT-# FOR REMOTE-LOGIN	Account number for billing a POSIX remote login session (1-8 characters or *NONE)
DEFAULT-PUBSET	Default catalog ID (1 to 4 characters)
DMS-TUNING-RESOURCES	Specifies which DMS tuning resources may be utilized (*NONE, *CONCURRENT or *EXCLUSIVE)
EMAIL-ADDRESS	Email address (1 to 1800 characters or *NONE). The entry can also contain multiple, comma-separated email addresses.
FILE-AUDIT	Specifies whether the user may use the AUDIT function (*YES or *NO)
FILE-NUMBER-LIMIT	Max. number of permanent files (0 to 16777215)
FILES	Current number of files
GROUP-ID	Name of the user group to which the user ID is assigned
HARDWARE-AUDIT	Indicates whether the user is authorized to control the hardware audit mode (*ALLOWED or *NOT-ALLOWED)
HIGH-AVAIL-SPACE	<i>With INFORMATION=*PUBSET-ATTRIBUTES / *PUBSET-SUMMARY:</i> Totals of the quotas for high-availability storage space, separately for permanent files, temporary files and work files: LIMIT shows the maximum permissible values USED shows the values for currently occupied space (*MAXIMUM or 0 to 2147483647 in 2 KB pages)
HIGH-PERF-SPACE	<i>With INFORMATION=*PUBSET-ATTRIBUTES / *PUBSET-SUMMARY:</i> Totals of the quotas for high-performance storage space, separately for permanent files, temporary files and work files: LIMIT shows the maximum permissible values USED shows the values for currently occupied space (*MAXIMUM or 0 to 2147483647 in 2 KB pages)
INHIB-DEACT	Task deactivation inhibition (*YES or *NO); with reference to the account number
JOB-VARIABLES	Current number of job variables
JV-NUMBER-LIMIT	Maximum number of permanent job variables (0 to 16777215)
LIMITED FILES	<i>With INFORMATION=*PUBSET-ATTRIBUTES / *PUBSET-SUMMARY:</i> Current number of files

Table 180: Output fields for the SHOW-USER-ATTRIBUTES command (Part 2 of 5)

Output field	Meaning and possible values
LINKAGE-AUDIT	Indicates whether the user is authorized to control linkage audit mode (*ALLOWED or *NOT-ALLOWED)
LIST OF JOB-CLASSES ALLOWED	<i>Indicated only for HOME pubset:</i> Job classes which the user may use for jobs
LOGON-PASSWORD	Specifies whether access to the system is locked for the user ID (*YES or *NO) <i>System or group administrator:</i> When PASSWORD-INFORMATION=*FULL is specified in interactive mode, the password is output explicitly (c-string or x-string)
MAIL-ADDRESS	Mailing address (1 to 64 characters or *NONE)
MAX-ACCOUNT-RECORDS	Maximum number of user-specific accounting records (0 to 32767)
MAX-ALLOWED-CATEGORY	Specifies which task attribute may be applied to user jobs (STD, TP or SYS); with reference to the account number
MAX-RUN-PRIORITY	Highest run priority (task scheduling priority); with reference to the account no. (30 to 255)
MODIFICATION	Specifies whether test options may be modified by the user (*CONTROLLED or *UNCONTROLLED)
NET-STORAGE-USAGE	Specifies whether the user is allowed to Net-Storage volumes (*ALLOWED or *NOT-ALLOWED)
NO-CPU-LIMIT	Permission for jobs with no CPU limit; with reference to the account number (*YES or *NO)
PASSWORD-MGMT	Specifies whether the user is authorized to modify his LOGON password (*BY-USER, *BY-ADMINISTRATION or *USER-CHANGE-ONLY)
PERM-SPACE	<i>With INFORMATION=*PUBSET-ATTRIBUTES or</i> *PUBSET-SUMMARY: Column header for summary of space quotas for permanent files in SM pubsets
PERM-SPACE-LIMIT	<i>With INFORMATION=*PUBSET-ATTRIBUTES or</i> *PUBSET-SUMMARY: Maximum amount of available public space for permanent files in SF pubsets
PERM-SPACE-USED	<i>With INFORMATION=*PUBSET-ATTRIBUTES / *PUBSET-SUMMARY:</i> Public space in SF pubsets that is currently used by permanent files.
PHYSICAL-ALLOCATION	Indicates whether the user is allowed to perform absolute space allocation for the pubset (*ALLOWED or *NOT-ALLOWED)
PROFILE-ID	Profile ID of the user for assigning a group syntax file (as per SDF parameter file); (up to 30 characters or *NONE)
PROTECTION-ATTRIBUTES...	Header line summarizing the output fields LOGON-PASSWORD, PASSWORD-MGMT, TAPE-ACCESS and FILE-AUDIT

Table 180: Output fields for the SHOW-USER-ATTRIBUTES command (Part 3 of 5)

## SHOW-USER-ATTRIBUTES

Output field	Meaning and possible values
PUBLIC-SPACE-EXCESS	Specifies whether the user is allowed to occupy more public space than defined by PUBLIC-SPACE-LIMIT (*NO, *TEMPORARILY-ALLOWED or *ALLOWED)
PUBLIC-SPACE-LIMIT	Maximum available public storage space for permanent files (0 to 2147483647 2-KB pages)
PUBLIC-SPACE-USED	Public storage space currently occupied by permanent files (0 to 2147483647 2-KB pages)
READ-PRIVILEGE	Maximum read privilege relating to use of the software product AID (1 to 9)
RESIDENT-PAGES	Maximum number of resident main memory pages (0 to 2 147 483 647 4-KB pages)
SPOOLOUT-CLASS	Spoolout class (0 to 255); with reference to the account number
START-IMMED	Specifies whether the user may start jobs with START=*IMMEDIATE (*YES or *NO); with reference to the account number
S0-LEVEL-SPACE	<i>With INFORMATION=*PUBSET-ATTRIBUTES / *PUBSET-SUMMARY:</i> Totals of the quotas for storage space on processing level S0, separately for permanent files, temporary files and work files: LIMIT shows the maximum permissible values USED shows the values for currently occupied space (*MAXIMUM or 0 to 2147483647 in 2 KB pages)
TAPE-ACCESS	Specifies whether errors may be ignored during label checking of tapes (*STD, *PRIVILEGED, *READ, *BYPASS-LABEL or *ALL)
TEMP-SPACE	<i>With INFORMATION=*PUBSET-ATTRIBUTES / *PUBSET-SUMMARY:</i> Column header for summary of values for temporary space quotas in SM pubsets
TEMP-SPACE-LIMIT	Maximum available public storage space for temporary files (0 to 2147483647 2-KB pages)
TEMP-SPACE-USED	Public storage space currently occupied by temporary files (0 to 2147483647 2-KB pages)
TEST-OPTIONS...	Header line summarizing the output fields for test options: *READ-PRIVILEGE, *WRITE-PRIVILEGE, *MODIFICATION
TOTAL-SPACE	<i>With INFORMATION=*PUBSET-ATTRIBUTES / *PUBSET-SUMMARY:</i> Totals of all storage space quotas, separately for permanent files, temporary files and work files: LIMIT shows the values for maximum permissible space USED shows the values for currently occupied space (0 to 2147483647 in 2 KB pages)
USERS	Number of user entries specified (USER-ID operand) (1 to 2147483647 entries)

Table 180: Output fields for the SHOW-USER-ATTRIBUTES command (Part 4 of 5)



Output field	Meaning and possible values
USER-ID	User ID to which the entry in the user catalog applies (1 to 8 characters)
USER-LOCKED	Specifies whether access to the system is locked for the user ID (*YES or *NO)
VERY-HIGH-PERF-SPACE	<i>With INFORMATION=*PUBSET-ATTRIBUTES / *PUBSET-SUMMARY:</i> Totals of the quotas for high-performance storage space, separately for permanent files, temporary files and work files: LIMIT shows the maximum permissible values USED shows the values for currently occupied space (*MAXIMUM or 0 to 2147483647 in 2 KB pages)
WORK-SPACE	<i>With INFORMATION=*PUBSET-ATTRIBUTES / *PUBSET-SUMMARY:</i> Column header for summary of values for work file space quotas in SM pubsets
WRITE-PRIVILEGE	Maximum write privilege relating to use of the software product AID (1 to 9)

Table 180: Output fields for the SHOW-USER-ATTRIBUTES command (Part 5 of 5)

**Output in S variable**

The command's INFORMATION operand identifies the S variables which are also to be generated (see also the "Condition" column). The following specifications are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = *ATTRIBUTES	INF=ATTR
INFORMATION = *SUMMARY	INF=SUM
INFORMATION = *USER-LIST	INF=U-LIST
INFORMATION = *PUBSET-ATTRIBUTES	INF=PUB-A
INFORMATION = *PUBSET-SUMMARY	INF=PUB-S

*Notes*

- Only systems support or the group administrator in charge of the specified user ID is allowed to specify INFORMATION=\*SUMMARY or INFORMATION=\*USER-LIST.
- The operands INFORMATION=\*PUBSET-ATTRIBUTES and =\*PUBSET-SUMMARY are provided primarily for system-managed pubsets. If they are used for single-feature pubsets, the S variables are output for non-defined values but are not assigned values.

Output information	Name of the S variable	T	Contents	Condition
Account number of the user ID	var(*LIST).ACCOUNT(*LIST).ACCOUNT	S	<alphan.-name 1..8>	INF=ATTR
CPU limit for the user ID	var(*LIST).ACCOUNT(*LIST).CPU-LIM	I	<integer 0..2147483647>	INF=ATTR
Deactivation inhibit available to the user ID	var(*LIST).ACCOUNT(*LIST).INHIBIT-DEACTIVATE	S	*NO *YES	INF=ATTR
Default account number for access without account number	var(*LIST).ACCOUNT(*LIST).LOGON-DEF	S	*NO *YES	INF=ATTR
Task attribute for jobs associated with the user ID	var(*LIST).ACCOUNT(*LIST).MAX-ALLOW-CATEG	S	*STD *SYS *TP	INF=ATTR
Maximum run priority for jobs associated with the user ID	var(*LIST).ACCOUNT(*LIST).MAX-RUN-PRIO	I	<integer 30..255>	INF=ATTR
Permission for the user ID to run batch jobs with no time limit	var(*LIST).ACCOUNT(*LIST).NO-CPU-LIM	S	*NO *YES	INF=ATTR
Account number for POSIX rlogin access	var(*LIST).ACCOUNT(*LIST).POSIX-RLOG-DEF	S	*NO *YES	INF=ATTR
Spoolout class for the account number of the user ID	var(*LIST).ACCOUNT(*LIST).SPOOL-CLASS	I	<integer 0..255>	INF=ATTR

(Part 1 of 6)

Output information	Name of the S variable	T	Contents	Condition
Job express function available to the user ID	var(*LIST).ACCOUNT(*LIST).START-IMMED	S	*NO *YES	INF=ATTR
User address space limit	var(*LIST).ADDR-SPACE-LIM	I	<integer 1..2147483647>	INF=ATTR
Name of the extended coded character set	var(*LIST).CODED-CHAR-SET	S	<name 1..8>	INF=ATTR
Max. number of openCRYPT sessions in a BS2000 session	var(*LIST).CRYPTO-SESSION-LIM	I	<integer 1..32767>	INF=ATTR
Current number of openCRYPT sessions in the BS2000 session	var(*LIST).CRYPTO-SESSION-USED	I	<integer 1..32767>	INF=ATTR
User ID is authorized to run the CSTMP macro	var(*LIST).CSTMP	S	*NO *YES	INF=ATTR
Default job class for batch jobs	var(*LIST).DEF-JOB-CLASS-BATCH	S	*NONE <name 1..8>	INF=ATTR
Default job class for interactive jobs	var(*LIST).DEF-JOB-CLASS-DIALOG	S	*NONE <name 1..8>	INF=ATTR
Default job class for POSIX jobs	var(*LIST).DEF-JOB-CLASS-POSIX	S	*NONE <name 1..8>	INF=ATTR
Default language for message output	var(*LIST).DEF-MSG-LANG	S	<name 1..1>	INF=ATTR
Default catalog ID	var(*LIST).DEF-PUBSET	S	<cat-id 1..4>	INF=ATTR
Default storage class for files on SM pubsets	var(*LIST).DEF-STOR-CLASS	S	*NONE <name 1..8>	INF=PUB-A
Usage mode for DMS tuning resources	var(*LIST).DMS-TUNING-RESOURCE	S	*CONCURRENT-USE *EXCL-USE *NONE	INF=ATTR/ PUB-A
Email address of the user ID (multiple addresses are separated by a comma)	var(*LIST).EMAIL-ADDR	S	*NONE <c-string 1..1800>	INF=ATTR
File access AUDIT function available to the user ID	var(*LIST).F-AUDIT	S	*ALLOW *NO	INF=ATTR
Maximum number of permanent files	var(*LIST).F-NUM-LIM	I	<integer 0..16777215>	INF=ATTR/ PUB-A/ PUB-S
Name of the user group to which the user ID is assigned	var(*LIST).GROUP-ID	S	*UNIV <name 1..8>	INF=ATTR
Control of hardware AUDIT function through the user ID	var(*LIST).HARDWARE-AUDIT	S	*ALLOW *NOT-ALLOW	INF=ATTR
Job class available to the user	var(*LIST).JOB-CLASS-ALLOW(*LIST)	S	<name 1..8>	INF=ATTR

(Part 2 of 6)

## SHOW-USER-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Maximum number of permanent job variables	var(*LIST).JV-NUM-LIM	I	<integer 0..16777215>	INF=ATTR/ PUB-A/ PUB-S
Control of linkage AUDIT function through the user ID	var(*LIST).LINKAGE-AUDIT	S	*ALLOW *NOT-ALLOW	INF=ATTR
User ID is password-protected (*YES/*NO); if the system or group administrator specifies PASSWORD-INFO=FULL in interactive mode, the password is explicitly displayed	var(*LIST).LOGON-PASS	S	*NO *YES <c-string 1..19>	INF=ATTR
Mailing address	var(*LIST).MAIL-ADDR	S	*NONE <c-string 1..67>	INF=ATTR
Maximum number of user-specific accounting records	var(*LIST).MAX-ACCOUNT-REC	S	*NO-LIM <0..32767>	INF=ATTR
Indication of whether the user needs the operator's permission to modify test options	var(*LIST).MODIF	S	*CONTR *UNCONTR	INF=ATTR
Current number of account numbers	var(*LIST).NUM-OF-ACCOUNT	I	<integer 1..2147483647>	INF=SUM
Current number of files	var(*LIST).NUM-OF-F	I	<integer 0..16777215>	INF=ATTR/ PUB-A/ PUB-S
Current number of job variables	var(*LIST).NUM-OF-JV	I	<integer 0..16777215>	INF=ATTR/ PUB-A/ PUB-S
Current number of user IDs	var(*LIST).NUM-OF-USER	I	<integer 1..2147483647>	INF=SUM/ PUB-S
Number of locked user IDs	var(*LIST).NUM-OF-USER-LOCK	I	<integer 0..2147483647>	INF=SUM
Number of password-protected user IDs	var(*LIST).NUM-OF-USER-PASS	I	<integer 0..2147483647>	INF=SUM
Indication of who is allowed to change the LOGON password	var(*LIST).PASS-MANAGE	S	*BY-ADM *BY-USER *USER-CHA-ONLY	INF=ATTR
Maximum HIGH-AVAILABLE-SPACE available for permanent files	var(*LIST).PERM-HASL	S	<c-string 1..14> *MAX	INF=PUB-A/ PUB-S
HIGH-AVAILABLE-SPACE currently occupied by permanent files	var(*LIST).PERM-HASU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Maximum HIGH-PERF-SPACE available for permanent files	var(*LIST).PERM-HPSL	S	<c-string 1..14> *MAX	INF=PUB-A/ PUB-S

(Part 3 of 6)

Output information	Name of the S variable	T	Contents	Condition
HIGH-PERF-SPACE currently occupied by permanent files	var(*LIST).PERM-HPSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Maximum S0-LEVEL-SPACE available	var(*LIST).PERM-S0LSL	S	<c-string 1..14> *MAX	INF=PUB-A/ PUB-S
S0-LEVEL-SPACE currently occupied	var(*LIST).PERM-S0LSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Maximum space available for permanent files	var(*LIST).PERM-TSL	S	<c-string 1..14> *UNLIM	INF=PUB-A/ PUB-S
Space currently occupied by permanent files	var(*LIST).PERM-TSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Maximum VERY-HIGH-PERF-SPACE available for permanent files	var(*LIST).PERM-VHPSL	S	<c-string 1..14> *MAX	INF=PUB-A/ PUB-S
VERY-HIGH-PERF-SPACE currently occupied by permanent files	var(*LIST).PERM-VHPSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Specifies whether the user is allowed to Net-Storage volumes	var(*LIST).NET-STOR-USAGE	S	*NO *ALLOW	INF=ATTR/ PUB-A
Indication of whether the user is allowed absolute space allocation (direct allocation) for the pubset	var(*LIST).PHYS-ALLOC	S	*NO *ALLOW	INF=ATTR/ PUB-A
Profile ID of the user for assigning a group syntax file	var(*LIST).PROF-ID	S	*NONE <filename1..54> <struc.-name 1..30>	INF=ATTR
Indication of whether the user is allowed to occupy more public space than defined by PUBLIC-SPACE-LIMIT	var(*LIST).PUB-SPACE-EXC	S	*ALLOW *NO *TEMP-ALLOW	INF=ATTR/ PUB-A
Maximum available public space for permanent files	var(*LIST).PUB-SPACE-LIM	I	<integer 0..2147483647>	INF=ATTR
Public space currently occupied by permanent files	var(*LIST).PUB-SPACE-USED	I	<integer 0..2147483647>	INF=ATTR
Pubset catalog ID	var(*LIST).PUBSET	S	<cat-id 1..4>	
Highest read privilege when using AID	var(*LIST).READ-PRIVIL	I	<integer 1..9>	INF=ATTR
Maximum number of resident main memory pages (in 4K pages)	var(*LIST).RESID-PAGE	I	<integer 0..2147483647>	INF=ATTR
Available space; (***** is output if the value is greater than 1000*(2 <sup>31</sup> -1))	var(*LIST).SPACE-AVAIL	S	***** 0..2147483647 0..2147483647K	INF=SUM

## SHOW-USER-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Occupied space; (***** is output if the value is greater than $1000 \times (2^{31} - 1)$ )	var(*LIST).SPACE-USED	S	***** 0..2147483647 0..2147483647K	INF=SUM
Occupied space as a percentage; (*** is output if the overflow value ***** is output for the available or occupied space)	var(*LIST).SPACE-USED-PERCENT	S	*** 0..999	INF=SUM
Indication of whether errors encountered during tape label checking may be ignored	var(*LIST).TAPE-ACCESS	S	*ALL *BYPASS-LABEL *PRIVIL *READ *STD	INF=ATTR
Maximum HIGH-PERF-SPACE available for temporary files	var(*LIST).TEMP-HPSL	S	<c-string 1..14> *MAX	INF=PUB-A/ PUB-S
HIGH-PERF-SPACE currently occupied by temporary files	var(*LIST).TEMP-HPSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Maximum available public space for temporary files	var(*LIST).TEMP-SPACE-LIM	I	<integer 0..2147483647>	INF=ATTR
Public space currently occupied by temporary files	var(*LIST).TEMP-SPACE-USED	I	<integer 0..2147483647>	INF=ATTR
Maximum space available for temporary files	var(*LIST).TEMP-TSL	S	<c-string 1..14> *UNLIM	INF=PUB-A/ PUB-S
Space currently occupied by temporary files	var(*LIST).TEMP-TSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Maximum VERYHIGH-PERF-SPACE available for temporary files	var(*LIST).TEMP-VHPSL	S	<c-string 1..14> *MAX	INF=PUB-A/ PUB-S
VERY-HIGH-PERF-SPACE currently occupied by temporary files	var(*LIST).TEMP-VHPSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
User ID (only the system administrator may list more than one user ID)	var(*LIST).USER-ID	S	<name 1..8>	INF=ATTR/ PUB-A
	var(*LIST).USER-ID(*LIST)	S	<name 1..8>	INF=U-LIST
System access lock on user ID	var(*LIST).USER-ID-LOCK	S	*NO *YES	INF=ATTR
Maximum high-performance work space available	var(*LIST).WORK-HPSL	S	<c-string 1..14> *MAX	INF=PUB-A/ PUB-S
High-performance work space currently occupied	var(*LIST).WORK-HPSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Maximum work space available	var(*LIST).WORK-TSL	S	<c-string 1..14> *UNLIM	INF=PUB-A/ PUB-S

(Part 5 of 6)

Output information	Name of the S variable	T	Contents	Condition
Work space currently occupied	var(*LIST).WORK-TSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Maximum very high-performance work space available	var(*LIST).WORK-VHPSL	S	<c-string 1..14> *MAX	INF=PUB-A/ PUB-S
Very high-performance work space currently occupied	var(*LIST).WORK-VHPSU	S	<c-string 1..14>	INF=PUB-A/ PUB-S
Highest write privilege when using AID	var(*LIST).WRITE-PRIVIL	I	<integer 1..9>	INF=ATTR

(Part 6 of 6)

## Examples

*Output of the user entry from the user catalog of the default pubset*

```

/show-user-attr pubset=*default
%SHOW-USER-ATTRIBUTES --- PUBSET TK82 - USER COGNIBS3          2014-01-29 15:09:50
%-----
%USER-ID                COGNIBS3                PUBLIC-SPACE-USED          0
%GROUP-ID               *UNIVERSAL                PUBLIC-SPACE-LIMIT        20000
%DEFAULT-PUBSET         TK82                PUBLIC-SPACE-EXCESS       *NO
%MAX-ACCOUNT-RECORDS   100                TEMP-SPACE-USED          0
%DEFAULT-MSG-LANGUAGE   TEMP-SPACE-LIMIT      2147483647
%                        FILES                FILE-NUMBER-LIMIT        16777215
%PROTECTION-ATTRIBUTES...
%LOGON-PASSWORD        *YES                JOB-VARIABLES            0
%PASSWORD-MGMT         *USER-CHANGE-ONLY   JV-NUMBER-LIMIT          16777215
%TAPE-ACCESS           *READ               RESIDENT-PAGES           32767
%FILE-AUDIT            *NO                 ADDRESS-SPACE-LIMIT      16
%                        DMS-TUNING-RESOURCES   *NONE
%TEST-OPTIONS...      CSTMP-MACRO-ALLOWED *NO
%READ-PRIVILEGE        1                   CODED-CHARACTER-SET      EDF03IRV
%WRITE-PRIVILEGE       1                   PHYSICAL-ALLOCATION        *NO
%MODIFICATION          *CONTROLLED         USER-LOCKED              *NO
%                        CRYPTO-SESSION-USED   0
%AUDIT...              CRYPTO-SESSION-LIMIT 128
%HARDWARE-AUDIT        *ALLOWED            NET-STORAGE-USAGE        *ALLOWED
%LINKAGE-AUDIT        *ALLOWED
%
%PROFILE-ID *NONE
%MAIL-ADDRESS          Abteilung Z8   Raum 55.105
%EMAIL-ADDRESS         alfred.holli@incognito.de,
%                        joachim.vogi@incognito.de,
%                        johannes.kuli@incognito.de,
%                        mathias.reh@incognito.de
%
%+-----+-----+-----+-----+-----+-----+-----+-----+
%!ACCOUNT-#! CPU-LIMIT !SPOOLOUT-!MAX-RUN-!MAX-ALLOWED-!NO-CPU-!START-!INHIB-!
%!          !          ! CLASS !PRIORITY! CATEGORY ! LIMIT ! IMMED! DEACT!
%+-----+-----+-----+-----+-----+-----+-----+-----+
%! ACC00015!    10000!    0 ! 255 !    STD ! NO ! YES ! NO !
%+-----+-----+-----+-----+-----+-----+-----+-----+
%DEFAULT-ACCOUNT-# FOR LOGON: *NONE
%DEFAULT-ACCOUNT-# FOR REMOTE-LOGIN: *NONE
%
%DEFAULT-JOB-CLASS FOR BATCH-JOBS: JCBSTD
%DEFAULT-JOB-CLASS FOR DIALOG-JOBS: JCDSTD
%DEFAULT-JOB-CLASS FOR POSIX-JOBS: JCDSTD
%LIST OF JOB-CLASSES ALLOWED:
%JCBATCHF JCBSTD JCB00050 JCB00200 JCB02000 JCB05000 JCB32000 JCDSTD
%-----
%SHOW-USER-ATTRIBUTES          END OF DISPLAY FOR USER COGNIBS3 ON PUBSET TK82

```

This output shows information for user ID *COGNIBS3* taken from the user catalog of the default pubset TK82.



Outputs with INFORMATION=\*PUBSET-ATTRIBUTES or \*PUBSET-SUMMARY

The example shows how output differs for SM and SF pubsets.

```
/show-user-attr pubset=smz,inf=*pubset-attr ----- (1)
SHOW-USER-ATTRIBUTES --- PUBSET SMZ - USER USERYZ02      2014-11-12 10:49:10
```

```
-----
USER-ID                USERYZ02          PUBLIC-SPACE-EXCESS  *NOT-ALLOWED
NET-STORAGE-USAGE     *ALLOWED         DMS-TUNING-RESOURCES *NONE
DEF-STORAGE-CLASS     *NONE            PHYSICAL-ALLOCATION   *NOT-ALLOWED
```

```
FILE-NUMBER-LIMIT     16777215          JV-NUMBER-LIMIT     16777215
LIMITED FILES         26                JOB-VARIABLES       0
```

```
TOTAL-SPACE           LIMIT            PERM-SPACE          TEMP-SPACE          WORK-SPACE
USED                  2147483647       2147483647         0                    0
SO-LEVEL-SPACE        LIMIT            2147483647         10248                0
```

```
USED                  10248
HIGH-PERF-SPACE       LIMIT            *MAXIMUM            *MAXIMUM            *MAXIMUM
USED                   0                0                    0                    0
```

```
VERY-HIGH-PERF-SPACE LIMIT            *MAXIMUM            *MAXIMUM            *MAXIMUM
USED                   0                0                    0                    0
```

```
HIGH-AVAILABLE-SPACE LIMIT            0
USED                   0
```

```
-----
SHOW-USER-ATTRIBUTES                                END OF DISPLAY FOR USER USERYZ02 ON PUBSET SMZ
```

```
/show-user-attr pubset=smz,inf=*pubset-summary ----- (2)
SHOW-USER-ATTRIBUTES --- PUBSET SMZ - PUBSET-SUMMARY      2014-11-12 10:50:15
```

```
-----
USERS                  1
FILE-NUMBER-LIMIT     16777215          JV-NUMBER-LIMIT     16777215
LIMITED FILES         26                JOB-VARIABLES       0
```

```
TOTAL-SPACE           LIMIT            PERM-SPACE          TEMP-SPACE          WORK-SPACE
USED                  2147483647       2147483647         0                    0
SO-LEVEL-SPACE        LIMIT            2147483647         10248                0
```

```
USED                  10248
HIGH-PERF-SPACE       LIMIT            2147483647         2147483647          2147483647
```

```
USED                   0                0                    0                    0
```

```
VERY-HIGH-PERF-SPACE LIMIT            2147483647         2147483647          2147483647
```

```
USED                   0                0                    0                    0
```

```
HIGH-AVAILABLE-SPACE LIMIT            0
USED                   0
```

```
-----
SHOW-USER-ATTRIBUTES                                END OF DISPLAY FOR PUBSET SMZ
```

```
/show-user-attr pubset=*home,inf=*pubset-attr ----- (3)
SHOW-USER-ATTRIBUTES --- PUBSET 2SBZ - USER USERYZ02      2014-11-12 10:51:19
```

```
-----
USER-ID                USERYZ02          PUBLIC-SPACE-EXCESS  *NOT-ALLOWED
DMS-TUNING-RESOURCES *EXCLUSIVE
PHYSICAL-ALLOCATION     *NOT-ALLOWED
```

```
FILE-NUMBER-LIMIT     16777215          JV-NUMBER-LIMIT     16777215
LIMITED FILES         3770             JOB-VARIABLES       211
```

```
PERM-SPACE-LIMIT     2147483647       TEMP-SPACE-LIMIT    2147483647
PERM-SPACE-USED      867765           TEMP-SPACE-USED     90
```

```
-----
SHOW-USER-ATTRIBUTES                                END OF DISPLAY FOR USER USERYZ02 ON PUBSET 2SBZ
```

```
/show-user-attr pubset=*home,inf=*pubset-summary ----- (4)
SHOW-USER-ATTRIBUTES --- PUBSET 2SBZ - PUBSET-SUMMARY      2012-11-12 10:51:37
```

```
-----
USERS                  1
```



## SHOW-USER-STATUS

Display information about group of jobs

<b>Description status:</b>	STATUS V15.2A
<b>Functional area:</b>	Job processing
<b>Domain:</b>	JOB USER-ADMINISTRATION
<b>Privileges:</b>	alle Privilegien
<b>Routing code:</b>	E

### Function

The SHOW-USER-STATUS command supplies information on jobs assigned to the user's own ID. It can also supply information on jobs generated under the user's own ID but running under a different user ID (extended access; does not apply to spool jobs). The RSO device administrator also obtains information on spoolout jobs under other user IDs if the output is directed to a device under his administration. The following information can be requested (INFORMATION operand):

- Value \*STD: attributes of the individual job, such as job name, account number, TSN, type (processing state), priority, CPU time used, time limit etc. This information is output for all jobs if the command is issued without operands.
- value \*ENVIRONMENT: job name, TSN, names of the hardware used by the job (terminal, processor, SPOOL devices, forms, overlays), waiting time in HOLD status, catalog identification, spoolout class.
- value \*PROGRAM (output only for jobs of type T2 or T3): job name, TSN, type, category, name and size of the loaded program (if present), current command.
- Value \*JOB (can be queried only for jobs of types T1 to T3): job names, TSN, type, category, job class, residence time in the current processing state; in addition, for batch jobs: job scheduling priority, start time, repetition interval, values for RERUN-AFTER-CRASH and FLUSH-AFTER-SHUTDOWN.
- Value \*REPEAT-JOB (can be queried only for repeat jobs): information on job repetition, such as job name, type, category, interval, number of repetitions, NTSN, next start time.
- Value \*BY-CALENDAR (can be queried only for calendar jobs): information on job name, TSN, type, symbolic starting date, job count and next calculated start time.

The specification of a job class for selecting the jobs to be output is available as an additional selection criterion (JOB-CLASS-NAME operand).

The command supports structured output in S variables (see [“Output in S variable” on page 7-367](#)).

*Privileged functions*

Systems support (TSOS and OPERATING privilege) can use the command to obtain comprehensive and detailed information relating both to jobs of all users and to a specific user ID. The INFORMATION operand allows them to define the overview they want to have displayed in more detail in terms of job type and associated attributes. They can also use a category as an additional criterion for selecting the jobs to be displayed (CATEGORY-NAME operand).

**Format**

<b>SHOW-USER-STATUS</b>	Alias: <b>SHUS</b>
<pre> <b>USER-IDENTIFICATION</b> = <u>*ALL</u> / &lt;name 1..8&gt; , <b>JOB-TYPE</b> = <u>*ANY</u> / *JOBS / *SPOOLOUT / *WAITING-JOBS / *BATCH-JOBS / *DIALOG-JOBS /       *WAITING-SPOOLOUT / *RUNNING-SPOOLOUT / *RSO-SPOOLOUT(...)       *RSO-SPOOLOUT(...)                 <b>DESTINATION</b> = <u>*ALL</u> / &lt;alphanum-name 1..8&gt;         , <b>DEVICE</b> = <u>*ALL</u> / &lt;alphanum-name 1..8 with-wild&gt; , <b>INFORMATION</b> = <u>*STD</u> / *ENVIRONMENT(...) / *PROGRAM / *JOB / *REPEAT-JOB / *BY-CALENDAR       *ENVIRONMENT(...)                 <b>TERMINAL</b> = <u>*NONE</u> / APPLICATION / *ORIGINAL , <b>OUTPUT-JOB-ID</b> = <u>*STD</u> / *NAME / *USER-IDENTIFICATION / *NONE , <b>CPU-LIMIT</b> = <u>*ANY</u> / *PARAMETERS(...)       *PARAMETERS(...)                 <b>MINIMUM</b> = <u>0</u> / &lt;integer 0..2147483647 seconds&gt;         , <b>MAXIMUM</b> = <u>2147483647</u> / &lt;integer 0..2147483647 seconds&gt; , <b>JOB-TYPE-TIME</b> = <u>*ANY</u> / *PARAMETERS(...)       *PARAMETERS(...)                 <b>MINIMUM</b> = <u>0</u> / &lt;integer 0..2147483647 minutes&gt;         , <b>MAXIMUM</b> = <u>2147483647</u> / &lt;integer 0..2147483647 minutes&gt; , <b>CATEGORY-NAME</b> = <u>*ALL</u> / &lt;name 1..8&gt; , <b>JOB-CLASS-NAME</b> = <u>*ALL</u> / &lt;name 1..8&gt; </pre>	

**Operands****USER-IDENTIFICATION =**

Defines the user ID to which the information output is to relate.

**USER-IDENTIFICATION = \*ALL**

The jobs of all users currently on the system are to be displayed. Nonprivileged users receive information about all jobs started under their own user ID. They also receive information about jobs which were generated by their own ID and are running under a different ID (extended access; does not apply to SPOOL jobs). An RSO device administrator receives information about all print jobs to be output on a printer under his administration.

**USER-IDENTIFICATION = <name 1..8>**

Only jobs for this user ID are to be included in the information output. Nonprivileged users can only explicitly specify their own user ID. Information on jobs running under other IDs can only be output under the extended access mechanism using USER-IDENTIFICATION=\*ALL.

**JOB-TYPE = \*ANY / \*JOBS / \*SPOOLOUT / \*WAITING-JOBS / \*BATCH-JOBS / \*DIALOG-JOBS / \*WAITING-SPOOLOUT / \*RUNNING-SPOOLOUT / \*RSO-SPOOLOUT(...)**

Job types on which information is desired.

Operand value	Meaning (job type)
*ANY	All (subsequently listed) job types
*JOBS	All ENTER and interactive jobs (_T1, T2 and T3)
*SPOOLOUT	Executing and waiting spoolout tasks
*WAITING-JOBS	Waiting ENTER jobs (T1)
*BATCH-JOBS	Executing ENTER jobs (T2)
*DIALOG-JOBS	Executing interactive jobs (T3)
*WAITING-SPOOLOUT	Waiting spoolout tasks (T4)
*RUNNING-SPOOLOUT	Executing spoolout tasks (T5)
*RSO-SPOOLOUT(...)	Waiting and executing spoolout tasks for RSO printers (T7); the output can be restricted to specific RSO printers or printer pools (see operand description)

**JOB-TYPE = \*RSO-SPOOLOUT(...)**

Requests information about spoolout jobs for the specified RSO printers.

**DESTINATION = \*ALL / <name 1..8 with-wild>**

Provides information on all spoolout jobs that are output to the RSO designated printers. The following may be specified:

- name of the RSO printer; can be specified in wildcard format
- name of an RSO device pool; all printers in this pool are selected.

**DEVICE = \*ALL / <alphanum-name 1..8 with-wild>**

Names of the RSO printers (can also be specified in wildcard format). The default value is \*ALL, i.e. all device pools are selected.

**INFORMATION = \*STD / \*ENVIRONMENT(...) / \*PROGRAM / \*JOB / \*REPEAT-JOB / \*BY-CALENDAR**

Type of information to be displayed. The operand values \*PROGRAM, \*JOB, \*REPEAT-JOB and \*BY-CALENDAR return information which is available only for some types of job. In this case only on information on such jobs is output.

**INFORMATION = \*STD**

Displays the following information for the job type specified:

Field	Meaning / Contents																								
NAME	<ul style="list-style-type: none"> <li>– Job name (default value for non-privileged users or with OUTPUT-JOB-ID=*NAME)</li> <li>– User ID (default value for non-privileged users or with OUTPUT-JOB-ID=*USER-ID )</li> <li>– Blank if OUTPUT-JOB-ID=*NONE was specified</li> </ul>																								
TSN	Task sequence number																								
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(Part 1 of 3)

Field	Meaning / Contents		
TYPE (cont.)	Type	Spec.	Meaning / Contents
	2/3	SYS BATCH DIALOG TP	Active batch and interactive jobs; the first 7 characters of the category name are output, e.g.: Category for system tasks Category for batch tasks Category for interactive tasks Category for interactive tasks
	4	PR	APA printer (2050-APA, 2090-APA, 2090-TWIN)
		SD	3341, 3342, 3343
		SD7	High-speed printer with loadable VFB (3337, 3338, 3339 / 3348 3349 / 3365 / 9xxx)
		NSD	High-speed printer with loadable VFB or laser printer
		HP	HP (3351, 3353) and HP90 (2090, 2140, 2240) high-performance printers
		NHS	High-performance printer or line printer
		NHP	High-performance printer
		HSD	High-performance printer or line printer
		WP	SPOOLOUT jobs waiting for PRE-PROCESSING
		T9P	Tape device 1600 bpi
		T9G	Tape device 6250 bpi
		TP	Any tape device
	WFT	Jobs waiting for file transfer	
FT	Jobs in the process of file transfer		
5	mn KP PRE	Active spoolout tasks Output device, currently active Suspended; can be started in the same session Active PRE-PROCESSING job	
7	WT ACT TP WP PRE	RSO spoolout tasks Waiting RSO spoolout tasks Active RSO spoolout tasks Suspended RSO spoolout tasks RSO jobs waiting for PRE-PROCESSING Active PRE-PROCESSING for RSO jobs	

Field	Meaning / Contents
PRI	Job and task priority; * indicates the job express function
CPU-USED	Only for T2 / T3: CPU time used, in seconds. If the maximum possible display value of 999999.999 has been reached, the current value is displayed in a new line.
CPU-MAX	Only for T1 / T2 / T3: <ul style="list-style-type: none"> <li>– Maximum CPU time allowed for the job</li> <li>– NTL (NO TIME LIMIT)</li> <li>– HOLD, if the job was suspended by systems support</li> </ul>
ACCOUNT#	Only for T1 / T2 / T3: Account number to which the job is being charged
SIZE	Only for T4/T5/T7; the value depends on the setting in the SPOOL parameter file (SPOOLOUT-SIZE); possible settings: <ul style="list-style-type: none"> <li>– File size in PAM pages</li> <li>– Approximate number of lines (printer) or blocks (tape) to be output.</li> <li>– For files created by SYSFILE management, the estimated size is displayed in logical printer pages and marked with "P".</li> <li>– Specifications from the PRINT-DOCUMENT command are not taken into account in calculation.</li> </ul>
COPIES	Only for T4/T5/T7: Number of copies still to be printed
PRSIZE	Only for T4/T5/T7: Number of lines, records or PAM pages already output. Upon restart following forced termination, PRSIZE is not reset to zero; upon restart following termination by the operator, PRSIZE is set to zero. PRSIZE=TRD: Job scheduled for APA printer has been transferred PRSIZE=TRT: Job scheduled for APA printer is being transferred
RTSN	Only for T4/T5/T7: TSN of the job generating the spoolout job.
OPT	Only for T4/T5: Optional indication * when a FOB, page rotation, or more than four character sets are used.
DEVICE	Only for T7: Device name or pool name (identified by *)

(Part 3 of 3)



**INFORMATION = \*ENVIRONMENT(...)**

The RFA application name R<tsn><sysid> is displayed for AFR partner tasks.

**TERMINAL = \*NONE / \*APPLICATION / \*ORIGINAL**

Specifies which values are to be output in the fields STATION and PROCESSOR. If \*APPLICATION is specified, the names used in the application (e.g. OMNIS) for the station and processor names are output. If \*ORIGINAL is specified, the names used by BCAM are output.

Specifying \*NONE is the same as specifying \*APPLICATION.

Displays the following information for the job specified:

Field	Meaning / Contents
NAME	<ul style="list-style-type: none"> <li>- Job name (default value for non-privileged users or with OUTPUT-JOB-ID=*NAME)</li> <li>- User ID (default value for non-privileged users or with OUTPUT-JOB-ID=*USER-ID )</li> <li>- Blank if OUTPUT-JOB-ID=*NONE was specified</li> </ul>
TSN	Task sequence number
STATION	Station name (with local printer; mnemonic device name); name from the application or BCAM name
PROCESSOR	Processor name; name from the application or BCAM name
HOLD	Time (hhmm) at which the job was placed in the "HOLD" state or "NO" state if it is not in the HOLD state (only displayed for T1, T2 and T3 jobs)
MRSCAT	Catalog ID and QUIET when the catalog is in the QUIET state or empty
FORM	Form name when printing the form used
CLASS	Spoolout class which is assigned to the job
DIA	Name of the overlay used for the laser printer
DEV	Name of the output device as described in INFORMATION=*STD, field TYPE; (only displayed for T4 and T5 jobs)
PVS	Catalog ID of the pubset on which the output file is stored
OPT	Displays with the '*' character that a FOB overlay, page rotation, or more than four character sets are used for the job
ERMSG	Error code for RSO devices. The error message can be queried with the HELP-MSG-INFORMATION command
ERCOD	Complete return code returned by DCAM, PDN or the device

**INFORMATION = \*PROGRAM**

*Output for jobs of type T2 and T3 only* Displays the following information for the specified job:

Field	Meaning / Contents
NAME	<ul style="list-style-type: none"> <li>– Job name (default value for non-privileged users or with OUTPUT-JOB-ID=*NAME)</li> <li>– User ID (default value for non-privileged users or with OUTPUT-JOB-ID=*USER-ID )</li> <li>– Blank if OUTPUT-JOB-ID=*NONE was specified</li> </ul>
TSN	Task sequence number
TYPE	Job type (T2 or T3) plus category name (7 characters)
SIZE	Program size in main memory pages (4 KB)
CURR-CMD	<ul style="list-style-type: none"> <li>– Command which is currently being executed</li> <li>– HOLD when the job is in the "HOLD" state</li> </ul>
PROG	Name of the loaded program, if available (up to 154 characters depending on the type of program file)

**INFORMATION = \*JOB**

*Output for jobs of type T1, T2 and T3 only* Displays the following information for the specified job:

Field	Meaning / Contents
NAME	<ul style="list-style-type: none"> <li>– Job name (default value for non-privileged users or with OUTPUT-JOB-ID=*NAME)</li> <li>– User ID (default value for non-privileged users or with OUTPUT-JOB-ID=*USER-ID )</li> <li>– Blank if OUTPUT-JOB-ID=*NONE was specified</li> </ul>
TSN	Task sequence number

(Part 1 of 3)

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	TP	Category for interactive tasks																								
JCLASS	Job class assigned to the user																									
INTYPE	Time span in which the job is in the processing status under consideration (in minutes)																									
P	Job scheduling priority																									
START	<p>Specification of the job start time in accordance with the SET-LOGON-PARAMETERS (or LOGON), ENTER-JOB or ENTER-PROCEDURE command:</p> <p>"Eyyy-mm-dd.hhmm" for START=*EARLIEST(...)                  "Lyyy-mm-dd.hhmm" for START=*LATEST(...)                  "Ayyy-mm-dd.hhmm" for START=*AT(...)                  "yyyy-mm-dd.hhmm" for SCHEDULING-TIME=*BY-CALENDAR(...)                  "Whhmm" for START=*WITHIN(...)                  "BYOPER:"                  "BYUSER"                  "SOON" for START=*SOON                  "IMMED" for START=*IMMEDIATELY</p>																									

(Part 2 of 3)

Field	Meaning / Contents
TYPE	Specification of the job repetition in accordance with the SET-LOGON-PARAMETERS, LOGON or ENTER-JOB command: "NO" "STUP" for REPEAT-JOB=*AT-STREAM-STARTUP "DAIL" for REPEAT-JOB=*DAILY "WEEK" for REPEAT-JOB=*WEEKLY "hhmm" for REPEAT-JOB=*PERIOD(...)
RER	YES or NO, as specified in the RERUN-AFTER-CRASH operand of the SET-LOGON-PARAMETERS, LOGON or ENTER-JOB command
FLU	YES or NO, as specified in the FLUSH-AFTER-SHUTDOWN operand of the SET-LOGON-PARAMETERS, LOGON or ENTER-JOB command

(Part 3 of 3)

**INFORMATION = \*REPEAT-JOB**

*Output for repeat jobs only (type T1 and T2)* Displays the following information for the specified job:

Field	Meaning / Contents
NAME	<ul style="list-style-type: none"> <li>– Job name (default value and with OUTPUT-JOB-ID=*NAME)</li> <li>– User ID if OUTPUT-JOB-ID=*USER-ID was specified</li> <li>– Blank if OUTPUT-JOB-ID=*NONE was specified</li> </ul>
TSN	Task sequence number
REP	Information on job repetition "STUP" for REPEAT-JOB=*AT-STREAM-STARTUP "DAIL" for REPEAT-JOB=*DAILY "WEEK" for REPEAT-JOB=*WEEKLY "hhmm" for REPEAT-JOB=*PERIOD(...)
REPCNT	Counter for job repetitions
NTSN	TSN which was reserved for the job repetition
NSTART	Start time determined for the repetition of the job

**INFORMATION = \*BY-CALENDAR**

Output for calendar jobs only (type T1 and T2) Displays the following information for the specified job:

Field	Meaning / Contents																									
NAME	<ul style="list-style-type: none"> <li>- Job name (default value for non-privileged users or with OUTPUT-JOB-ID=*NAME)</li> <li>- User ID (default value for non-privileged users or with OUTPUT-JOB-ID=*USER-ID )</li> <li>- Blank if OUTPUT-JOB-ID=*NONE was specified</li> </ul>																									
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SYMDAT	Symbolic date which determines the start time of the calendar job; the output field is empty if the job is not a calendar job																									
COUNT	Run counter for the current number of job repetitions; the output field is empty if the job is not a calendar job.																									
START	Specification of the job start time of the calendar job which is calculated from the specified symbolic date in the format "yyyy-mm-dd.hhmm". The output field is empty if the job is not a calendar job.																									

**OUTPUT-JOB-ID = \*STD / \*NAME / \*USER-IDENTIFICATION / \*NONE**

Specifies whether the name or user ID of the job desired is to be displayed in addition to the TSN. The default value is \*STD, i.e. the nonprivileged user receives the job name in output field NAME (corresponds to OUTPUT-JOB-ID=\*NAME), the privileged user receives the user ID (corresponds to OUTPUT-JOB-ID=\*USER-ID).

**CPU-LIMIT = \*ANY / \*PARAMETERS(...)**

Selects jobs according to CPU time usage.  
The operand has no significance for SPOOL tasks.

**CPU-LIMIT = \*PARAMETERS(...)**

**MINIMUM = 0 / <integer 0..2147483647 seconds>**

CPU time, in seconds; selects jobs that have required at least the specified amount of CPU time.

**MAXIMUM = 2147483647 / <integer 0..2147483647 seconds>**

CPU time, in seconds; selects jobs that have required not more than the specified amount of CPU time.

**JOB-TYPE-TIME = \*ANY / \*PARAMETERS(...)**

Selects jobs of the types 1 to 3 according to the amount of time they belonged to the specified job type. SPOOL jobs are not displayed.

**JOB-TYPE-TIME = \*PARAMETERS(...)**

**MINIMUM = 0 / <integer 0..2147483647 minutes>**

Time, in minutes; selects jobs that were assigned to the specified job type for at least the specified length of time.

**MAXIMUM = 2147483647 / <integer 0..2147483647 minutes>**

Time, in minutes; selects jobs that were assigned to the specified job type for at most the specified length of time.

**CATEGORY-NAME =**

Selects jobs according to their job (task) category.

**CATEGORY-NAME = \*ALL**

Jobs of all categories are included in the output.

**CATEGORY-NAME = <name 1..8>**

Specifies the category according to which jobs are selected.

**JOB-CLASS-NAME =**

Selects the jobs according to their job class.

**JOB-CLASS-NAME = \*ALL**

The jobs from all job classes are examined.

**JOB-CLASS-NAME = <name 1..8>**

Determines the job class which is used as a basis for selecting the jobs.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Without errors
1	0	CMD0001	An attempt was made to create S variables for job types TYPE4 through TYPE8
2	0	EXC0152	Requested information does not exist
2	0	SPS0171	Local spoolout not available
2	0	SPA0003	RSO subsystem not loaded
2	0	SPS0266	Bourse of the ADM task destroyed
2	0	SPS0420	RSO subsystem not loaded
	1	CMD0202	Syntax or semantic error
	1	SCP0973	Inconsistency between operands
	32	CMD2009	Error during generation of S variables
	32	SCP0974	User ID specified for spoolout does not exist
	64	EXC0252	Specified user ID does not exist
	64	EXC0153	No authorization for command
	64	SCP0975	No authorization for command

**Output in S variable**

The INFORMATION operand identifies the S variables which are to be created. If there is no current value to pass to an S variable, a null string (type S) or the number 0 (type I) is assigned instead. The following specifications are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = *STD	1
INFORMATION = *ENVIRONMENT	2
INFORMATION = *PROGRAM	3
INFORMATION = *JOB	4
INFORMATION = *REPEAT	5
INFORMATION = *BY-CALENDAR	6

## SHOW-USER-STATUS

When information is output to SYSOUT, print jobs are also displayed for reasons of compatibility. Variable output, on the other hand, only contains jobs of the types 1 to 3. The corresponding SPOOL commands must be used for print jobs.

Output information	Name of the S variable	T	Contents	Condition
Account number to which the job is being charged	var(*LIST).ACCOUNT	S	" <alphan.-name 1..8>	1
Name of the last command which was processed by the task	var(*LIST).CMD	S	" <struc.-name 1..30>	3
Maximum CPU time allowed for the job HOLD=Job was suspended by systems support NTL=No time limit	var(*LIST).CPU-LIM	S	" HOLD NTL <integer>	1
CPU time already used by the task	var(*LIST).CPU-USED	S	" <nnnnnnn.nnnn>	1
CPU time already used by the task in unabbreviated form	var(*LIST).CPU-USED-LONG	S	" <nnnnnnnnnnn.nnnn>	1
Member name when the program was loaded from a library	var(*LIST).ELEM-NAME	S	" <comp.-name 1..64>	3
Member type when the program was loaded from a library	var(*LIST).ELEM-TYPE	S	" <alphan.-name 1..8>	3
Member version when the program was loaded from a library	var(*LIST).ELEM-VERSION	S	" <comp.-name 1..24>	3
Name of the file containing the load module	var(*LIST).FILE-NAME	S	" <filename 1..54>	3
Removal of the batch job from the job queue if it has not been processed by the end of the session	var(*LIST).FLUSH-AFTER-SHUTDOWN	S	" NO YES	4
Time since the job has been in the HOLD state	var(*LIST).HOLD-TIME	S	" NO <hhmm>	2
Name of the job class in which the job has been queued	var(*LIST).JOB-CLASS	S	" <name 1..8>	4
Number of job repetitions	var(*LIST).JOB-COUNT	I	0 <integer>	5, 6
Job name	var(*LIST).JOB-NAME	S	" <name 1..8>	
Priority of the job	var(*LIST).JOB-PRIO	I	0 <integer 1..9>	1, 4
Type of job (1,2 3,4,5,7)	var(*LIST).JOB-TYPE	I	0 <integer 1..7>	1, 3, 4, 5, 6

(Part 1 of 3)



Output information	Name of the S variable	T	Contents	Condition
Original name of the processor via which the terminal is addressed	var(*LIST).ORIG-PROC-NAME	S	" <name 1..8>	2
Original name of the terminal	var(*LIST).ORIG-STATION	S	" <alphan.-name 1..8>	2
Name of the processor via which the terminal is addressed	var(*LIST).PROC-NAME	S	" <name 1..8>	2
Size of the program (in 4KB)	var(*LIST).PROG-SIZE	I	0 <integer>	3
Only when PUBSET-STATE=QUIET: Pubset affected	var(*LIST).PUBSET	S	" <cat-id 1..4>	2
Displays whether the task is waiting for access to a pubset in QUIET state to become possible again.	var(*LIST).PUBSET-STATE	S	" QUIET	2
Specifies when the job repetition is to be started	var(*LIST).REPEAT-JOB	S	" <hhmm> AT DAIL EARLIEST LATEST NO STUP WEEK	4, 5
Start date of job repetition	var(*LIST).REPEAT-JOB-DATE	S	" <yyyy-mm-dd>	5
Start time of job repetition	var(*LIST).REPEAT-JOB-TIME	S	" <hh:mm:00>	5
TSN of the job repetition	var(*LIST).REPEAT-JOB-TSN	S	" <alphan.-name 1..4>	5
Restart of the batch job in the next session	var(*LIST).RERUN-AFTER-CRASH	S	" NO YES	4
Run priority of the job	var(*LIST).RUN-PRIO	I	0 <integer 30..255>	1
Desired start time of the job. Time values (by WITHIN without date specification, otherwise with) belong to the values of AT, EARLIEST, LATEST and WITHIN. These are then contained in the START-DATE and START-TIME variables.	var(*LIST).START	S	" AT EARLIEST LATEST WITHIN IMMED SOON STUP	4
Start date of the job	var(*LIST).START-DATE	S	" <yyyy-mm-dd>	4, 6

(Part 2 of 3)

## SHOW-USER-STATUS

---

Output information	Name of the S variable	T	Contents	Condition
Job is to be started immediately.	var(*LIST).START-IMMED	S	TRUE FALSE	1
Start time of the job	var(*LIST).START-TIME	S	" <hh:mm:00>	4, 6
Name of the station (with local printer; mnemonic device name); name from the application or BCAM name	var(*LIST).STATION	S	" <alphan.-name 1..8>	2
Additional details of job type For job types 2 and 3 the category name is output: either one of the predefined names BATCH, DIALOG, SYS or TP, or a self-defined name	var(*LIST).SUB-TYPE	S	" <name 1..7> BATCH DIALOG DO HO HOC HOP HOT SYS TP WT	1, 3, 4, 5, 6
Symbolic date which determines the start time of the calendar job	var(*LIST).SYMBOLIC-DATE	S	" <name 1..20>	6
Task sequence number	var(*LIST).TSN	S	<alphan.-name 4..4>	
User ID under which the job was started	var(*LIST).USER-ID	S	" <name 1..8>	

(Part 3 of 3)

## SHOW-USER-SWITCHES

Display user switches set to ON

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	User management
<b>Domain:</b>	USER-ADMINISTRATION
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

The SHOW-USER-SWITCHES command displays the numbers of the user switches that are set to ON.

32 user switches are available to each user ID (switches numbered 0 to 31); each job running under that user ID has access to these switches. If a new user ID is created by a system administrator or if the system is newly generated, all user switches will be cleared (value OFF).

User switches are not cleared at job end (in contrast to job switches, see SHOW-JOB-SWITCHES command).

With SHOW-USER-SWITCHES the user switch settings for other user IDs can also be checked; however, only the user switch settings for the user's own ID can be changed (MODIFY-USER-SWITCHES command).

### Format

**SHOW-USER-SWITCHES**

Alias: **SHUSW**

**USER-IDENTIFICATION** = \*OWN / <name 1..8>

### Operands

**USER-IDENTIFICATION** = \*OWN / <name 1..8>

User ID whose user switches are to be checked.

**USER-IDENTIFICATION** = \*OWN

The user switches for the user's own ID are checked.

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	CMD0202	Syntax error
	32	EXC0041	System error
	64	EXC0868	User ID not found
	130	CMD2382	User switches not available because the user ID is locked

### Example

```
/mod-user-sw on=(0,2,4) _____ (1)
/show-user-sw
  USER SWITCHES ON EQUAL-
    0, 2, 4
/show-user-sw user-id=xyz _____ (2)
  ALL USER SWITCHES SET OFF
```

- (1) Switches 0, 2 and 4 for the user's own ID are set to ON.
- (2) All switches for the user ID *XYZ* are set to OFF.

## SHOW-VARIABLE

Show contents of variables

<b>Description status:</b>	SDF-P-BASYS V2.5E
<b>Functional area:</b>	Procedures
<b>Domain:</b>	PROCEDURE
<b>Privileges:</b>	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SECURITY-ADMINISTRATION SAT-FILE-MANAGEMENT SAT-FILE-EVALUATION

### Function

The SHOW-VARIABLE command outputs the contents of variables. Possible output media are SYSOUT, SYSLST, file, list variable or library element.

#### *Output format*

- The contents of a variable of type INTEGER are output as a string of characters 0-9, possibly with a leading minus sign.
- The contents of a variable of type BOOLEAN are output as the character string FALSE or TRUE.

The order in which the contents of variable elements are output is equivalent to the order of the element declarations for complex variables having the type “structure” and to the numerical order of the array indices for complex variables having the type “array”.

The output always begins on a new line for each variable.

#### *Restrictions*

If the chargeable SDF-P subsystem is not available, the following restrictions apply:

- Only the contents of simple S variables are output. When variable names are specified explicitly, only simple S variables can be specified.
- Output to a list variable (OUTPUT=\*VARIABLE) is not possible.
- Within the structure \*BY-ATTRIBUTES(...) (SELECT operand), only the respective default values may be specified for SCOPE and INITIALIZATION; the same applies to VALUE and NAME in the structure \*PARAMETERS(...) (INFORMATION operand).

## Format

SHOW-VARIABLE	Alias: SHV
<p><b>VARIABLE-NAME</b> = <b>*ALL</b> / list-poss(2000):&lt;composed-name 1..255&gt; / &lt;structured-name 1..20 with-wild(40)&gt;</p> <p>,<b>SELECT</b> = <b>*BY-ATTRIBUTES</b>(...)</p> <p><b>*BY-ATTRIBUTES</b>(...)</p> <p>    <b>SCOPE</b> = <b>*VISIBLE</b> / <b>*PROCEDURE</b> / <b>*CURRENT</b> / <b>*CURRENT-PARAMETERS</b> / <b>*TASK-VISIBLE</b> / <b>*TASK-ALL</b> / <b>*CALLING-PROCEDURES</b></p> <p>    <b>INITIALIZATION</b> = <b>*YES</b> / <b>*ANY</b></p> <p>,<b>INFORMATION</b> = <b>*PARAMETERS</b> (...)</p> <p><b>*PARAMETERS</b>(...)</p> <p>    <b>VALUE</b> = <b>*WITHOUT-QUOTES</b> / <b>*C-LITERAL</b> / <b>*X-LITERAL</b> / <b>*NONE</b></p> <p>    <b>NAME</b> = <b>*FULL-NAME</b>(...) / <b>*ELEMENT-NAME</b>(...) / <b>*NONE</b></p> <p>        <b>*FULL-NAME</b>(...)</p> <p>            <b>LIST-INDEX-NUMBER</b> = <b>*NO</b> / <b>*YES</b></p> <p>        <b>*ELEMENT-NAME</b>(..)</p> <p>            <b>LIST-INDEX-NUMBER</b> = <b>*NO</b> / <b>*YES</b></p> <p>,<b>OUTPUT</b> = <b>*SYSOUT</b> / <b>*SYSLST</b> / &lt;filename 1..54 without-gen-vers&gt;(…) / <b>*VARIABLE</b>(…) / <b>*LIBRARY-ELEMENT</b>(...)</p> <p>    &lt;filename 1..54 without-gen-vers&gt;(…)</p> <p>        <b>WRITE-MODE</b> = <b>*REPLACE</b> / <b>*EXTEND</b></p> <p><b>*VARIABLE</b>(...)</p> <p>    <b>VARIABLE-NAME</b> = &lt;composed-name 1..20&gt;</p> <p>    <b>WRITE-MODE</b> = <b>*REPLACE</b> / <b>*EXTEND</b></p> <p><b>*LIBRARY-ELEMENT</b>(...)</p> <p>    <b>LIBRARY</b> = &lt;filename 1..54 without-vers&gt;</p> <p>    <b>ELEMENT</b> = &lt;composed-name 1..64&gt;(…)</p> <p>        &lt;composed-name 1..64&gt;(…)</p> <p>            <b>VERSION</b> = <b>*HIGHEST-EXISTING</b> / <b>*UPPER-LIMIT</b> / &lt;composed-name 1..24&gt;</p> <p>    <b>TYPE</b> = <b>S</b> / &lt;alphanum-name 1..8&gt;</p> <p>    <b>WRITE-MODE</b> = <b>*REPLACE</b> / <b>*EXTEND</b></p>	

## Operands

### **VARIABLE-NAME =**

Designates the variables to be output.

### **VARIABLE-NAME = \*ALL**

Default value. All variables having the scope specified under SCOPE are output in the alphabetical order of their variable names. Elements in structures are output in the order of their declarations, while array elements are output in the numerical order of their array indices.

### **VARIABLE-NAME = list-poss(2000): <composed-name 1..255>**

Names of the variables to be output.

These names are output in the specified order.

### **VARIABLE-NAME = <structured-name 1..20 with-wild(40)>**

The variables whose names correspond to the search pattern are output in the lexical order of their names.

### **SELECT = \*BY-ATTRIBUTES(...)**

Designates more precisely the variables to be output.

#### **SCOPE = \*VISIBLE / \*PROCEDURE / \*CURRENT / \*CURRENT-PARAMETERS / \*TASK-ALL / \*TASK-VISIBLE / \*CALLING-PROCEDURES**

Designates the scope of the variables to be output.

#### **SCOPE = \*VISIBLE**

Outputs all visible variables.

A variable is visible if it is not overlaid by a declaration in an include procedure.



The operand values \*PROCEDURE, \*CURRENT, \*CURRENT-PARAMETERS, \*TASK-ALL, \*TASK-VISIBLE and \*CALLING-PROCEDURES can only be specified if the chargeable SDF-P subsystem is loaded. The operand values are described in full in the “SDF-P” manual [34].

#### **INITIALIZATION = \*YES / \*ANY**

Specifies whether or not non-initialized variables are to be output.

#### **INITIALIZATION = \*YES**

Only initialized variables are output.



The operand value \*ANY can only be specified if the chargeable SDF-P subsystem is loaded. The operand value \*ANY is described in full in the “SDF-P” manual [34].

**INFORMATION = \*PARAMETERS(...)**

Specifies the information which is output.

**VALUE = \*WITHOUT-QUOTES / \*C-LITERAL / \*X-LITERAL / \*NONE**

Specifies whether the values of the variables should be output, and in what format.

**VALUE = \*WITHOUT-QUOTES**

Outputs variables with the data type STRING, without apostrophes.



The operand values \*C-LITERAL, \*X-LITERAL and \*NONE can only be specified if the chargeable SDF-P subsystem is loaded. The operand values are described in full in the “SDF-P” manual [34].

**NAME = \*FULL-NAME(...) / \*ELEMENT-NAME(...) / \*NONE**

Specifies the format in which the names of the variables are output.

**NAME = \*FULL-NAME(...)**

Outputs full variable names.

**LIST-INDEX-NUMBER = \*NO / \*YES**

Defines whether the elements of a list are to have the element number appended to them instead of the suffix (\*LIST).



The operand values \*ELEMENT-NAME and \*NONE can only be specified if the chargeable SDF-P subsystem is loaded. The operand values are described in full in the “SDF-P” manual [34].

**OUTPUT =**

Designates the output medium.

**OUTPUT = \*SYSOUT**

Output to SYSOUT.

**OUTPUT = \*SYSLST**

Output to SYSLST.

**OUTPUT = <filename 1..54 without-gen-vers>(...)**

Output to the specified file, which must be a SAM file.

**WRITE-MODE = \*REPLACE**

The current contents of the file are to be overwritten.

**WRITE-MODE = \*EXTEND**

The output is to be appended to the current contents.



**OUTPUT = \*VARIABLE(...)**

*Only possible if the chargeable SDF-P subsystem is available.*

Output to a list variable.

**VARIABLE-NAME = <structured-name 1..20>**

Name of the list variable.

**WRITE-MODE = \*REPLACE**

The current contents of the list variable are to be overwritten.

**WRITE-MODE = \*EXTEND**

The list variable is to be extended, i.e. the output is to be appended to the current contents.

**OUTPUT = \*LIBRARY-ELEMENT(...)**

Output to an element in a PLAM library.

**LIBRARY = <filename 1..54 without-vers>**

Name of the PLAM library.

**ELEMENT = <composed-name 1..64>(...)**

Name of the element.

**VERSION =**

Designates the version of the element.

**VERSION = \*HIGHEST-EXISTING**

Selects the highest existing version.

**VERSION = \*UPPER-LIMIT**

Selects the highest possible version.

**VERSION = <composed-name 1..24>**

Selects the specified version.

**TYPE = S / alphanum-name 1..8**

Designates the element type.

**WRITE-MODE = \*REPLACE**

The current contents of the element are to be overwritten.

**WRITE-MODE = \*EXTEND**

The element is to be extended, i.e. the output is to be appended to the current contents.

**Return codes**

It is possible that part of the command has been processed and executed when the error occurs. In this case, the result of the command is not guaranteed.

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning/Guaranteed messages</b>
	0	CMD0001	No error
1	0	CMD0001	Warning: variable not found
	1	CMD0202	Syntax error
	3	CMD2203	Incorrect syntax file
	32	CMD0221	System error (internal error)
	64	CMD0216	User does not have required privilege
	64	SDP0091	Semantic error
			Guaranteed message: SDP1018
	130	SDP0099	No more address space available

# SHOW-VOLUME-SET-LIST

Show volume set list definitions

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS

## Function

The SHOW-VOLUME-SET-LIST command provides systems support staff with information on the composition of volume set lists defined for a system-managed (SM) pubset. If the definitions of more than one volume set list or of all volume set lists are requested, the set of volume set lists to be output can be restricted to specific volume sets by means of the SELECT operand.

Output can be directed either to SYSOUT or to SYSLST.

The SM pubset must have been imported to the local system (in exclusive or shared mode).

The command supports structured output in S variables (see [“Output in S variables” on page 7-383](#)).

## Format

### SHOW-VOLUME-SET-LIST

**VOLUME-SET-LIST-NAME** = \*ALL / <composed-name 1..8 with-wild>

,**PUBSET** = <cat-id 1..4>

,**INFORMATION** = \*SUMMARY / \*ALL

,**SELECT** = \*ALL / \*BY-VOLUME-SET(...)

    \*BY-VOLUME-SET(...)

        | **ENTRY** = list-poss(255): <cat-id 1..4>

,**OUTPUT** = \*SYSOUT / \*SYSLST(...)

    \*SYSLST(...)

        | **SYSLST-NUMBER** = \*STD / <integer 1..99>

### Operands

**VOLUME-SET-LIST-NAME = \*ALL / <composed-name 1..8 with-wild>**

Specifies the volume set lists for which information is required.

**VOLUME-SET-LIST-NAME = \*ALL**

Information is required for all volume set lists which are assigned to the pubset specified in the PUBSET operand and also meet the selection criteria given in the SELECT operand.

**VOLUME-SET-LIST-NAME = <composed-name 1..8 with-wild>**

Name of the volume set list for which information is required. Wildcards can be used to identify more than one volume set list.

Information is required for all specified volume set lists which are assigned to the pubset specified in the PUBSET operand and also meet the selection criteria given in the SELECT operand.

**PUBSET = <cat-id 1..4>**

Identifies the associated SM pubset. The pubset must have been imported to the local system (in exclusive or shared mode).

**INFORMATION = \*SUMMARY / \*ALL**

Specifies how much of the available information is to be output (see also [“Output format” on page 7-381ff](#)).

**INFORMATION = \*SUMMARY**

For each volume set list specified, the name of the volume set list, the catalog ID of the SM pubset and the number of associated volume sets are output.

**INFORMATION = \*ALL**

Output is as for INFORMATION=\*SUMMARY, with the addition of a list of the associated volume sets and the brief descriptive text for each volume set list specified.

**SELECT = \*ALL / \*BY-VOLUME-SET(...)**

Specifies whether the set identified in the VOLUME-SET-LIST-NAME operand is to be restricted by selection criteria.

**SELECT = \*BY-VOLUME-SET(...)**

Only volume set lists which contain one of the volume sets specified next are output.

**ENTRY = list-poss(255): <cat-id 1..4>**

Volume set ID.

Up to 255 volume sets can be listed.

**OUTPUT = \*SYSOUT / \*SYSLST(...)**

Specifies where the information is to be output.

**OUTPUT = \*SYSOUT**

The information is output to the system file SYSOUT.

**OUTPUT = \*SYSLST(...)**

The information is output to the system file SYSLST.

**SYSLST-NUMBER = \*STD / <integer 1..99>**

Specifies whether the information is to be output to the system file SYSLST or to a SYSLST file from the set SYSLST01 through SYSLST99.

The default is \*STD, i.e. output is directed to the system file SYSLST.

**Return codes**

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No errors
	1	CMD0202	Syntax error in command
	32	CMD0221	Internal system error
	32	CMD2009	Error on output to S variables (e.g. subsystem not available)
	64	CMD0216	No authorization to use command
	64	DMS1482	Error accessing volume set list catalog
	64	DMS1484	Volume set list catalog invalid
	64	DMS1485	Pubset not known
	64	DMS1486	Pubset is not a system-managed pubset
	64	DMS1487	Pubset not available
	64	DMS148B	Volume set list not defined
	64	DMS1490	Storage class management not available for this pubset
	64	DMS149B	No volume set lists meet the selection criteria
	64	DMS149D	No volume set list exists for the specified pubset
	129	DMS148D	Not enough class 4/5 memory
	129	DMS148E	Error on MSCF connection to master
	129	DMS149E	Output error: SYSLST file cannot be extended
	129	DMS148F	GCF subsystem not ready

**Output format**

The output information for each volume set list selected breaks down into the following three blocks:

1. Information header
2. List of the volume sets which belong to the volume set list
3. Brief description of the volume set list

Which information blocks are output is governed by the value of the INFORMATION operand. With INFORMATION=\*SUMMARY (default value), only the first block of information, i.e. the information header, is output. With INFORMATION=\*ALL, the three blocks are output in succession.

### *Information header*

The information header consists of the following line of values.

NAME: <vslname> PUBSET: <catid> NUMBER-OF-VOLUME-SETS: <count>

Key:

<vslname>	Name of the volume set list
<catid>	Catalog ID of the SM pubset for which the volume set list is defined
<count>	Number of volume sets on the list

### *Listing of volume sets*

This information block is output only with INFORMATION=\*ALL.

The listing is preceded by the header:

----- VOLUME-SETS -----

This is followed by up to 17 lines of values consisting of the IDs of the volume sets. The number of lines of values depends on the number of volume sets defined in the volume set list. Each line can include up to 15 volume sets. If there are no volume sets defined in the volume set list, a single line giving the value \*NONE is output.

### *Brief description of the volume set list*

This information block is output only with INFORMATION=\*ALL.

The brief description is preceded by the header:

----- VOLUME-SET-LIST-INFO -----

This is followed by up to 10 lines showing the brief description text for the volume set list. The number of lines of values depends on the length of the brief description. Each line can include up to 74 characters. If no brief description has been defined for the volume set list, a single line giving the value \*NONE is output.

## Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The following specifications are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = *ALL	1
INFORMATION = *SUMMARY	2

Output information	Name of the S variable	T	Contents	Condition
Number of volume sets belonging to the list	var(*LIST).COUNT	I	<integer 0..255>	1,2
Catalog ID of the pubset for which the volume set list is defined	var(*LIST).PUBSET	S	<cat-id 1..4>	1,2
Name of the volume set list	var(*LIST).VOL-SET-LIST	S	<comp.-name 1..8>	1,2
Free text formulated by the system administrator	var(*LIST).VOL-SET-LIST-INFO	S	" <c-string 1..720>	1
ID of the volume set	var(*LIST).VOL-SET(*LIST).VOL-SET-ID	S	<cat-id 1..4>	1

## Example

```
/show-volume-set-list volume-set-list-name = vs11,
                      PUBSET = ABCD, INFORMATION = *ALL

NAME: VSL1           PUBSET: ABCD           NUMBER-OF-VOLUME-SETS: 6
----- VOLUME-SETS -----
VST1 VST2 VST3 VST4 VST5 VST6
----- VOLUME-SET-LIST-INFO -----
List for high-availability volume sets
```

# SHUTDOWN

Initiate session termination

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	System control and optimization
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	R

### Function

The SHUTDOWN command prohibits new jobs or terminates all currently active jobs. The operator issues the SHUTDOWN command prior to physical shutdown of the system or prior to activating an automatic restart so that all system activities can be completed normally. System shutdown comprises two stages:

1. Suspension of job acceptance in the system and notification of the interactive user.
2. Immediate initialization of session termination (termination of all active jobs).

When system shutdown is completed, message EXC0557 is issued.

On shutdown with automatic restart (RESTART=\*YES), timed restarts can be arranged with the DELAY suboperand.

In VM2000 V9.0 and higher, guest systems can also be shut down using the SHUTDOWN-VM command (see the “VM2000” manual [50]).

On the SQ server the request to shut down the session can also be entered on the carrier system. For such a request, the system parameter SHUTPROC specifies whether a SHUTDOWN command is issued or an ENTER job is started.



## Format

SHUTDOWN
<pre> <b>MODE</b> = <u>*NO</u> / *END(...) / *QUIET   *END(...)             <b>RESTART</b> = <u>*NO</u> / *YES(...)         *YES(...)                         <b>DELAY</b> = *STD / &lt;integer 0..32767 seconds&gt;             ,<b>IPL-DEVICE</b> = <u>*NO</u> / &lt;alphanum-name 2..4&gt;                         <b>,MESSAGE</b> = <u>*NO</u> / &lt;c-string 1..40&gt; </pre>

## Operands

### **MODE =**

Defines how the system is to be terminated.

### **MODE = \*NO**

The default value \*NO is equivalent to specifying **MODE=\*END(RESTART=\*NO)**; in other words, all jobs are terminated immediately, and there is no automatic restart.

### **MODE = \*END**

The system immediately terminates all interactive and non-interactive jobs currently running.

### **RESTART = \*NO / \*YES(...)**

Governs whether there is to be an automatic restart on completion of system shutdown. The default is \*NO, i.e. no automatic restart.

### **RESTART = \*YES(...)**

An automatic restart will be initiated on completion of system shutdown.

### **DELAY = \*STD / <integer 0..32767 seconds>**

Defines a delay in seconds inserted between completion of system shutdown (output of message EXC0557) and initiation of automatic restart.

The default is \*STD, which means that automatic restart is to be initiated immediately (equivalent to specifying 0 seconds).

### **IPL-DEVICE = \*NO / <alphanum-name 2..4>**

Specifies which IPL device to use for automatic restart.

### **IPL-DEVICE = \*NO**

Restart is to be performed with the same IPL device.

**IPL-DEVICE = <alphanum-name 2..4>**

Device mnemonic of a new IPL device (only disk accesses are permitted) to be used when the system is restarted.

**MODE = \*QUIET**

The Control System is to prohibit the scheduling of additional jobs. The BCAM command /BCEND W=Y,TERM=N is simulated (see the "BCAM" manual [2]), and notification (message NRTK201) is sent to all interactive tasks.

**MESSAGE =**

Specifies whether a freely definable text is to be sent to all interactive tasks in addition to message NRTK201 (MODE = \*QUIET) or a special text is to be processed internally in the system (MODE = \*END).

**MESSAGE = \*NO**

No message is to be sent.

**MESSAGE = <c-string 1..40>**

The message (max. 40 characters) to be sent.

The '\*RESTART' text can be processed in connection with MODE = \*END. In this case the system is terminated with previous resource release.

With MODE = \*QUIET the specified text is appended to message NRTK201 as an insert and sent to all interactive tasks.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	EXC0745	SHUTDOWN with MODE=*QUIET already called
2	0	EXC0747	SHUTDOWN continue interrogation rejected by caller
2	0	NRT1204	SHUTDOWN with MODE=*END already called
	64	NRT1206	Internal \$HSVP error with GET-IPL-DEVICE
	64	NRT1207	Specified IPL device does not exist
	64	NRT1208	Internal \$NKBINF error
	1	EXC0746	Syntax error
	64	CMD0216	Caller is not privileged
2	64	EXC0688	Automatic restart not possible because IPL disk does not belong to home pubset
2	64	NRT1205	SHUTDOWN with automatic restart and change of IPL device not supported
	64	NRT1203	Dynamic I/O configuration change is active
	64	NRT1210	IPL device is not a valid disk
	64	NRT1211	IPL device is neither installed nor assigned (in VM2000)
	64	NRT1212	IPL device is not assigned exclusively (in VM2000)
	64	NRT1213	IPL device not accepted

## Notes

- The operator should always perform a normal shutdown to allow sufficient time for tasks to be terminated between SHUTDOWN MODE=\*QUIET and SHUTDOWN MODE=\*END.

- At the start of SHUTDOWN-END processing a check is carried out to determine whether an archive save run is active. If so, the SHUTARCH system parameter is checked to see whether the operator should be asked if SHUTDOWN-END processing is to continue. If 'SHUTARCH' is set to 'N' (default value) the operator is not asked; if 'Y' is set the operator is presented with the following message:

```
EXC074F ARCHIVE SAVE RUN ACTIVE. CONTINUE SHUTDOWN PROCESSING?  
REPLY (Y=YES; N=NO)
```

The operator can abort system termination by entering 'N' when asked whether SHUTDOWN-END processing should continue. This is acknowledged with the following message:

```
EXC0747 SHUTDOWN FUNCTION WITHDRAWN BY CALLER
```

- For SHUTDOWN MODE=\*END, the command BCEND is simulated. Nevertheless, you should call the BCEND call before the SHUTDOWN-END job to allow the user programs connected to the user programs time to terminate properly.
- If a session is not properly shut down, the same accounting file must be loaded during the next system initialization in order to ensure that restoration takes place.
- All tasks for which a HOLD-TASK command was given must be released by means of RESUME-TASK command before SHUTDOWN MODE=\*END is entered; otherwise these tasks will not be properly terminated.
- All pending system dumps should be completed prior to input of SHUTDOWN MODE=\*END. System dumps requested during SHUTDOWN processing are rejected.
- An attempt is made to terminate all existing user tasks via CANCEL-JOB calls. A FORCE-JOB-CANCEL call is issued to all user tasks which cannot be terminated via a simple CANCEL-JOB command. If there is at least one task which cannot be terminated either with CANCEL or with FORCE-JOB-CANCEL the following message is output after the (FORCE-)CANCEL cycle:

```
EXC0716 ONE OR MORE TASKS PERMANENTLY PENDED. TAKE DUMP AFTER COMPLETION  
OF SHUTDOWN
```

The system parameter SHUTCTL enables the maximum wait time in the (FORCE-)CANCEL cycle to be set to a value ranging from 30 seconds (SHUTCTL=0) to 60 minutes (SHUTCTL=60).

- The SHUTDOWN-END job is normally acknowledged by the following message:

```
EXC0557 SHUTDOWN PROCESSING COMPLETED
```

If problems arise during SHUTDOWN-END processing, an appropriate warning, such as the above message EXC0716, is output instructing you to start a dump. At the end of SHUTDOWN-END processing the operator is presented with the following message:

```
EXC0557 SHUTDOWN PROCESSING COMPLETED WITH PROBLEMS
```

In this case you should make a memory dump using SLED.

- If automatic restart has been activated, initiation of the shutdown job is acknowledged with the following message:

```
SHUTDOWN WITH AUTOMATIC RESTART INITIATED
```

Dependencies on the SET-RESTART-OPTIONS command arise only in conjunction with a crash (with a shutdown).

- For a shutdown with RESTART=\*NO, a SLED dump is produced only in conjunction with the restart option DUMP=\*SLED (see SET-RESTART-OPTIONS command).
- For a shutdown with RESTART=\*YES, a SLED dump is produced both with the restart option DUMP=\*SLED and if a dump is requested explicitly by the crash caller.

## SIMULATE-SPACEPRO-EVENT

Test the SPACEPRO configuration

<b>Description status:</b>	SPACEPRO V1.0A
<b>Functional area:</b>	Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS

### Function

The SIMULATE-SPACEPRO-EVENT command enables the SPACEPRO configuration for an SF pubset or volume set of an SM pubset to be tested. The command simulates the event “reaching the specified saturation level” which is monitored by the SPACEPRO monitor. If the SPACEPRO options and history allow, this simulated event triggers the real extension of the pubset or volume set. This extension is implemented implicitly using the ALLOCATION-ON-VOLUME=\*NOT-ALLOWED operand. It can therefore be canceled again using the MOVE-SPACEPRO-DISK command.

Analogous test functions are available for monitoring using the INSPECTOR of openSM2 (see the manual “Introduction to System Administration” [14]).

#### *Note on command processing*

The internal processing uses commands which require the PROP-ADMINISTRATION privilege.

### Format

#### SIMULATE-SPACEPRO-EVENT

**PUBSET** = <cat-id 1..4>(…)

<cat-id 1..4>(…)

    | **VOLUME-SET** = \*NONE / <cat-id 1..4>

,**SATURATION-LEVEL** = \*BY-PARAMETER / <integer 1..5>

**Operands****PUBSET = <cat-id 1..4>(…)**

Pubset for which the SPACEPRO configuration is to be tested. The pubset must be imported.

**VOLUME-SET = \*NONE / <cat-id 1..4>**

Volume set for which the SPACEPRO configuration is to be tested.

In the case of an SF pubset, only \*NONE may be specified.

**SATURATION-LEVEL = \*BY-PARAMETER / <integer 1..5>**

Determines which saturation level is to be simulated. A corresponding console message is to be simulated for the specified SF pubset or volume set of the SM pubset. In the case of an SM pubset the saturation level is output with the message DMS1400. In the case of an SF pubset, the message EXC044n with n=0..5 is output in accordance with the saturation level.

The default is \*BY-PARAMETER, i.e. the saturation level to be simulated is taken from the SPACEPRO parameters.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	SPP0305	PROP-XT subsystem not available
	64	SPP0311	Unexpected return code of the command specified in the insert
	64	SPP0312	PROP-XT process could not be started
	64	SPP0701	Invalid pubset/volume set
	130	SDP0099	Insufficient storage space

## SKIP-COMMANDS

Go to branch destination (depending on switches or JVs)

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Job processing
<b>Domain:</b>	JOB JOB-VARIABLES PROCEDURE USER-ADMINISTRATION
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

Using the SKIP-COMMANDS command, conditional or unconditional branching can be performed in a procedure. The following conditions are possible:

- Branch depending on the setting of a job switch (operand IF=\*JOB-SWITCHES). Job switches can be set using the MODIFY-JOB-SWITCHES command (see [section “Job switches” on page 1-78](#)).
- Branch depending on the setting of a user switch (IF=\*USER-SWITCHES operand). User switches can be set using the MODIFY-USER-SWITCHES command.
- Branch depending on the contents of a job variable (IF=\*JV operand). This function is only available in conjunction with the JV subsystem.

In the case of an unconditional branch, processing branches to the specified branch destination.

In the case of a conditional branch, processing branches to the specified branch destination if the condition is met. If the condition is not met, processing continues with the next command.

This command may only be used in cataloged command sequences. It is rejected in a dialog and therefore not offered in the menu.

In S procedures, SKIP-COMMANDS is subject to restrictions as non-S labels are supported at the top block level only. The GOTO command should be used for unconditional branches, and a corresponding IF command block for conditional branches. This will also enable branches within command blocks or into a superordinate command block.

Format

SKIP-COMMANDS
<p><b>TO-LABEL</b> = &lt;name 1..8&gt;</p> <p><b>IF</b> = <b>*NO-CONDITION</b> / <b>*JOB-SWITCHES(...)</b> / <b>*USER-SWITCHES(...)</b> / <b>*JV(...)</b></p> <p>    <b>*JOB-SWITCHES(...)</b></p> <p>              <b>ON</b> = <b>*NONE</b> / list-poss(32): &lt;integer 0..31&gt;</p> <p>              <b>,OFF</b> = <b>*NONE</b> / list-poss(32): &lt;integer 0..31&gt;</p> <p>    <b>*USER-SWITCHES(...)</b></p> <p>              <b>USER-IDENTIFICATION</b> = <b>*OWN</b> / &lt;name 1..8&gt;</p> <p>              <b>,ON</b> = <b>*NONE</b> / list-poss(32): &lt;integer 0..31&gt;</p> <p>              <b>,OFF</b> = <b>*NONE</b> / list-poss(32): &lt;integer 0..31&gt;</p> <p>    <b>*JV(...)</b></p> <p>              <b>CONDITION</b> = &lt;text 0..1800 with-low <i>cond-exp</i>&gt;</p>

Operands

**TO-LABEL = <name 1..8>**

Branch destination. Name of non-S label identifying the command with which processing is to continue if the specified condition is satisfied.

The name of the branch destination can be defined as a job variable.

If no condition is defined, an unconditional branch occurs. If the specified branch destination does not exist, the branch cannot be executed if the condition is satisfied, and the procedure is aborted.

**IF =**

Type of condition.

**IF = \*NO-CONDITION**

An unconditional branch is made to the specified branch destination (TO-LABEL).

**IF = \*JOB-SWITCHES(...)**

Branch depending on settings of specified job switches.

**ON = \*NONE / list-poss(32): <integer 0..31>**

Job switches. The condition is satisfied when the specified switches are set to ON and the switches specified in the OFF operand are set to OFF. The default value is \*NONE, i.e. the job switches are not checked to see whether they are set to ON.



**OFF = \*NONE / list-poss(32): <integer 0..31>**

Job switches. The condition is satisfied when the specified switches are set to OFF and the switches specified in the ON operand are set to ON.

The default value is \*NONE, i.e. the job switches are not checked to see whether they are set to OFF.

**IF = \*USER-SWITCHES(...)**

Branch depending on user switch settings.

**USER-IDENTIFICATION = \*OWN / <name 1..8>**

User ID whose user switches are to be interrogated. The default value is \*OWN, i.e. the user switches of the user ID under which the current job is running are interrogated.

**ON = \*NONE / list-poss(32): <integer 0..31>**

User switches. The condition is satisfied when the specified switches are set to ON and the switches specified in the OFF operand are set to OFF.

The default value is \*NONE, i.e. the user switches are not checked to see whether they are set to ON.

**OFF = \*NONE / list-poss(32): <integer 0..31>**

User switches. The condition is satisfied when the specified switches are set to OFF and the switches specified in the ON operand are set to ON.

The default value is \*NONE, i.e. the user switches are not checked to see whether they are set to OFF.

**IF = \*JV(...)**

Branch depending on the contents of a JV.

**CONDITION = <text 0..1800 with-low cond-expr>**

Conditional expression (enclosed in parentheses).

Permissible specifications are described in [section "Conditional expressions \(job variables\)" on page 1-70](#). Special job variables are permitted.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	CMD0202	Syntax error, error in the condition, branch label not found, or branch to the SKIP-COMMANDS command
	32	CMD0221	Internal error
	32	EXC0041	System error
	64	EXC0868	User ID not found
	64	EXC0878	Label not found
	130	CJC0002	JV cannot be accessed
	130	CJC0003	Memory saturation
	130	CMD2382	User ID locked

### Notes

- In a procedure file, both forward and backward branching is possible, i.e. a previous set of commands can be processed. The system first searches for the branch destination from the SKIP-COMMANDS command to the end, and then continues the search from the beginning of the file.
- The period preceding the branch destination must not be inserted by expression replacement, because then the branch destination as such will no longer be found.

# START-ACCOUNTING

Activate accounting system and open accounting file

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Accounting system control
<b>Domain:</b>	ACCOUNTING
<b>Privileges:</b>	TSOS

## Function

The system administration can use this command to activate the accounting system. The names of the accounting file, the accounting records and record extensions to be logged are defined as well as job classes to be cyclically monitored.

It should be borne in mind that the accounting system does not check the specifications for accounting records or job classes. Specifications of undefined accounting records or job classes are accepted without challenge and **no** error message is issued.

## Format

START-ACCOUNTING
<p><b>NAME</b> = <u>*STD</u> / &lt;filename 1..54&gt; / &lt;partial-filename 2..53&gt;  <b>SPACE</b> = <u>*STD</u> / *RELATIVE(...)            *RELATIVE(...)                <b>PRIMARY-ALLOCATION</b> = &lt;integer 1..65535&gt;                <b>SECONDARY-ALLOCATION</b> = &lt;integer 0..32767&gt;  <b>BUFFER-LENGTH</b> = <u>*BY-PROGRAM</u> / *STD(...)            *STD(...)                <b>SIZE</b> = <u>1</u> / &lt;integer 1..16&gt;  <b>VOLUME</b> = <u>*STD</u> / &lt;vsn 1..6&gt;  <b>ALTERNATE-FILES</b> = <u>*NONE</u> / list-poss(5): &lt;filename 1..54&gt; / &lt;partial-filename 2..53&gt;  <b>SET-RECORD-TYPE</b> = <u>*STD</u> / *ALL / list-poss(64): &lt;name 1..6&gt;  <b>ADD-RECORD-TYPE</b> = <u>*NONE</u> / list-poss(64): &lt;name 1..6&gt;  <b>REMOVE-RECORD-TYPE</b> = <u>*NONE</u> / list-poss(64): &lt;name 1..6&gt;  <b>ACCOUNTING-PERIOD</b> = <u>*STD</u> / &lt;integer 10..1440&gt;  <b>JOB-CLASS</b> = <u>*NONE</u> / *ALL / list-poss(16): &lt;name 1..8&gt;</p>

### Operands

#### **NAME =**

Defines the name of the accounting file.

#### **NAME = \*STD**

The accounting file receives the standard name \$TSOS.SYS.ACCOUNT.<date>.xxx.nn that consists of the fixed prefix \$TSOS.SYS.ACCOUNT and a variable part.

Key:

<date> : yyyy-mm-dd date (year in two or four digit form)  
or  
yy.mm.dd

xxx : session number

nn : serial number of the accounting file

#### **NAME = <filename 1..54>**

Specifies a fully qualified file name.

#### **NAME = <partial-filename 2..53>**

Specifies a partially qualified file name.

This specification results in automatic generation of the file name.

It should be borne in mind that:

- the partial qualification must not exceed 26 characters in length (without user ID) because the suffix <date>.xxx.nn is added automatically; in the case of a catalog ID with more than one character, this value is reduced by the number of extra characters; if the year is specified in four-digit form, only 24 characters may be used
- partial qualification can be terminated with the user ID; the file name is then automatically given the suffix SYS.ACCOUNT.<date>.xxx.nn;
- if no user ID is specified, the file is cataloged under TSOS.

#### **SPACE =**

Defines the storage space allocation for the file to be opened.

#### **SPACE = \*STD**

Allocates to the file 48 PAM blocks for primary storage and 48 PAM blocks for blocks for secondary storage.

#### **SPACE = \*RELATIVE(...)**

Specifies the relative storage space allocation.

##### **PRIMARY-ALLOCATION = <integer 1..65535>**

Number of PAM blocks for primary allocation.

##### **SECONDARY-ALLOCATION = <integer 0..32767>**

Number of PAM blocks for subsequent file extensions.

**BUFFER-LENGTH =**

Defines the block size for the input/output buffer of the accounting file.

Specification of this operand is meaningful only for new accounting files. The operand is ignored if the specified file is already cataloged.

**BUFFER-LENGTH = \*BY-PROGRAM**

Defines a buffer of 2048 bytes for input/output of the file.

**BUFFER-LENGTH = \*STD(...)****SIZE = 1 <integer 1..16>**

The specified number of PAM blocks is to be used as the buffer length. If the accounting file is to be set up in an NK4 pubset, an even number should be specified. However, when the command is processed, an odd value will automatically be rounded up to the next higher multiple of 2. The user will be informed of this action by a message.

**VOLUME =**

Specifies that the new accounting file is to be created on a specific volume.

**VOLUME = \*STD**

The BS2000 (DMS) data management system determines the volume on which the accounting file is to be created.

**VOLUME = <vsn 1..6>**

The accounting file is to be created on the volume with the specified volume serial number. The VOLUME operand supports only volumes that require no device-specific information. If the accounting file is to be created on a **tape** or a **private disk**, the system must be informed of this with the CREATE-FILE command before the file is changed.

If, in the case of a **shared disk**, this does not belong to the default pubset of the specified user ID, the catalog ID of the volume must be specified in the file name. If automatic file name generation is required, the specification should be: :catid:\$TSOS..

**ALTERNATE-FILES =**

Defines the names of continuation files to be opened automatically if the accounting file is changed or in the event of a DMS error.

Defining a list of continuation files is meaningful only if the current accounting file was not automatically generated.

**ALTERNATE-FILES = \*NONE**

No continuation files are defined.

**ALTERNATE-FILES = list-poss(5): <filename 1..54> / <partial-filename 2..53>**

Fully or partially qualified names of the continuation files.

If a partially qualified name is entered in the list, this must be specified last. Subsequent file names - both partially and fully qualified - are ignored.

A partially qualified file name specification causes the file name to be generated automatically when the accounting file is changed (see also the CHANGE-ACCOUNTING-FILE command).

### **SET-RECORD-TYPE =**

Defines the accounting records and record extensions to be written to the accounting file.

### **SET-RECORD-TYPE = \*STD**

The system determines which accounting records and record extensions are to be written to the accounting file. Default setting defined by the system for record selection are:

- deactivated records: DALC, DRFA, PACC, RCPU, RSRV, SPLI and TATR
- deactivated extensions:
  - JD, JP, JR        from record JOBS
  - CA, ID, PC, TI    from record PRGS
  - CA, ID, PC, TI    from record PRGT
  - CA, ID, PC, TI    from record TASK
  - ID, VU            from record TDEV
- activated extensions: ID from record UACC

### **SET-RECORD-TYPE = \*ALL**

All accounting records and implicitly activated record extensions are written to the accounting file.

### **SET-RECORD-TYPE = list-poss(64): <name 1..6>**

Labels of the accounting records or record extensions to be written.

Up to 64 accounting records/record extensions may be specified (see note).

### **ADD-RECORD-TYPE =**

Defines the accounting records and record extensions to be written in addition to the default settings.

This operand is permitted only in conjunction with the specification SET-RECORD-TYPE=\*STD.

### **ADD-RECORD-TYPE = \*NONE**

No additional accounting records and record extensions are written.

### **ADD-RECORD-TYPE = list-poss(64): <name 1..6>**

Labels of the accounting records and record extensions to be additionally written.

Up to 64 accounting records/record extensions can be specified (see note).

### **REMOVE-RECORD-TYPE =**

Declares that the specified accounting records or record extensions are no longer to be written to the accounting file.

The specification is permitted only if the value \*STD or \*ALL was specified for the SET-RECORD-TYPE operand.

### **REMOVE-RECORD-TYPE = \*NONE**

No accounting records and record extensions are deleted from the list of accounting records to be written.

**REMOVE-RECORD-TYPE = list-poss(64): <name 1..6>**

Labels of the accounting records and record extensions that are no longer to be written. Up to 64 accounting records/record extensions can be specified (see note).

**ACCOUNTING-PERIOD =**

Defines the cycle of the periodic accounting interval in minutes.

Certain records of the accounting system and job classes are periodically updated to determine average values.

The frequency of this periodic monitoring should be based on the lower end of the permissible range only in exceptional cases in order to avoid overloading.

The maximum value corresponds to one day.

**ACCOUNTING-PERIOD = \*STD**

The default value of 20 minutes applies.

**ACCOUNTING-PERIOD = <integer 10..1440>**

Value in minutes determining the frequency of periodic monitoring of accounting records and job classes.

**JOB-CLASS =**

List of job classes to be subjected to periodic monitoring by the accounting system.

**JOB-CLASS = \*NONE**

No job classes are monitored.

**JOB-CLASS = \*ALL**

All job classes are to be monitored.

**JOB-CLASS = list-poss(16): <name 1..8>**

Specification of up to 16 job classes to be monitored within the specified period.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	No error, but no action
2	0	NAM3001	Requested action performed, but another file had to be set up due to a DMS error
	1	CMD0202	Syntax error
	32	CMD0221	Internal system error
	64	NAM0012	No authorization for the command
	64	NAM3003	Semantic error
	128	CMD2280	Temporarily unable to execute the command

### Note

The accounting records are addressed via the record label (field 1 of the record description), the record extensions via the record label and the label of the extension. If an accounting record is activated, all record extensions of this record are implicitly also activated. If only certain extensions are to be activated or deactivated, they must be explicitly specified. The accounting record is then monitored along with the remaining extensions.

Certain records and record extensions must not be deactivated. The relevant commands are checked to ensure that these conditions are met, and the accounting system issues a corresponding message to the user.

Up to 64 records or record extensions can be specified with the SET/ADD/REMOVE-RECORD-TYPE operand. It should be noted that a maximum number of 30 records with 10 extensions each can be managed internally by the accounting system.



## START-ACS

Activate ACS for current BS2000 session

<b>Description status:</b>	ACS V19.0A
<b>Functional area:</b>	File processing
<b>Domain:</b>	FILE
<b>Privileges:</b>	ACS-ADMINISTRATION

### Function

The system administration uses the START-ACS command to make the ACS function available to all users. Following the loading of the ACS subsystem by a START-SUBSYSTEM command, it is then possible to make the settings required for the session by means of the ADD-ACS-SYSTEM-FILE and MODIFY-ACS-OPTIONS commands, after which the nonprivileged users can access ACS.

### Format

#### START-ACS

```
ACS-ID = *NONE / <x-string 1..8> / <c-string 1..4>
,SECURITY-LEVEL = *HIGH / *LOW
```

### Operands

#### ACS-ID =

Defines a character string which is copied into the file in encrypted form every time that a virtual alias catalog is saved (STORE-ALIAS-CATALOG), and is checked when the catalog is loaded (LOAD-ALIAS-CATALOG); if the strings do not match, the LOAD-ALIAS-CATALOG command will be rejected.

#### ACS-ID = \*NONE

Default value: no string is declared.

#### ACS-ID = <x-string 1..8> / <c-string 1..4>

String (as EBCDIC characters, or in hexadecimal form) which is to be copied into the file every time that an alias catalog is saved.

#### SECURITY-LEVEL =

Determines whether the subsystem is to be operated as a higher security system - in the ACS sense. The main effect of the increased security requirements is on the availability of individual ACS user commands.

**SECURITY-LEVEL = \*HIGH**

Due to the increased security requirements, the commands ADD-ALIAS-CATALOG-ENTRY, MODIFY-ALIAS-CATALOG-ENTRY and LOAD-ALIAS-CATALOG ALIAS-CAT-ID=\*OWN are prohibited to the nonprivileged user.

**SECURITY-LEVEL = \*LOW**

The security requirements are not increased; the commands mentioned above are (except where prohibited by the syntax files) available to the user.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed correctly
1	0	CMD0001	No action

**Notes**

- If the ACS subsystem is terminated by a STOP-SUBSYSTEM ACS, and then later, i.e. within the same session, is restarted by a START-SUBSYSTEM, the following points should be noted:
  - the options set by the ACS administrator before the STOP-SUBSYSTEM continue to apply;
  - all the ACS system file declarations which applied before the subsystem was unloaded will still apply;
  - the SECURITY-LEVEL parameter must be redefined during START-ACS.
- If the ACS subsystem is terminated by a STOP-SUBSYSTEM ACS, STRING =‘RESET’, and is then restarted within the same session by a START-SUBSYSTEM, the following points should be noted:
  - the default declarations for the ACS options will apply
  - there will be no valid declarations for the ACS system files
  - the SECURITY-LEVEL parameter must be redefined during START-ACS.
- The following always apply when the ACS subsystem is halted by a HOLD-SUBSYSTEM or unloaded by a STOP-SUBSYSTEM:
  - Tasks which have already called an ACS command can continue to use ACS.
  - Tasks which have not yet been connected to the ACS subsystem can no longer make such a connection
  - Tasks which were only connected to ACS as a result of a spool pubset declaration, but which have not yet themselves invoked any ACS commands, will be disconnected the next time that they call the function “Complete-Filename”.

## START-CONFIGURATION-UPDATE

Start dynamic I/O configuration change

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	G

### Function

Systems support staff can initialize a dynamic I/O configuration change for systems of the S line (S110, S130, etc.) with the aid of the START-CONFIGURATION-UPDATE command. Once the reconfiguration has been started successfully, systems support staff can change the input/output configuration dynamically using the ADD-IO-UNIT, REMOVE-IO-UNIT and MODIFY-IO-UNIT commands. The modifications are made in the active IORSF (Input/Output Resource File), i.e. they take immediate effect.

Dynamic I/O configuration change is concluded again with the STOP-CONFIGURATION-UPDATE command.

### *Exception*

If only the timeout settings for the devices or the PAV settings are to be modified the MODIFY-IO-UNIT command (TIMEOUT operand) can be entered outside a dynamic I/O configuration change (i.e. regardless of the system type).

### *Dynamic I/O configuration change VM2000*

Under VM2000, the dynamic I/O configuration change commands can only be entered at the monitor system. The relevant modifications in the input/output tables are carried out automatically in the active guest systems that support dynamic I/O configuration change (as of BS2000/OSD-BC V4.0). When the START-CONFIGURATION-UPDATE command is entered, message NKR0178 shows how many guest systems are active and how many of them support dynamic I/O configuration change. If guest systems are active that do not support dynamic I/O configuration change (e.g. BS2000/OSD-BC V3.0), the VM administrator must make sure that the modifications made to the configuration will not damage them.

## Format

START-CONFIGURATION-UPDATE

## Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKR0006	Syntax error
	64	CMD0216	User is not authorized
1	64	NKR0169	System error
3	64	NKR0169	Dynamic I/O configuration change was rejected
4	64	NKR0169	Dynamic I/O configuration change is not supported
13	64	NKR0169	Configuration change already active
14	64	NKR0169	Configuration change not performed by the guest system

## START-EXECUTABLE-PROGRAM

Load and start executable program (LLM, load module, object module)

<b>Description status:</b>	BLSSERV V2.8A
<b>Functional area:</b>	Program control
<b>Domain:</b>	PROGRAM
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

The START-EXECUTABLE-PROGRAM command has two functions:

- It calls the dynamic binder loader DBL and defines the primary input. DBL then links LLMs (link and load modules) or OMs together into a load unit, loads this into main memory and starts it. The DBL loads an LLM which has already been linked by the BINDER into a load unit and stored in a PAM file (PAM-LLM) only in main memory and starts it.
- It calls the static loader ELDE. A program (load module) previously linked by TSOSLNK is then loaded into main memory by ELDE and started.

If the user wants merely to load the load unit or program but not start it at this time, the LOAD-EXECUTABLE-PROGRAM command can be used instead of START-EXECUTABLE-PROGRAM.

In the case of operands which have \*DBL-PARAMETERS as their default value, the MODIFY-DBL-DEFAULTS command can be used to modify the default DBL parameters which apply when the task is started. The parameters can be configured separately for calls to the LOAD- and START-EXECUTABLE-PROGRAM commands on the one hand and for the BIND macro call on the other. The SHOW-DBL-DEFAULTS command lists the values which are currently set. The RESET-DBL-DEFAULTS command can be used to return the settings to the DBL defaults.



Structure-implicit notation is guaranteed for the PROGRAM-MODE, REP-FILE and ALTERNATE-LIBRARIES operands (see [section “Compressing structures” on page 1-57](#)).

### *Restrictions*

Users with SAT-FILE-EVALUATION, SAT-FILE-MANAGEMENT and SECURITY-ADMINISTRATION privileges can only use the command in procedures.

Format

(Part 1 of 2)

<p>START-EXECUTABLE-PROGRAM</p>	<p>Alias: <b>LDX</b></p>
<pre> <b>FROM-FILE</b> = &lt;filename 1..54 without-gen&gt; / *<b>OMF</b> / [<b>*LIBRARY-ELEMENT</b>](...)     [<b>*LIBRARY-ELEMENT</b>](...)                     <b>LIBRARY</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*BLSLIB</b> / &lt;filename 1..54 without-gen&gt; / <b>*LINK</b>(...)                     <b>*LINK</b>(...)             <b>LINK-NAME</b> = &lt;structured-name 1..8&gt;                     ,<b>ELEMENT-OR-SYMBOL</b> = &lt;composed-name 1..64 with-under&gt;(…) / &lt;c-string 1..32 with-low <i>symbol</i>&gt;             &lt;composed-name 1..64 with-under&gt;(…)               <b>VERSION</b> = <u><b>*HIGHEST-EXISTING</b></u> / &lt;composed-name 1..24 with-under&gt;               ,<b>NAME-SCOPE</b> = <u><b>*ELEMENT</b></u> / <b>*STD</b> / <b>*SYMBOL</b>                     ,<b>TYPE</b> = (<u><b>L,C,R</b></u>) / list-poss(3): <b>L</b> / <b>C</b> / <b>R</b>                     ,<b>PROGRAM-PARAMETERS</b> = <u><b>*NONE</b></u> / &lt;c-string 1..1800 with-low&gt;                     ,<b>DBL-PARAMETERS</b> = <u><b>*STD</b></u> / [<b>*PARAMETERS</b>](…)             [<b>*PARAMETERS</b>](…)               <b>LOADING</b> = [<b>*PARAMETERS</b>](…)                 [<b>*PARAMETERS</b>](…)                   <b>PROGRAM-MODE</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*ANY</b> / <b>*24</b>                   ,<b>LOAD-INFORMATION</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*DEFINITIONS</b> / <b>*MAP</b> / <b>*NONE</b> /                     <b>*REFERENCES</b>                                     ,<b>REP-FILE</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*NONE</b> / &lt;filename 1..54 without-gen&gt;                                     ,<b>IGNORE-ATTRIBUTES</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*NONE</b> / <b>*READ-ONLY</b>                                     ,<b>AMODE-CHECK</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*STD</b> / <b>*ADVANCED</b>                             ,<b>RESOLUTION</b> = [<b>*PARAMETERS</b>](…)                 [<b>*PARAMETERS</b>](…)                   <b>SHARE-SCOPE</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*SYSTEM-MEMORY</b> / <b>*NONE</b> / <b>*ALL</b> /                     <b>*MEMORY-POOL</b>(…)                                       <b>*MEMORY-POOL</b>(…)                       <b>SCOPE</b> = <u><b>*ALL</b></u> / <b>*USER-ID</b> / <b>*USER-GROUP</b> / <b>*HOST-SYSTEM</b>                                     ,<b>PROGRAM-VERSION</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*STD</b> / <b>*BLANK</b> /                     &lt;composed-name 1..24 with-under&gt;                                     ,<b>ALTERNATE-LIBRARIES</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*NONE</b> / list-poss(2): <b>*TASKLIB</b> / <b>*BLSLIB##</b>                                     ,<b>AUTOLINK</b> = <u><b>*DBL-DEFAULT</b></u> / <b>*YES</b> / <b>*NO</b> / <b>*ALTERNATE-LIBRARIES</b>         </pre>	

```

,ERROR-PROCESSING = [*PARAMETERS](...)
  [*PARAMETERS](...)
    NAME-COLLISION = *DBL-DEFAULT / *STD / *ABORT
    ,UNRESOLVED-EXTRNS = *DBL-DEFAULT / *STD / *DELAY / *ABORT
    ,ERROR-EXIT = *DBL-DEFAULT / *NONE / <x-string 1..8>
,REPORTING = [*PARAMETERS](...)
  [*PARAMETERS](...)
    MESSAGE-CONTROL = *DBL-DEFAULT / *INFORMATION / *WARNING / *ERROR /
      *NONE
    ,PROGRAM-MAP = *DBL-DEFAULT / *NONE / *SYSLST(...) / *SYSOUT / *BOTH(...)
      *SYSLST(...)
        | SYSLST-NUMBER = *STD / <integer 1..99>
      *BOTH(...)
        | SYSLST-NUMBER = *STD / <integer 1..99>
,MONJV = *NONE / <filename 1..54 without-gen-vers>
,CPU-LIMIT = *JOB-REST / <integer 1..32767 seconds>
,TEST-OPTIONS = *DBL-DEFAULT / *NONE / *AID
,RESIDENT-PAGES = [*PARAMETERS] (...)
  [*PARAMETERS](...)
    ,MINIMUM = *STD / <integer 0..32767 4Kbyte>
    ,MAXIMUM = *STD / <integer 0..32767 4Kbyte>
,VIRTUAL-PAGES = *STD / <integer 0..32767 4Kbyte>

```

## Operands

### FROM-FILE =

Determines the input source from which the program is to be loaded.

### FROM-FILE = <filename 1..54 without-gen>

Name of the PAM file that contains a load module or PAM-LLM.



If the file/library name is specified without a catalog/user ID and if it is not cataloged in the user ID, the system tries to access a file or library of the same name in the system default ID. (For information on this “secondary read” function see the “Introductory Guide to DMS” [13].)

### FROM-FILE = \*OMF

The input source is the EAM object module file. This contains object modules only.

**FROM-FILE = \*LIBRARY-ELEMENT(...)**

The input source is a program library from which modules are retrieved. Either the dynamic binder loader DBL or the static loader ELDE is called depending on the element type.

**LIBRARY =**

Specifies the input source from which modules (LLMs, load modules or object modules) are to be retrieved.

The input source must generally be a program library. If the input source is an object module library (OML) then the following conditions must be fulfilled:

- Only object modules (OM, TYPE=R) may be loaded
- A value other than the default value ELEMENT must be specified for the NAME-SCOPE operand.

Whether or not other libraries are searched depends on the specification in the ALTERNATE-LIBRARIES operand (see [page 7-414](#)).

**LIBRARY = \*DBL-DEFAULT**

The setting in the last MODIFY-DBL-DEFAULTS command applies. \*BLSLIB is set by default on task start.

**LIBRARY = \*BLSLIB**

The input source is the **standard library** with the file link name BLSLIB.

**LIBRARY = <filename 1..54 without-gen>**

File name of a library serving as input source.

**LIBRARY = \*LINK(...)**

File link name of the library serving as input source.

**LINK-NAME = <structured-name 1..8>**

File link name of the library.

**ELEMENT-OR-SYMBOL =**

Specifies the modules that are to be retrieved from the specified input source.

In the case of an object module, the start address is dependent on the specifications in the END record as follows:

- If a start address is specified in the END record then this address is used.
- If no start address is specified in the END record then the address of the first CSECT in the module is used.
- If an external reference (EXTRN or WXTRN) is specified in the END record then the module is started at the address of the symbol that resolves this reference. If no symbol that resolves the reference is found then
  - in the case of an unresolved EXTRN, loading is aborted,
  - in the case of an unresolved WXTRN, the module is started at the address of the first CSECT.



An LLM is started at the address that was taken over by the BINDER when the LLM was stored.

**ELEMENT-OR-SYMBOL = <composed-name 1..64 with-under>(…)**

Name of the object module (element type R), load module (element type C) or LLM (element type L). The possible element types are specified in the TYPE operand. Depending on the specification in the NAME-SCOPE operand, a CSECT name, ENTRY name or element name from a module may be specified.

**VERSION =**

Specifies the element version.

**VERSION = \*HIGHEST-EXISTING**

The default value for the highest element version in program libraries is taken over (see the “LMS” manual [21]).

**VERSION = <composed-name 1..24 with-under>**

Explicit specification of the element version.

**NAME-SCOPE =**

Specifies whether the name entered in ELEMENT-OR-SYMBOL can be an element name or also a CSECT or ENTRY name.

**NAME-SCOPE = \*ELEMENT**

Only elements in PLAM libraries are searched for.

**NAME-SCOPE = \*SYMBOL**

Only CSECT or ENTRY names are searched for. If the specified name is longer than 32 characters, the command is rejected.

For the search order, see section “Linkage process” in the “BLSSERV” manual [3].

**NAME-SCOPE = \*STD**

Both element names (with the exception of type C) and CSECT/ENTRY names are searched for. If the specified name is longer than 32 characters, the command is rejected. For the search order, see section “Linkage process” in “BLSSERV” manual [3].

**ELEMENT-OR-SYMBOL = <c-string 1..32 with-low *symbol*>**

Specifies a symbol as a C string (pay attention to uppercase/lowercase). For the search order, see section “Linkage process” in “BLSSERV” manual [3].

**TYPE = (L,C,R) / list-poss(3): L / C / R**

Specifies the element type. When a list is specified, the order of the specified element types also determines the search order. The default setting (L,C,R) specifies that the element is first searched for in the LLMs, then in the load modules and finally in the OMs. In the case of NAME-SCOPE=\*SYMBOL/\*STD, the specification of element type C is ignored.

The following applies for element names > 41 characters:

- If element type C is specified as an individual value, the command is rejected.
- If multiple element types are specified, element type C is ignored.

The operand is only evaluated for the input source (LIBRARY), not for alternate libraries for which the order L,R applies.

**PROGRAM-PARAMETERS = \*NONE / <c-string 1..1800 with-low>**

Program parameters which read in the called program from the S variable SYSPARAM or via the C function *getopt*.

The default value is \*NONE, i.e. no parameters are passed to the program. In such cases, an existing SYSPARAM is deleted.

**DBL-PARAMETERS = \*STD / \*PARAMETERS(...)**

*This operand is not evaluated for load modules (element type C).*

Designates all the parameters that are set by default in DBL or whose default setting can be modified using the MODIFY-DBL-DEFAULTS command. \*STD is set by default, i.e. the command is called with the current DBL parameters. It is possible to declare explicit values for the command call by specifying \*PARAMETER(...).

**DBL-PARAMETERS = \*PARAMETERS(...)**

Explicit specification of the DBL parameters for this command call.

**LOADING = \*PARAMETERS(...)**

Specifies the parameters for the load operation.

**PROGRAM-MODE=**

Specifies in which part of the address space (above or below the 16-Mbyte boundary) the modules of the load unit are to be loaded. For the addressing mode, see the "BLSSERV" manual [3].

**PROGRAM-MODE = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is 24.

**PROGRAM-MODE = \*ANY**

The modules of the load unit may be loaded above or below the 16-Mbyte boundary.

**PROGRAM-MODE = \*24**

The entire load unit is loaded below the 16-Mbyte boundary.

**LOAD-INFORMATION =**

Specifies the loading information for the load unit.

**LOAD-INFORMATION = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*DEFINITIONS.

**LOAD-INFORMATION = \*DEFINITIONS**

Loads an ESD containing the program definitions of all the modules in the load unit. Program definitions include program sections (CSECTs), entry points (ENTRYS), COMMON areas and external dummy sections (XDSECS-D).

**LOAD-INFORMATION = \*REFERENCES**

Loads an ESD containing not only the program definitions, but also the satisfied references of all the modules in the load unit.

References include external references (EXTRNs), V-type constants, conditional external references (WXTRNs) and external dummy sections (XDSECS-R).

**LOAD-INFORMATION = \*MAP**

Only one ESD required for the generation of the DBL list is *temporarily* loaded. The ESD is unloaded as soon as the DBL list has been generated.

**LOAD-INFORMATION = \*NONE**

The external symbols dictionary (ESD) is not loaded with LLMs and is only loaded temporarily with OMs.

- With LLMs, the ESD is not read at all and consequently is also not used to resolve references within the generated load unit.
- With OMs, the ESD is read and is temporarily available during the loading process.

If external references need to be resolved between LLMs and OMs of the generated load unit, the minimum specification is \*DEFINITIONS or \*MAP.

**REP-FILE = \*DBL-DEFAULT / \*NONE / <filename 1..54 without-gen>**

Specifies whether REP records are to be applied to the modules of a load unit.

Default: The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*NONE, i.e. no REP records are used.

If the user specifies a file name, the DBL attempts to process REP records from this file. The REP records must have the standard format that is processed by the RMS utility routine (see the “Utility Routines” manual [9]). Should an error occur during REP record processing, a message (warning) is output, the invalid REP record is skipped and REP processing is then continued.

**IGNORE-ATTRIBUTES =**

Specifies which CSECT attributes are ignored on loading.

**IGNORE-ATTRIBUTES = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*NONE.

**IGNORE-ATTRIBUTES = \*NONE**

No CSECT attributes are ignored on loading.

**IGNORE-ATTRIBUTES = \*READ-ONLY**

The CSECT attribute READ-ONLY is ignored on loading. The CSECT is loaded into a readable/writable main memory page. This enables breakpoints to be set when testing with AID, for example.

**AMODE-CHECK = \*DBL-DEFAULT / \*STD / \*ADVANCED**

Determines whether additional checks of the addressing mode should take place during loading.

**AMODE-CHECK = \*DBL-DEFAULT**

The setting of the last MODIFY-DBL-DEFAULTS command applies. When the task begins, \*STD is the default.

**AMODE-CHECK = \*STD**

Only the checks compatible with BLSSERV < V2.5 are executed.

**AMODE-CHECK = \*ADVANCED**

The same checks as for AMODE-CHECK = \*STD are performed.

During loading a check is also performed to see whether inconsistencies can occur while resolving external references because of the load unit's addressing mode.

**RESOLUTION = \*PARAMETERS(...)**

Specifies how external references are to be handled.

**SHARE-SCOPE =**

*This specification is ignored for a PAM-LLM (SHARE-SCOPE=\*NONE applies implicitly).*

Specifies whether, and if so, which portion of the shared code (see section "Sharable programs (shared code)" in the "BLSSERV" manual [3]) is included in the search for modules of the load unit and for unresolved external references.

On the system level, system administration can make available frequently used programs or modules to users in class 4/5 memory (as nonprivileged subsystems). The nonprivileged user can also make available programs or modules to users in class 6 memory (in a memory pool).

If a user uses modules from the available shared code, these modules need not be created in the task's class 6 memory. The references to modules already loaded as shared code suffice.

The shared code is searched in the following order:

1. Search of the shared code in class 6 memory (Common Memory Pools). If DBL finds the symbol it is searching for, it passes the load address, connects the task to the memory pool and terminates the load operation.
2. Search of the system's shared code, i.e. search of all nonprivileged subsystems that have been loaded into class 3/4 and class 5 memory. If DBL finds the symbol it is searching for, it passes the load address, connects the task to the memory pool and terminates the load operation.

**SHARE-SCOPE = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*SYSTEM-MEMORY.

**SHARE-SCOPE = \*SYSTEM-MEMORY**

Only the shared code made available in class 3/4 and class 5 memory is included in the search.

**SHARE-SCOPE = \*NONE**

Shared code is not included in the search.

**SHARE-SCOPE = \*ALL**

Both the shared code made available in class 3/4 and class 5 memory (system memory) and that made available in class 6 memory (memory pools) is included in the search.

**SHARE-SCOPE = \*MEMORY-POOL(...)**

The user shared code available in class 6 memory is included in the search, i.e. memory pools with the specified scope are included.

**SCOPE =**

Scope of the memory pools to be included.

**SCOPE = \*ALL**

All memory pools which the task can access are included.

**SCOPE = \*USER-ID**

Only memory pools which were set up for the user ID of the calling task are included, i.e. memory pools which are shareable for all tasks under this user ID.

**SCOPE = \*USER-GROUP**

Only memory pools which were set up for the user group to which the calling task belongs are included, i.e. memory pools which are shareable for all tasks of this user group.

**SCOPE = \*HOST-SYSTEM**

Only memory pools which were set up globally are included, i.e. memory pools which can be used by all tasks.

**PROGRAM-VERSION =**

Specifies the program version that DBL is to use. With regard to DBL, a program version is the version of a load unit which is about to be or has already been loaded.

**PROGRAM-VERSION = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*STD.

**PROGRAM-VERSION = \*STD**

The load unit produced by the load call is assigned the version of the loaded library element as its program version.

If the symbol specified in the load call has already been loaded, the command looks for the program version defined in the SELECT-PROGRAM-VERSION command. If no program version has yet been defined, DBL uses the first symbol it finds.

**PROGRAM-VERSION = \*BLANK**

The program version is disregarded. If the load unit specified in the call is not yet loaded, the load unit being loaded is not assigned a version.

**PROGRAM-VERSION = <composed-name 1..24 with-under>**

Version of the program looked for among the programs which are already loaded. If this program version has not yet been loaded, the load unit being loaded is assigned this version.

**ALTERNATE-LIBRARIES = \*DBL-DEFAULT / \*NONE /  
list-poss(2) \*TASKLIB / \*BLSLIB##**

*This specification is ignored for a PAM-LLM (ALTERNATE-LIBRARIES=\*NONE applies implicitly).*

Specifies whether alternate libraries are to be searched for symbols. They are also used for the DBL autolink function (see also the AUTOLINK operand).

If a list is specified then the libraries are searched in the specified order.

When the alternate libraries are searched, then the fixed type order L,R applies irrespective of the TYPE operand. In this case, only symbols are searched for, not element names.

**ALTERNATE-LIBRARIES = \*DBL-DEFAULT**

The setting in the last MODIFY-DBL-DEFAULTS command applies. \*NONE is set by default at task start.

**ALTERNATE-LIBRARIES = \*NONE**

No alternate libraries are searched.

**ALTERNATE-LIBRARIES = \*TASKLIB**

The system and/or user Tasklibs are searched in the following order:

1. The library that was assigned using the SET-TASKLIB command
2. The library \$userid.TASKLIB  
or, if this does not exist  
The TASKLIB library under the system default ID (DEFLUID ID)

**ALTERNATE-LIBRARIES = \*BLSLIB##**

The libraries assigned with the file link name BLSLIBnn or \$BLSLBnn (00≤nn≤99) are searched.

Files with the file link name \$BLSLBnn are alternate system libraries that are internally assigned by the system depending on the components that are required by the runtime system.

**AUTOLINK =**

*This specification is ignored for a PAM-LLM (AUTOLINK=\*NO applies implicitly).*  
Specifies whether the DBL autolink function is to be used.

**AUTOLINK = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*YES.

**AUTOLINK = \*YES**

The DBL autolink function is used and both the input source and any alternate libraries are searched.

**AUTOLINK = \*NO**

The DBL autolink function is not used.

**AUTOLINK = \*ALTERNATE-LIBRARIES**

The DBL autolink function is used for alternate libraries only if alternate library searching has been enabled (ALTERNATE-LIBRARIES=\*TASKLIB/\*BLSLIB##).

**ERROR-PROCESSING = \*PARAMETERS(...)**

Specifies how any errors that occur are to be handled.

**NAME-COLLISION =**

Specifies how name collisions between symbols of the same name are to be handled. Name collisions are discovered only if the symbols are *not* masked.

**NAME-COLLISION = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*STD.

**NAME-COLLISION = \*STD**

Name collisions between nonmasked symbols are indicated by warning messages. The module containing the symbol with the same name is loaded. The new occurrence of the symbol is masked, i.e. it is no longer used to satisfy external references.

**NAME-COLLISION = \*ABORT**

Loading of the current load unit is aborted if a name collision between nonmasked symbols is discovered.

**UNRESOLVED-EXTRNS =**

*This specification is ignored for a PAM-LLM (UNRESOLVED-EXTRNS=\*STD applies implicitly).*

Specifies how unresolved external references are to be handled. All unresolved external references are output to the symbol file SYSOUT, with unresolved external dummy sections (XDSECS-R) listed separately.

**UNRESOLVED-EXTRNS = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*STD.

**UNRESOLVED-EXTRNS = \*STD**

Unresolved external references are assigned an address specified in the ERROR-EXIT operand.

**UNRESOLVED-EXTRNS = \*DELAY**

Unresolved external references are satisfied at a later time. This operand is permissible only when LOAD-INFORMATION=\*REFERENCES.

The DBL stores the unresolved external references in the link context. After the next load unit is loaded into the context, the DBL attempts to satisfy the stored external references with CSECTs and ENTRYs from this new load unit. This process is repeated whenever further load units are loaded for as long as the context continues to exist. External dummy sections (XDSECS-R) cannot be stored. When stored in the context, the unresolved external references are assigned a (preliminary) address, which is specified in the ERROR-EXIT operand.

**UNRESOLVED-EXTRNS = \*ABORT**

All external references must be resolved. If not, the current load unit is aborted.

**ERROR-EXIT = \*DBL-DEFAULT / \*NONE / <x-string 1..8>**

Defines the address that unresolved external references are to be assigned if the operands UNRESOLVED-EXTRNS=\*STD / \*DELAY are specified.

Default: The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*NONE.

If \*NONE is specified, external references are left unresolved (equivalent to specifying X'FFFFFFFF').



**REPORTING = \*PARAMETERS(...)**

Specifies how the load operation is to be logged.

**MESSAGE-CONTROL =**

Specifies the lowest message class at which messages are to be output.

**MESSAGE-CONTROL = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*INFORMATION.

**MESSAGE-CONTROL = \*INFORMATION**

Outputs messages of all message classes.

**MESSAGE-CONTROL = \*WARNING**

Outputs messages of the WARNING and ERROR message classes only; messages of the INFORMATION message class are not output.

**MESSAGE-CONTROL = \*ERROR**

Outputs messages of the ERROR message class only.

**MESSAGE-CONTROL = \*NONE**

No messages are to be output.

**PROGRAM-MAP =**

Specifies whether or not a DBL list is to be output and defines the output destination for the DBL list.

**PROGRAM-MAP = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*NO.

**PROGRAM-MAP = \*NONE**

No DBL list is to be output.

**PROGRAM-MAP = \*SYSLST(...)**

The output destination is the SYSLST system file.

**SYSLST-NUMBER =**

Specifies the number of the SYSLST system file from the set SYSLST00 to SYSLST99.

**SYSLST-NUMBER = \*STD**

The output destination is the system file SYSLST[00]

**SYSLST-NUMBER = <integer 1..99>**

The output destination is a SYSLST system file from the set SYSLST01 to SYSLST99.

**PROGRAM-MAP = \*SYSOUT**

The output destination is the SYSOUT system file.

**PROGRAM-MAP = \*BOTH(...)**

The system files SYSOUT *and* SYSLST are both output destinations.

**SYSLST-NUMBER =**

Specifies the number of the SYSLST system file from the set SYSLST00 to SYSLST99.

**SYSLST-NUMBER = \*STD**

The output destination is the system file SYSLST[00]

**SYSLST-NUMBER = <integer 1..99>**

The output destination is a SYSLST system file from the set SYSLST01 to SYSLST99.

**MONJV = \*NONE / <filename 1..54 without-gen-vers>**

Name of the job variable that is to monitor the program.

While the program is executing, the system sets the JV to one of the following values:

\$R program executing  
\$T program terminated  
\$A program abnormally terminated

This operand is available only to users who have the JV software product (see also the “Job Variables” manual [20]).

**CPU-LIMIT = \*JOB-REST / <integer 1..32767 seconds>**

Maximum CPU time, in seconds, allowed for execution of the program.

If execution of the program exceeds the specified time, in interactive mode the program is interrupted and message EXC0075 is output. The user can request a dump, abort the program or continue the program. If a STXIT routine is defined in the program for the event of reaching the CPU time limit, this routine is executed and the program terminated.

In batch mode the program is terminated. See also [section “Time limits in BS2000” on page 1-103](#).

**CPU-LIMIT = \*JOB-REST**

If the job was started with a time limit, the remaining CPU time will be used as the time limit for the program. Otherwise, the program executes without a time limit.

**TEST-OPTIONS =**

Specifies whether symbolic addresses in the program may be used in testing (with AID). Symbolic addresses can only be used to debug programs for which debugging and diagnostic information (LSD/list for symbolic debugging) was generated at compile time. This entails setting certain compiler options when compiling the source program (see the appropriate compiler user guide).

**TEST-OPTIONS = \*DBL-DEFAULT**

The setting from the last MODIFY-DBL-DEFAULTS command applies. At the start of a task, the preset value is \*NONE.

**TEST-OPTIONS = \*NONE**

The local symbolic address table/the internal symbolic address table is not used.

**TEST-OPTIONS = \*AID**

This operand is required for testing with AID.

This specification permits the use of symbolic addresses when testing the program with AID commands. For this, a local symbolic address table or an internal symbolic address table must have been generated when the program was compiled.

This specification is only possible for OMs (element type R) and LLMs (element type L) if LOAD-INFORMATION=\*DEFINITIONS/\*REFERENCES is also specified.

**RESIDENT-PAGES = \*PARAMETERS(...)**

Number of resident memory pages required for the program run.

This operand must be specified if, in the program, pages are to be made resident with a CSTAT macro (see the "Executive Macros" manual [22]). The permissible number of resident memory pages can be controlled by the operator.

If the operand is omitted (MIN=\*STD,MAX=\*STD), the memory requirements are taken from the start record of the program, which requires the file to be opened.

**MINIMUM = \*STD / <integer 0..32767 4Kbyte>**

Minimum number of resident memory pages required.

**MAXIMUM = \*STD / <integer 0..32767 4Kbyte>**

Maximum number of resident memory pages required.

**VIRTUAL-PAGES = \*STD / <integer 0..32767 4Kbyte>**

*The operand is evaluated only if a load module (element type C) is loaded.*

Number of pageable memory pages which must be available for the program run. If the specified number exceeds the number of pages available on the computer, the command is rejected.

**VIRTUAL-PAGES = \*STD**

The memory requirements are taken from the start record of the program.

### Return codes

(SC2)	SC1	Maincode	Meaning
2	0	CMD0001	Command executed
	0	BLS0150	Warning on loading of the program (see the message on SYSOUT)
	32	BLS0152	Loading of the program aborted due to system error
	64	CMD0216	The user is not authorized to use the command
	64	BLS0153	Loading of the program aborted due to an unrecoverable error (see the SYSOUT message for the reason)

### Notes

- Additional information regarding the loading of programs is contained in the description of the loaders in the “BLSSERV” manual [3].
- DBL does not lock any libraries or library elements during the program run.
- Calling DBL with START-/LOAD-EXECUTABLE-PROGRAM always corresponds to a call with START-/LOAD-PROGRAM and RUN-MODE=\*ADVANCED. The functionality of RUN-MODE=\*STD is only available with the earlier commands START-/LOAD-PROGRAM.
- Some DBL functions are not available for an LLM that has already been linked into a load unit with BINDER and stored in a PAM file (PAM-LLM). Explicit specifications for the operands involved are ignored and the command is executed implicitly with the following values:
  - SHARE-SCOPE=\*NONE
  - ALTERNATE-LIBRARIES=\*NONE
  - AUTOLINK=\*NO
  - UNRESOLVED-EXTRNS=\*STD
- If multiple identical element types (TYPE operand) or alternate libraries (ALTERNATE-LIBRARIES operand) are specified, command execution is aborted with a warning.
- If NAME-SCOPE=\*SYMBOL/\*STD or ELEMENT-OR-SYMBOL= <c-string> is specified then:
  - if only element type C is declared (TYPE operand), command execution is aborted with an error message.
  - if element type C and at least one other element type are declared (TYPE operand) then element type C is ignored and the command is executed. If NAME-SCOPE=\*STD then a warning is issued if an existing C element is skipped.

- As the specification of an element name > 32 characters in the ELEMENT-OR-SYMBOL operand cannot refer to a CSECT or ENTRY name (up to 32 characters), the following applies:
  - When NAME-SCOPE=\*SYMBOL is specified the command is rejected.
  - When NAME-SCOPE=\*STD is specified the search is restricted just to element names without a warning.
- As the specification of an element name > 41 characters in the ELEMENT-OR-SYMBOL operand cannot refer to a load module (element type C with up to 41 characters), the following applies:
  - When TYPE=C is specified the command is rejected.
  - If in addition to C at least one other element type is specified in the TYPE operand, element type C is ignored without a warning.
- DBL defines the following names for the context and the load unit:
  - the default name “LOCAL#DEFAULT” for the context
  - the default name “%UNIT” for the load unit
- Execution of programs cannot be nested. If a START-EXECUTABLE-PROGRAM or START-PROGRAM command is issued when a program is already loaded, the loaded program is unloaded and the new command is executed. No error message appears; however, an ABEND-STXIT routine defined in the unloaded program is first activated, unless the START-PROGRAM command is called via the CMD macro (see the “Executive Macros” manual [22]).
- For program monitoring, see also the “Job Variables” manual [20].
  - The status indicator in the job variable monitoring the program is set to “\$R” when the program is started.
  - If a program is already loaded or a started program is interrupted by a HOLD-PROGRAM command or depression of the **K2** key, the status indicator in the program-monitoring job variable is set to “\$A”.
  - If the JV is not accessible at the time the command is processed, an error message is issued to SYSOUT and command processing is continued.

### Examples

```
/SRX (MY-LIB,MITZI)
```

The element MITZI from the library MY-LIB is loaded and started. The search order is: LLM, load module, object module.

This extremely abbreviated form should only be used in dialogs.

```
/START-EXE (LIB=SYSLNK.GTI,ELEM-OR-SYM='TONI'),REP-FILE=SYSREP.GTI
```

Starts the module containing the symbol TONI. The search is first performed in the shared code and then in the library SYSLNK.GTI with type L being searched before type R. When the module is loaded from the library, the REP file SYSREP.GTI is processed.

#### *Note*

Since the name is specified as a C-string in ELEM-OR-SYM, the library is only searched for symbol names, not for element names.

```
/START-EXE FROM-FILE=(LIB=MY-LIB,ELEM=SONJA),-  
/          DBL-PAR=(RESOLUTION=(AUTOLINK=*NO))
```

The element SONJA from the library MY-LIB is loaded and started. The search order is: LLM, load module, object module. The autolink function is not used here.

```
/START-EXE FROM-FILE=(ELEM=CAESAR),PROG-PAR='Monday Winter'
```

Calls a C program stored under the element name CAESAR from the default library and passes the program parameters that the program accesses via the *getopt* function (an Assembler program would read the parameters from the S variable SYSPARAM).

## START-FILE-CACHING

Start PFA caching for open file

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	File processing
<b>Domain:</b>	FILE
<b>Privileges:</b>	STD-PROCESSING TSOS

### Function

The START-FILE-CACHING command starts caching for a file that is already open for processing. The file has to be on a pubset for which a cache configuration is defined in the MRSCAT and the cache has to be active, i.e. PFA caching for the pubset has to be activated.

Caching can be activated later for files for which no appropriate cache medium was available or was requested when the OPEN was issued (the first OPEN in the case of shared update processing). The performance requirements for input/output operations are defined through the IO-ATTRIBUTES operand which is validated and output in the same way as when OPEN is issued (see ADD-FILE-LINK command).

The command is rejected in the following situations:

- The caller is not authorized to access the file.
- The file is not open on the local host.
- No PFA cache area is available.
- The file is already being cached.
- The file is on a private disk or on a tape.
- An XCS lock exists for the file.
- The specified cache settings are not possible or not allowed.

### Format

<b>START-FILE-CACHING</b>
<b>FILE-NAME</b> = <filename 1..54> <b>,IO-ATTRIBUTES</b> = [* <b>PARAMETERS</b> ](...) [* <b>PARAMETERS</b> ](... <b>PERFORMANCE</b> = * <b>HIGH</b> / * <b>VERY-HIGH</b> / * <b>USER-MAXIMUM</b> <b>,USAGE</b> = * <b>READ-WRITE</b> / * <b>WRITE</b> / * <b>READ</b>

### Operands

#### **FILE-NAME = <filename 1..54>**

Name of the file to be cached. The file has to be open and on a pubset that is locally accessible.

#### **IO-ATTRIBUTES = \*PARAMETERS(...)**

Specifies the performance requirements demanded by the user for input/output operations. Whether the requirements are fulfilled and to what extent depends on the cache medium active for the pubset (see the output for the SHOW-PUBSET-CACHE-ATTRIBUTES or SHOW-PUBSET-PARAMETERS command). Read and write access is performed through a fast cache. The number of disk accesses and the access times are reduced.

#### **IO-ATTRIBUTES = \*PARAMETERS(...)**

The specifications made for the PERFORMANCE and USAGE operands determine the performance attributes.

#### **PERFORMANCE = \*HIGH / \*VERY-HIGH / \*USER-MAXIMUM**

Specifies the file's performance attribute. This operand defines the priority requested for the input/output operations named in the USAGE operand. The highest performance operand allowed for files that are located on a PFA pubset with CACHED-FILES=\*BY-USER (see the MODIFY-PUBSET-CACHE-ATTRIBUTES command) is defined in the user entry (see output for the SHOW-USER-ATTRIBUTES command, output field *DMS-TUNING-RESOURCES*).

#### **PERFORMANCE = \*HIGH**

The file is to be processed through a cache (high performance priority). This value can only be specified for a file on a PFA pubset with CACHED-FILES=\*BY-USER if the user has the DMS tuning privilege CONCURRENT-USE or EXCLUSIVE-USE for the pubset (see the output for the SHOW-USER-ATTRIBUTES command, output field *DMS-TUNING-RESOURCES*).



**PERFORMANCE = \*VERY-HIGH**

The file is to be processed through a cache. The referenced data in the file is to be kept permanently in the cache (highest performance priority; only available in GS). The cache data is only evicted from the cache when the file is closed. Only users who have the DMS tuning privilege EXCLUSIVE-USE for the pubset can specify (see the output for the SHOW-USER-ATTRIBUTES command, output field *DMS-TUNING-RESOURCES*).

*Note*

All cache segments used for this file are locked until the file is closed. If several files with this attribute are open simultaneously, the cache space available for files that are cached normally may become restricted to an extent that they cannot be accessed with reasonable speed.

**PERFORMANCE = \*USER-MAXIMUM**

The file is assigned the highest performance attribute contained in the user catalog for the user. If the user does not have the DMS tuning privilege, the command is rejected.

**USAGE = \*READ-WRITE / \*WRITE / \*READ**

Specifies for which input/output operations high performance requirements (processing via cache) are wanted. The default setting is \*READ-WRITE, i.e. the requirements apply to read and write operations.

If the file does not have a particular performance attribute (PERFORMANCE= \*STD) and if the cache area for the pubset is not defined in such a way that all existing files are served (see the operand CACHED-FILES=\*ALL for the MODIFY-PUBSET-CACHING-ATTRIBUTES command), then the USAGE operand has no effect on processing.

**USAGE = \*READ-WRITE**

The performance requirements apply both to read and to write operations.

**USAGE = \*WRITE**

The performance requirements apply to write operations only.

**USAGE = \*READ**

The performance requirements apply to read operations only.

*Note*

In the case of USAGE=\*READ-WRITE or \*WRITE, write caching is only performed if the prerequisites for the DISK-WRITE file attribute are met (see CREATE-FILE or MODIFY-FILE-ATTRIBUTES). In the case of DISK-WRITE= \*IMMEDIATE, the cache medium used for write caching has to be failsafe (see the output for the command SHOW-MASTER-CATALOG-ENTRY INFORMATION=\*USER, output field *CACHE-MEDIUM*).

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	The desired state was already reached
	1	CMD0202	Syntax error
	32	DMS1D0E	MSCF connection error
	32	DMS1D10	Internal error
	64	DMS1D03	User does not have access authorization for the file
	64	DMS1D05	File not open (on local host)
	64	DMS1D06	No cache available
	64	DMS1D07	No user privilege for increased performance
	64	DMS1D08	Caching no allowed for this file
	64	DMS1D09	File is processed with XCS environment
	64	DMS1D0A	File not allowed (or not available)
	64	DMS1D0B	Data backup must not be left until close
	64	DMS1D0D	Storage bottleneck
	64	DMS1D0F	Error in catalog management call
	64	DMS1D11	'DAB' subsystem not found

## START-GS-TRACE

Start diagnostic trace in GS

<b>Description status:</b>	GSMAN V19.0A
<b>Functional area:</b>	Global storage administration
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	TSOS

### Function

Systems support can use the START-GS-TRACE command to start a diagnostic trace in GS. Before this is possible, a partition with the name GSTRACE must exist. The diagnostic trace is terminated with the STOP-GS-TRACE command.

For more details on administering global storage, see the “Introduction to System Administration” [14].

In global GS operation in the XCS network, the command applies to all the nodes in the network. The GSMAN subsystem is not available until after XCS has been started.

### Format

<b>START-GS-TRACE</b>

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	64	EGC0112	No GS available
	64	EGC0301	Partition does not exist
	128	EGC0010	GSMAN subsystem not ready

# START-HARDWARE-AUDIT

Start hardware AUDIT mode

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	AUDIT mode control
<b>Domain:</b>	PROGRAM
<b>Privileges:</b>	STD-PROCESSING TSOS

### Function

The START-HARDWARE-AUDIT command controls the AUDIT mode for the processor state TU (task unprivileged) or TPR (task privileged). The branch instruction addresses are entered in the AUDIT table.

Hardware AUDIT mode is terminated with the STOP-HARDWARE-AUDIT command. The hardware AUDIT table is then no longer available.

Hardware AUDIT mode may be interrupted with the HOLD-HARDWARE-AUDIT command. When hardware AUDIT mode is resumed with RESUME-HARDWARE-AUDIT, it continues the hardware AUDIT table used previously. The contents of the hardware AUDIT table can be output with the SHOW-HARDWARE-AUDIT command as long as hardware AUDIT mode has not yet been terminated.

#### *Availability of the AUDIT function*

Hardware AUDIT is not available on systems with /390 architecture.

Systems support staff can make the AUDIT function globally available with the parameter service (AUDALLOW=YES). Via the user entry, systems support controls whether or not a user is authorized to start the hardware AUDIT mode.

Each user can prohibit or allow the hardware AUDIT mode within his or her task by means of the MODIFY-TEST-OPTIONS command (effective only if the authorization in the user entry allows it).

#### *Privileged functions*

Systems support (TSOS privilege) can start the AUDIT mode for each task and also control it for the TPR processor state.

If the AUDIT function is activated for recording all branch instructions at the job level (SCOPE=\*OWN-JOB/\*ALL-JOBS/\*TID/\*TSN), SCOPE=\*PROGRAM-LEVEL is rejected. If a PCB-specific AUDIT is activated at a lower PCB, the new request is accepted additively. Activation of ALL-JOBS-AUDIT results in deactivation of the AUDIT function at the job level in each job and subsequent activation of ALL-JOBS-AUDIT without retention of the earlier AUDIT table. See also the “Diagnostics Handbook” [8].

## Format

### START-HARDWARE-AUDIT

**SCOPE** = \*OWN-JOB / \*PROGRAM-LEVEL / \*ALL-JOBS / \*TID(...) / \*TSN(...)

\*TID(...)

| **TID** = <alphanum-name 1..8>

\*TSN(...)

| **TSN** = <alphanum-name 1..4> / <c-string 1..4>

,**BUFFER-SIZE** = 0 / <integer 0..16 *4Kbyte*>

,**STATE** = \*USER / \*SYSTEM

## Operands

### SCOPE =

Scope of the hardware AUDIT function.

### SCOPE = \*OWN-JOB

The request applies to actions (processor state TU) in the user's own task (in which the command was issued).

### SCOPE = \*PROGRAM-LEVEL

The request applies to the PCB-specific function relating to the highest interrupted PCB of the processor state TU. It is allowed only for the user's own job (see TID, TSN operands). If a task-wide hardware AUDIT is activated (SCOPE=\*OWN-JOB), a PCB-specific hardware AUDIT request is refused. If a PCB-specific hardware AUDIT at a lower PCB is activated, the new request is accepted in addition.

### SCOPE = \*ALL-JOBS

All jobs currently in the system are to be monitored with AUDIT.

This operand value may only be entered in conjunction with the operand STATE=\*SYSTEM.

### SCOPE = \*TID(...)

AUDIT is to monitor only one task, identified by its internal task identifier (TID).

Nonprivileged users can only specify tasks running under their own user ID.

**TID = <alphanum-name 1..8>**

TID of the task.

**SCOPE = TSN(...)**

AUDIT is to monitor only one task, identified by its task sequence number (TSN). Nonprivileged users can only specify tasks running under their own user ID.

**TSN = <alphanumeric 1..4> / <c-string 1..4>**

TSN of the task.

**BUFFER-SIZE = 0 / <integer 0..16 4Kbyte>**

Number of 4-KB pages additionally requested in TU for the hardware AUDIT table to allow it to be saved to this area before cyclic overwriting. In TPR, the maximum possible size of the backup table is 4 KB. It replaces the 256-byte hardware AUDIT table. In TPR, BUFFER-SIZE can only be assigned the value 0 (no backup table) or 1 (backup table 4 KB). Any value > 1 entered is replaced by 1.

**STATE =**

Processor state for which AUDIT is to be active.

**STATE = \*USER**

The hardware AUDIT is to be started for the nonprivileged processor state TU.

**STATE = \*SYSTEM**

*Only privileged users are allowed to select this operand value.*

The hardware AUDIT is to be started for the privileged processor state TPR.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
1	0	CMD0001	Hardware AUDIT already underway
2	0	IDA0009	BUFFER-SIZE invalid
	1	CMD2201	Invalid operand combination, specified task or PCB does not exist
	64	CMD0216	User does not have required authorization
	64	IDA0003	No hardware AUDIT table created
	64	IDA0004	Hardware AUDIT running with SCOPE=*OWN-JOB; SCOPE=*PROGRAM-LEVEL rejected
	64	IDA0006	BUFFER-SIZE operand ignored
	64	IDA0011	Privilege error
	64	IDA0020	Hardware AUDIT not available on this system (HSI)
	64	IDA0023	Hardware AUDIT not available because user entry does not contain authorization
	64	IDA0024	Hardware AUDIT not available due to the current test option settings for the active task
	130	IDA0017	Out of memory; hardware AUDIT disabled for all tasks
	130	IDA0019	START command rejected because a STOP command is still being processed

## START-HEL-LOGGING

Activate hardware error logging

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Error logging
<b>Domain:</b>	ERROR-LOGGING
<b>Privileges:</b>	HARDWARE-MAINTENANCE TSOS

### Function

The START-HEL-LOGGING command activates the hardware error logging (HEL) mechanism and opens a logging file.

As HEL is started up automatically during system startup, the command is required only in the following cases:

- HEL has not been activated owing to a startup error
- HEL has been terminated by a system error
- HEL has been disabled by a STOP-HEL-LOGGING command

Hardware errors are logged in the logging file which has been opened; the type of errors that are recorded can be defined with the MODIFY-HEL-LOGGING command. The CHANGE-HEL-FILE command can be used to close the current logging file and open another.

HEL logging files are created under the TSOS user ID with a default name formed on the pattern `$TSOS.SYS.HEL.yyyy-mm-dd.hhmmss`. The name components *yyyy-mm-dd* and *hhmmss* respectively identify the date and time when the logging file was initially opened.

The file access rights are by default set to `USER-ACCESS=*SPECIAL` and `ACCESS=*READ`, which means that all user IDs, including the user ID with the HARDWARE-MAINTENANCE privilege, have read access to HEL logging files.

A HEL log file is given the size specified in the SPACE operand. There is no provision for dynamic extension (`SECONDARY-ALLOCATION=0`). If the file grows to the size of the primary allocation, it is automatically closed and a new logging file is created and opened.

HEL logging file are evaluated using the ELSA utility (**E**rror **L**ogging **S**ystem **A**nalysis; see the “ELSA” manual [16]).

**Format**

START-HEL-LOGGING
<p><b>FILE</b> = <u>*SAME</u> / *NEXT  <b>SPACE</b> = <u>*UNCHANGED</u> / *STD / &lt;integer 24..65536 2Kbyte&gt;</p>

**Operands**

**FILE = \*SAME / \*NEXT**

Specifies which logging file to open.

**FILE = \*SAME**

Opens the most recent logging file and continues writing to it.  
 If no logging file exists, a new one is created with the default name.

**FILE = \*NEXT**

Creates a new logging file with the default name and opens it.

**SPACE = \*UNCHANGED / \*STD / <integer 24..65536 2Kbyte>**

Defines the size (primary allocation, plus rounding as required; see the PRIMARY-ALLOCATION operand of the CREATE-FILE command) of a new logging file.  
 If an existing logging file is to be reopened, the SPACE argument is irrelevant.

**SPACE = \*UNCHANGED**

The logging file is to be the same size as the old one.

**SPACE = \*STD**

The logging file is given the default size of 400 PAM pages.

**SPACE = <integer 24..65536 2Kbyte>**

The log file is given the specified number of PAM pages.

**Return codes**

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	Command successfully executed
	0	CMD0001	Hardware error logging is already active
	32	HEL0100	Internal error
	32	HEL0101	Resources not available
	32	HEL0105	Bourse problems
	32	HEL0106	DMS error
	32	HEL0107	DMS error
	64	HEL0110	Privilege error



**Example**

See the SHOW-HEL-LOGGING command.

# START-JOB-STREAM

Start job stream and associated job scheduler

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Job processing
<b>Domain:</b>	JOB
<b>Privileges:</b>	TSOS OPERATING
<b>Routing code:</b>	J

### Function

The START-JOB-STREAM command starts a job stream and thus, implicitly, the associated job scheduler. Any start time stored in the job stream definition is ignored.

The command allows a privileged ENTER to be used in starting the batch holder job of the job scheduler. The name of the job scheduler is specified in the associated ENTER file; the name of this ENTER file is a component part of the stream specification in the SJMSFILE. In principle, any preferred names can be used for the files; the systems support staff are responsible for the use of consistent names (see the “Introduction to System Administration” [14]).

The command is used when

- the job stream was terminated with the STOP-JOB-STREAM command at an earlier stage
- the job stream received the start attribute “\*BY-OPERATOR” when it was defined with the JMU utility
- the job stream is to be started at an earlier time than specified in the definition.

Successful execution of the command is acknowledged by a message output on the console.

### Format

<b>START-JOB-STREAM</b>
<b>STREAM-NAME</b> = <name 1..8>

**Operands****STREAM-NAME = <name 1..8>**

Name of the job stream to be started.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JMS0630	Semantic error
	64	JMS0640	Command cannot be executed

# START-LINKAGE-AUDIT

Start linkage AUDIT mode

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	AUDIT mode control
<b>Domain:</b>	PROGRAM
<b>Privileges:</b>	STD-PROCESSING TSOS

### Function

This command controls the subroutine trace (linkage AUDIT mode) for processor state TU (task unprivileged), TPR (task privileged) or TPR and SIH. The branch destination addresses are recorded in the linkage AUDIT table on execution of the BASR, BALR, BASSM and BAKR instructions.

If the linkage AUDIT mode is in the “HOLD” state (after the corresponding command), it is activated again by means of START-LINKAGE-AUDIT. If any save table is present, it continues to be used.

#### *Availability of AUDIT function*

Systems support can make the AUDIT function globally available using the parameter service (AUDALLOW=YES) and it can control whether a user is authorized to start the linkage AUDIT mode or not via the user entry.

Each user can prohibit or allow the hardware AUDIT mode within his or her task by means of the MODIFY-TEST-OPTIONS command (effective only if the authorization in the user entry allows it).

#### *Privileged functions*

Systems support (TSOS privilege) can also control the subroutine trace for the TPR or TPR/SIH processor state.

If the processor-local linkage AUDIT is also to be used during the startup phase, it must be activated with the aid of the parameter service (see the “Introduction to System Administration” [14]). This function is also unrestrictedly available for multiprocessors, i.e. on all CPUs.

The only way to view the processor-local linkage AUDIT table is to use a dump and the DAMP interactive dump analyzer. Interactive output with SHOW-LINKAGE-AUDIT is not possible.

## Format

START-LINKAGE-AUDIT
<p><b>STATE</b> = <b>*USER</b> (...) / <b>*SYSTEM</b>(...) / <b>*PROCESSOR</b>(...)</p> <p><b>*USER</b>(...)</p> <ul style="list-style-type: none"> <li><b>SCOPE</b> = <b>*OWN-JOB</b> / <b>*PROGRAM-LEVEL</b> / <b>*TID</b>(...) / <b>*TSN</b>(...)</li> <li><b>*TID</b>(...)</li> <ul style="list-style-type: none"> <li><b>TID</b> = &lt;alphanum-name 1..8&gt;</li> </ul> <li><b>*TSN</b>(...)</li> <ul style="list-style-type: none"> <li><b>TSN</b> = &lt;alphanum-name 1..4&gt; / &lt;c-string 1..4&gt;</li> </ul> <li><b>BUFFER-SIZE</b> = <b>0</b> / &lt;integer 0..16 4Kbyte&gt;</li> </ul> <p><b>*SYSTEM</b>(...)</p> <ul style="list-style-type: none"> <li><b>SCOPE</b> = <b>*OWN-JOB</b> / <b>*PROGRAM-LEVEL</b> / <b>*ALL-JOBS</b> / <b>*TID</b>(...) / <b>*TSN</b>(...)</li> <li><b>*TID</b>(...)</li> <ul style="list-style-type: none"> <li><b>TID</b> = &lt;alphanum-name 1..8&gt;</li> </ul> <li><b>*TSN</b>(...)</li> <ul style="list-style-type: none"> <li><b>TSN</b> = &lt;alphanum-name 1..4&gt; / &lt;c-string 1..4&gt;</li> </ul> </ul> <p><b>*PROCESSOR</b>(...)</p> <ul style="list-style-type: none"> <li><b>SCOPE</b> = <b>*INTERRUPT-HANDLING</b> / <b>*SYSTEM-LEVEL</b></li> </ul>

## Operands

**STATE =**

Processor state for which the linkage AUDIT is to be activated.

**STATE = \*USER(...)**

The linkage AUDIT is to be activated for the nonprivileged processor state TU.

**SCOPE = \*OWN-JOB / \*PROGRAM-LEVEL / \*TID(...) / \*TSN(...)**

Scope of the linkage AUDIT function.

**SCOPE = \*OWN-JOB**

The request applies to the user's own task.

**SCOPE = \*PROGRAM-LEVEL**

The request applies to the PCB-specific function relating to the highest interrupted PCB. If a task-wide linkage AUDIT is activated (SCOPE=\*OWN-JOB), a PCB-specific request is refused. If a PCB-specific linkage AUDIT at a lower PCB is activated, the new request is accepted in addition.

**SCOPE = \*TID(...)**

Only a task that is identified by means of an internal task number (TID) is to be monitored by linkage AUDIT. Nonprivileged users can only specify tasks running under their own user ID.

**TID = <alphanum-name 1..8>**

Task identifier that is assigned to the task which is to be monitored.

**SCOPE = \*TSN(...)**

Only a task that is identified by means of its task sequence number (TSN) is to be monitored by linkage AUDIT. Nonprivileged users can only specify tasks running under their own user ID.

**TSN = <alphanum-name 1..4> / <c-string 1..4>**

TSN that is assigned to the job which is to be monitored.

**BUFFER-SIZE = 0 / <integer 0..16 4Kbyte>**

Number of pages in 4KB units additionally required for the linkage AUDIT to protect it against cyclic overwriting.

**STATE = \*SYSTEM(...)**

*Only privileged users are allowed to select this operand value.*

The linkage AUDIT is to be started for the privileged processor state TPR.

**SCOPE = \*OWN-JOB / \*PROGRAM-LEVEL / \*ALL-JOBS / \*TID(...) / \*TSN(...)**

Scope of applicability of the linkage AUDIT function.

**SCOPE = \*OWN-JOB**

The request applies to the user's own (TSOS) task.

**SCOPE = \*PROGRAM-LEVEL**

The request applies to the PCB-specific function which is associated with the highest interrupted PCB. If a task-wide linkage AUDIT has been activated (SCOPE=\*OWN-JOB), a PCB-specific request will be rejected. If a PCB-specific linkage AUDIT has been activated for a lower PCB, the new request will be accepted as an addition.

**SCOPE = \*ALL-JOBS**

All the jobs currently on the system are to be monitored by the linkage AUDIT.

**SCOPE = \*TID(...)**

The linkage AUDIT is to monitor a single task, identified by its internal task identifier (TID).

**TID = <alphanum-name 1..8>**

Task identifier of the task.

**SCOPE = \*TSN(...)**

The linkage AUDIT is to monitor a single task, identified by its task sequence number (TSN).

**TSN = <alphanum-name 1..4> / <c-string 1..4>**

TSN of the task.

**STATE = \*PROCESSOR(...)**

*Only privileged users are allowed to select this operand value.*

The linkage AUDIT is to be activated for the local processor only, for the privileged states SIH and TPR.

**SCOPE = \*INTERRUPT-HANDLING / \*SYSTEM-LEVEL**

Scope of applicability of the linkage AUDIT function.

**SCOPE = \*INTERRUPT-HANDLING**

The request applies to the processor state SIH only.

**SCOPE = \*SYSTEM-LEVEL**

The request applies to both privileged processor states, SIH and TPR.

**Return codes**

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	Command executed without error
	0	CMD0001	Linkage AUDIT already running, local linkage AUDIT already running, BUFFER-SIZE operand ignored or linkage AUDIT table empty; therefore no output
	1	CMD2201	PCB not present. Command rejected
	64	CMD0216	User does not have required authorization
	64	IDA0033	Linkage AUDIT running with SCOPE=*OWN-JOB; SCOPE=*PROGRAM-LEVEL rejected
	64	IDA0038	Specified task does not exist
	64	IDA0041	Linkage AUDIT not available on this system (HSI)
	64	IDA0043	Linkage AUDIT is running in processor-local mode; STATE=*SYSTEM rejected
	64	IDA0044	Linkage AUDIT running with STATE=*SYSTEM; STATE=*PROCESSOR rejected
	64	IDA0052	Linkage AUDIT not available because the user entry does not contain an authorization
	64	IDA0053	Linkage AUDIT not available because the current test option settings for the active task
	64	IDA0060	AUDIT functions globally not available in this session
	130	IDA0045	Central AUDIT management currently locked

## START-POSIX-INSTALLATION

Start POSIX installation program

<b>Description status:</b>	POSIX-BC V10.0A
<b>Functional area:</b>	POSIX administration and application
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	TSOS POSIX-ADMINISTRATION

### Function

The START-POSIX-INSTALLATION command starts the POSIX installation program. The installation program can run in interactive mode, the installation statements being inquired via FHS masks. The installation program can also run automatically if a parameter file containing all the installation statements is specified.

Execution of the POSIX installation program is described in detail in the “POSIX Basics for Users and System Administrators” manual [28].

### format

START-POSIX-INSTALLATION
<pre>INPUT-INTERFACE = *STD / *FHS / *FILE(...)   *FILE(...)     FILE-NAME = &lt;filename 1..54&gt;     ,ERROR-HANDLING = *PARAMETERS(...)       *PARAMETERS(...)         RETURNCODE = *NO / *YES         ,ABORT-ON-WARNING = *NO / *YES</pre>

### Operands

**INPUT-INTERFACE = \*STD / \*FHS / \*FILE(...)**

Specifies whether installation is to run in interactive mode or automatically.

**INPUT-INTERFACE = \*STD / \*FHS**

Installation is to run in interactive mode (via FHS masks). Execution of installation in interactive mode is described in the “POSIX Basics for Users and System Administrators” manual [28].



**INPUT-INTERFACE = \*FILE(...)**

Installation is to run automatically using the specified parameter file. Automatic execution of installation and details on how to set up the parameter file are described in the “POSIX Basics for Users and System Administrators” manual [28].

**FILE-NAME = <filename 1..54>**

Name of the parameter file.

**ERROR-HANDLING = \*PARAMETERS(...)**

Defines the response when errors occur.

**RETURNCODE = \*NO / \*YES**

Defines whether, when errors occur, the command is to supply a POSIX-specific command return code (with the maincode POS295x) and trigger the spin-off mechanism.

**RETURNCODE = \*NO**

When errors occur, the spin-off mechanism is not triggered and command return codes are not supplied.

**RETURNCODE = \*YES**

When errors occur, the spin-off mechanism is triggered in procedures and the command supplies return codes (with the maincode POS295x).

**ABORT-ON-WARNING = \*NO / \*YES**

Controls the behavior when errors of the class 'warning' occur in the parameter file (with the maincode POS2956).



When errors of the class 'error' occur, processing of the parameter file is always aborted; when errors of the class 'note' occur, processing is always continued in the next line.

**ABORT-ON-WARNING = \*NO**

Processing of the parameter file is continued in the next line when errors of the class 'warning' occur.

**ABORT-ON-WARNING = \*YES**

Processing of the parameter file is aborted when errors of the class 'warning' occur.

## Return codes

POSIX-specific command return codes (i.e. with maincode POS295x) are returned only if RETURNCODE=\*YES was specified. When RETURNCODE=\*NO is specified, command return codes which are returned in the event of an error (subcode 1 not 0) cannot be guaranteed.

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No errors
	64	POS2950	Invalid procedure parameter file.
	64	POS2951	Parameter file was not found or is not accessible.
	64	POS2952	The user ID is not authorized to execute the POSIX installation program.
	64	POS2953	Another instance of the POSIX installation program is currently being executed.
	64	POS2954	Installation program cannot be loaded.
	64	POS2955	Serious error in the installation program.
znr	64	POS2956	Error in the parameter file. The number of the line (znr) in or after which the error occurred can be taken from the SC2. In the case of batch installation in online mode, detailed information can be found in the POSIX file <code>/var/sadm/pkg/insterr</code> .
	64	POS2957	Timeout when waiting for a POSIX restart. File is locked.

### *Logging errors in the parameter file (maincode POS2956)*

In the case of batch installation in online mode, i.e. not in the case of initial installation or file system extension in offline mode, the following information is written to the POSIX file `/var/sadm/pkg/insterr`:

- Name of the parameter file
- Date and time of installation

In the event of notes / warnings / errors, also:

- Errored line in the parameter file
- Error class (note, warning, error) and error text

*Sample logging file*

```
input file : :FR01:$TSOS.POSIX-INSTALL.FS.TMP.TEST
time      : Wed Jan 28 13:17:40 2012
- line   3 : a;$SYSROOT.FS.TMP.TEST;8192;Y;Y;/tmp/test;N;;y;N
  note    : Line 3: BS2000 file already existing, file size may not be
           changed
  note    : Line 3: file system size of existing filesystem will be used
input file : :V70A:$TSOS.INSTALL.POSIX-SOCKENS
time      : Wed Jan 28 13:27:25 2012
- line   4 : POSIX-SOCKENS;Y
  warning : IMON-GPN: installation unit not found in SCI
input file : :FR01:$TSOS.POSIX-INSTALL.FIRST
time      : Wed Jan 28 13:38:51 2012
- line   1 : [FirstInstallation]
  error   : POSIX subsystem is available
```

# START-POSIX-SHELL

Switch to POSIX shell

<b>Description status:</b>	POSIX-BC V10.0A
<b>Functional area:</b>	POSIX administration and application
<b>Domain:</b>	PROCEDURE UTILITIES
<b>Privileges:</b>	STD-PROCESSING

### Function

The START-POSIX-SHELL command opens a POSIX shell, so that the user can work in a UNIX-based environment within BS2000.

The POSIX shell is the command interface to a UNIX kernel (UNIX System V) ported to BS2000.

Within the POSIX shell, users can take advantage of the extensive UNIX command language (compliant with the POSIX standard). The shell provides access to the POSIX file system implemented in BS2000, which is organized like a UNIX file system.

The POSIX shell will not be opened unless the POSIX subsystem is loaded and is in the \*AVAILABLE status (see the SHOW-POSIX-STATUS command).

Once the POSIX shell has been successfully accessed, the shell prompt is displayed. The default prompt for nonprivileged POSIX users is \$ (the value of the shell's PS1 environment variable). The shell is now ready for input from the interactive terminal. See the "POSIX Commands" manual [29] for a description of the input which is allowed (the supported POSIX command set) and for general information on working with the POSIX shell.

The POSIX shell is closed by the POSIX command **exit**. The user then goes back to working in BS2000 in the usual way.

### *Requirement for accessing the POSIX shell*

The POSIX shell cannot be accessed unless there is a suitable user entry authorizing POSIX use. This entry contains the following POSIX-specific user attributes:

- user login name
- user ID number
- group ID number
- explanatory comment
- name of the POSIX directory in which the user's POSIX files will be stored (home directory)
- name of the POSIX program that will be started up when the user accesses the shell (by default the interactive POSIX shell)

A privileged user (POSIX-ADMINISTRATION privilege) assigns these user attributes with the MODIFY-POSIX-USER-ATTRIBUTES command, and with the MODIFY-POSIX-USER-DEFAULTS can also define default values which are automatically allocated to the POSIX user entry whenever a new BS2000 user entry is created (see the ADD-USER command). The SHOW-POSIX-USER-ATTRIBUTES command provides information on a POSIX user entry. The SHOW-POSIX-USER-DEFAULTS command lists the current default values.

## Format

**START-POSIX-SHELL**

Alias: **POSIX-SH**

**VERSION** = **\*STD** / <product-version without-man-corr>

**MONJV** = **\*NONE** / <filename 1..54 without-gen-vers>

**CPU-LIMIT** = **\*JOB-REST** / <integer 1..32767 *seconds*>

## Operands

**VERSION = \*STD / <product-version without-man-corr>**

Specifies the version number of the program to call (in this case the POSIX shell). The default is \*STD, which means that the currently available version will be called. The only explicit version specification currently accepted is V01.0.

**MONJV = \*NONE / <filename 1..54 without-gen-vers>**

Specifies the name of the job variable (JV) that is to monitor the program. The specified JV is created if it does not yet exist. Then while the program is running, the system assigns the JV the appropriate values:

\$R    program is running  
 \$T    program has terminated  
 \$A    program has abnormally terminated

This operand is available only to users with the software product “Job Variables” (see the “Job Variables” manual [20]).

**CPU-LIMIT = \*JOB-REST / <integer 1..32767 seconds>**

Maximum CPU time in that the program is allowed to take to run.

Note that if the job itself was started without a time limit (CPU-LIMIT=\*NO), the program will *also run without* a time limit (i.e. this operand will be ignored).

If program runtime exceeds the specified limit, in interactive mode the program is suspended and message EXC0075 is issued. The user can then request a dump, abort the program or let it continue. If there is an STXIT routine for reaching the CPU limit defined in the program, the routine will be executed and the program terminated.

In batch mode the program is terminated. See also [section "Time limits in BS2000" on page 1-103](#).

**CPU-LIMIT = \*JOB-REST**

If the job was started with a time limit, the remaining CPU time is taken as the time limit for the program. If the job was started without a time limit, the program also runs without a time limit.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors



Return codes supplied in the event of errors (nonzero subcode 1) cannot be guaranteed, but automatic error handling is possible on the basis of the spin-off mechanism (equivalent to the SET-PROCEDURE-OPTIONS command with its default setting ERROR-MECHANISM=\*SPIN-OFF-COMPATIBLE).

**Notes**

Input to the POSIX shell is handled a block at a time and is thus not passed to the shell until the **EM** **DUE** keys or just **DUE** are pressed.

Entering the string **@@d** has the same effect as pressing the **END** key.

Entering the string **@@c** has the same effect as pressing the **DEL** key.

**Example**

```

/show-posix-user-attr _____ (1)
%POSIX-USER-ATTRIBUTES --- PUBSET 20SH 2014-02-04 13:49:57
%-----
%USER-ID          USER2          PUBSET  20SH
%USER-NUMBER      100 (DEFAULT)
%GROUP-NUMBER     100 (DEFAULT)
%COMMENT          RLOGIN authorization
%DIRECTORY        /home/gast
%PROGRAM          *SHELL
%-----
%POSIX-USER-ATTRIBUTES _____ END OF DISPLAY
/a='*** Text in BS2000 ***' _____ (2)
/shv a,inf=*par(name=*none),out=bs2text _____ (3)
/copy-posix-file copy-dir=*to-posix,bs2000-file=bs2text,
                  posix-file=*by-source _____ (4)
/start-posix-sh _____ (5)
POSIX Basissshell 09.0A41 created Feb 20 2012
POSIX Shell 07.0A41 created Jan 27 2009
Copyright (C) Fujitsu Technology Solutions 2009
                All Rights reserved
Last login: Fri Jun 22 01:23:39 2012 on sf/006
*****
**                               POSIX - D236ZE14                               **
*****
** In case of problems contact the administrator:                               **
**                                                                                   **
**                               Mr. Meier                               Tel. 10815                               **
*****
$ pwd _____ (6)
/home/gast
$ ls -l _____ (7)
total 40
-rw-rw-rw-  1 100      USROther  12288 Sep  4 14:57 LCMD113
-rw-r--r--  1 100      USROther    31 Feb  4 13:45 bs2text
-rw-r--r--  1 100      USROther    214 Jan 13 16:20 sicher
$ cat bs2text _____ (8)
*** Text in BS2000 ***
$ echo $HOME _____ (9)
/home/gast
$ exit _____ (10)
/write-text 'continue with BS2000'
Weiter mit BS2000 _____ (11)

```

- (1) The SHOW-POSIX-USER-ATTRIBUTES command lists the POSIX user attributes of user *USER2*.
- (2) S variable *A* is assigned a text string.
- (3) The SHV (SHOW-VARIABLE) command outputs the content of S variable *A* to the *BS2TEXT* file.
  
- (1) The COPY-POSIX-FILE command copies the BS2000 file *BS2TEXT* to the POSIX file system.
- (2) The START-POSIX-SHELL command opens the POSIX shell.
- (3) The POSIX *pwd* command displays the path name of the current POSIX directory.
- (4) The POSIX *ls* command lists the files in the current directory.
- (5) The POSIX command *cat* displays the content of the *BS2TEXT* file which was copied beforehand from BS2000 (see item 1).
- (6) The POSIX *echo* command displays the value of the HOME shell variable (compare with the POSIX user attribute DIRECTORY under Point 1).
- (7) The *exit* command closed the POSIX shell.
- (8) Then BS2000 commands can be entered again, in this case the WRITE-TEXT command.



## START-PRINTER-OUTPUT

Assign printers for spoolout jobs

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION
<b>Privileges:</b>	STD-PROCESSING OPERATING PRINT-SERVICE-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
<b>Routing code:</b>	S

### Function

The START-PRINTER-OUTPUT command assigns printers for spoolout jobs. Nonprivileged users (STD-PROCESSING) can issue the command only when acting as RSO device administrators.

The administration parameters specified in the command govern which spoolout jobs will be printed on the specified device.

The administration parameters of a device which has already been assigned can be changed with the MODIFY-PRINTER-OUTPUT-STATUS command. Device assignments are canceled with the STOP-PRINTER-OUTPUT command.

### *Privileged functions*

RSO device administrators and spool and cluster administrators can assign any of the devices that they manage.

For more information on these user groups see the manuals “RSO” [32], “SPOOL” [43] and “DPRINT” [10].

### *Notes*

- For the print sample the data is modified as follows: all letters are replaced by “X”, all digits by “0”.
- To execute a spoolout request for a printer, all of the scheduling operands must apply to the device. If this is not the case, the spoolout request remains in the queue.
- To execute an RSO request for a printer, at least one of the specifications for each of class, form name and user ID must apply to the device. If this is not the case, the RSO request remains in the queue.

## START-PRINTER-OUTPUT

---

- If the specifications for form name, class or user ID are omitted, any output for a specified device can be executed. But if values are specified for these categories, only those RSO requests which match all the specifications can be executed.
- The hierarchy of the operands for controlling spoolout is described in the section on scheduling in the “SPOOL” manual [43].
- If a print sample has been completed and printout has been delayed, the print sample remains the same on restart.
- The following operands must not be specified for APA printers:  
FORMS-OVERLAY  
PAGE-PRINTER-OUTPUT  
PRINT-SAMPLE  
ROTATION  
TWO-UP-PROCESSING  
FORMS-OVERLAY-BUFFER  
CHARACTER-SET-NUMBER
- The following operands may only be used with the privilege TSOS or OPERATING:  
DEVICE-NAME=\*ANY-LOCAL-PRINTER(...)  
ROTATION  
TWO-UP-PROCESSING  
FORMS-OVERLAY-BUFFER  
CHARACTER-SET-NUMBER
- If a printer is defined with ACCESS-TYPE=TACLAN, the START-PRINTER-OUTPUT command is rejected with message SRO0369 if the SOCKETS subsystem is not loaded or not defined in the subsystem catalog.  
In the case of other printers (not defined with ACCESS-TYPE=TACLAN), the command is rejected with message SRO0369 if the DCAM subsystem is not loaded.

## Format

(Part 1 of 3)

## START-PRINTER-OUTPUT

Alias: SRPRTO

**DEVICE-NAME** = \***ANY-LOCAL-PRINTER**(...) / \***RSO-PRINTER**(...)\***ANY-LOCAL-PRINTER**(...)    **NAME** = list-poss(8): <alphanum-name 1..8>, **DESTINATION** = \***NONE** / \***STD** / list-poss(16): \***CENTRAL** / <alphanum-name 1..8>, **FORM-NAME** = \***ALL** / \***STD** / \***EQUIVALENT**(...) / \***EXCEPT**(...) / \***EQUIVALENT-EXCEPT**(...) /  
                  list-poss(16): <alphanum-name 1..6>    \***EQUIVALENT**(...)        | **EQUIVALENT-FORMS** = \***ALL** / list-poss(16): <alphanum-name 1..6>    \***EXCEPT**(...)        | **FORMS-LIST** = list-poss(16): <alphanum-name 1..6>    \***EQUIVALENT-EXCEPT**(...)        | **FORMS-LIST** = list-poss(16): <alphanum-name 1..6>, **FORMS-OVERLAY** = \***ALL** / \***NONE** / \***ONLY** / \***EXCEPT**(...) / list-poss(16): <alphanum-name 2..2>    \***EXCEPT**(...)        | **FORMS-OVERLAY-LIST** = list-poss(16): <alphanum-name 2..2>, **HOST-NAME** = \***ALL-CLUSTERS** / \***HOME** / \***LOCAL-CLUSTER** / \***EXCEPT**(...) /  
                  list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>    \***EXCEPT**(...)        | **HOST-LIST** = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>, **PAGE-PRINTER-OUTPUT** = \***NO** / \***ALLOWED**, **PRINT-SAMPLE** = \***NO** / \***YES**, **TRACE** = \***NO** / \***YES**(...)    \***YES**(...)        | **LEVEL** = \***COMPLETE** / \***STATUS** / \***BLOCK-CONTROL**

```

*RSO-PRINTER(...)
  | NAME = list-poss(8): <alphanum-name 1..8>
  | ,DESTINATION = *NONE / *STD / list-poss(16): <name 1..8>
  | ,FORM-NAME = *STD / *EQUIVALENT(...) / *EQUIVALENT-EXCEPT(...) / <alphanum-name 1..6>
  |   *EQUIVALENT(...)
  |   | EQUIVALENT-FORMS = *ALL / list-poss(16): <alphanum-name 1..6>
  |   *EQUIVALENT-EXCEPT(...)
  |   | FORMS-LIST = list-poss(16): <alphanum-name 1..6>
  | ,PRINT-SAMPLE = *NO / *YES
  | ,TRACE = *NO / *YES
  | ,ALLOWED-ACCESSES = *STD / list-poss(4): <c-string 1..4>
,USER-IDENTIFICATION = *ALL / *EXCEPT(...) / list-poss(16): <name 1..8> / <c-string 1..8 with-low>
  | *EXCEPT(...)
  | | USER-IDENT-LIST = list-poss(16): <name 1..8> / <c-string 1..8 with-low>
,SPOOLOUT-CLASS = *ALL / *EXCEPT(...) / list-poss(16): <integer 1..255>
  | *EXCEPT(...)
  | | SPOOLOUT-CLASS-LIST = list-poss(16): <integer 1..255>
,SPOOLOUT-NAME = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
  | *EXCEPT(...)
  | | SPOOLOUT-NAME-LIST = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
,ACCOUNT = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8>
  | *EXCEPT(...)
  | | ACCOUNT-LIST = list-poss(16): <alphanum-name 1..8>
,ROTATION = *ANY / *YES / *NO / *MANUAL
,TWO-UP-PROCESSING = *ANY / *YES / *NO / *MODE-1 / *MODE-2
,FORMS-OVERLAY-BUFFER = *ANY / *ONLY / *NO / *RANGE(...)
  | *RANGE(...)
  | | LOW = 0 / <integer 0..32767>
  | | ,HIGH = 4032 / <integer 0..32767>
,PRIORITY = *ALL / *RANGE(...)
  | *RANGE(...)
  | | FROM = 30 / <integer 30..255>
  | | ,TO = 255 / <integer 30..255>

```

```
,CHARACTER-SET-NUMBER = *ALL / *ONE / *RANGE(...)
  *RANGE(...)
    |
    | LOW = 1 / <integer 1..32767>
    |
    | HIGH = 64 / <integer 1..32767>
,EXIT-ROUTINES = *ACTIVE / *NOT-ACTIVE
```

## Operands

### **DEVICE-NAME =**

Type of printer to be assigned.

### **DEVICE-NAME = \*ANY-LOCAL-PRINTER(...)**

*For privileged users only (see "Privileges" above).*

Local printers are assigned.

### **NAME = list-poss(8): <alphanum-name 1..8>**

Logical names of devices, defined in the SPOOL parameter file (maximum of 8 alphanumeric characters) or mnemonic names of devices (2 alphanumeric characters) to be assigned to waiting spoolout jobs.

If a device has been activated with a particular name (START- or MODIFY-PRINTER-OUTPUT), it can only be addressed by this name until it is deactivated (STOP-PRINTER-OUTPUT).

### **DESTINATION =**

Specifies whether and how the assignment of the specified local printers to a pool is modified.

During PRINT validation a check is carried out to determine whether a specified pool is defined in the SPOOL parameter file and the specified device name exists in the pool.

### **DESTINATION = \*NONE**

The list of local pools for the specified printers is deleted, i.e. spoolout jobs for these pools are no longer processed.

### **DESTINATION = \*STD**

Standard pools for local printers.

The list of assigned pools for local printers is replaced by a list of standard pools containing the specified local printers (SPOOL parameter file).

### **DESTINATION = list-poss(16): \*CENTRAL / <name 1..8>**

List of local pools to which the spoolout jobs for the specified printers can be directed.

**FORM-NAME =**

Forms with which spoolout jobs can be processed on the specified printers.

**FORM-NAME = \*ALL**

Spoolout jobs can be processed on the specified printers with any forms.

**FORM-NAME = \*STD**

Spoolout jobs can be processed on the specified printers with all forms permitted in the SPOOL parameter file for the relevant printer.

If the printer is not in the SPOOL parameter file, FORM-NAME=\*STD is assumed automatically.

**FORM-NAME = \*EQUIVALENT(...)**

Equivalent forms with which spoolout jobs can be processed on the specified printers. Printout is not interrupted whenever one form is replaced by another.

**EQUIVALENT-FORMS = \*ALL / list-poss(16): <alphanum-name 1..6>**

All or the specified list of equivalent forms are admitted.

**FORM-NAME = \*EXCEPT(...)**

Forms with which spoolout jobs cannot be processed on the specified printers.

**FORMS-LIST = list-poss(16): <alphanum-name 2..2>**

List of excluded forms.

**FORM-NAME = \*EQUIVALENT-EXCEPT(...)**

List of equivalent forms with which spoolout jobs cannot be processed on the specified printers.

**FORMS-LIST = list-poss(16): <alphanum-name 1..6>**

List of excluded equivalent forms.

**FORM-NAME = list-poss(16): <alphanum-name 1..6>**

List of forms with which spoolout jobs can be processed on the specified printers.

Printout is interrupted with a message on the console whenever one form is replaced by another.

**FORMS-OVERLAY =**

Names of the film overlays with which spoolout jobs can be processed on the specified laser printers.

**FORMS-OVERLAY = \*ALL**

Spoolout jobs can be processed on the specified printers with any film overlay.

**FORMS-OVERLAY = \*NONE**

Only spoolout jobs which do not use film overlays can be processed on the specified printers.

**FORMS-OVERLAY = \*ONLY**

Only spoolout jobs which use (any) film overlays can be processed on the specified printers.

**FORMS-OVERLAY = \*EXCEPT(...)**

Names of the film overlays with which spoolout jobs cannot be processed on the specified printers.

**FORMS-OVERLAY-LIST = list-poss(16): <alphanum-name 2..2>**

List of excluded film overlays.

**FORMS-OVERLAY = list-poss(16): <alphanum-name 2..2>**

List of film overlays with which spoolout jobs can be processed on the specified printers.

**HOST-NAME = \*ALL-CLUSTERS / \*LOCAL-CLUSTER / \*HOME / \*EXCEPT(...)** / list-poss(16): <name 1..8> / <c-string 1..8 with-low>

Specifies for the printer the hosts whose print jobs are processed.

**HOST-NAME = \*ALL-CLUSTERS**

Print jobs from all hosts in all clusters are processed on the specified printer.

**HOST-NAME = \*LOCAL-CLUSTER**

Print jobs from all hosts in the local cluster are processed on the specified printer.

**HOST-NAME = \*HOME**

Only print jobs from the local host are processed on the specified printer.

**HOST-NAME = \*EXCEPT(...)**

Print jobs from all hosts except those in the EXCEPT list are processed on the specified printer.

**HOST-LIST = list-poss(16): <name 1..8> / <c-string 1..8 with-low>**

BCAM names of the hosts whose print jobs are not to be processed.

**HOST-NAME = list-poss(16): <name 1..8>**

Only print jobs from hosts in this list are processed on the specified printer.

**PAGE-PRINTER-OUTPUT = \*NO / \*ALLOWED**

Specifies whether spoolout jobs for laser printer may also be output on line printers.

**PRINT-SAMPLE = \*NO / \*YES**

Determines whether a print sample is to be made for the spoolout jobs offered for printout in accordance with the assignment operand. For printers of types LP65 and APA, PRINT-SAMPLE=\*YES is rejected.



Character sets using proportional spacing must not be used for print samples on HP or HP90 printers. The characters for the file to be output are replaced by '\*' and '0' and are of variable width in proportional spacing.

**TRACE = \*NO / \*YES (...)**

Only permitted for APA printers. Switches tracing on or off. Name of the trace file:  
 \$SYSSPOOL.TF.<mn>.<dvcname>.<yyyy-mm-dd>.<hhmmss>

**LEVEL = \*COMPLETE / \*STATUS / \*BLOCK-CONTROL**

Specifies what files are written to the tracer listing. For a description of the data see the "SPOOL" manual [43].

**LEVEL = \*COMPLETE**

The trace is to be logged in full.

**LEVEL = \*STATUS**

For APA jobs only: trace and status data is to be logged.

**LEVEL = \*BLOCK-CONTROL**

For APA jobs only: trace, status and block control data is to be logged.

**DEVICE-NAME = \*RSO-PRINTER(...)**

*Not for nonprivileged users other than RSO device administrators.*

RSO printers are to be assigned.

**NAME = list-poss(8): <alphanum-name 1..8>**

Names of RSO printers which are to be assigned to waiting spoolout jobs.

**DESTINATION = \*NONE / \*STD / list-poss(16): <name 1..8>**

Determines whether the specified RSO printers are to be assigned to one or more pools and, if so, which.

**DESTINATION = \*NONE**

Spoolout jobs which are to be output to RSO pools cannot be processed on the specified RSO printers.

**DESTINATION = \*STD**

The list of assigned pools comprises all the standard pools which contain the specified RSO printers.

**FORM-NAME =**

Forms with which spoolout jobs can be processed on the specified RSO printers.

**FORM-NAME = \*STD**

Spoolout jobs can be processed on the specified printers with all the equivalent forms defined in the SPOOL parameter file for the relevant RSO printer.

**FORM-NAME = \*EQUIVALENT(...)**

Spoolout jobs can be processed on the specified RSO printers with equivalent forms.

**EQUIVALENT-FORMS = \*ALL / list-poss(16): <alphanum-name 1..6>**

All equivalent forms or the specified list of equivalent forms are admitted.



**FORM-NAME = \*EQUIVALENT-EXCEPT(...)**

Spoolout jobs cannot be processed on the specified RSO printers with certain equivalent forms.

**FORMS-LIST = list-poss(16): <alphanum-name 1..6>**

List of excluded equivalent forms.

**FORM-NAME = <alphanum-name 1..6>**

Form with which spoolout jobs can be processed on the specified RSO printers.

**PRINT-SAMPLE = \*NO / \*YES**

Specifies whether a print sample is to be made.

In RSO mode a print sample can be requested for public devices printing on continuous paper (not single-sheet printers).

**TRACE = \*NO / \*YES**

Specifies whether a trace file is created for output to the specified RSO printers. The trace file is cataloged under the name \$SYSSPOOL.SYSTRC.RSO.device.yy-mm-dd.hh.mm (...year-month-day.hour.minutes).

**ALLOWED-ACCESSES = \*STD / list-poss(4): <c-string 1..4>**

This operand specifies which accesses are allowed. It is permissible for any RSO printer.

**ALLOWED-ACCESSES = \*STD**

The value C 'RSO' is set.

**ALLOWED-ACCESSES = list-poss(4): <c-string 1..4>**

List of allowed accesses. The following may be specified:

C 'RSO' RSO print jobs can be assigned to the printer that is started.

C 'UTM' UTM print jobs can be assigned to the printer that is started.

**USER-IDENTIFICATION =**

User IDs under which spoolout jobs can be processed on the specified printers.

**USER-IDENTIFICATION = \*ALL**

Spoolout jobs can be processed on the specified printers irrespective of the user ID.

**USER-IDENTIFICATION = \*EXCEPT(...)**

Spoolout jobs cannot be processed on the specified printers under the user IDs indicated here.

**USER-IDENT-LIST = list-poss(16): <name 1..8> / <c-string 1..8 with-low>**

List of excluded user IDs.

**USER-IDENTIFICATION = list-poss(16): <name 1..8> / <c-string 1..8 with-low>**

List of user IDs under which spoolout jobs can be processed on the specified printers.

**SPOOLOUT-CLASS =**

Spoolout classes from which spoolout jobs can be processed on the specified printers.

**SPOOLOUT-CLASS = \*ALL**

Spoolout jobs from all spoolout classes can be processed on the specified printers.

**SPOOLOUT-CLASS = \*EXCEPT(...)**

Spoolout classes from which spoolout jobs cannot be processed on the specified printers.

**SPOOLOUT-CLASS-LIST = list-poss(16): <integer 1..255>**

List of excluded spoolout classes.

**SPOOLOUT-CLASS = list-poss(16): <integer 1..255>**

List of spoolout classes from which spoolout jobs can be processed on the specified printers.

**SPOOLOUT-NAME =**

Job names with which spoolout jobs can be processed on the specified printers.

**SPOOLOUT-NAME = \*ALL**

Spoolout jobs with any job name can be processed on the specified printers.

**SPOOLOUT-NAME = \*EXCEPT(...)**

Job names with which spoolout jobs cannot be processed on the specified printers.

**SPOOLOUT-NAME-LIST = list-poss(16): <alphanum-name 1..8> /**

<c-string 1..8 with-low>

List of excluded job names.

**SPOOLOUT-NAME = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>**

List of job names with which spoolout jobs can be processed on the specified printers.

**ACCOUNT =**

Account numbers with which spoolout jobs can be processed on the specified printers.

**ACCOUNT = \*ALL**

Spoolout jobs with any account number can be processed on the specified printers.

**ACCOUNT = \*EXCEPT(...)**

Account numbers with which spoolout jobs cannot be processed on the specified printers.

**ACCOUNT-LIST = list-poss(16): <alphanum-name 1..8>**

List of excluded account numbers.

**ACCOUNT = list-poss(16): <alphanum-name 1..8>**

List of account numbers with which spoolout jobs can be processed on the specified printers.

**ROTATION =**

Determines whether spoolout jobs which require the page rotation module can be processed on the specified printers.

**ROTATION = \*ANY**

Spoolout jobs can be processed on the specified printers whether they require the page rotation module or not.

**ROTATION = \*NO**

Only spoolout jobs which do not require the page rotation module can be processed on the specified printers.

**ROTATION = \*YES**

Only spoolout jobs which require the page rotation module can be processed on the specified printers.

**ROTATION = \*MANUAL**

In contrast to NO, the operator can address the page rotation module via hardware switches. In this case all the pages are printed out in rotated format.

**TWO-UP-PROCESSING = \*ANY / \*YES / \*NO / \*MODE-1 / \*MODE-2**

Specifies the printer-specific feature TWO-UP-PROCESSING for spoolout jobs on an HP90-PRINTER. It specifies whether and in which sequence two adjacent pages are to be printed out side by side. For a detailed description of the different 'TWO-UP' modes see the "SPOOL" manual [43].

**FORMS-OVERLAY-BUFFER =**

Determines whether spoolout jobs which require an FOB data overlay can be processed on the specified printers.

**FORMS-OVERLAY-BUFFER = \*ANY**

Spoolout jobs with and without FOB data overlays can be processed on the specified printers. The maximum possible FORMS-OVERLAY-BUFFER is taken from the corresponding default device entry.

**FORMS-OVERLAY-BUFFER = \*ONLY**

Only spoolout jobs which use an FOB data overlay can be processed on the specified printers. The maximum possible FORMS-OVERLAY-BUFFER is taken from the corresponding default device entry.

**FORMS-OVERLAY-BUFFER = \*NO**

Spoolout jobs which use an FOB data overlay cannot be processed on the specified printers.

**FORMS-OVERLAY-BUFFER = \*RANGE(...)**

Only spoolout jobs which use an FOB data overlay the size of which falls within the specified range can be processed on the specified printers.

**LOW = 0 / <integer 0..32767>**

Lower limit of the range (in sublines).

**HIGH = 4032 / <integer 0..32767>**

Upper range limit for HP90 printers: 4032 sublines. Upper range limit for HP printers: 672 sublines.

**PRIORITY =**

Priorities of the spoolout jobs which can be processed on the specified printers.

**PRIORITY = \*ALL**

Spoolout jobs with any priority can be processed on the specified printers.

**PRIORITY = \*RANGE(...)**

Spoolout jobs with priorities within the specified range can be processed on the specified printers.

**FROM = 30 / <integer 30..255>**

Lower range limit.

**TO = 255 / <integer 30..255>**

Upper range limit.

**CHARACTER-SET-NUMBER =**

Number of character sets required with which spoolout jobs can be processed on the specified printers.

**CHARACTER-SET-NUMBER = \*ALL**

Spoolout jobs can be processed on the specified printers irrespective of the number of character sets required. The maximum possible number of required character sets is taken from the corresponding default device entry.

**CHARACTER-SET-NUMBER = \*ONE**

Only spoolout jobs which require no more than one character set can be processed on the specified printers.

**CHARACTER-SET-NUMBER = \*RANGE(...)**

Spoolout jobs which require a number of character sets which falls within the specified range can be processed on the specified printers. During initialization of a device, a check is made as to how many character sets can be loaded on the device. If this value is less than one of the two values specified, either a message is sent to the operator terminal and the value for HIGH is adapted (if  $LOW \leq$  number of character sets that can be loaded on the device), or the command is rejected (if  $LOW >$  number of character sets that can be loaded on the device).

**LOW = 1 / <integer 1..32767>**

Lower range limit.

**HIGH = 64 / <integer 1..32767>**

Upper range limit.

**EXIT-ROUTINES = \*ACTIVE / \*NOT-ACTIVE**

Specifies whether exit routines are to be called during spoolout.

**Return codes**

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No error
			Guaranteed message: SPS0B06
2	0	SRO0357	Too many pools
	1	CMD0202	Syntax error
	1	SCP0973	Semantic error
	1	SRO0173	Semantic error
	32	SCP0974	System error. Command rejected
	32	SRO0174	System error. Command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value
			Guaranteed messages: SCP0944, SCP0951, SCP0957, SCP0967, SCP1010, SPS0168
	64	SRO0175	No authorization for command
	64	SRO0176	Invalid operand value
	128	SCP0896	SCSIPCL subsystem not loaded or not ready
	128	SCP0911	RSO subsystem in dump creation or restart phase
	128	SCP0992	SPS subsystem not loaded or not supported
	128	SCP1008	DPRINTSV subsystem not loaded
			Guaranteed message: SCP1008
	128	SPS0420	Subsystem not loaded/ready
	128	SRO0364	Form not accepted

### Notes

1. User responsibilities:  
The SPOOL administrator can start any printer in the configuration that is connected to his or her host. Although the cluster administrator can start, suspend or modify any printer in the configuration, it is advisable to leave the responsibility for device management to the SPOOL administrators in the cluster.
2. Checking the user ID:  
Changing the user ID in the user ID catalog has no effect if the active printer is defined in the configuration file. If, however, the printer is defined in the local SPOOL parameter file, a change does take effect.
3. Printer name conventions:  
When a printer is started, the command can include a printer name from the local SPOOL parameter file or from the configuration file.  
  
If there is a suitable name in the configuration file, the printer is started and becomes available to every host that belongs to the cluster. The command must be issued by a cluster administrator or a SPOOL administrator. The SPOOL administrator must issue the command at the host to which the printer is connected.  
  
If there is no suitable name in the configuration file, the local SPOOL parameter file is searched. If there is a suitable printer, it is started, but it is only available to the local host.
4. Distributed and nondistributed printer pools:  
A printer cannot be connected to distributed and nondistributed printer pools at the same time. If the printer is distributed, it can only be connected to distributed printer pools. If it is not distributed, it can only be connected to nondistributed printer pools.
5. Use of logical names:  
If a printer is started by means of its logical name in the SPOOL parameter file, it must be suspended before it can be started again by means of its logical name in the configuration file. The same applies in the reverse case.
6. Supported format names ( $\neq$  file attribute 'content type'):  
In the static definition of a printer in the SPOOL parameter file, the administrator must specify a list of supported format names. These format names then belong to the started printer. The print job scheduler uses this information to assign print jobs to this printer.
7. Use of virtual printers:  
The command processing supports virtual printers. Format names are not checked for validity if they were specified in the command and the command refers to a virtual printer. The format names allow a group of print jobs to be selected for processing by the supervisor task.

**Monitoring RSO printers with job variables**

In the case of printers that were defined with MONJV=\*YES in the SPOOL parameter file, a monitoring job variable is created to monitor the asynchronous portion of the START-PRINTER-OUTPUT command. This job variable is created by the RSO system task during the asynchronous portion of the START-PRINTER-OUTPUT command and subsequently monitors the printer status (as indicated in the SHOW-SYSTEM-STATUS command) on the running device.

The monitoring job variable is created - as defined by conventions - under the user ID \$SYSSPOOL with the predefined name PRT.RSO.<device-name>. This job variable is shared and cannot be protected by a password. The JV subsystem are needed to use this function.

The job variable is constructed as follows:

Sta	TSN	Proc.	Reserved	Device	ERCOD	ERMSG
0	3	8	16	37	46	55

The first three fields of the job variable are reserved for ENTER jobs. The following fields are assigned to SPOOL and indicate the various states that can occur in a print session. The "Status" and "Processor" fields are left-aligned. All other fields are right-aligned. The contents of a job variable can be displayed with the SHOW-JV command.

*Description of fields*

Field	Contents	Meaning
Sta	\$R \$T \$A	The printer is ready or is currently processing a print job (see ERMSG and ERCOD for more information). The printer was terminated normally. The printer was not correctly started (see ERMSG and ERCOD for more information).
TSN	Tsn	TSN of the task that is managing the printer. This may be either the TSN of the RSO controller task that is managing the printer or the TSN of the RSO system task ("RSO"). The TSN of the RSO system task is output if an error has occurred on processing the command with the RSO system task or if the controller was started for a print job. The TSN is padded to the left with the padding character "0".
Proc.	Catid	Catalog ID of the system (home pubset) on which the printer is running.
Reserved		
Device	@@@@@@@@	Printer name

(Part 1 of 2)

Field	Contents	Meaning
ERCOD	@@@@@@@@@@	(BCAM) error code for an error that has occurred for an active print job.
ERMSG	@@@@@@@@@@	RSO error message. The meaning depends on the value of the status field: <ul style="list-style-type: none"><li>– \$R: This means that an error occurred when processing a print job and that the processing was therefore aborted. The value of ERMSG corresponds to the value displayed in the SHOW-SYSTEM-STATUS command.</li><li>– \$A: This means that an error occurred before the printer was ready. The value of ERMSG is the ID number of the RSO error message that is output at the console. The operation to stop the printer was aborted.</li></ul>

(Part 2 of 2)

### *Application notes*

- The job variable cannot be protected by a password.
- The job variable is not created on executing the synchronous portion of the START-PRINTER-OUTPUT command, but during the asynchronous portion, which is executed by the RSO system task and the controller task.
  - The RSO system task creates or updates a job variable whenever an error occurs on processing the print job. The job variable is then set to \$SA and will contain an error code and/or an error message that describes the error. In the case of printers that are started for a print job, the job variable is set to the status \$R, in which case the controller task is not really created. This is indicated in the job variable by the TSN “RSO”.
  - The controller task creates or updates a job variable to indicate errors that have occurred on initializing the controller. The job variable is then set to \$A and contains an error code and/or an error message that describes the error. If the printer is initialized correctly and is ready, the job variable is set to the status \$R. This status remains in effect even if the printer is temporarily disabled due to an error when processing a print job, but an error code and/or error message are added to describe the error. These details can also be output with the SHOW-SYSTEM-STATUS command. When the printer is subsequently released with a STOP-PRINTER-OUTPUT command, the status of the job variable is set to \$T.
- All created job variables remain visible until the next time that the RSO is loaded. When this occurs, all printer job variables are reset.



**Example**

```
/start-printer-output device-name=*any-local-printer(name=l1,  
                    host-name=*all),user-id=hello _____ (1)
```

```
/start-printer-output device-name=*any-local-printer(name=l1,  
                    host-name=*home),user-id=hello _____ (2)
```

- (1) Printer L1 processes print jobs from all hosts that go to the local server and are issued by the user ID HELLO (on any host).
- (2) Printer L1 processes print jobs from the local host that go to the local server and are issued by the user ID HELLO (on the local host).

# START-PROGRAM

Load and start program (load or object module)

<b>Description status:</b>	BLSSERV V2.8A
<b>Functional area:</b>	Program control
<b>Domain:</b>	PROGRAM
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION



As of BLSSERV V2.3, the START-PROGRAM command is replaced by the START-EXECUTABLE-PROGRAM command.

START-PROGRAM continues to be supported and remains compatible. However, the START-EXECUTABLE-PROGRAM command should be used for new applications. Below you will simply find a brief description of the command function, the syntax format and the return codes.

### Function

With the START-PROGRAM command

- object modules are linked, loaded into memory and started (invocation of the dynamic binder loader DBL),
- load modules are loaded into memory and started (invocation of the static loader ELDE).

When calling with LOAD-PROGRAM, only the checks of the addressing mode compatible with BLSSERV < V2.5 are performed. This corresponds to specifying AMODE-CHECK=\*STD in the START-EXECUTABLE-PROGRAM command.

If the user wishes to load a program but not yet start it, the LOAD-EXECUTABLE-PROGRAM (or LOAD-PROGRAM) command is the appropriate one to issue.

In the case of operands which have \*DBL-PARAMETERS as their default value, the MODIFY-DBL-DEFAULTS command can be used to modify the default DBL parameters which apply when the task is started. The parameters can be configured separately for calls to the LOAD- and START-... commands on the one hand and for the BIND macro call on the other. The SHOW-DBL-DEFAULTS command lists the values which are currently set. The RESET-DBL-DEFAULTS command can be used to return the settings to the DBL defaults.

### *Restrictions*

Users with SECURITY-ADMINISTRATION, SAT-FILE-EVALUATION or SAT-FILE-MANAGEMENT privilege can use the command in procedures only.

## Format

(Part 1 of 2)

## START-PROGRAM

Alias: SR / SRPG

```

FROM-FILE = <filename 1..54 without-gen> / *MODULE(...) / *PHASE(...)
*MODULE(...)
    LIBRARY = *DBL-PARAMETERS / *STD / *OMF / <filename 1..54 without-gen> / *LINK(...)
        *LINK(...)
            LINK = <structured-name 1..8> / <filename 1..8 without-gen-vers>
,ELEMENT-OR-SYMBOL = *ALL / <composed-name 1..64 with-under>(...) /
                    <c-string 1..32 with-low>(...)
        <composed-name 1..64 with-under>(...)
            VERSION = *STD / <text 1..24>
        <c-string 1..32 with-low>(...)
            VERSION = *STD / <composed-name 1..24 with-under> / <c-string 1..24>
,PROGRAM-MODE = *DBL-PARAMETERS / *24 / *ANY
,RUN-MODE = *DBL-PARAMETERS / *STD / *ADVANCED(...)
*ADVANCED(...)
    ALTERNATE-LIBRARIES = *DBL-PARAMETERS / *NO / *YES
,NAME-COLLISION = *DBL-PARAMETERS / *STD / *ABORT
,UNRESOLVED-EXTRNS = *DBL-PARAMETERS / *STD / *DELAY / *ABORT
,ERROR-EXIT = *DBL-PARAMETERS / *NONE / <x-string 1..8>
,MESSAGE-CONTROL = *DBL-PARAMETERS / *INFORMATION / *ERROR / *WARNING
,LOAD-INFORMATION = *DBL-PARAMETERS / *DEFINITIONS / *MAP / *NONE /
                    *REFERENCES
,PROGRAM-MAP = *DBL-PARAMETERS / *NO / *SYSLST(...) / *SYSOUT / *BOTH(...)
    *SYSLST(...)
        SYSLST-NUMBER = *STD / <integer 0..99>
    *BOTH(...)
        SYSLST-NUMBER = *STD / <integer 0..99>
,SHARE-SCOPE = *DBL-PARAMETERS / *SYSTEM-MEMORY / *NONE / *ALL /
                *MEMORY-POOL(...)
    *MEMORY-POOL(...)
        SCOPE = *ALL / *USER-ID / *USER-GROUP / *HOST-SYSTEM

```

```

,IGNORE-ATTRIBUTES = *DBL-PARAMETERS / *NONE / *READ-ONLY
,REP-FILE = *DBL-PARAMETERS / *NONE / <filename 1..54 without-gen>
,AUTOLINK = *DBL-PARAMETERS / *YES / *NO / *ALTERNATE-LIBRARIES
,PROGRAM-VERSION = *DBL-PARAMETERS / *STD / *BLANK /
                    <composed-name 1..24 with-under>

*PHASE(...)
    LIBRARY = <filename 1..54 without-gen>
    ,ELEMENT = <filename 1..41 without-gen-vers>
    ,VERSION = *STD / <text 1..24>

,CPU-LIMIT = *JOB-REST / <integer 1..32767 seconds>
,TEST-OPTIONS = *DBL-PARAMETERS / *NONE / *AID
,MONJV = *NONE / <filename 1..54 without-gen-vers>
,RESIDENT-PAGES = *PARAMETERS (...)
    *PARAMETERS(...)
        MINIMUM = *STD / <integer 0..32767 4Kbyte>
        ,MAXIMUM = *STD / <integer 0..32767 4Kbyte>
,VIRTUAL-PAGES = *STD / <integer 0..32767 4Kbyte>

```

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
2	0	BLS0150	Warning on program loading (see message to SYSOUT)
	32	BLS0152	Program loading aborted due to system error
	64	CMD0216	User has no authorization for the command
	64	BLS0153	Program loading aborted due to unrecoverable error (for cause, see SYSOUT message)

## START-PUBSET-CACHING

Define PFA cache area for pubset

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Caching media control Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS

### Function

Systems support staff can use this command during a session to set up a cache area for high-speed temporary storage of data in a cache medium (main memory or global storage) for an imported SF pubset or for a volume set in an imported SM pubset. This activates PFA caching for the pubset/volume set.

The preconditions for setting up the cache area are that:

- no cache has yet been activated
- a cache configuration has previously been defined in the MRSCAT entry for the pubset or volume set concerned, using the MODIFY-PUBSET-CACHE-ATTRIBUTES command.

The START-PUBSET-CACHING command makes caching available to all hiperfiles in the pubset/volume set (files with the performance attribute HIGH or VERY-HIGH) which are opened from then on. Files which are already open cannot take advantage of caching until a START-FILE-CACHING command has been issued or until they are closed and reopened.

After a cache area has been removed using the STOP-PUBSET-CACHING command, the same cache medium must be used when it is set up again. The same applies to the VOLATILITY parameter specified in the MODIFY-PUBSET-CACHE-ATTRIBUTES command for the global storage (GS) cache medium. Changes are accepted only after the pubset has been re-imported.

The SHOW-PUBSET-CACHE-ATTRIBUTES (and also SHOW-PUBSET-PARAMETERS) command provides details of the cache configuration which is currently valid.

The command is not supported for the home pubset.

The command is also supported for shared pubset networks.

In a shared pubset network, the command can be issued on the master system or on a slave. A system message refers to the system which is issuing the command, unless it is preceded by message DMS136D, which then includes the name of the system (master or slave) on which the error has occurred. If the command is issued on a slave system, the system name may also be the local host name.

**Format**

<b>START-PUBSET-CACHING</b>
<b>PUBSET</b> = <cat-id 1..4> <b>PUBSET-TYPE</b> = <b>*SINGLE-FEATURE</b> / <b>*SYSTEM-MANAGED(...)</b> <b>*SYSTEM-MANAGED(...)</b>   <b>VOLUME-SET</b> = <cat-id 1..4>

**Operands**

**PUBSET = <cat-id 1..4>**

ID of the pubset for which the cache area is to be activated.

**PUBSET-TYPE = \*SINGLE-FEATURE / \*SYSTEM-MANAGED(...)**

Indicates whether the pubset is an SF pubset (cache directly assigned to the pubset) or an SM pubset (cache assigned to one of the volume sets of the pubset).

**PUBSET-TYPE = \*SINGLE-FEATURE**

Default. The pubset is an SF pubset. The cache is directly assigned to the SF pubset.

**PUBSET-TYPE = \*SYSTEM-MANAGED(...)**

The pubset is an SM pubset. The cache is assigned to a single volume set.

**VOLUME-SET = <cat-id 1..4>**

Identifies the volume set to which the cache is assigned.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
1	0	DMS1356	Cache area already active
	32	DMS1351	Pubset management parameter error
	32	DMS135F	Internal system error
	32	DMS1398	Reconfiguration no longer possible
	64	DMS1352	Not authorized to use command
	64	DMS1353	MRSCAT entry not found
	64	DMS1354	Pubset not locally imported
	64	DMS1355	Invalid cache configuration
	64	DMS1358	Function is not supported
	64	DMS135A	No cache for shared pubsets
	64	DMS135B	Cache memory allocation full
	64	DMS135D	Cache cannot be connected

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning
	64	DMS135E	Cache handler not available
	64	DMS1362	No cache for home pubset
	64	DMS1381	Volume set conflict
	64	DMS138D	Pubset type conflict
	64	DMS1390	Earlier reconfiguration job not yet completed
	64	DMS1397	Reconfiguration by partner system not supported
	64	DMS139D	Volume not accessible
	128	DMS1363	Class 4/5 memory shortage
	128	DMS1389	Error in transmission to partner system
	128	DMS139A	Other pubset reconfiguration job still active
	128	DMS139B	Volume or volume set is reserved
	128	DMS139C	Pubset configuration file still locked

(Part 2 of 2)

## START-RESLOG-EVALUATION

Evaluate RESLOG file

<b>Description status:</b>	RESLOG V1.6A
<b>Functional area:</b>	Accounting system control
<b>Domain:</b>	ACCOUNTING
<b>Privileges:</b>	TSOS SW-MONITOR-ADMINISTRATION

### Function

The START-RESLOG-EVALUATION command starts the evaluation of RESLOG files. The caller can specify whether all the records or only the records relating to a specific period are to be evaluated. The result of the evaluation can be called in the form of a summary of the most important information or in detail with each ATTACH and DETACH operation. The output is written to SYSOUT but can alternatively be redirected to a file.

The RESLOG evaluation runs as a separate program that is loaded, started and terminated internally. Any previously loaded program is unloaded.

### Format

#### START-RESLOG-EVALUATION

```
RESLOG-FILE = *CURRENT / *FROM-FILE(...) / <filename 1..54 without-gen-vers>
  *FROM-FILE(...)
    | LIST-FILE-NAME = <filename 1..54 without-gen-vers>
,PERIOD = *INTERVAL(...)
  *INTERVAL(...)
    | FROM = *FIRST-RECORD / <date>
    | ,TO = *LAST-RECORD / <date>
,INFORMATION = *SUMMARY / *ALL
,OUTPUT = *SYSOUT / <filename 1..54 without-gen-vers>
```



**Operands**

**RESLOG-FILE = \*CURRENT / \*FROM-FILE(...) / <filename 1..54 without-gen-vers>**

Specifies one or more RESLOG files for evaluation.

**RESLOG-FILE = \*CURRENT**

The current RESLOG file is evaluated.

**RESLOG-FILE = <filename 1..54 without-gen-vers>**

Path name of the RESLOG file that is to be evaluated.

**RESLOG-FILE = \*FROM-FILE(...)**

The path names of the RESLOG files that are to be evaluated are taken from a file name list. The file name list must be a SAM file with variable record length which possesses a fully qualified path name (maximum 54 characters) in capitals. Partially qualified specifications or specifications including wild cards are not permitted. The following conditions must be fulfilled for the specified RESLOG files:

- They must all come from a single system (same server ID in the path name).
- They must be specified in sequence from earliest to most recent.

The easiest and quickest way to generate a file name list is to use the SHOW-FILE-ATTRIBUTES command. When this is done, all file selection possibilities are available (partial qualification, wildcards and selection criteria).

*Example for the creation of a file name list*

```
/SHOW-FILE-ATTRIBUTES FILE-NAME=:PVSX:$TSOS.SYS.RESLOG.<server-id>.,
  OUTPUT=<<filelist>>(FORM-NAME=FILE-NAME)
```

The fully qualified path names of all the already closed RESLOG files in the system specified by <server-id> are stored in the file <filelist> specified in the OUTPUT operand. The file <filelist> can be specified in the LIST-FILE-NAME operand.

**LIST-FILE-NAME = <filename 1..54 without-gen-vers>**

Path name of the file name list.

**PERIOD = \*INTERVAL(...)**

Specifies the evaluation period.

**FROM =**

Specifies the start of the evaluation period.

**FROM = \*FIRST-RECORD**

The evaluation period starts from the beginning of the specified RESLOG file or, in the case of a file name list, the beginning of the first log file in the list.

**FROM = <date>**

The evaluation period starts on the specified day.

**TO =**

Specifies the end of the evaluation period.

**TO = \*LAST-RECORD**

The evaluation period terminates at the end of the specified RESLOG file or, in the case of a file name list, the end of the last log file in the list.

**TO = <date>**

The evaluation period ends on the specified day.

**INFORMATION = \*SUMMARY / \*ALL**

Specifies the level of detail of the evaluation.

**INFORMATION = \*SUMMARY**

A summary of the most important information is output.

**INFORMATION = \*ALL**

In addition to the summary information, outputs an overview listing each individual extra CPU ATTACH and DETACH operation. Also lists periods during which the RESLOG subsystem was not active.

**OUTPUT = \*SYSOUT / <filename 1..54 without-gen-vers>**

Specifies where the information is output. The output can either be written to SYSOUT (default) or to the specified file.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error



The codes returned in the event of an error (subcode 1 not equal to 0) cannot be guaranteed. However, automatic error processing is possible using the spin-off mechanism (corresponds to the default setting of the SET-PROCEDURE-OPTIONS command with ERROR-MECHANISM= \*SPIN-OFF-COMPATIBLE).

**Output information**

*Summary output of the current RESLOG file to SYSOUT*

**/START-RESLOG-EVALUATION** [RESLOG-FILE=\*CURRENT,INF=\*SUMMARY,OUTPUT=\*SYSOUT]

```

-----
                                RESLOG EVALUATION
-----
START DATE           : 2012-06-15           END DATE   : 2012-06-16
-----
OSD VERSION          : 08.0A00              SERVER-ID  : 3002000188000000
RESLOG VERSION       : 01.6A00
-----
NUMBER EXTRA CPUS   :           1
NUMBER DAYS IN USE   :           1
-----
TIME WITHOUT DATA   :           1 (hours) (2%)
-----

```

*Meaning of the output*

START DATE	Start of the evaluation period
END DATE	End of the evaluation period
OSD VERSION	Operating system version at the start of the evaluation period
RESLOG VERSION	Version of the RESLOG file at the start of the evaluation period
SERVER-ID	Globally unique server ID of the system
NUMBER EXTRA CPUS	Number of extra CPUs at the start of the evaluation period
NUMBER DAYS IN USE	Number of days on which extra CPUs were used; each calendar day is counted on which each extra CPU was ATTACHED.
TIME WITHOUT DATA	Time in hours/days when RESLOG was inactive; the hours/days between the STOP and the following START records is counted. The time is also output as a percentage value relative to the overall evaluation period.

*More detailed output of the current RESLOG file to the file PROT.EXTRA-CPU.002*

`/START-RESLOG-EVALUATION INFORMATION=*ALL, OUTPUT=PROT.EXTRA-CPU.002`

.  
.  
.  
*Information as with INFORMATION=\*SUMMARY*

DETAILED STATISTICS OF EXTRA-CPUS

CPU NR	!	ATTACH TIME	!	DETACH TIME	!	DURATION
02	!	2012-06-15 16:44:41	!	2012-06-15 16:46:18	!	1 (days)
02	!	2012-06-15 16:47:38	!	2012-06-15 16:51:06	*!	1 (days)
NO DATA	!	2012-06-15 16:51:06	!	2012-06-15 17:55:55	!	1 (hours)

*Meaning of the output*

CPU NR	CPU number of the extra CPU or – if RESLOG is not loaded – NO DATA
ATTACH TIME/ DETACH TIME	Date and time of the ATTACH or DETACH operation for an extra CPU (if a CPU number is specified under CPU NR) or Date and time at the start of a period at which RESLOG was inactive (if the text NO DATA is specified under CPU NR)
DURATION	Period in hours or days relative to ATTACH/DETACH TIME – Output for extra CPU: The number of calendar days in the period between the ATTACH and DETACH operations for the extra CPU is output. – Output for NO DATA: The number of hours and days (rounded) in the period in which RESLOG was inactive is output

The times specified for ATTACH and DETACH TIME may be followed by an \* (asterisk) which has the following meanings:

- The precise time of the ATTACH operation is not known because the extra CPU was already ATTACHED when RESLOG was started.
- The precise time of the DETACH operation is not known because the file was closed or changed or the subsystem was terminated abnormally while an extra CPU was ATTACHED.
- The actual time of the ATTACH/DETACH operation is not output because the evaluation period starts after an ATTACH and/or ends before a DETACH.
- The current file is evaluated and an extra CPU is ATTACHED. At DETACH-TIME, the date of the last alive or CPU record is written.

# START-RESOURCE-COLLECTION

Start collector selection

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	J

## Function

The START-RESOURCE-COLLECTION command is used by systems support staff (OPERATING privilege) to start the selection of a collector task by the system.

## Format

<b>START-RESOURCE-COLLECTION</b>
----------------------------------

<b>TIME-WEIGHT</b> = <u>*STD</u> / <integer 0..600>
---

## Operands

### TIME-WEIGHT =

The system calculates a weight for each task in the secure queue according to its priority and the time it has spent in the secure queue. The task with the greatest weight becomes the collector.

The TIME-WEIGHT value can be used to influence the calculation of the weight:

- The higher the value selected for TIME-WEIGHT, the greater the influence of the priority when calculating the weight.
- The lower the value selected for TIME-WEIGHT, the greater the influence of the wait time when calculating the weight.

### TIME-WEIGHT = \*STD

Default value: 10.

### TIME-WEIGHT = <integer 0..600>

Value:  $0 \leq \text{int} \leq 600$ .

**Return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	No error
	64	NKS0041	Control task for SECURE queue with TSN=NKS not active. Command not executed.

## START-SERSLOG

Activate software error logging

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Error logging
<b>Domain:</b>	ERROR-LOGGING
<b>Privileges:</b>	TSOS OPERATING
<b>Routing code:</b>	A

### Function

The START-SERSLOG command activates software error logging (SERSLOG) and opens a new SERSLOG file.

The SERSLOG system function for logging software errors is started automatically during system startup. For this reason the START-SERSLOG command is required only if SERSLOG has not been started owing to a STARTUP error, has been aborted as the result of a system error, or has been deactivated by the STOP-SERSLOG command.

If SERSLOG is already active when START-SERSLOG is issued, the command is rejected.

### Format

<b>START-SERSLOG</b>

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NER0000	Internal error
	32	CMD0221	System error
	32	NER0000	Internal error
	64	NER1070	Task termination currently in process
	64	NER1000	No authorization for the command
	64	NER1040	DMS error
	128	NER1010	A SERSLOG command is currently being processed
	129	NER1030	The SERSLOG function is already active

# START-SPACEPRO-MONITORING

Start pubset monitoring

<b>Description status:</b>	SPACEPRO V1.0A
<b>Functional area:</b>	Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS

### Function

The START-SPACEPRO-MONITORING command activates the currently valid SPACEPRO settings of the imported pubsets (parameters, options and histories) and switches on pubset monitoring. For this purpose the SPACEPRO monitor is started in a batch task with the job name SPPMON and the monitoring job variable \$TSOS.MONJV.SPACEPRO.MONITOR. The status of the SPACEPRO monitor can be inquired using the SHOW-SPACEPRO-STATUS command. Pubset monitoring is terminated using the STOP-SPACEPRO-MONITORING command or when the system is shut down.

SPACEPRO can only run when the PROP-XT and JV subsystems are available. If required, both subsystems are started implicitly using the START-SPACEPRO-MONITORING command.

This command is rejected if the SPACEPRO monitor is already active.

Regardless of the SPACEPRO monitor, pubset monitoring can also be set using the INSPECTOR component of openSM2. Here all the SPACEPRO options are available except the saturation levels. The saturation levels/occupancy levels can be set for each SPACEPRO pubset by means of openSM2. For details, please see the “openSM2” [39] manual or the “Systems Support” manual [14].

### *Notes on command processing*

The internal processing uses commands which require the PROP-ADMINISTRATION privilege.

The SUBSYSTEM-MANAGEMENT privilege may be required if one of the two subsystems PROP-XT or JV has not yet been started.

When CHECK-PUBSET-MIRROR=\*YES is specified, this also applies for the POSIX and SHC-OSD subsystems.



**Format**

START-SPACEPRO-MONITORING

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	SPP0002	SPACEPRO monitor already started
	64	SPP0302	Logging file could not be opened
	64	SPP0305	JV or PROP-XT subsystem not available
	64	SPP0309	Operator role not defined
	64	SPP0311	Unexpected return code of the command specified in the insert
	64	SPP0312	PROP-XT process could not be started
	64	SPP0314	PROP-XT object could not be generated
	64	SPP0315	PROP-XT process could not be declared
	64	SPP0316	PROP-XT events could not be waited for
	130	SDP0099	Insufficient storage space

## **START-SUBSYSTEM**

Activate subsystem

<b>Description status:</b>	DSSM V4.3B
<b>Functional area:</b>	Subsystem management
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	OPERATING SUBSYSTEM-MANAGEMENT
<b>Routing code:</b>	R

### **Function**

This command enables systems support staff to activate any required subsystem. The following information from the dynamic subsystem catalog is used for activating the subsystem:

- information on subsystem loading and linking;
- information on the initialization/deinitialization and termination of job relations;
- information on call points, ancillary components and operational dependencies (see the appropriate SSCM statements in the “Subsystem Management” manual [49]).

The command is rejected if

- the subsystem is not found in the dynamic subsystem catalog
- another version of the subsystem already exists and the coexistence is not allowed (see the VERSION-PARALLELISM operand)
- subsystems on which the subsystem to be activated depends are not loaded
- a required file (e.g. message file, library) cannot be found.

A corresponding message informs the systems support staff as to the acceptance or rejection of the command. By means of the RESET=\*YES operand, initialization can be forced for those subsystems that are in the process of being deactivated. Any number of START-SUBSYSTEM commands can be issued under a privileged user ID of system’s support, in various tasks unless this is prohibited by the parameters specified during definition of the subsystem.

Depending on how the subsystem is defined (SSCM statement SET-/MODIFY-SUBSYSTEM-ATTRIBUTES, SUBSYSTEM-LOAD-MODE operand), it can be activated in various different ways:

- SUBSYSTEM-LOAD-MODE = \*STD  
The BLS is called in STD run mode and loads the subsystem as an object module.
- SUBSYSTEM-LOAD-MODE = \*ADVANCED  
The BLS is called in ADVANCED run mode and loads the subsystem as a link and load module (LLM).

– SUBSYSTEM-LOAD-MODE = \*ANY

The BLS is called in STD run mode and loads the subsystem as an object module. If an error occurs while the subsystem is being loaded, the BLS is called again, this time in ADVANCED run mode, and the subsystem is loaded as a link and load module (LLM). If the first call to the BLS fails, a BLS error message is output on the console.

## Format

<b>START-SUBSYSTEM</b>
<pre> <b>SUBSYSTEM-NAME</b> = &lt;structured-name 1..8&gt; ,<b>VERSION</b> = <b>*STD</b> / &lt;product-version mandatory-man-corr&gt; / &lt;product-version without-man-corr&gt; / <b>*HIGHEST</b> ,<b>SUBSYSTEM-PARAMETER</b> = <b>*NONE</b> / &lt;c-string 1..254&gt; ,<b>RESET</b> = <b>*NO</b> / <b>*YES</b> ,<b>SYNCHRONOUS</b> = <b>*NO</b> / <b>*YES</b> ,<b>VERSION-PARALLELISM</b> = <b>*NONE</b> / <b>*EXCHANGE-MODE(...)</b> / <b>*COEXISTENCE-MODE</b>   <b>*EXCHANGE-MODE(...)</b>       <b>SUBSYSTEM-PARAMETER</b> = <b>*NONE</b> / &lt;c-string 1..254&gt; ,<b>MONJV</b> = <b>*NONE</b> / &lt;filename 1..54 without-gen-vers&gt; </pre>

## Operands

**SUBSYSTEM-NAME** = <structured-name 1..8>

Name of the subsystem to be activated.

**VERSION** = **\*STD** / <product-version mandatory-man-corr> /  
<product-version without-man-corr> / **\*HIGHEST**

Specifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see also “product-version” on page 1-45).

### **VERSION = \*STD**

If several versions exist for the specified subsystem, and neither a version nor \*STD is explicitly specified, the subsystem that was declared with the start attribute CREATION-TIME=\*AT-SUBSYSTEM-CALL (see the SSCM statement SET-SUBSYSTEM-ATTRIBUTES in the “Subsystem Management” manual [49]) is loaded. If this condition is not met, the lowest version number for this subsystem that is stored in the static subsystem catalog is selected.

#### *Exception*

If a version of a subsystem is to be activated automatically with the first SVC call, then this version is taken as the standard version.

### **VERSION = \*HIGHEST**

Selects the highest version of the subsystem entered in the static subsystem catalog.

### **SUBSYSTEM-PARAMETER = \*NONE / <c-string 1..254>**

Specifies whether special parameters which can be interpreted only by the specified subsystem may be processed.

### **RESET =**

Determines the behavior and urgency of command processing.

### **RESET = \*NO**

If the subsystem concerned is in the process of being deactivated, the command is rejected until this blocking operation has terminated.

### **RESET = \*YES**

The command is accepted regardless of an ongoing deactivation operation and the subsystem or components of it are initialized (see also the notes below).

The version parameter is mandatory for this operand.

### **SYNCHRONOUS =**

Permits a choice between synchronous and asynchronous processing.

### **SYNCHRONOUS = \*NO**

The command is to be processed asynchronously, i.e. there is no need to wait for it to execute. Once the syntax of the command has been checked, the calling task is sent message ESM0216. No error messages relating to the execution of the command are output.

### **SYNCHRONOUS = \*YES**

The system waits for execution of the command.

Accompanying error messages are output.

In the event of a version change, this specification applies only to the new version.

Deactivation of the other, “old” version always runs asynchronously.

**VERSION-PARALLELISM =**

Specifies whether different versions of the same subsystem can be active at the same time.

**VERSION-PARALLELISM = \*NONE**

The coexistence of different versions of a subsystems - irrespective of what is specified in the definition - is not to be allowed. If the status of any version is not NOT-CREATED, the activation will be rejected.

**VERSION-PARALLELISM = \*EXCHANGE-MODE(...)**

Two versions of a subsystem may coexist temporarily. Activation is permitted if neither or only one of the subsystem versions is in the "CREATED" state. If two versions are already in this state, implicit deactivation is initiated for the last version started.

If a subsystem version is in the LOCKED state, DSSM handles it as NOT-CREATED.

The command with this operand is rejected if

- the version to be replaced is defined with HOLD=\*NO but without a CLOSE-CTRL routine
- the command MODIFY-SUBSYSTEM-PARAMETER CHANGE-STATE=\*NO was used for the version to be replaced
- RESET=\*NO is specified at the same time
- the version is not in the CREATED, NOT CREATED or LOCKED state.

**SUBSYSTEM-PARAMETER = \*NONE / <c-string 1..254>**

Specifies whether special parameters that can only be evaluated by the specified subsystem version are processed.

**VERSION-PARALLELISM = \*COEXISTENCE-MODE**

Permits unrestricted coexistence of two or more versions of the same subsystem, provided that this was permitted for all versions involved in the SSCM statement SET-SUBSYSTEM-ATTRIBUTES.

**MONJV = \*NONE / <filename 1..54 without-gen-vers>**

Specifies the name of a monitoring job variable. The monitor job variable indicates whether the subsystem is active, halted, interrupted or locked. The specified job variable only becomes the monitoring job variable if the subsystem is not yet started. The monitor job variable can have the following contents:

Byte	Length	Contents	Values
1	3	Status	\$R (running) / \$A (abnormal end) / \$L (loaded) / \$T (terminate)
4	1	Reserved	0
5	4	TSN	???? (four question marks)
9	4	Home Catid	
13	4	Reserved	
17	1	Type	J / P / S
18	53	Reserved	
71	3	Session number	
74	8	Name of the subsystem	
82	7	Version of the subsystem	
89	15	Condition of the subsystem	for \$R: created for \$A: abnormal end / locked for \$L: in create for \$T: not created / not resumed / in delete / in resume / in hold
104	24	Unused	
128	127	Reserved for subsystem users	

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	No action necessary; subsystem already active
	1	ESM0414	Syntax error: invalid version specified
	32	ESM0224	Command not processed
	32	ESM0228	Command terminated abnormally

**Notes**

- Subsystems generally have manifold relations (dependency relations, loading relations) to other subsystems.  
In order to ensure performance of the individual subsystem, these relations must be taken into account. DSSM attempts to avoid potential conflicts that might arise from the user's requests and therefore rejects corresponding commands. Actions such as the installation of missing subsystems or unloading dependent subsystems are not performed.  
  
If, however, the user also generates complex subsystems using the CHECK-REFERENCE=\*NO statement (see the SSCM statement SET-SUBSYSTEM-ATTRIBUTES), DSSM executes the requested functions **despite** possible conflicts: The START-SUBSYSTEM command loads the specified subsystem, even if a subsystem with which there are defined relations has not yet been completely loaded.
- In order to ensure a high degree of parallelism and data integrity, time-consuming administrative jobs are not executed under the control of the calling task but are transferred to a DSSM task.  
As a rule only the check of the requested function is performed **synchronously** (i.e. in conjunction with a wait state for the calling task). However, DSSM performs the actual processing **asynchronously** and independently of the calling task.
- After the STOP-SUBSYSTEM command, START-SUBSYSTEM is rejected if DSSM has not yet been able to complete the "load subsystem" action. However, if the RESET=\*YES operand is specified, the systems support staff can force an unconditional loading of the subsystem. There is no wait for the completed processing of a STOP-SUBSYSTEM command.  
In this case the initialization routine is activated. The subsystem in question, which is notified of the RESET, can specify the scope of this routine itself (complete initialization, partial initialization, no initialization).

*Exception*

If the subsystem in question is in the "IN-DELETE" status but has already been deinitialized, processing of "unload subsystem" is not aborted despite RESET=YES. The START-SUBSYSTEM command is rejected if the subsystem has reached the status "NOT-CREATED" and all resources have been released.

- If two versions of a subsystem are to be exchanged, the following points must be observed with regard to the use of the RESET=\*YES parameter:
  - If version A is in the IN-DELETE state and version B in the CREATED state, RESET=\*YES can be specified for A only if coexistence was permitted for both versions at definition (SSCM).
  - If both versions are in the IN-DELETE state, RESET=\*YES can be specified for one of them if the version involved was defined with RESET=\*ALLOWED, VERSION-EXCHANGE=\*ALLOWED.
- Restart (i.e. calling the INIT routine for subsystems defined with RESTART-REQUIRED=\*YES) is not possible, since this may lead to illegal coexistence.



## START-TAPE-OUTPUT

Assign tape devices for spoolout jobs

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION
<b>Privileges:</b>	OPERATING PRINT-SERVICE-ADMINISTRATION
<b>Routing code:</b>	S

### Function

The START-TAPE-OUTPUT command assigns tape devices for spoolout jobs.

### Notes

- SPOOL uses the first volume label to form the name of a directory file (SR.vsn). This file contains all the jobs needed to process the replay tape. When the replay tape has been generated the directory file is copied to the tape so that the tape can be exported to another computer center. Once the replay tape has been exported, the directory file can be deleted from the disk.
- While a replay tape is being generated, systems support staff can use the MODIFY-TAPE-OUTPUT-STATUS command to change the selection criteria for the spoolout jobs to be output. The volume labels must not be modified.
- During generation of a replay tape a catalog entry is created for the TP.tsn file (tsn = task sequence number of the spoolout job). This entry is temporary and is deleted when the STOP-TAPE-OUTPUT command has been processed. Systems support staff should check before processing starts that no file with this name already exists.
- Replay tapes can only be processed in other computer centers if these computer centers have implemented the same version of SPOOL.
- To execute a spoolout request for a tape, all of the scheduling operands must apply to the device. If this is not the case, the spoolout request remains in the queue.
- If no scheduling operands are specified, any spoolout for a specified device can be executed. If, however, scheduling operands are specified, only spoolout requests which match all the specifications can be executed.
- The hierarchy of operands for controlling spoolout is described in the section on scheduling in the “Spool & Print - Commands” manual [42].

## Format

(Part 1 of 2)

## START-TAPE-OUTPUT

```

UNIT = list-poss(8): <alphanum-name 2..2> / <alphanum-name 4..4>
, DEVICE-TYPE = *TAPE / <structured-name 1..8>
, DESTINATION = *NONE / list-poss(16): *CENTRAL / <alphanum-name 1..8>
, FORM-NAME = *ALL / *STD / *EXCEPT(...) / list-poss(16): <alphanum-name 1..6>
    *EXCEPT(...)
        | FORMS-LIST = list-poss(16): <alphanum-name 1..6>
, USER-IDENTIFICATION = *ALL / *EXCEPT(...) / list-poss(16): <name 1..8>
    *EXCEPT(...)
        | USER-IDENT-LIST = list-poss(16): <name 1..8>
, SPOOLOUT-CLASS = *ALL / *EXCEPT(...) / list-poss(16): <integer 1..255>
    *EXCEPT(...)
        | SPOOLOUT-CLASS-LIST = list-poss(16): <integer 1..255>
, SPOOLOUT-NAME = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
    *EXCEPT(...)
        | SPOOLOUT-NAME-LIST = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
, ACCOUNT = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8>
    *EXCEPT(...)
        | ACCOUNT-LIST = list-poss(16): <alphanum-name 1..8>
, FORMS-OVERLAY = *ALL / *NONE / *ONLY / *EXCEPT(...) / list-poss(16): <alphanum-name 2..2>
    *EXCEPT(...)
        | FORMS-OVERLAY-LIST = list-poss(16): <alphanum-name 2..2>
, FORMS-OVERLAY-BUFFER = *ANY / *ONLY / *NO / *RANGE(...)
    *RANGE(...)
        | LOW = 0 / <integer 0..32767>
        | HIGH = 4032 / <integer 0..32767>

```

```

,PRIORITY = *ALL / *RANGE(...)
    *RANGE(...)
        |
        |   FROM = 30 / <integer 30..255>
        |   ,TO = 255 / <integer 30..255>
,CHARACTER-SET-NUMBER = *ALL / *ONE / *RANGE(...)
    *RANGE(...)
        |
        |   LOW = 1 / <integer 1..32767>
        |   ,HIGH = 64 / <integer 1..32767>
,SPOOLOUT-TYPE = *ALL / *HP-PRINTER / *PRINTER / *PAGE-PRINTER /
                *BUFFER-LINE-PRINTER / *LIST(...)
    *LIST(...)
        |
        |   SELECTION-TYPE = *MAY / *MUST
        |   ,DEVICE-TYPE = list-poss(8): *HP-PRINTER / *LP-PRINTER / *LP48-PRINTER // *PCL-PRINTER /
        |                   *LP65-PRINTER / *HP90-PRINTER / *LP-EMULATED-PRINTER /
        |                   *2050-APA-PRINTER / *2090-APA-PRINTER / *2090-TWIN-PRINTER
,VOLUME = *ANY / list-poss(16): <alphanum-name 1..6>
,RETENTION-PERIOD = 10 / <integer 0..999>
,ROTATION = ANY / YES / NO
,TWO-UP-PROCESSING = *ANY / *YES / *NO / *MODE-1 / *MODE-2

```

## Operands

**UNIT = list-poss(8): <alphanum-name 2..2> / <alphanum-name 4..4>**

Mnemonic device names of the tape devices to be assigned for the output of spoolout jobs.

**DEVICE-TYPE = \*TAPE / <structured-name 1..8>**

Device type of the tape.

**DESTINATION = \*NONE / list-poss(16): \*CENTRAL / <alphanum-name 1..8>**

Jobs for the specified local device pools can be processed on the specified tape devices.

**FORM-NAME =**

Forms with which spoolout jobs can be processed on the specified tape devices.

**FORM-NAME = \*ALL**

Spoolout jobs can be processed on the specified tape devices irrespective of the form required.

**FORM-NAME = \*STD**

Only jobs for which FORM=STD has been specified can be processed on the specified tape devices.

**FORM-NAME = \*EXCEPT(...)**

Forms with which spoolout jobs cannot be processed on the specified tape devices.

**FORMS-LIST = list-poss(16): <alphanum-name 1..6>**

List of excluded forms.

**FORM-NAME = list-poss(16): <alphanum-name 1..6>**

List of forms with which spoolout jobs can be processed on the specified tape devices.

**USER-IDENTIFICATION =**

User IDs under which spoolout jobs can be processed on the specified tape devices.

**USER-IDENTIFICATION = \*ALL**

Spoolout jobs can be processed on the specified tape devices irrespective of the user ID.

**USER-IDENTIFICATION = \*EXCEPT(...)**

User IDs under which spoolout jobs cannot be processed on the specified tape devices.

**USER-IDENT-LIST = list-poss(16): <name 1..8>**

List of excluded user IDs.

**USER-IDENTIFICATION = list-poss(16): <name 1..8>**

List of user IDs under which spoolout jobs can be processed on the specified tape devices.

**SPOOLOUT-CLASS =**

Spoolout classes from which spoolout jobs can be processed on the specified tape devices.

**SPOOLOUT-CLASS = \*ALL**

Spoolout jobs from all spoolout classes can be processed on the specified tape devices.

**SPOOLOUT-CLASS = \*EXCEPT(...)**

Spoolout classes from which spoolout jobs cannot be processed on the tape devices.

**SPOOLOUT-CLASS-LIST = list-poss(16): <integer 1..255>**

List of excluded spoolout classes.

**SPOOLOUT-CLASS = list-poss(16): <integer 1..255>**

List of spoolout classes from which spoolout jobs can be processed on the tape devices.

**SPOOLOUT-NAME =**

Job names under which spoolout jobs can be processed on the specified tape devices.

**SPOOLOUT-NAME = \*ALL**

Spoolout jobs can be processed on the specified tape devices irrespective of the job name.

**SPOOLOUT-NAME = \*EXCEPT(...)**

Job names under which spoolout jobs cannot be processed on the specified tape devices.

**SPOOLOUT-NAME-LIST = list-poss(16): <alphanum-name 1..8> /  
<c-string 1..8 with-low>**

List of excluded job names.

**SPOOLOUT-NAME = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>**

List of job names under which spoolout jobs can be processed on the tape devices.

**ACCOUNT =**

Account numbers with which spoolout jobs can be processed on the specified tape devices.

**ACCOUNT = \*ALL**

Spoolout jobs with any account number can be processed on the specified tape devices.

**ACCOUNT = \*EXCEPT(...)**

Account numbers with which spoolout jobs cannot be processed on the specified tape devices.

**ACCOUNT-LIST = list-poss(16): <alphanum-name 1..8>**

List of excluded account numbers.

**ACCOUNT = list-poss(16): <alphanum-name 1..8>**

List of account numbers with which spoolout jobs can be processed on the specified tape devices.

**FORMS-OVERLAY =**

Names of the film overlays with which spoolout jobs can be processed on the specified tape devices.

**FORMS-OVERLAY = \*ALL**

Spoolout jobs can be processed on the specified tape devices with any film overlay.

**FORMS-OVERLAY = \*NONE**

Only spoolout jobs which do not use film overlays can be processed on the specified tape devices.

**FORMS-OVERLAY = \*ONLY**

Only spoolout jobs which use (any) film overlays can be processed on the specified tape devices.

**FORMS-OVERLAY = \*EXCEPT(...)**

Spoolout jobs which use one of the specified film overlays cannot be processed on the specified tape devices.

**FORMS-OVERLAY-LIST = list-poss(16): <alphanum-name 2..2>**

List of excluded film overlays.

**FORMS-OVERLAY = list-poss(16): <alphanum-name 2..2>**

List of film overlays with which spoolout jobs can be processed on the specified tape devices.

**FORMS-OVERLAY-BUFFER =**

Determines whether spoolout jobs which require an FOB data overlay can be processed on the specified tape devices.

**FORMS-OVERLAY-BUFFER = \*ANY**

Spoolout jobs can be processed on the specified tape devices, regardless of whether or not they require an FOB data overlay.

**FORMS-OVERLAY-BUFFER = \*ONLY**

Only spoolout jobs which use an FOB data overlay can be processed on the specified tape devices.

**FORMS-OVERLAY-BUFFER = \*NO**

Spoolout jobs which use an FOB data overlay cannot be processed on the specified tape devices.

**FORMS-OVERLAY-BUFFER = \*RANGE(...)**

Only spoolout jobs which use an FOB data overlay the size of which falls within the specified range can be processed on the specified tape devices.

**LOW = 0 / <integer 0..32767>**

Lower range limit.

**HIGH = 4032 / <integer 0..32767>**

Upper range limit for HP90 printers: 4032 sublines. Upper range limit for HP printers: 672 sublines.

**PRIORITY =**

Priorities of the spoolout jobs which can be processed on the specified tape devices.

**PRIORITY = \*ALL**

Spoolout jobs with any priority can be processed on the specified tape devices.

**PRIORITY = \*RANGE(...)**

Spoolout jobs with priorities within the specified range can be processed on the specified tape devices.

**FROM = 30 / <integer 30..255>**

Lower range limit.

**TO = 255 / <integer 30..255>**

Upper range limit.

**CHARACTER-SET-NUMBER =**

Number of character sets required with which spoolout jobs can be processed on the specified tape devices.

**CHARACTER-SET-NUMBER = \*ALL**

Spoolout jobs can be processed on the specified tape devices irrespective of the number of character sets required.

**CHARACTER-SET-NUMBER = \*ONE**

Spoolout jobs which require no more than one character set can be processed on the specified tape devices.

**CHARACTER-SET-NUMBER = \*RANGE(...)**

Spoolout jobs which require a number of character sets which falls within the specified range can be processed on the specified tape devices.

**LOW = 1 / <integer 1..32767>**

Lower range limit.

**HIGH = 64 / <integer 1..32767>**

Upper range limit.

**SPOOLOUT-TYPE =**

Spoolout jobs for certain types of output device can be processed on the specified tape devices.

**SPOOLOUT-TYPE = \*ALL**

Spoolout jobs for all device types can be processed on the specified tape devices.

**SPOOLOUT-TYPE = \*HP-PRINTER**

Only spoolout jobs for HP printers (3351, 3353) can be processed on the specified tape devices.

**SPOOLOUT-TYPE = \*PRINTER**

Only spoolout jobs for printers can be processed on the specified tape devices.

**SPOOLOUT-TYPE = \*PAGE-PRINTER**

Only spoolout jobs for laser printers can be processed on the specified tape devices.

**SPOOLOUT-TYPE = \*BUFFER-LINE-PRINTER**

Spoolout jobs for line printers with loadable VFBs (3337, 3338, 3339, 3348, 3349) can be processed on the specified tape devices.

**SPOOLOUT-TYPE = \*LIST(...)**

Spoolout jobs for the specified list of device types can be processed on the specified tape devices.

**SELECTION-TYPE = \*MAY / \*MUST**

Selection of spoolout jobs is restricted to those which at least may be output on one of the specified device types (\*MAY) or to those which must be output on one of the specified device types, i.e. on no other device type than the ones specified (\*MUST).

**DEVICE-TYPE = list-poss(8): \*HP-PRINTER / \*LP-PRINTER / \*LP48-PRINTER / \*LP65-PRINTER / \*PCL-PRINTER / \*HP90-PRINTER / \*LP-EMULATED-PRINTER / \*2050-APA-PRINTER / \*2090-APA-PRINTER / \*2090-TWIN-PRINTER**

List of device types. For the symbolic names see the “Spool & Print - Commands” manual [42].

**VOLUME =**

Volume labels of the tapes which are to be assigned for spoolout jobs for output to tape (WRITE-SPOOL-TAPE) (see “Notes” on page 7-489).

**VOLUME = \*ANY**

Accepts the volume label of the mounted tape.

**VOLUME = list-poss(16): <alphanum-name 1..6>**

Volume labels of the tapes to be used.

**RETENTION-PERIOD = 10 / <integer 0..999>**

Period in days during which the files are to be stored on tape.

**ROTATION =**

Determines whether spoolout jobs which require the page rotation module can be processed on the specified tape devices.

**ROTATION = \*ANY**

Spoolout jobs can be processed on the specified tape devices, regardless of whether or not they require the page rotation module.

**ROTATION = \*NO**

Only spoolout jobs which do not require the page rotation module can be processed on the specified tape devices.

**ROTATION = \*YES**

Only spoolout jobs which require the page rotation module can be processed on the specified tape devices.

**TWO-UP-PROCESSING = \*ANY / \*YES / \*NO / \*MODE-1 / \*MODE-2**

Specifies TWO-UP processing for spoolout jobs on an HP90 printer, i.e. whether and in which sequence two pages are to be printed out side by side. For a detailed description of the different 'TWO-UP' modes see the “SPOOL” manual [43].



**Return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	No error
	1	CMD0202	Syntax error
	1	SCP0973	Semantic error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value

### START-TAPE-REPLAY

Assign tape devices for replay

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION
<b>Privileges:</b>	OPERATING PRINT-SERVICE-ADMINISTRATION
<b>Routing code:</b>	S

#### Function

The START-TAPE-REPLAY command assigns tape devices for replay jobs. The files read in are either entered in the queue or output directly (OUTPUT-MODE operand).

#### Notes

- OUTPUT-MODE=\*FROM-DISK-COPY is used in the following cases, even if OUTPUT-MODE=\*DIRECT has been specified:
  - if one of the following operands has been specified in the PRINT-DOCUMENT command:
    - REPEAT = ...
    - FILE-PART = \*LAST(...)
    - CONTROL-CHARACTERS = \*APA
  - the file can only be printed on an APA printer
  - the file extends over several tapes
- During output of a replay tape the selection of jobs must not be changed by issuing further START-TAPE-REPLAY commands. The only option is to disconnect the tape device from SPOOL using the STOP-TAPE-REPLAY command and then assign the terminal for spoolout by means of a new START-TAPE-REPLAY command and other selection operands.
- To execute a spoolout request for a tape device, all of the scheduling operands must apply to the device. If this is not the case, the spoolout request remains in the queue.
- If no scheduling operands are specified, any spoolout for a specified device can be executed. If, however, scheduling operands are specified, only spoolout requests which match all the specifications can be executed.
- The hierarchy of operands for controlling spoolout is described in the section on scheduling in the “SPOOL” manual [43].

## Format

(Part 1 of 2)

## START-TAPE-REPLAY

```

UNIT = list-poss(8): <alphanum-name 2..2> / <alphanum-name 4..4>
,DESTINATION = *NONE / list-poss(16): *CENTRAL / <alphanum-name 1..8>
,FORM-NAME = *ALL / *STD / *EXCEPT(...) / list-poss(16): <alphanum-name 1..6>
  *EXCEPT(...)
    | FORMS-LIST = list-poss(16): <alphanum-name 1..6>
,USER-IDENTIFICATION = *ALL / *EXCEPT(...) / list-poss(16): <name 1..8>
  *EXCEPT(...)
    | USER-IDENT-LIST = list-poss(16): <name 1..8>
,SPOOLOUT-CLASS = *ALL / *EXCEPT(...) / list-poss(16): <integer 1..255>
  *EXCEPT(...)
    | SPOOLOUT-CLASS-LIST = list-poss(16): <integer 1..255>
,SPOOLOUT-NAME = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
  *EXCEPT(...)
    | SPOOLOUT-NAME-LIST = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
,ACCOUNT = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8>
  *EXCEPT(...)
    | ACCOUNT-LIST = list-poss(16): <alphanum-name 1..8>
,FORMS-OVERLAY = *ALL / *NONE / *ONLY / *EXCEPT(...) / list-poss(16): <alphanum-name 2..2>
  *EXCEPT(...)
    | FORMS-OVERLAY-LIST = list-poss(16): <alphanum-name 2..2>
,FORMS-OVERLAY-BUFFER = *ANY / *ONLY / *NO / *RANGE(...)
  *RANGE(...)
    | LOW = 0 / <integer 0..32767>
    | HIGH = 4032 / <integer 0..32767>

```

(Part 2 of 2)

```

,PRIORITY = *ALL / *RANGE(...)
    *RANGE(...)
        |
        |   FROM = 30 / <integer 30..255>
        |   ,TO = 255 / <integer 30..255>
,ROTATION = *ANY / *YES / *NO
,TWO-UP-PROCESSING = *ANY / *YES / *NO / *MODE-1 / *MODE-2
,CHARACTER-SET-NUMBER = *ALL / *ONE / *RANGE(...)
    *RANGE(...)
        |
        |   LOW = 1 / <integer 1..32767>
        |   ,HIGH = 64 / <integer 1..32767>
,SPOOLOUT-TYPE = *ALL / *HP-PRINTER / *PRINTER / *PAGE-PRINTER /
                *BUFFER-LINE-PRINTER / *LIST(...)
    *LIST(...)
        |
        |   SELECTION-TYPE = *MAY / *MUST
        |   ,DEVICE-TYPE = list-poss(8): *HP-PRINTER / *LP-PRINTER / *LP65-PRINTER / *PCL-PRINTER /
        |                   *HP90-PRINTER / *LP48-PRINTER / LP-EMULATED-PRINTER /
        |                   *2050-APA-PRINTER / *2090-APA-PRINTER / *2090-TWIN-PRINTER
,VOLUME = list-poss(16): <alphanum-name 1..6>
,OUTPUT-MODE = *FROM-DISK-COPY / *DIRECT
,DIRECTORY-VOLUME = *STD / <alphanum-name 1..6>

```

## Operands

**UNIT = <alphanum-name 2..2> / <alphanum-name 4..4>**

Mnemonic device name of the tape device from which spoolout jobs are to be processed.

**DESTINATION = \*NONE / list-poss(16): \*CENTRAL / <alphanum-name 1..8>**

Jobs for the specified local device pools can be processed from the specified replay tape.

**FORM-NAME =**

Only the spoolout jobs on the specified tape device for which these forms have been specified can be processed.

**FORM-NAME = \*ALL**

All the spoolout jobs on the replay tape can be processed.

**FORM-NAME = \*STD**

Only spoolout jobs on the specified tape for which FORM=\*STD has been specified can be processed.

**FORM-NAME = \*EXCEPT(...)**

Forms with which spoolout jobs on the specified tape device cannot be processed.

**FORMS-LIST = list-poss(16): <alphanum-name 1..6>**

List of excluded forms.

**FORM-NAME = list-poss(16): <alphanum-name 1..6>**

List of forms with which spoolout jobs on the specified tape device can be processed.

**USER-IDENTIFICATION =**

User IDs of spoolout jobs on the specified tape device which can be processed.

**USER-IDENTIFICATION = \*ALL**

Spoolout jobs on the specified tape device can be processed irrespective of the user ID.

**USER-IDENTIFICATION = \*EXCEPT(...)**

User IDs of spoolout jobs on the specified tape device which cannot be processed.

**USER-IDENT-LIST = list-poss(16): <name 1..8>**

List of excluded user IDs.

**USER-IDENTIFICATION = list-poss(16): <name 1..8>**

Spoolout jobs on the specified tape device with the specified user IDs cannot be processed.

**SPOOLOUT-CLASS =**

Spoolout jobs on the specified tape device can be processed according to the spoolout classes specified here.

**SPOOLOUT-CLASS = \*ALL**

Spoolout jobs on the specified tape device can be processed irrespective of the spoolout class.

**SPOOLOUT-CLASS = \*EXCEPT(...)**

Spoolout classes with which spoolout jobs on the specified tape device cannot be processed.

**SPOOLOUT-CLASS-LIST = list-poss(16): <integer 1..255>**

List of excluded spoolout classes.

**SPOOLOUT-CLASS = list-poss(16): <integer 1..255>**

List of spoolout classes with which spoolout jobs on the specified tape device can be processed.

**SPOOLOUT-NAME =**

Job names with which spoolout jobs on the specified tape device can be processed.

**SPOOLOUT-NAME = \*ALL**

Spoolout jobs on the specified tape device can be processed irrespective of the job name.

**SPOOLOUT-NAME = \*EXCEPT(...)**

Job names with which spoolout jobs on the specified tape device cannot be processed.

**SPOOLOUT-NAME-LIST = list-poss(16): <alphanum-name 1..8> /  
<c-string 1..8 with-low>**

List of excluded job names.

**SPOOLOUT-NAME = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>**

List of job names with which spoolout jobs on the specified tape device can be processed.

**ACCOUNT =**

Account numbers with which spoolout jobs on the specified tape device can be processed.

**ACCOUNT = \*ALL**

Spoolout jobs on the specified tape device can be processed with all account numbers.

**ACCOUNT = \*EXCEPT(...)**

Account numbers with which spoolout jobs on the specified tape device cannot be processed.

**ACCOUNT-LIST = list-poss(16): <alphanum-name 1..8>**

List of excluded account numbers.

**ACCOUNT = list-poss(16): <alphanum-name 1..8>**

List of account numbers with which spoolout jobs on the specified tape device can be processed.

**FORMS-OVERLAY =**

Spoolout jobs on the specified tape device can be processed according to the film overlays they require.

**FORMS-OVERLAY = \*ALL**

Spoolout jobs on the specified tape device can be processed irrespective of the film overlays they require for output.

**FORMS-OVERLAY = \*NONE**

Only spoolout jobs on the tape device which do not use a film overlay can be processed on the specified tape.

**FORMS-OVERLAY = \*ONLY**

Only spoolout jobs on the tape device which use (any) film overlays can be processed on the specified tape.

**FORMS-OVERLAY = \*EXCEPT(...)**

Spoolout jobs on the specified tape device which require the specified film overlays cannot be processed.

**FORMS-OVERLAY-LIST = list-poss(16): <alphanum-name 2..2>**

List of excluded film overlays.

**FORMS-OVERLAY = list-poss(16): <alphanum-name 2..2>**

List of film overlays with which spoolout jobs on the specified tape device can be processed.

**FORMS-OVERLAY-BUFFER =**

The spoolout jobs on the specified tape device can be processed according to the FOB data overlays they require for output.

**FORMS-OVERLAY-BUFFER = \*ANY**

Spoolout jobs on the specified tape device can be processed irrespective of the FOB data overlays they require for output.

**FORMS-OVERLAY-BUFFER = \*ONLY**

Only those spoolout jobs on the specified tape which use an FOB data overlay can be processed.

**FORMS-OVERLAY-BUFFER = \*NO**

The spoolout jobs on the specified tape device which use an FOB data overlay can be processed.

**FORMS-OVERLAY-BUFFER = \*RANGE(...)**

Only spoolout jobs on the specified tape device which use an FOB data overlay within the specified size range can be processed.

**LOW = 0 / <integer 0..32767>**

Lower range limit.

**HIGH = 4032 / <integer 0..32767>**

Upper range limit for HP90 printers: 4032 sublines. Upper range limit for HP printers: 672 sublines.

**PRIORITY =**

Priorities of the spoolout jobs which can be processed on the specified tape device.

**PRIORITY = \*ALL**

Spoolout jobs on the specified tape device can be processed irrespective of their priority.

**PRIORITY = \*RANGE(...)**

Only spoolout jobs on the tape device with priorities within the specified range can be processed.

**FROM = 30 / <integer 30..255>**

Lower range limit.

**TO = 255 / <integer 30..255>**

Upper range limit.

**ROTATION =**

Determines whether spoolout jobs on the tape device can be processed if they need the page rotation module function.

**ROTATION = \*ANY**

Spoolout jobs on the tape device can be processed, regardless of whether or not they require the page rotation module.

**ROTATION = \*NO**

Only spoolout jobs on the tape device which do not require the page rotation module can be processed.

**ROTATION = \*YES**

Only spoolout jobs on the tape device which require the page rotation module can be processed.

**TWO-UP-PROCESSING = \*ANY / \*YES / \*NO / \*MODE-1 / \*MODE-2**

Specifies TWO-UP processing for spoolout jobs on an HP90-PRINTER, i.e. whether and in which sequence two adjacent pages are to be printed out side by side on 17" wide paper. For a detailed description of the different 'TWO-UP' modes see the "SPOOL" manual [43].

**CHARACTER-SET-NUMBER =**

Spoolout jobs on the specified tape device can be processed according to the number of character sets required.

**CHARACTER-SET-NUMBER = \*ALL**

Spoolout jobs on the specified tape device can be processed irrespective of the number of character sets required.

**CHARACTER-SET-NUMBER = \*ONE**

Only spoolout jobs on the specified tape device which require no more than one character set can be processed.



**CHARACTER-SET-NUMBER = \*RANGE(...)**

Only spoolout jobs on the specified tape device which require a number of character sets within the specified range can be processed.

**LOW = 1 / <integer 1..32767>**

Lower range limit.

**HIGH = 64 / <integer 1..32767>**

Upper range limit.

**SPOOLOUT-TYPE =**

Only spoolout jobs on the specified tape device for the specified type of output device can be processed.

**SPOOLOUT-TYPE = \*ALL**

Spoolout jobs on the specified tape device for all device types can be processed.

**SPOOLOUT-TYPE = \*HP-PRINTER**

Only spoolout jobs on the specified tape device for HP printers (3351, 3353) can be processed.

**SPOOLOUT-TYPE = \*PRINTER**

Only spoolout jobs on the specified tape device for printers can be processed.

**SPOOLOUT-TYPE = \*PAGE-PRINTER**

Only spoolout jobs on the specified tape device for laser printers can be processed.

**SPOOLOUT-TYPE = \*BUFFER-LINE-PRINTER**

Only spoolout jobs on the specified tape device for line printers with loadable VFBs (3337, 3338, 3339, 3348, 3349) can be processed.

**SPOOLOUT-TYPE = \*LIST(...)**

Spoolout jobs on the tape device for the specified list of device types can be processed.

**SELECTION-TYPE = \*MAY / \*MUST**

Selection of spoolout jobs is restricted to those either which at least may be output on one of the specified device types (\*MAY) or to those which must be output on one of the specified device types, i.e. on no other device type than the ones specified (\*MUST).

**DEVICE-TYPE = list-poss(8): \*HP-PRINTER / \*LP-PRINTER / \*LP48-PRINTER / \*LP65-PRINTER / \*PCL-PRINTER / \*HP90-PRINTER / \*LP-EMULATED-PRINTER / \*2050-APA-PRINTER / \*2090-APA-PRINTER / \*2090-TWIN-PRINTER**

List of device types. For the symbolic names see the "SPOOL" manual [43].

**VOLUME = list-poss(16): <alphanum-name 1..6>**

VSN of the replay tape which is assigned to process (i.e. output) the files stored on it.

**OUTPUT-MODE =**

Specifies whether the files read in from the replay tape are to be entered in the queue (\*FROM-DISK-COPY) or output directly (\*DIRECT).

**OUTPUT-MODE = \*FROM-DISK-COPY**

The files are first copied from tape to disk. The jobs are then entered in the normal spoolout queue (type 4).

**OUTPUT-MODE = \*DIRECT**

The jobs are entered in the "replay queue", i.e. the printer task reads the data direct from the tape. This saves disk memory space but takes longer.

**DIRECTORY-VOLUME = \*STD / <alphanum-name 1..6>**

Specifies the volume containing the catalog of replay jobs.

If the specified tape is to be processed on another computer the directory of the replay tape must first be imported into the file catalog of the appropriate computer.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	1	SCP0973	Semantic error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value

## START-TASK-MEASUREMENT

Select task for SM2 task statistics

<b>Description status:</b>	openSM2 V10.0A
<b>Functional area:</b>	Program control
<b>Domain:</b>	PROGRAM
<b>Privileges:</b>	all privileges bar HARDWARE-MAINTENANCE OPERATING

### Function

The START-TASK-MEASUREMENT command allows users to select a task for statistical measurement. The SM2 software monitor then gathers task-specific measurement values and enters this data in a user-specific file.

In addition to the task-specific measurement values, program counter statistics and SVC statistics can also be requested for program runs.

For the program counter statistics, a timer is used to interrupt the program at certain intervals, and the address contained in the program counter of the next instruction to be executed is transferred to the user-specific SM2 output file on each occasion (recording of program counter sampling).

For the SVC statistics, all SVC calls by the program during task monitoring are recorded, and SVC numbers and call addresses are also stored in the SM2 output file.

User task measurement is terminated by the STOP-TASK-MEASUREMENT command or on task termination, and the user-specific SM2 output file is closed. Withdrawal of authorization for task monitoring by the SM2 primary administrator (MODIFY-USER-ADMISSION TASK=\*INHIBIT) and unloading of SM2 (STOP-SUBSYSTEM SUBSYSTEM-NAME=SM2) also terminate any current user task measurements.

The separate product SM2-PA is available for evaluation of the SM2 output file created during user task measurement (see the “openSM2” manual [39]).

### *Note*

The user-specific SM2 output file may exceed the PUBLIC-SPACE-LIMIT defined for the user in the ADD-USER or MODIFY-USER-ATTRIBUTES command, even if PUBLIC-SPACE-EXCESS=\*NO is specified.

### *Privileged functions*

Privileged users (SW-MONITOR-ADMINISTRATION privilege) can monitor any task (see TSN operand).

### Format

<b>START-TASK-MEASUREMENT</b>
<b>TSN = *OWN</b> / <alphanum-name 1..4>
, <b>FILE = *STD</b> / <b>*BY-LINK-NAME</b>
, <b>PCOUNTER-INTERVAL = *NONE</b> / <integer 1..10000>
, <b>SVC-STATISTICS = *OFF</b> / <b>*ON</b>
, <b>LOAD-INFO = *STD</b> / <b>*DETAILED</b>

### Operands

#### **TSN =**

Specifies the task for monitoring.

#### **TSN = \*OWN**

The task calling the command is monitored.

#### **TSN = <alphanum-name 1..4>**

The task with the specified TSN is monitored. The nonprivileged user may only have tasks running under its user ID monitored by SM2.

Restriction: The task SM2U, which processes the user-specific SM2 output files, cannot be monitored.

#### **FILE =**

Defines the user- specific SM2 output file.

#### **FILE = \*STD**

The user-specific SM2 output file is created with default file attributes under the standard name \$userid.SM2.TASKSTATISTIK.nnnn (see [table “File attributes of the user-specific SM2 output file” on page 7-510](#)).

#### **FILE = \*BY-LINK-NAME**

The user defines the file name and further file attributes himself (see [table “File attributes of the user-specific SM2 output file” on page 7-510](#)).

File assignment takes place via the file link name **PALINK**. Before issuing the START-TASK-MEASUREMENT command the user must create a TFT entry with the file link name **PALINK** for the file to be used see **ADD-FILE-LINK** command).

#### **PCOUNTER-INTERVAL =**

Defines the sampling cycle (in CPU milliseconds of CPU time used by the monitored task) for program counter statistics.

#### **PCOUNTER-INTERVAL = \*NONE**

Program counter statistics not activated.

**PCOUNTER-INTERVAL = <integer 1..10000>**

Sampling cycle (in CPU milliseconds of CPU time used). (Only those samples taken in status TU are recorded.)

**SVC-STATISTICS =**

The SVC calls of the task to be monitored are recorded and written to the user-specific SM2 output file.

**SVC-STATISTICS = \*OFF**

SVC statistics not activated.

**SVC-STATISTICS = \*ON**

SVC statistics activated. (Only those SVCs called in status TU are recorded.)

**LOAD-INFO =**

Defines the time at which the module load information is to be gathered.

**LOAD-INFO = \*STD**

The module load information is gathered only at program start and program termination time (or at beginning and end of measurement).

**LOAD-INFO = \*DETAILED**

The module load information is gathered at program start time (or at beginning of measurement) and on each load or unload activity involving the task.

If this operand is specified, SM2-PA > V1.0 can precisely convert the gathered addresses into module-relative addresses. However, the work required to do this is greater, particularly if load or unload operations take place frequently within the program.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	32	NPS0050	System error in SM2 modules. Command rejected
	64	NPS0044	No authorization to monitor task. Command rejected
	64	NPS0045	Task already being monitored by SM2
	64	NPS0046	Task monitoring not initiated by START-TASK-MEASUREMENT. Command rejected
	64	NPS0047	Specified task does not exist
	64	NPS0051	Specified task cannot be monitored by the user
	64	NPS0065	No further tasks can be monitored
	64	NPS0066	Invalid file attributes on the user-specific SM2 output file
	64	NPS0067	DMS code '(&00)' on macro call '(&01)' for the user-specific SM2 file output

**File attributes of the user-specific SM2 output file**

File attribute	FILE = *STD	FILE = *BY-LINK-NAME
Definition of file characteristics	predefined	selectable
File name	\$userid.SM2.TASKSTATISTIK.tsn	filename
Block length	BUFFER-LENGTH=STD(2)	BUFFER-LENGTH=STD(number)
Memory allocation	SPACE = RELATIVE (PRIMARY-ALLOCATION=30, SECONDARY-ALLOCATION=30)	SPACE = RELATIVE (PRIMARY-ALLOCATION=number1, SECONDARY-ALLOCATION=number2)
Access method	SAM	no choice, SAM format is mandatory
Open mode	EXTEND	no choice, existing file always continued
Format of data blocks	BLOCK-CONTROL-INFO determined by the corresponding CL2 option of the system	BLOCK-CONTROL-INFO = PAMKEY / NO / WITHIN-DATA-BLOCK

Table 181: File attributes of the user-specific SM2 output file

The BLOCK-CONTROL-INFO=\*NO operand is treated like BLOCK-CONTROL-INFO=\*WITHIN-DATA-BLOCK because only the SAM format is permitted for the file.

**Notes**

Generation of module-related program counter and SVC statistics requires the load information (load address and length) for each module that is linked into the monitored program or which is dynamically loaded by the monitored program. This module information is ascertained by SM2 on program termination or on termination of monitoring by STOP-TASK-MEASUREMENT and written to the SM2 output file.

Under certain circumstances the module information provided by SM2 may be incomplete, or may not be provided at all.

- No information is supplied if user task measurement is inhibited by the SM2 administrator (MODIFY-USER-ADMISSION TASK=\*INHIBIT) during the program run being monitored.
- No information is supplied if SM2 is unloaded during the program run being monitored (STOP-SUBSYSTEM SUBSYSTEM-NAME=SM2).
- No information is supplied for modules unloaded during the program run being monitored.

- Incomplete information is supplied if the program being monitored is using overlays. Samplings and SVCs occurring in overlaid modules are attributed to the module loaded on termination of monitoring.
- No information is supplied for modules/subsystems loaded as shared code.
- No information is supplied for programs linked without a test support option.
- No information is supplied for code sections not generated via load operations (e.g. if the coding was transferred to the dynamically requested memory by means of a MOVE instruction).

## START-TRACE

Activate trace

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Error logging
<b>Domain:</b>	ERROR-LOGGING
<b>Privileges:</b>	TSOS OPERATING
<b>Routing code:</b>	R

### Function

The START-TRACE command is used to activate the switchable traces. Traces serve to document certain process developments independently of a problem situation. The traces are stored in memory and are overwritten with a wrap-around algorithm.

Both permanent and temporary traces are recorded.

Temporary, switchable traces can be activated for diagnosing problem situations of a development or test phase.

In BS2000 operation, traces are managed by the trace manager, which allows subsystems to report traces via a program interface. The trace manager also supports diagnostic data preparation (for CDUMP) and evaluation (for SODA and DAMP) for all connected traces.

### Format

#### START-TRACE

```

TRACE-IDENTIFICATION = list-poss(51): <name 1..8>(…) / *ALL(…)
  <name 1..8>(…)
    |
    | SUBSYSTEM-NAME = *ALL / <name 1..8> / *NONE
    |
    | ,SUBSYSTEM-VERSION = *ALL / <product-version without-man-corr> /
    |                               <product-version mandatory-man-corr>
    |
*ALL(…)
    |
    | SUBSYSTEM-NAME = *ALL / <name 1..8> / *NONE
    |
    | ,SUBSYSTEM-VERSION = *ALL / <product-version without-man-corr> /
    |                               <product-version mandatory-man-corr>

```



## Operands

### TRACE-IDENTIFICATION =

Specifies whether all or only specific traces from the list of switchable traces are to be activated.

Possible values are listed in the following table:

Trace ID	Brief description
CCOPY	CCOPY trace
CMSTRACE	CMS trace
CUIRTR	CUIR trace
DISKAI	Trace for disk attention interrupt processing
DIVTRACE	DIV trace
DLMTRACE	DLM trace
DPRTCOM	DPRINTCM communication trace
EMMIO	EMMIO trace
FITC	FITC trace
GSVOLEVT	Trace for GSVOL
MAILCEVT	Trace for mail sender (MAILCLNT subsystem)
MRSCAT	MRSCAT occupation trace
MSCFLOG	Trace for MSCF errors
NDVMTRAC	BAVOLMON I/O trace
PRNGDEVT	Trace for random number generator (PRNGD subsystem)
SM2EVENT	SM2 error trace
SM2FUNCT	SM2 trace for user call
TBOURSE	ETMBOWK trace
TDISAM	K-ISAM trace
TDISAMNK	NK-ISAM trace
TFASTPAM	Trace of the access method
TJLOGLOW	JMS trace
TJOBPOOL	JMS-JOBPOOL trace
TLOCK	Task lock management trace
TNDM#ALL *)	Trace for all NDM FE
TNDM#NKA	Trace for FE NKA module
TNDM#NKD	Trace for FE NKD module

Table 182: Possible values for START-TRACE ID=\*ALL (Part 1 of 2)

Trace ID	Brief description
TNDM#NKG	Trace for FE NKG module
TNDM#NKL	Trace for FE NKL module
TNDM#NKR	Trace for FE NKR module
TNDM#NKS	Trace for FE NKS module
TNDM#NKT	Trace for FE NKT module
TNDM#NKV	Trace for FE NKV module
TRFA	Remote file access trace
TRSOADM	RSO trace
TSSVADM	SPOOL trace
VMMALLOC	Trace for VM allocation

\*) If the trace TNDM#ALL is switched on, all the other NDM traces (TNDM#...) are automatically set to the "ON" state. If any one of these traces is then deactivated by a STOP-TRACE, the NDM general trace TNDM#ALL is put into the "ON\_OFF" state.

Table 182: Possible values for START-TRACE ID=\*ALL (Part 2 of 2)

**TRACE-IDENTIFICATION = list-poss(51): <name 1..8>(…)**

Specifies the names of up to 51 traces to be activated. The specified traces must be OFF (deactivated) or ON/OFF (trace is only partially activated, i.e. it collects information on different events).

If the traces involved are not statically defined, they are assigned to a specific subsystem that can be defined in more detail in the following operands.

**SUBSYSTEM-NAME =**

Specifies the subsystem to which the trace is assigned.

**SUBSYSTEM-NAME = \*ALL**

The traces are to be activated in all cases, regardless of the subsystem to which they are assigned.

**SUBSYSTEM-NAME = <name 1..8>**

Exact specification of the subsystem to which the trace to be activated is assigned.

**SUBSYSTEM-NAME = \*NONE**

Only statically defined traces that are not assigned to any subsystem are to be activated.

**SUBSYSTEM-VERSION =**

Specifies the version of the subsystem to which the trace is assigned.

**SUBSYSTEM-VERSION = \*ALL**

The traces are to be activated for all versions of the selected subsystem.

**SUBSYSTEM-VERSION = <product-version without-man-corr> /  
<product-version mandatory-man-corr>**

Specifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see also [“product-version” on page 1-45](#)).

**TRACE-IDENTIFICATION = \*ALL(...)**

All traces are to be activated.

If the traces involved are not statically defined, they are assigned to a specific subsystem that can be defined in more detail in the following operands.

**SUBSYSTEM-NAME =**

Specifies the subsystem to which the trace is assigned.

**SUBSYSTEM-NAME = \*ALL**

The traces are to be activated in all cases, regardless of the subsystem to which they are assigned.

**SUBSYSTEM-NAME = <structured-name 1..8>**

Exact specification of the subsystem to which the trace to be activated is assigned.

**SUBSYSTEM-NAME = \*NONE**

Only traces that are not assigned to any subsystem are to be activated.

**SUBSYSTEM-VERSION =**

Specifies the version of the subsystem to which the trace is assigned.

**SUBSYSTEM-VERSION = \*ALL**

The traces are to be activated for all versions of the selected subsystem.

**SUBSYSTEM-VERSION = <product-version without-man-corr> /  
<product-version mandatory-man-corr>**

Specifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see also [“product-version” on page 1-45](#)).

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	Specified traces are already "on"
2	0	PDT0201	One of the specified traces is already "on"
	32	CMD0221	Internal error
1	32	PDT0203	Specified trace not switchable
2	32	PDT0203	One of the traces specified in the list is not switchable
1	32	PDT0210	Invalid on/off pattern for the specified trace
2	32	PDT0210	Invalid on/off pattern for one of the traces specified in the list
			Specified trace does not exist
1	64	PDT0200	One of the traces specified in the list does not exist
2	64	PDT0200	Trace is of type PERMANENT
1	64	PDT0202	Trace is of type PERMANENT
2	64	PDT0202	One of the traces specified in the list is of the type PERMANENT
	64	PDT0209	No authorization for command
1	64	PDT0214	Activation of some traces was rejected with different error messages; no action taken
2	64	PDT0214	Activation of some traces was rejected with different error messages; other specified traces were activated

## STOP-ACCOUNTING

Close accounting file and terminate accounting system

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Accounting system control
<b>Domain:</b>	ACCOUNTING
<b>Privileges:</b>	TSOS

### Function

The STOP-ACCOUNTING command enables systems support staff to terminate the accounting system.

The collection of the selected accounting records is terminated and the current accounting file is closed. Insofar as they differ from the default values, any values specified when the accounting system was activated or the accounting file changed have to be specified anew using the START-ACCOUNTING command if the accounting file is subsequently restarted. This applies to values such as the following:

- accounting file attributes
- selection of the accounting records
- list of the continuation file names
- cycle of the periodic accounting interval
- selection of monitored job classes

### Format

STOP-ACCOUNTING

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	No error, but no action
2	0	NAM3001	Requested action performed, but linked with a warning
	1	CMD0202	Syntax error
	32	CMD0221	Internal system error
	64	NAM0012	No authorization for the command
	128	CMD2280	Temporarily unable to execute the command

# STOP-CONFIGURATION-UPDATE

Stop dynamic I/O configuration change

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	G

### Function

With the STOP-CONFIGURATION-UPDATE command, systems support terminates the dynamic I/O configuration changes that was started with the START-CONFIGURATION-UPDATE command.

Configuration modifications made in the course of a dynamic I/O configuration changes are first performed in the active IORSF (Input/Output Resource File). In order to have the modified input/output configuration available for the next session, the current IORSF can be saved on the SVP hard disk using the IORSF-UPDATE operand. The DEVICE-RESERVE operand can be used to ensure that a free reserve area is created for later extensions when the data is written back. By default the size of the active IORSF is not changed when writing back (an IORSF created with IOGEN creates a reserve area for 512 entries).

If the system crashes before this has been done, any modifications made to the configuration will not be lost in the next IPL, since the BS2000 input/output tables are derived from the active IORSF when the system is started.

The command can be entered more than once, i.e. if the user forgets to back up the active IORSF at a particular level on entry then the backup can be performed subsequently by entering a further, corrected STOP-CONFIGURATION-UPDATE command.

When the dynamic I/O configuration change has been concluded successfully, the ADD-IO-UNIT, REMOVE-IO-UNIT and MODIFY-IO-UNIT reconfiguration commands are no longer accepted.

## Format

STOP-CONFIGURATION-UPDATE
<p><b>IORSF-UPDATE</b> = <u>*NO</u> / *YES(...)</p> <p>*YES(...)</p> <p>          <b>LEVEL</b> = &lt;integer 0..15&gt;</p> <p>          <b>DEVICE-RESERVE</b> = <u>*UNCHANGED</u> / &lt;integer 16..2048&gt;</p>

## Operands

**IORSF-UPDATE** = \*NO / \*YES(...)

Specifies whether the IORSF is to be updated on the SVP hard disk.

**IORSF-UPDATE** = \*YES(...)

The active IORSF is to be updated on the SVP hard disk.

**LEVEL** = <integer 0..15>

Defines the level for the IORSF to be written back.

**DEVICE-RESERVE** = \*UNCHANGED / <integer 16..2048>

Number of devices for which a reserve area for later extensions is to be created in the IORSF.

## Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKR0006	Syntax error
	64	CMD0216	User does not have authorization
1	64	NKR0169	System error
4	64	NKR0169	Dynamic I/O configuration change is not supported
12	64	NKR0169	Dynamic I/O configuration change was not started

# STOP-FILE-CACHING

Stop PFA caching for file

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	File processing
<b>Domain:</b>	FILE
<b>Privileges:</b>	STD-PROCESSING TSOS

### Function

The STOP-FILE-CACHING command terminates caching for an open file or for a closed file for which data is still stored in the cache for further processing (see CLOSE-MODE=\*KEEP-DATA-IN-CACHE in the ADD-FILE-LINK command). The data in the cache will be written back, except in the case of read-only caching, and will then be invalidated.

This requires the file to be on a pubset for which a cache configuration is defined in the MRSCAT and the cache to be active, i.e. PFA caching has to be activated for the pubset. The command caller must have access authorization for the file.

The pubset where the file is stored must be accessible on the local host.

### Format

<b>STOP-FILE-CACHING</b>
<b>FILE-NAME</b> = <filename 1..54>

### Operands

**FILE-NAME** = <filename 1..54>

Name of the file for which caching is to be terminated.



**Return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	Command executed
1	0	CMD0001	The desired state had already been reached
	1	CMD0202	Syntax error
	32	DMS1D0E	MSCF connection error
	32	DMS1D10	Internal error
	64	DMS1D03	User does not have access authorization for the file
	64	DMS1D05	File not open (on the local host)
	64	DMS1D06	No cache available
	64	DMS1D0A	File not allowed (or not available)
	64	DMS1D0D	Storage bottleneck
	64	DMS1D0F	Error during catalog management call
	64	DMS1D11	'DAB' subsystem not found
	80	DMS1D0C	Error during file update/invalidation

## STOP-GS-TRACE

Stop diagnostic trace in GS

<b>Description status:</b>	GSMAN V19.0A
<b>Functional area:</b>	Global storage administration
<b>Domain:</b>	DEVICE

### Function

Systems support can use the STOP-GS-TRACE command to stop the diagnostic trace in GS that was started using the START-GS-TRACE command.

For further details on administering global storage, see the “Introduction to System Administration” [14].

In the case of global GS operation in the XCS network, the command applies to all the nodes in the network. The GSMAN subsystem is not available until XCS is started.

### Format

<b>STOP-GS-TRACE</b>

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	64	EGC0112	No GS available
	128	EGC0010	GSMAN subsystem not ready

## STOP-HARDWARE-AUDIT

Terminate hardware AUDIT mode and release hardware AUDIT table

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	AUDIT mode control
<b>Domain:</b>	PROGRAM
<b>Privileges:</b>	STD-PROCESSING TSOS

### Function

The STOP-HARDWARE-AUDIT command terminates the recording of branch instructions (hardware AUDIT mode previously activated with START-HARDWARE-AUDIT or RESUME-HARDWARE-AUDIT) and releases the hardware AUDIT table along with any existing backup table.

#### *Privileged functions*

Systems support (TSOS privilege) can exempt all tasks from AUDIT control.

### Format

STOP-HARDWARE-AUDIT
<p><b>SCOPE</b> = <u>*OWN-JOB</u> / *ALL-JOBS / *TID(...) / *TSN(...)</p> <p>    *TID(...)</p> <p>            <b>TID</b> = &lt;alphanum-name 1..8&gt;</p> <p>    *TSN(...)</p> <p>            <b>TSN</b> = &lt;alphanum-name 1..4&gt; / &lt;c-string 1..4&gt;</p> <p><b>,STATE</b> = <u>*USER</u> / *SYSTEM</p>

### Operands

**SCOPE** = \*OWN-JOB / \*ALL-JOBS / \*TID(...) / \*TSN(...)

Scope of the hardware AUDIT function.

**SCOPE** = \*OWN-JOB

The request applies to TU actions in the user's own task (in which the command was issued).

**SCOPE = \*ALL-JOBS**

*This value is only allowed in conjunction with STATE=\*SYSTEM.*

Release of AUDIT control is to include all jobs in the system. This presupposes that AUDIT has been activated with SCOPE=\*ALL-JOBS.

**SCOPE = \*TID(...)**

Only the task identified here by its internal task identifier (TID) is released from AUDIT control. Nonprivileged users can only specify tasks running under their own user ID.

**TID = <alphanum-name 1..8>**

Task identifier of the task.

**SCOPE = \*TSN(...)**

Only the task identified here by its task sequence number (TSN) is released from AUDIT control. Nonprivileged users can only specify tasks running under their own user ID.

**TSN = <alphanum-name 1..4> / <c-string 1..4>**

Task sequence number of the task.

**STATE =**

Processor state to which the scope specified in the SCOPE operand is to relate.

**STATE = \*USER**

The hardware AUDIT is to be stopped for the nonprivileged processor state TU.

**STATE = \*SYSTEM**

*Only privileged users are allowed to select this operand value.*

The hardware AUDIT is to be stopped for the privileged processor state TPR.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD2201	Specified task does not exist
	64	CMD0216	User does not have required authorization
	64	IDA0001	Hardware AUDIT not active
	64	IDA0003	Hardware AUDIT table not created
	64	IDA0011	User not privileged
	64	IDA0023	Hardware AUDIT not available because user entry does not contain authorization
	64	IDA0024	Hardware AUDIT not available due to the current test option settings for the active task

## STOP-HEL-LOGGING

Deactivate hardware error logging

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Error logging
<b>Domain:</b>	ERROR-LOGGING
<b>Privileges:</b>	HARDWARE-MAINTENANCE TSOS

### Function

The STOP-HEL-LOGGING command deactivates hardware error logging and closes the logging file.

Logging can be reactivated with the START-HEL-LOGGING command. Logging is automatically reactivated the next time the system is started up.

### Format

<b>STOP-HEL-LOGGING</b>

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
1	0	CMD0001	Hardware error logging is already disabled
	32	HEL0100	Internal error
	32	HEL0102	Resources cannot be released
	32	HEL0105	Bourse problems
	32	HEL0107	DMS error
	64	HEL0110	Privilege error

### Example

See the SHOW-HEL-LOGGING command.

## STOP-JOB-STREAM

Terminate job stream and associated job scheduler

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Job processing
<b>Domain:</b>	JOB
<b>Privileges:</b>	TSOS OPERATING
<b>Routing code:</b>	J

### Function

Using this command, the system administration can terminate a job stream, and hence implicitly also the job scheduler. The command is normally issued only if, in the JMU statement DEFINE-JOB-STREAM for this job stream,

- the STOP operand contains the value \*BY-OPERATOR
- a stream termination time was specified which is now to be changed.

When a job stream is terminated the job scheduler is also terminated. Jobs are still accepted but are no longer started. They are placed in the 'dormant queue' of the stream.

### Format

STOP-JOB-STREAM

**STREAM-NAME** = <name 1..8>

### Operands

**STREAM-NAME** = <name 1..8>

Name of the job stream to be terminated.

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JMS0630	Semantic error
	64	JMS0640	Command cannot be executed

## STOP-LINKAGE-AUDIT

Terminate linkage AUDIT mode and release linkage AUDIT table

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	AUDIT mode control
<b>Domain:</b>	PROGRAM
<b>Privileges:</b>	STD-PROCESSING TSOS

### Function

This command terminates the subroutine trace (linkage AUDIT mode) that was activated with the START-LINKAGE-AUDIT command.

#### *Privileged functions*

Systems support (TSOS privilege) can also deactivate the linkage AUDIT mode for the processor states TPR and SIH.

### Format

#### STOP-LINKAGE-AUDIT

```

STATE = *USER (...) / *SYSTEM(...) / *PROCESSOR(...)
  |
  | *USER(...)
  |   |
  |   | SCOPE = *OWN-JOB / *TID(...) / *TSN(...)
  |   |   |
  |   |   | *TID(...)
  |   |   |   |
  |   |   |   | TID = <alphanum-name 1..8>
  |   |   |
  |   |   | *TSN(...)
  |   |   |   |
  |   |   |   | TSN = <alphanum-name 1..4> / <c-string 1..4>
  |   |
  |   | *SYSTEM(...)
  |   |   |
  |   |   | SCOPE = *OWN-JOB / *ALL-JOBS / *TID(...) / *TSN(...)
  |   |   |   |
  |   |   |   | *TID(...)
  |   |   |   |   |
  |   |   |   |   | TID = <alphanum-name 1..8>
  |   |   |   |
  |   |   |   | *TSN(...)
  |   |   |   |   |
  |   |   |   |   | TSN = <alphanum-name 1..4> / <c-string 1..4>
  |   |
  |   | *PROCESSOR(...)
  |   |   |
  |   |   | SCOPE = *INTERRUPT-HANDLING / *SYSTEM-LEVEL
  |

```

### Operands

**STATE = \*USER(...) / \*SYSTEM(...) / \*PROCESSOR(...)**

Processor state for which the linkage AUDIT is to be deactivated.

**STATE = \*USER(...)**

The linkage AUDIT is to be deactivated for the nonprivileged processor state TU.

Nonprivileged users can only specify tasks running under their own user ID.

**SCOPE = \*OWN-JOB / \*TID(...) / \*TSN(...)**

Scope of the linkage AUDIT function.

**SCOPE = \*OWN-JOB**

The request applies to the user's own task.

**SCOPE = \*TID(...)**

Only a task that is identified by means of the specified internal task number (TID) is to be released from monitoring by linkage AUDIT.

**TID = <alphanum-name 1..8>**

Task identifier that is assigned to the task for which monitoring is to cease.

**SCOPE = \*TSN(...)**

Only a task that is identified by means of the specified task sequence number (TSN) is to be released from monitoring by linkage AUDIT.

**TSN = <alphanum-name 1..4> / <c-string 1..4>**

TSN that is assigned to the task for which monitoring is to cease.

**STATE = \*SYSTEM(...)**

*Only privileged users are allowed to select this operand value.*

The linkage AUDIT is to be deactivated for the privileged processor state TPR.

**SCOPE = \*OWN-JOB / \*ALL-JOBS / \*TID(...) / \*TSN(...)**

Scope of applicability of the linkage AUDIT function.

**SCOPE = \*OWN-JOB**

The request applies for the user's own (TSOS) job.

**SCOPE = \*ALL-JOBS**

All the jobs currently in the system are no longer to be monitored by linkage AUDIT.

**SCOPE = \*TID(...)**

A single task, identified by its internal task number (TIN) is to be released from monitoring by linkage AUDIT.

**TID = <alphanum-name 1..8>**

The task identifier assigned to the job which is no longer to be monitored.



**SCOPE = \*TSN(...)**

A single task, identified by its task sequence number (TSN) is to be released from monitoring by linkage AUDIT.

**TSN = <alphanum-name 1..4> / <c-string 1..4>**

The assigned TSN of the job which is no longer to be monitored.

**STATE = \*PROCESSOR(...)**

*Only privileged users are allowed to select this operand value.*

The linkage AUDIT is to be deactivated for the local processor only, for the privileged processor states SIH and TPR.

**SCOPE = \*INTERRUPT-HANDLING / \*SYSTEM-LEVEL**

Scope of applicability of the linkage AUDIT function.

**SCOPE = \*INTERRUPT-HANDLING**

The request applies for the processor state SIH.

**SCOPE = \*SYSTEM-LEVEL**

The request applies for both privileged processor states, SIH and TPR.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	64	CMD0216	User does not have required authorization
	64	IDA0030	Linkage AUDIT not active
	64	IDA0032	Linkage AUDIT table not assigned
	64	IDA0038	Specified task does not exist
	64	IDA0044	Linkage AUDIT running with STATE=*SYSTEM; STATE=*PROCESSOR rejected
	64	IDA0052	Linkage AUDIT not available because the user entry does not contain an authorization
	64	IDA0053	Linkage AUDIT not available because the current test option settings for the active task
	64	IDA0060	AUDIT functions globally not available in this session

### STOP-PRINTER-OUTPUT

Cancel printer assignment

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION
<b>Privileges:</b>	STD-PROCESSING OPERATING PRINT-SERVICE-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
<b>Routing code:</b>	S

#### Function

The STOP-PRINTER-OUTPUT command cancels the assignment of printers. Nonprivileged users (STD-PROCESSING) can issue the command only when acting as RSO device administrators. The specified printer will cease to be available once any spoolout job currently running on it has been completed. Print jobs scheduled for printing only on the specified device (as specified in the PRINT-DOCUMENT command, for example) are maintained in a job queue and are not printed until the device administrator responsible for the device assigns it again for these jobs.

The administration parameters of a device which has already been assigned can be changed with the MODIFY-PRINTER-OUTPUT-STATUS command.

#### *Privileged functions:*

RSO device administrators and spool and cluster administrators can cancel the assignment of any of the devices that they manage. For more information on these user groups see the manuals “RSO” [32], “SPOOL” [43] and “Distributed Print Services” [10].

## Format

STOP-PRINTER-OUTPUT

**DEVICE-NAME** = \***ANY-LOCAL-PRINTER**(...) / \***RSO-PRINTER**(...)

\***ANY-LOCAL-PRINTER**(...)

**UNIT** = list-poss(8): <alphanum-name 1..8>

**STOP** = \***STD** / \***IMMEDIATE**

\***RSO-PRINTER**(...)

**NAME** = list-poss(8): <alphanum-name 1..8>

**STOP** = \***STD** / \***IMMEDIATE**

## Operands

**DEVICE-NAME** =

Types of printer to be disconnected.

**DEVICE-NAME** = \***ANY-LOCAL-PRINTER**(...)

*For privileged users only (see "Privileges" above).*

Local printers are to be disconnected.

**UNIT** = list-poss(8): <alphanum-name 1..8>

Mnemonic device names or device names of the local printers which are to be disconnected.

**STOP** = \***STD** / \***IMMEDIATE**

Specifies whether printout is to be terminated immediately or a currently active job is to be completed first.

**DEVICE-NAME** = \***RSO-PRINTER**(...)

*Not for nonprivileged users other than RSO device administrators.*

RSO printers are to be disconnected.

**NAME** = list-poss(8): <alphanum-name 1..8>

Names of the RSO printers which are to be disconnected.

**STOP** = \***STD** / \***IMMEDIATE**

Specifies whether printout is to be terminated immediately or a currently active job is to be completed first.

**Return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning/Guaranteed messages</b>
	0	CMD0001	No error Guaranteed message: SPS0B06
	1	CMD0202	Syntax error
	32	SCP0974	System error. Command rejected
	32	SRO0174	System error. Command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value
	64	SRO0175	No authorization for command
	64	SRO0176	Invalid operand value
	128	SCP0896	Subsystem not loaded/ready Guaranteed message: SCP0896

## STOP-PUBSET-CACHING

Deactivate PFA cache area during session

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Caching media control Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS

### Function

Systems support staff can use this command during a session to withdraw (deactivate) a cache area activated with the START-PUBSET-CACHING command (or implicitly with IMPORT-PUBSET) from an imported SF pubset or from a volume set in an imported SM pubset.

The write data in the PFA cache area is written out to disk and PFA caching is deactivated for the pubset/volume set.

Systems support can obtain information about the currently applicable cache configuration by using the command SHOW-PUBSET-CACHE-ATTRIBUTES (and also SHOW-PUBSET-PARAMETERS).

This command is also supported for shared pubsets.

In a shared pubset network, the command can be issued on the master system or on a slave. A system message refers to the system which is issuing the command, unless it is preceded by message DMS136D, which then includes the name of the system (master or slave) on which the error has occurred. If the command is issued on a slave system, the system name may also be the local host name.

### Format

#### STOP-PUBSET-CACHING

**PUBSET** = <cat-id 1..4>

**PUBSET-TYPE** = \*SINGLE-FEATURE / \*SYSTEM-MANAGED(...)

\*SYSTEM-MANAGED(...)

| **VOLUME-SET** = <cat-id 1..4>

**Operands**

**PUBSET = <cat-id 1..4>**

ID of the SF pubset from which the cache area is to be withdrawn or of the SM pubset.

**PUBSET-TYPE = \*SINGLE-FEATURE / \*SYSTEM-MANAGED(...)**

Indicates whether the pubset is an SF pubset or an SM pubset.

**PUBSET-TYPE = \*SINGLE-FEATURE**

The pubset is an SF pubset. The cache is directly assigned to the SF pubset.

**PUBSET-TYPE = \*SYSTEM-MANAGED(...)**

The pubset is an SM pubset. The cache is assigned to a single volume set.

**VOLUME-SET = <cat-id 1..4>**

Identifies the volume set to which the cache is assigned.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
1	0	DMS1357	No cache area active
	32	DMS1351	Pubset management parameter error
	32	DMS135F	Internal system error
	32	DMS1398	Reconfiguration no longer possible
	64	DMS1352	Not authorized to use command
	64	DMS1353	MRSCAT entry not found
	64	DMS1354	Pubset not locally imported
	64	DMS1358	Function is not supported
	64	DMS135E	Cache handler not available
	64	DMS1364	Cache area still active, data not written out to disk, disk or cache error
	64	DMS1381	Volume set conflict
	64	DMS138D	Pubset type conflict
	64	DMS1390	Earlier reconfiguration job not yet completed
	64	DMS1397	Reconfiguration by partner system not supported
	64	DMS139D	Volume not accessible
	128	DMS1363	Class 4/5 memory shortage
	128	DMS1389	Error in transmission to partner system
	128	DMS139A	Other pubset reconfiguration job still active
	128	DMS139B	Volume or volume set is reserved
	128	DMS139C	Pubset configuration file still locked

# STOP-RESOURCE-COLLECTION

Stop collector selection

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	J

## Function

This command terminates the selection of a collector task by the system from the time of command input.

### *Note*

If a task is the collector at the time of command input, it does not lose its collector characteristic. If a task is made the collector at this time, the command likewise has no influence on it. The characteristics of the tasks in the secure queue also remain unaffected.

## Format

<b>STOP-RESOURCE-COLLECTION</b>

## Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	NKS0041	Control task for SECURE queue with TSN=NKS not active. Command not executed.

## STOP-SERSLOG

Deactivate software error logging

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Error logging
<b>Domain:</b>	ERROR-LOGGING
<b>Privileges:</b>	TSOS OPERATING
<b>Routing code:</b>	A

### Function

The STOP-SERSLOG command terminates the SERSLOG system function, which is used to log software errors. If SERSLOG is not active, the command is rejected.

The command terminates the SERS task and closes the current SERSLOG file \$TSOS.SYS.SERSLOG.yyyy-mm-dd.xxx.nn. Errors suitable for logging can no longer be collected until the function is restarted (START-SERSLOG command).

The START-SERSLOG command will be rejected until the SERS task has been fully terminated (all jobs which have already been issued must be completed).

### Format

STOP-SERSLOG

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NER0000	Internal error
	32	CMD0221	System error
	32	NER0000	Internal error
	64	NER1070	Task termination currently being processed
	64	NER1000	No authorization for the command
	64	NER1040	DMS error
	128	NER1010	A SERSLOG command is currently being processed
	129	NER1020	SERSLOG function is not active



# STOP-SPACEPRO-MONITORING

Stop pubset monitoring

<b>Description status:</b>	SPACEPRO V1.0A
<b>Functional area:</b>	Pubset and MRSCAT management
<b>Domain:</b>	MULTI-CATALOG-AND-PUBSET-MGMT
<b>Privileges:</b>	TSOS

## Function

The STOP-SPACEPRO-MONITORING command stops the SPACEPRO monitor and in doing so switches off pubset monitoring.

### *Note on command processing*

The internal processing uses commands which require the PROP-ADMINISTRATION privilege.

## Format

<b>STOP-SPACEPRO-MONITORING</b>

## Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	0	SPP0308	SPACEPRO monitor not started
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	SPP0305	PROP-XT subsystem not available
	64	SPP0311	Unexpected return code of the command specified in the insert
	64	SPP0312	PROP-XT process could not be started
	64	SPP0314	PROP-XT object could not be generated
	130	SDP0099	Insufficient storage space

# STOP-SUBSYSTEM

Deactivate subsystem

<b>Description status:</b>	DSSM V4.3B
<b>Functional area:</b>	Subsystem management
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	OPERATING SUBSYSTEM-MANAGEMENT
<b>Routing code:</b>	R

### Function

This command enables systems support staff to deactivate a subsystem. The command functions in the following sequence:

1. The subsystem in question is locked for all new callers.
2. The subsystem is deactivated as soon as all jobs connected to it have terminated normally.  
When the FORCED=\*YES operand is specified, the subsystem is unloaded without waiting any further for the connected jobs. Any attempt of these jobs to obtain access later results in an error. In the case of privileged subsystems it leads either to a user dump or, if defined, to the corresponding STXIT contingency being called and the reaction programmed there.  
However, FORCED=\*YES will be accepted only if the STOP-SUBSYSTEM command has already been issued with FORCED=\*NO and failed to terminate the tasks.
3. The subsystem is unloaded.
4. All occupied resources are released.

The STOP-SUBSYSTEM command is rejected if:

- the subsystem cannot be found in the dynamic subsystem catalog
- subsystems that have already been activated or are in the process of being activated are dependent on the subsystem to be deactivated
- subsystems that have already been activated or are in the process of being activated are linked to the subsystem to be deactivated.
- FORCED=\*YES is used without a previous attempt to terminate using FORCED=\*NO.

## Format

**STOP-SUBSYSTEM**

**SUBSYSTEM-NAME** = <structured-name 1..8>

,**VERSION** = **\*STD** / <product-version mandatory-man-corr> / <product-version without-man-corr> / **\*HIGHEST**

,**SUBSYSTEM-PARAMETER** = **\*NONE** / <c-string 1..254>

,**FORCED** = **\*NO** / **\*YES**

,**SYNCHRONOUS** = **\*NO** / **\*YES**

## Operands

**SUBSYSTEM-NAME** = <structured-name 1..8>

Name of the subsystem to be deactivated.

**VERSION** = **\*STD** / <product-version mandatory-man-corr> /  
<product-version without-man-corr> / **\*HIGHEST**

Specifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see also the description of the data type “[product-version](#)” on page 1-45).

**VERSION** = **\*STD**

If only **one** version of the loaded subsystem exists, this version is selected.

If **more than one** matching version exists, the version must be specified.

**VERSION** = **\*HIGHEST**

Selects the highest version of the subsystem entered in the static subsystem catalog.

**SUBSYSTEM-PARAMETER** = **\*NONE** / <c-string 1..254>

Specifies whether special parameters which can be interpreted only by the specified subsystem may be processed.

**FORCED** =

Determines the behavior and urgency of command processing.

**FORCED** = **\*NO**

The system waits for all tasks connected to the subsystem to be disconnected. When a task releases its connection depends on the subsystem. A connection to a nonprivileged subsystem (e.g. EDT) is released as soon as the program terminates.

The system waits for all tasks that access the subsystem to be processed and terminated normally.

**FORCED = \*YES**

Immediate unloading of the subsystem is forced.

In the case of a privileged subsystem, this can lead to system dumps of the tasks which are still connected; in the case of a nonprivileged subsystem, this can lead to user dumps or to the execution of the STXIT error handling routine which is offered by DSSM.

**SYNCHRONOUS =**

Permits a choice between synchronous and asynchronous processing.

**SYNCHRONOUS = \*NO**

The command is to be processed asynchronously, i.e. without waiting for its execution before further input. Once the syntax of the command has been checked, the calling task is sent message ESM0216. No error messages relating to the execution of the command are output.

**SYNCHRONOUS = \*YES**

Execution of the command must be awaited.

Accompanying error messages are output.

In the event of a version change, this specification applies only to the new version.

Deactivation of the other, "old" version always runs asynchronously.

**Return codes**

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	No error
	0	CMD0001	No action necessary; subsystem is no longer active
	1	ESM0414	Syntax error: invalid version specified
	32	ESM0224	Command not processed
	32	ESM0228	Command terminated abnormally

**Notes**

- In order to ensure a high degree of parallelism and data integrity, time-consuming administrative jobs are not executed under the control of the calling task but are transferred to a DSSM task.  
As a rule only the check of the requested function is performed **synchronously** (i.e. in conjunction with a wait state for the calling task). However, DSSM performs the actual processing **asynchronously** and independently of the calling task.
- STOP-SUBSYSTEM with the FORCED=\*YES operand is accepted only if the command has previously been issued with FORCED=\*NO and the subsystem only has to wait for the deactivation of the occupying tasks.  
The FORCED function cannot guarantee the “normal” behavior of tasks connected to a privileged subsystem.  
Tasks connected to a nonprivileged subsystem can initiate an error routine that permits resumption of the program.  
However, since DSSM does not wait for completion of this routine, a START-SUBSYSTEM command issued in the meantime may result in these tasks being reported as still linked to the subsystem.

# STOP-TAPE-OUTPUT

Cancel assignment of tape devices

<b>Description status:</b>	SPOOL V4.9A
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION
<b>Privileges:</b>	OPERATING PRINT-SERVICE-ADMINISTRATION
<b>Routing code:</b>	S

### Function

The STOP-TAPE-OUTPUT command cancels the assignment of a tape device at the end of the current spoolout job.

### Format

<b>STOP-TAPE-OUTPUT</b>
<b>UNIT</b> = list-poss(8): <alphanum-name 2..2> / <alphanum-name 4..4>

### Operands

**UNIT = list-poss(8): <alphanum-name 2..2> / <alphanum-name 4..4>**

Mnemonic names of the tape devices to be deactivated.

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value

## STOP-TAPE-REPLAY

Cancel assignment of tape devices after replay tape processing

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION
<b>Privileges:</b>	OPERATING PRINT-SERVICE-ADMINISTRATION
<b>Routing code:</b>	S

### Function

The STOP-TAPE-REPLAY command cancels the assignment of tape devices (for replay tape processing) at the end of the current spoolout job.

### Format

**STOP-TAPE-REPLAY**

**UNIT** = list-poss(8): <alphanum-name 2..2> / <alphanum-name 4..4>

### Operands

**UNIT = list-poss(8): <alphanum-name 2..2> / <alphanum-name 4..4>**

Mnemonic names of the tape devices for replay tape processing to be deactivated.

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value

# STOP-TASK-MEASUREMENT

Exclude task from SM2 task statistics

<b>Description status:</b>	openSM2 V10.0A
<b>Functional area:</b>	Program control
<b>Domain:</b>	PROGRAM
<b>Privileges:</b>	all privileges bar HARDWARE-MAINTENANCE OPERATING

### Function

The STOP-TASK-MEASUREMENT command allows users to exclude their tasks from SM2 task statistics (see the START-TASK-MEASUREMENT command). Withdrawal of authorization for task monitoring by the SM2 primary administrator (MODIFY-USER-ADMISSION TASK=\*INHIBIT) and unloading of SM2 (STOP-SUBSYSTEM SUBSYSTEM-NAME=SM2) also terminate any current user task measurements.

### *Privileged functions*

Privileged users (SW-MONITOR-ADMINISTRATION privilege) can terminate monitoring for any task (see TSN operand).

### Format

<b>STOP-TASK-MEASUREMENT</b>
<b>TSN = *<u>OWN</u></b> / <alphanum-name 1..4>

### Operands

**TSN =**

Specifies the task for which monitoring is to cease.

**TSN = \*OWN**

Monitoring of the task calling the command is terminated.

**TSN = <alphanum-name 1..4>**

Monitoring of the task with the specified TSN is terminated. The nonprivileged user can only terminate SM2 monitoring for tasks running under his own user ID.



**Return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	No error
	32	NPS0050	System error in SM2 modules. Command rejected
	64	NPS0044	No authorization to monitor task. Command rejected
	64	NPS0045	Task already being monitored by SM2
	64	NPS0046	Task monitoring not initiated by START-TASK-MEASUREMENT. Command rejected
	64	NPS0047	Specified task does not exist
	64	NPS0051	Specified task cannot be monitored by the user
	64	NPS0065	No further tasks can be monitored
	64	NPS0066	Invalid file attributes on the user-specific SM2 output file
	64	NPS0067	DMS code '(&00)' on macro call '(&01)' for the user-specific SM2 output file

## STOP-TRACE

Deactivate trace

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Error logging
<b>Domain:</b>	ERROR-LOGGING
<b>Privileges:</b>	TSOS OPERATING
<b>Routing code:</b>	R

### Function

This command deactivates a previously activated trace listed as “active” in the trace address list and places it in the “initialized” state.  
Switchable, temporary traces serve to store brief information on all operations of a functional unit in the order of their execution.

### Format

STOP-TRACE
<pre> <b>TRACE-IDENTIFICATION</b> = list-poss(51): &lt;name 1..8&gt;(…) / *<b>ALL</b>(…)   &lt;name 1..8&gt;(…)             <b>SUBSYSTEM-NAME</b> = *<b>ALL</b> / &lt;name 1..8&gt; / *<b>NONE</b>       ,<b>SUBSYSTEM-VERSION</b> = *<b>ALL</b> / &lt;product-version without-man-corr&gt; /                                     &lt;product-version mandatory-man-corr&gt;         *<b>ALL</b>(…)             <b>SUBSYSTEM-NAME</b> = *<b>ALL</b> / &lt;name 1..8&gt; / *<b>NONE</b>       ,<b>SUBSYSTEM-VERSION</b> = *<b>ALL</b> / &lt;product-version without-man-corr&gt; /                                     &lt;product-version mandatory-man-corr&gt; </pre>

### Operands

#### **TRACE-IDENTIFICATION =**

Specifies whether all or only selected traces from the list of switchable traces are to be deactivated.

**TRACE-IDENTIFICATION = list-poss(51): <name 1..8>(…)**

Specifies the names of up to 51 traces that are to be deactivated. The specified traces must be ON (activated) or ON/OFF (trace is only partially active, i.e. it collects information on different events).

If the traces involved are not statically defined, they are assigned to a specific subsystem that can be defined in more detail in the following operands.

See the START-TRACE command for the names of possible traces.

**SUBSYSTEM-NAME =**

Specifies the subsystem to which the trace is assigned.

**SUBSYSTEM-NAME = \*ALL**

The traces are to be deactivated in all cases, regardless of the subsystem to which they are assigned.

**SUBSYSTEM-NAME = <name 1..8>**

Exact specification of the subsystem to which the trace to be deactivated is assigned.

**SUBSYSTEM-NAME = \*NONE**

Only statically defined traces that are not assigned to any subsystem are to be deactivated.

**SUBSYSTEM-VERSION =**

Specifies the version of the subsystem to which the trace is assigned.

**SUBSYSTEM-VERSION = \*ALL**

The traces are to be deactivated for all versions of the selected subsystem.

**SUBSYSTEM-VERSION = <product-version without-man-corr> /  
<product-version mandatory-man-corr>**

Specifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see also “[product-version](#)” on page 1-45).

**TRACE-IDENTIFICATION = \*ALL(…)**

All traces that are to be deactivated.

If the traces involved are not statically defined, they are assigned to a specific subsystem that can be defined in more detail in the following operands.

**SUBSYSTEM-NAME =**

Specifies the subsystem to which the trace is assigned.

**SUBSYSTEM-NAME = \*ALL**

The traces are to be deactivated in all cases, regardless of the subsystem to which they are assigned.

**SUBSYSTEM-NAME = <name 1..8>**

Exact specification of the subsystem to which the trace to be deactivated is assigned.

**SUBSYSTEM-NAME = \*NONE**

Only traces that are not assigned to any subsystem are to be deactivated.

**SUBSYSTEM-VERSION =**

Specifies the version of the subsystem to which the trace is assigned.

**SUBSYSTEM-VERSION = \*ALL**

The traces are to be deactivated for all versions of the selected subsystem.

**SUBSYSTEM-VERSION = <product-version without-man-corr> / <product-version mandatory-man-corr>**

Specifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see also “[product-version](#)” on page 1-45).

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	Specified traces are already ON
2	0	PDT0208	One of the specified traces is already OFF
	32	CMD0221	Internal error
1	32	PDT0203	Specified trace is not switchable
2	32	PDT0203	One of the traces specified in the list is not switchable
1	32	PDT0210	Invalid ON/OFF pattern for the specified trace
2	32	PDT0210	Invalid ON/OFF pattern for one of the traces specified in the list
1	64	PDT0200	Specified trace does not exist
2	64	PDT0200	One of the traces specified in the list does not exist
1	64	PDT0202	Trace is of the type PERMANENT
2	64	PDT0202	One of the traces specified in the list is of the type PERMANENT
	64	PDT0209	No authorization for command
1	64	PDT0214	Deactivation of some traces was rejected with different error messages; no action taken
2	64	PDT0214	Deactivation of some traces was rejected with different error messages; other specified traces were deactivated

## STORE-ALIAS-CATALOG

Store user alias catalog entries in file

<b>Description status:</b>	ACS V19.0A
<b>Functional area:</b>	File processing
<b>Domain:</b>	FILE
<b>Privileges:</b>	STD-PROCESSING ACS-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

The STORE-ALIAS-CATALOG command stores the user entries of the current alias catalog in an AC file. These stored user entries can be reloaded into the alias catalog by the user with the LOAD-ALIAS-CATALOG command.

The actual file name of the AC file must be specified by the user, since neither alias substitution nor prefix insertion is performed in this case.

### *Privileged functions*

The privileged ACS administration can choose whether to store the system entries from its alias catalog, or the user entries, or all entries (SELECT operand). When each entry is saved, its type (USER or SYSTEM) is included with the copy. If the ACS administration then reloads the catalog entries, using LOAD-ALIAS-CATALOG, they retain their original type.

### Format

<b>STORE-ALIAS-CATALOG</b>	Alias: <b>STAC</b>
<b>TO-FILE</b> = <filename 1..54 without-gen-vers> <b>,USER-INFORMATION</b> = <b>*NONE</b> / <name 1..8> <b>,DESCRIPTOR</b> = <b>*NONE</b> / <alphanum-name 1..8> <b>,SELECT</b> = <b>*USER-ENTRIES</b> / <b>*ALL</b> / <b>*SYSTEM-ENTRIES</b>	

### Operands

**TO-FILE = <filename 1..54 without-gen-vers>**

Actual name of the AC file in which the user entries of the current alias catalog are to be stored. If the specified file does not exist, a new file is created; otherwise, the existing file is overwritten, provided write access is permitted for it. AC files are created as SAM files.

**USER-INFORMATION = \*NONE / <name 1..8>**

Enters a name into the AC file for documentation purposes. The name specified by the user here is displayed in the output of the SHOW-ACS-OPTIONS command and in the ACS0001 load message that is displayed after an AC file is loaded with the LOAD-ALIAS-CATALOG command.

**USER-INFORMATION = \*NONE**

No name is defined.

**USER-INFORMATION = <name 1..8>**

Name to be entered into the AC file.

**DESCRIPTOR = \*NONE / <alphanum-name 1..8>**

Allows the user to enter an additional descriptor into the AC file for documentation purposes; for example, a version ID to identify the current update. This descriptor is displayed along with the name specified for USER-INFORMATION in the output of the SHOW-ACS-OPTIONS command and in the load message that is issued after an AC file is loaded with the LOAD-ALIAS-CATALOG command.

**DESCRIPTOR = \*NONE**

No descriptor is defined.

**DESCRIPTOR = <alphanum-name 1..8>**

Additional information (descriptor) to be entered into the AC file.

**SELECT = \*USER-ENTRIES / \*SYSTEM-ENTRIES / \*ALL**

*Only available to users with ACS-ADMINISTRATION privilege.*

Specifies which entries from the administration's current alias catalog are to be stored.

**SELECT = \*USER-ENTRIES**

The only entries to be stored in the file specified by the TO-FILE operand are the user entries (type USER).

**SELECT = \*SYSTEM-ENTRIES**

The only entries to be stored in the file specified by the TO-FILE operand are the system entries (type SYSTEM).

**SELECT = \*ALL**

All the entries in the current catalog are to be stored in the file specified by the TO-FILE operand.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed normally
2	0	ACS0006	Warning: AC entries not found
	32	CMD0221	Internal error
	64	ACS0011	Error when accessing file
	64	ACS0017	Error: alias catalog is not active
	128	ACS0018	ACS is not available

**Examples**

For examples, see the ADD-ALIAS-CATALOG-ENTRY and LOAD-ALIAS-CATALOG commands.

## TURN

Output logging file

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Error logging
<b>Domain:</b>	not allocated
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	E

### Function

This command enables the operator or an authorized user program to request an information dump from the current logging file (SYS.CONSLLOG...).

The day, time, destination and source selection criteria allow operators or authorized user programs to match message output to information requirements.

After the TURN command has been issued, 5 messages are listed. Then the following message appears:

```
&tsn-jid.hhmmss % EXC0432 PROCESSING of /TURN TO BE CONTINUED? REPLY  
                (Y=YES;N=NO)?
```

The operator's answer is in the form "tsn-jid:Y" or "tsn-jid:N", where:

<tsn> is the task sequence number of the job in the form 'nnnn'.

<jid> is the job ID assigned when the command is entered. If you do not assign a job ID when entering the command, you do not have to give one for the response. The default job ID '000' can therefore be omitted for the response.

No more than three failures to answer correctly are allowed. A fourth incorrect answer causes the TURN command to be terminated.

### *Note*

It is not possible to process several TURN commands at the same time. A second TURN command will be rejected with the following message:

```
EXC0431 PROCESSING OF AN EARLIER /TURN NOT YET COMPLETED. RETRY COMMAND LATER
```

The output messages of the file SYS.CONSLLOG... are not logged.



## Format

<b>TURN</b>
<p><b>DAY</b> = <u>*TODAY</u> / &lt;integer 1..31&gt;</p> <p>,<b>TIME</b> = <u>*LOG-START</u> / &lt;integer 0..235959&gt;</p> <p>,<b>SRC</b> = <u>*NO</u> / list-poss(2000): &lt;alphanum-name 2..4&gt;</p> <p>,<b>DEST</b> = <u>*NO</u> / list-poss(2000): &lt;alphanum-name 1..4&gt;</p> <p>,<b>DESTALL</b> = <u>*NO</u> / list-poss(2000): &lt;alphanum-name 2..4&gt;</p>

## Operands

### DAY=

Outputs messages recorded in the current log file on a specific day.

### DAY = \*TODAY

Outputs the messages for the current day of the system session.

### DAY = <integer 1..31>

Day of the month. The day specified must have been reached within the log file.

### TIME=

Outputs messages logged from a specific time onwards.

If the TIME operand is specified together with the DAY operand, the messages logged on the specified day after the specified time are output.

### TIME = \*LOG-START

Outputs messages from the start of the current log file or of the specified day onwards.

### TIME = <integer 0..235959>

Time (hhmmss) within the current system session as of which the logged messages are to be output (hh = hour, mm = minute, ss = second).

### SRC=

Selection of information (commands, messages and responses which have been input) according to the sender. The sender can be an operator terminal (console), a DCAM application or a task.

### SRC= \*NO

All the messages sent from the operator terminal (console) or authorized user program from which the TURN command originated are to be output.

**SRC = list-poss(2000): <alphanum-name 2..4>**

Selection can be based on:

- mnemonic device name (2 characters) of the operator terminal (console).  
The messages sent from this console are to be output.
- authorization name (4 characters) of a DCAM application
- task sequence number (4 characters).  
Information sent by this task is to be output.

**DEST=**

Selection of information (commands, messages and responses which have been input) according to the receiver. The receiver can be an operator terminal (console) or an authorized user program.

**DEST= \*NO**

All the messages received by the operator terminal (console) or authorized user program from which the TURN command originated are to be listed.

**DEST = list-poss(2000): <alphanum-name 1..4>**

All messages directed to the specified receiver are to be listed: The following values are possible:

- the mnemonic device name (2 characters) of a physical operator terminal (console)
- a routing code (1 character)
- the authorization name (4 characters) of an authorized user program

**DESTALL=**

Selects messages with the routing codes assigned to the specified consoles. The receiver can be an operator terminal (console) or an authorized user program

*Note*

If the DESTALL operand has a value other than \*NO, there are two different cases to consider:

1. DEST = \*NO:  
Only the messages selected by DESTALL are displayed.
2. Otherwise:  
The complete set of messages selected by DEST and DESTALL is displayed.

**DESTALL= \*NO**

All messages selected by the DEST operand are displayed.

**DESTALL = list-poss(2000): <alphanum-name 1..4>**

Selection is based on the complete set of routing codes of the specified consoles.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	EXC0428	Input abbreviated, processing continued
	1	CMD0202	Syntax error
	32	EXC0425	System deadlock
	64	EXC0254	CONSLOG not yet created
	64	EXC0433	Execution aborted
	130	EXC0424	Not enough memory
	130	EXC0431	Previous TURN not completed

**Examples**

1. A session commenced at 10 p.m.; at 6 a.m. the following command is issued:

```
turn time=030000
```

This causes all messages to be listed which occurred between 3 and 6 a.m.

2. A session commenced at 11:50:58, and at 11:52:25 the following command is issued:

```
turn time=110000
```

The specified time of 11 a.m. (when the session had not yet started) causes the command to terminate; no other messages are output.

3. A session commences at 8 p.m., and at 11 p.m. the next day the following command is issued:

```
turn time=220000
```

The messages which occurred after 10 p.m. on the second day are listed.

# UMOUNT-NET-STORAGE

Disconnect Net-Storage

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Net-Storage administration
<b>Domain:</b>	DEVICE STORAGE-MANAGEMENT
<b>Privileges:</b>	TSOS OPERATING
<b>Routing code:</b>	G

### Function

The UMOUNT-NET-STORAGE command disconnects the Net-Storage from the BS2000 system. In this case the connection to the net server and net client is cleared. On the net client side the directory which corresponds to the Net-Storage is unmounted.

A Net-Storage should be disconnected only when all pubsets which contain files on this Net-Storage have been exported. While such pubsets remain imported, BS2000 tasks can still occupy the Net-Storage. The command is rejected if such occupancy exists. The SHOW-NET-STORAGE-OCCUPATION command provides information on Net-Storage occupancy. If it is essential, execution of the command can be forced with the FORCE=\*YES operand. In this case any existing occupancy is ignored and inconsistencies can arise as files are not closed properly.

Information on the Net-Storage available in BS2000 can be requested using the SHOW-NET-STORAGE command.

Fundamental information on the use of Net-Storage in BS2000 is provided in the "Introduction to System Administration" [14]. How to work with files on Net-Storage is described in the "Introductory Guide to DMS" [13].

**Format**

```

UMOUNT-NET-STORAGE

DIRECTORY = *BY-MOUNT-ID(...) / <c-string 1..64 with-low>
    *BY-MOUNT-ID(...)
        | MOUNT-ID = <integer 1..16777215>
,SERVER = *BY-SYSTEM / <composed-name 1..256 with-under> / <c-string 1..256 with-low> /
        *IP-ADDRESS(...)
            *IP-ADDRESS(...)
                | IP-ADDRESS = <composed-name 7..15> / <c-string 2..39> / <x-string 7..32>
,CLIENT = *BY-SYSTEM / <composed-name 1..8 with-under> / <c-string 1..8> / *DNS(...) / *IP-ADDRESS(...)
            *DNS(...)
                | DNS-NAME = <c-string 1..256 with-low>
            *IP-ADDRESS(...)
                | IP-ADDRESS = <composed-name 7..15> / <c-string 2..39>
,FORCE = *NO / *YES
    
```

**Operands**

**DIRECTORY = \*BY-MOUNT-ID(...)** / <c-string 1..64 with-low>

Specifies the directory name of the Net-Storage released on the net server.

**DIRECTORY = \*BY-MOUNT-ID(...)**

The mount ID unambiguously specifies the connection to the Net-Storage which is to be cleared. In this case SERVER and CLIENT need not be specified explicitly (the defaults for \*BY-SYSTEM are sufficient). The mount ID can be determined with the SHOW-NET-STORAGE command.

**MOUNT-ID = <integer 1..16777215>**

Mount ID of the connection to the Net-Storage.

**SERVER =**

Specifies the net server which makes the Net-Storage available. An explicit specification is also verified when the connection has already been unambiguously specified using the mount ID.

**SERVER = \*BY-SYSTEM**

The explicit specification of the net server is not necessary when the mount ID is specified in the DIRECTORY operand or when the net server is defined unambiguously by the directory name.

**SERVER = <composed-name 1..256 with-under> / <c-string 1..256 with-low>**

Host name or fully qualified domain name of the net server.

**SERVER = \*IP-ADDRESS(...)**

IP address of the net server.

**IP-ADDRESS = <composed-name 7..15> / <c-string 2..39>**

Specifies the IP address of the net server in IPv4 or IPv6 format.

**CLIENT =**

Specifies the net client on which the Net-Storage (more precisely: the released directory) is mounted. For SUs /390 and S servers this is an HNC. For SUs x86 and SQ servers X2000 performs this role.

An explicit specification is also verified when the connection has already been unambiguously specified using the mount ID.

**CLIENT = \*BY-SYSTEM**

The explicit specification of the net client is not necessary when the mount ID is specified in the DIRECTORY operand or when the net client is defined unambiguously by the directory name.

**CLIENT = <composed-name 1..8 with-under> / <c-string 1..8>**

Internal BCAM name of the net client.

**CLIENT = \*DNS(...)**

Domain name of the net client.

**DNS-NAME = <c-string 1..256 with-low>**

Specifies the fully qualified domain name of the net client.

**CLIENT = \*IP-ADDRESS(...)**

IP address of the net client.

**IP-ADDRESS = <composed-name 7..15> / <c-string 2..39>**

Specifies the IP address of the net client in IPv4 or IPv6 format.

**FORCE = \*NO / \*YES**

Specifies whether the Net-Storage is also to be disconnected if it is still occupied by tasks. The default \*NO causes the command to be rejected in this case.

**FORCE = \*YES**

The Net-Storage directory is always disconnected. If it is still occupied, this is ignored. In this case data can be lost because files cannot be closed properly.

**Return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	Command executed without error
	1	NKAN003	Syntax error in the input
	32	CMD0221	system error
	32	NKAN004	Error in command execution
	64	NKAN007	Net-Storage directory does not exist
	64	NKAN009	Leading slash in directory name missing
	64	NKAN010	Directory name is not unique
	64	NKAN011	Mount ID does not exist

# UNLOAD-TAPE

Unload magnetic tape or magnetic tape cartridge

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	T

### Function

The UNLOAD-TAPE command enables a magnetic tape or magnetic tape cartridge to be unloaded.

### Format

<b>UNLOAD-TAPE</b>
<b>UNIT</b> = *ALL / list-poss(10): <alphanum-name 2..2> / <alphanum-name 4..4>

### Operands

#### **UNIT =**

Specifies the devices to be unloaded.

#### **UNIT = \*ALL**

The volumes of all tape devices which have the following attributes are unloaded:

- CONF-STATE = ATTACHED oder DETACH-PENDING
- ACTION = NO ACTION
- PHASE ≠ MOUNT and PHASE ≠ IN-USE.

#### **UNIT = list-poss(10): <alphanum-name 2..2> / <alphanum-name 4..4>**

Specifies the mnemonic device names of the devices to be unloaded. A maximum of 10 devices can be specified.



**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	1	NKV0001	Syntax error
4	64	NKV0004	Command partially processed
5	64	NKV0005	Command not processed for an object
6	64	NKV0006	Command not processed
2	130	NKVT002	Tape monitor unavailable

**Note**

I/O errors are logged via message NKVT098.

## UNLOCK-DEVICE

Cancel hardware reservations

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	G

### Function

The UNLOCK-DEVICE command cancels a hardware reservation for one or more devices.

Before issuing the UNLOCK-DEVICE command, users should ensure that no other UNLOCK attempt is being made on the same device from a different system. Injudicious use of this command may result in the cancellation of a reservation for a different system.

### Format

<b>UNLOCK-DEVICE</b>
<b>UNIT</b> = list-poss(10): <alphanum-name 2..2> / <alphanum-name 4..4>

### Operands

**UNIT = list-poss(10): <alphanum-name 2..2> / <alphanum-name 4..4>**

Specifies the mnemonic device name of the hardware unit for which a device reservation is to be canceled. Up to 10 units may be specified.

### Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
12	64	NKR0...	Internal check negative
16	64	NKR0...	Caller error
20	64	NKR0...	Software error

If there is an error in command termination, the maincode contains the message code of the message output during command processing.

## Notes

- The UNLOCK-DEVICE command is required only for magnetic tape cartridge devices and for tape devices at channels of type IE1 and should be issued in the following cases:

- The magnetic tape cartridge device is “detached” on all other systems and an ATTACH command was rejected with the messages

```
NKR0111  DEVICE=mn ASSIGNED ELSEWHERE
NKR0044  DEVICE=mn ATTACHMENT REJECTED
```

- It was not possible to release the hardware reservation after a DETACH/REMOVE command (message NKR0115).
- The UNLOCK-DEVICE command will be rejected if the tape device has the status “attached”, “attach pending”, “detached implicitly” or “detach pending implicitly”.
- The command may be required for disk devices if message EXC0857 is issued with the insert “... DEVICE/BUSY/RESERVED ...”. Before issuing it you should check that no other system is accessing the disk and that the reservation is authorized.
- The following messages signal successful execution of the command:

```
NKR0114  DEVICE=mn UNASSIGNED
NKR0102  DEVICE=mn UNLOCK-DEVICE PROCESSED
```

## Example

Cancel the hardware reservation for device CA

```
/UNLOCK-DEVICE UNIT=CA
```

or

```
/UNLOCK-DEVICE CA
```

## UNLOCK-DISK

Clear system allocation log

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Device management
<b>Domain:</b>	DEVICE
<b>Privileges:</b>	OPERATING
<b>Routing code:</b>	D

### Function

This command causes the system allocation log (list of systems occupying disk space in the standard volume label) of a disk to be cleared of catalog IDs no longer working with the disk. For both private disks and pubsets any file locks of the catalog ID still existing are reset. The command can also be executed for all a pubset's disks (UNIT=\*PUBSET-DEVICES). The operator is responsible for ensuring that no system is removed which is still working with the disk.

#### *Important note on shared pubset operation*

You must not issue the command without first making sure that the pubset in question has not been imported by the sharer or sharers (see Notes).

### Format

#### UNLOCK-DISK

```

UNIT = *VOLUME(...) / *PUBSET-DEVICES(...) /
      list-poss(10): <alphanum-name 2..2>(…) / <alphanum-name 4..4>(…)

*VOLUME(…)
  | VOLUME = list-poss(10): <vsrn 1..6>

*PUBSET-DEVICES(…)
  | PUBSET = <cat-id 1..4> / *BY-PUBRES-DEVICE(…)
  |   *BY-PUBRES-DEVICE(…)
  |     | UNIT = <alphanum-name 2..2> / <x-text 4..4>

<alphanum-name 2..2>(…) / <alphanum-name 4..4>(…)
  | FORCE = *NO / *YES
  | ,CHECK-VSN = *NO / <vsrn 1..6>

,SYSTEM-IDENTIFIER = *ALL / *UNKNOWN / list-poss(16): <integer 0..255> / <name 1..1>

```

## Operands

### UNIT =

Specifies the disks whose system allocation log is to be cleared.

### UNIT = \*VOLUME(...)

Specifies the volume serial numbers of disks whose system allocation log is to be cleared.

#### VOLUME = list-poss(10): <vsn 1..6>

Specifies the volume serial numbers (VSN, up to 6 characters) of one or more disks whose system allocation log is to be cleared. A maximum of 10 disks may be specified.

### UNIT = \*BY-PUBSET-DEVICES(...)

Specifies that the system allocation log is to be cleared for a pubset's disks. Since the mnemonic device names (MNs) of the associated disks are administered in the SVL of the system disk, the latter must be entered in the MRS catalog. The entry is made by means of /ADD-MASTER-CATALOG-ENTRY PUBRES-UNIT=<mn> and whenever the pubset is imported or exported and whenever its composition is changed (see MODIFY-PUBSET-PROCESSING).

### PUBSET =

Designates the pubset for whose disks the system allocation log is to be cleared. The pubset can be specified via its catalog ID or the device code of its system disk.

#### PUBSET = <cat-id 1..4>

Catalog ID of the pubset for whose disks the system allocation log is to be cleared. There must be a corresponding entry in the MRS catalog. If there is no such entry then the command can only be executed if the system disk is specified (see PUBSET=\*BY-PUBRES-DEVICE).

### PUBSET = \*BY-PUBRES-DEVICE(...)

Specifies the pubset's system disk (pubres).

#### UNIT = <alphanum-name 2..2> / <x-text 4..4>

Mnemonic device code (MN) of the pubres.

### UNIT = list-poss(10): <alphanum-name 2..2>(…) / <alphanum-name 4..4>(…)

Specifies the mnemonic device names (2 or 4 alphanumeric characters; see notes) of one or more disks whose system allocation log is to be cleared.

A maximum of 10 disks may be specified.

### FORCE =

Specifies whether or not the option of terminating processing is available.

### FORCE = \*NO

Before the command is executed message NKVD072 is issued offering the operator the option of terminating processing.

**FORCE = \*YES**

Message NKVD072 is suppressed if the VSN of the mounted disk is specified in the CHECK-VSN operand.

**CHECK-VSN =**

Determines whether, in addition to the entry of the mnemonic device name that was specified in the UNIT operand, NDM is to check whether a particular disk specified by means of its VSN is mounted on the device.

**CHECK-VSN = \*NO**

The VSN of the disk is not to be checked.

**CHECK-VSN = <vsn 1..6>**

If the disk whose VSN is specified here is mounted on the device, message NKVD072 is suppressed. In this case, since the disk device and VSN are identified uniquely, the operator can no longer prevent the command from being executed.

**SYSTEM-IDENTIFIER =**

Specifies the systems for which the UNLOCK operation is to be performed.

**SYSTEM-IDENTIFIER = \*ALL**

All foreign systems occupying disk space are removed from the SVL. In addition, all file locks still maintained by foreign systems (for private disks, for example after SPD operation) are reset; this also applies to systems that are not stored in the SVL.

**SYSTEM-IDENTIFIER = \*UNKNOWN**

Resets all file locks of systems which are not entered in the SVL of the disk. This function is required if, for example, tasks of a system were not able to reset their file locks due to their abortion via FORCE-JOB-CANCEL and the disk was subsequently released by the system.

**SYSTEM-IDENTIFIER = list-poss(16): <integer 0..255> / <name 1..1>**

Resets the allocation for the specified system in the SVL of the disk and cancels all its existing file locks. A maximum of 16 catalog IDs can be specified.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKV0001	Syntax error
	64	NKV0004	Command partially processed
	64	NKV0005	Command not processed for an object
	64	NKV0006	Command not processed
	130	NKVD002	Disk monitor unavailable

**Notes**

- When the UNLOCK job is processed the operator is prompted to re-enter the VSN of the disk as confirmation of the job. This is a precautionary measure to prevent an UNLOCK operation being executed for a system that is still active. As soon as the system in question recognizes the unauthorized UNLOCK attempt, it initiates a CANCEL operation for the disk.
- If the UNLOCK-DISK command is issued for an imported shared pubset on one or all sharers, the sharer systems will be deleted from the SVL of one volume. This will make the NDM administration data inconsistent among the volumes of the shared pubset. If a system whose SYSID is no longer present in the sharer list now accesses the SVL of one of these volumes, that volume will be canceled by the disk monitor on the accessing system and will thus no longer be accessible in the current BS2000 session.

**Example**

The system allocation log is to be cleared for devices A1 with disk WK0001 and A2 with disk WK0002. If the specified disks are mounted then the command is to be executed without any query.

```
/unlock-disk unit=(a1(force=*yes,check-vsn=wk0001),  
                  a2(force=*yes,check=wk0002)), sys-id=*a11
```

### UNLOCK-FILE-LINK

Cancel lock on file link name

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	File processing
<b>Domain:</b>	FILE
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT

#### Function

The UNLOCK-FILE-LINK command cancels a lock which was applied to an entry in the task file table (TFT) using a LOCK-FILE-LINK command. If there is a current REMOVE-FILE-LINK command which applies to this entry, it will then be processed, i.e. the TFT entry will be deleted as specified in the REMOVE-FILE-LINK command, and the private devices linked to it will be released.

#### Format

<b>UNLOCK-FILE-LINK</b>
-------------------------

<b>LINK-NAME</b> = * <u>FIRST-BLANK</u> / <filename 1..8 without-gen>
---

#### Operands

**LINK-NAME = \*FIRST-BLANK / <filename 1..8 without-gen>**

The file link name of the TFT entry for which the LOCK-FILE-LINK status is to be canceled.

**LINK-NAME = \*FIRST-BLANK**

If \*FIRST-BLANK is specified, the first TFT entry in which the file link name consists of blanks will be processed (see the SHOW-FILE-LINK command).



**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
2	0	DMS0662	Specified LINK name is invalid or does not exist
	1	CMD0202	Syntactical or semantic error in command
	64	DMS06FF	BCAM connection severed

**Examples**

See the LOCK-FILE-LINK command.

## UNLOCK-PRODUCT-VERSION

Release a product version lock

<b>Description status:</b>	IMON-GPN V3.3A
<b>Functional area:</b>	System control and optimization
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	SUBSYSTEM-MANAGEMENT

### Function

Systems support can use the UNLOCK-PRODUCT-VERSION command to release the lock placed on the product version of an installation unit. The product version is then once again available for all users.

The lock for a product is set either explicitly by systems support using the LOCK-PRODUCT-VERSION command or implicitly by IMON when the product is installed.

### Format

<b>UNLOCK-PRODUCT-VERSION</b>
<b>PRODUCT-NAME</b> = <text 1..30 without-sep>(…) <text 1..30 without-sep>(…)   <b>VERSION</b> = <product-version mandatory-man-corr>

### Operands

#### **PRODUCT-NAME = <text 1..30 without-sep>(…)**

Specifies the name of the IMON installation unit corresponding to the locked software product.

#### **VERSION = <product-version mandatory-man-corr>**

Specifies the product version. The specification must include the release version and correction status.

**Return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	Command executed successfully
	32	IMO9101	Command terminated abnormally (system error in external call; internal error in IMON-GPN)
	64	CMD0216	Privileges error
	64	IMO9100	Product or version not found, invalid product name

# UNLOCK-SUBSYSTEM

Change subsystem state from LOCKED to NOT-CREATED

<b>Description status:</b>	DSSM V4.3B
<b>Functional area:</b>	Subsystem management
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	SUBSYSTEM-MANAGEMENT

### Function

This command enables systems support to switch a locked subsystem (a subsystem in the LOCKED state) back to a state which has been declared but not activated (NOT-CREATED state). This unlocks the subsystem for the current session. Up to DSSM V3.5, once a subsystem had been locked it remained unavailable until shutdown. Thus UNLOCK-SUBSYSTEM supports interrupt-free BS2000 operation.

A subsystem can be switched to the locked state by its INIT, DEINIT, STOPCOM or CLOSE-CTRL routines. These routines either directly request DSSM to lock the subsystem or they generate a memory dump and initiate a holder task restart which can then not be performed correctly (RESTART-REQUIRED=\*NO or - with \*YES - maximum permitted number of attempts exceeded).

If subsystem locking occurs during the activation phase (INIT routine), it will not subsequently be possible to run UNLOCK-SUBSYSTEM and the subsystem will remain unavailable until shutdown and the ensuing restart.

Note that not all subsystems can easily be unlocked and that a subsystem restart is not achievable in all cases. For information see the [“Notes” on page 7-573](#).

### Format

<b>UNLOCK-SUBSYSTEM</b>
<b>SUBSYSTEM-NAME</b> = <structured-name 1..8> , <b>VERSION</b> = <product-version mandatory-man-corr> / <product-version without-man-corr>

## Operands

**SUBSYSTEM-NAME = <structured-name 1..8>**

Subsystem name.

**VERSION = <product-version mandatory-man-corr> /  
<product-version without-man-corr>**

Version number of the above-named subsystem. The format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see also [“product-version” on page 1-45](#)).

## Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	1	ESM0414	Syntax error: invalid version specified
	32	ESM0228	Command abnormally terminated
	64	ESM0224	Command not processed

## Notes

The subsystem being unlocked must be in the LOCKED state.

There are restrictions on the use of the UNLOCK-SUBSYSTEM command:

- Some subsystems cannot be regularly terminated and restarted during a session. Execution of the STOP- and HOLD-SUBSYSTEM commands must be allowed for the subsystem which is being unlocked, which means that the subsystem must not have been defined with the attribute SUBSYSTEM-HOLD=\*FORBIDDEN (see also the restrictions on the STOP-SUBSYSTEM command).
- Owing to interdependencies with other subsystems, the UNLOCK-SUBSYSTEM command may result in inconsistencies in the subsystem catalog. To prevent this from happening, all subsystems associated with the subsystem which is being unlocked must be deactivated (STOP-SUBSYSTEM command) and then restarted (START-SUBSYSTEM command) together with the unlocked subsystem.
- Even if the subsystem can be restarted from any state and all interdependencies with other subsystems - if any - have been allowed for (see above), after execution of the UNLOCK-SUBSYSTEM command there is no guarantee that the subsystem will be active after the next START-SUBSYSTEM command. This restriction particularly applies if there are any problems or situations for which the subsystem itself is responsible.

## UNLOCK-USER

Grant locked-out user access to system

<b>Description status:</b>	SRPMNUC V19.0A
<b>Functional area:</b>	User management
<b>Domain:</b>	USER-ADMINISTRATION
<b>Privileges:</b>	STD-PROCESSING USER-ADMINISTRATION
<b>Routing code:</b>	\$

### Function

Using this command, systems support can specify that a user ID should be permitted to access the system again.

The temporary access lock for a user ID that was specified using the LOCK-USER command is canceled and the corresponding entry in the user catalog is updated. If the access lock applied to the home pubset, in which logon validation is carried out, the user's access to the system (which was blocked) is enabled again.

### Format

<b>UNLOCK-USER</b>
<b>USER-IDENTIFICATION</b> = <name 1..8> , <b>PUBSET</b> = <u>*HOME</u> / <cat-id 1..4>

### Operands

**USER-IDENTIFICATION** = <name 1..8>

ID of the user whose access lock is to be canceled.

**PUBSET** = \*HOME / <cat-id 1..4>

Cancels the access lock for the user in the user catalog of the specified pubset.

**PUBSET** = \*HOME

Specifies the user catalog of the home pubset.

## Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SRM6001	Command executed with a warning
	1	SRM6010	Syntax error
	32	SRM6020	System error during command processing
	64	SRM6040	Semantic error
	130	SRM6030	Command cannot temporarily be executed

## Example

User ID *COGNII* is temporarily locked out of the system. This is indicated by the value of *\*YES* in the *USER-LOCKED* output field of the user entry displayed by the *SHOW-USER-ATTRIBUTES* command. Then the lock is removed again and the user entry is redisplayed (the value in the *USER-LOCKED* output field is now *\*NO*).

```

/show-user-attrib cogni1
%SHOW-USER-ATTRIBUTES --- PUBSET 10SH - USER COGNII 2012-01-28 17:35:01
%-----
%USER-ID USER1 PUBLIC-SPACE-USED 0
%GROUP-ID *UNIVERSAL PUBLIC-SPACE-LIMIT 0
%DEFAULT-PUBSET 20SG PUBLIC-SPACE-EXCESS *NO
%MAX-ACCOUNT-RECORDS 100 TEMP-SPACE-USED 0
%DEFAULT-MSG-LANGUAGE TEMP-SPACE-LIMIT 2147483647
% FILES 0
%PROTECTION-ATTRIBUTES... FILE-NUMBER-LIMIT 16777215
%LOGON-PASSWORD *YES JOB-VARIABLES 0
%PASSWORD-MGMT *BY-LOGON-PROTECT JV-NUMBER-LIMIT 16777215
%TAPE-ACCESS *PRIVILEGED RESIDENT-PAGES 32767
%FILE-AUDIT *NO ADDRESS-SPACE-LIMIT 256
% DMS-TUNING-RESOURCES *NONE
%TEST-OPTIONS... CSTMP-MACRO-ALLOWED *NO
%READ-PRIVILEGE 1 CODED-CHARACTER-SET EDF03IRV
%WRITE-PRIVILEGE 1 PHYSICAL-ALLOCATION *NO
%MODIFICATION *CONTROLLED USER-LOCKED *YES
% CRYPTO-SESSION-USED 0
%AUDIT... CRYPTO-SESSION-LIMIT 128
%HARDWARE-AUDIT *ALLOWED NET-STORAGE-USAGE *ALLOWED
%LINKAGE-AUDIT *ALLOWED
%
%PROFILE-ID *NONE
%MAIL-ADDRESS HOLL INCOGNITO GMBH-OS-114 1230 MCH-P/AL
%EMAIL-ADDRESS alfred.holl@incognito.de,
% joachim.vogi@incognito.de,
% johannes.kuli@incognito.de,
% mathias.reh@incognito.de
%
%+-----+-----+-----+-----+-----+-----+-----+-----+
%!ACCOUNT-#! CPU-LIMIT !SPOOLOUT-!MAX-RUN-!MAX-ALLOWED-!NO-CPU-!START-!INHIB-!
%! ! ! ! CLASS !PRIORITY! CATEGORY ! LIMIT ! IMMED! DEACT!
%+-----+-----+-----+-----+-----+-----+-----+-----+
%! 89001 ! 2147476225! 1 ! 255 ! STD ! NO ! NO ! NO !
%+-----+-----+-----+-----+-----+-----+-----+-----+
%DEFAULT-ACCOUNT-# FOR LOGON: *NONE
%DEFAULT-ACCOUNT-# FOR REMOTE-LOGIN: *NONE
%

```

# UNLOCK-USER

```
%DEFAULT-JOB-CLASS FOR BATCH-JOBS:   JCB05000
%DEFAULT-JOB-CLASS FOR DIALOG-JOBS:   JCDSTD
%LIST OF JOB-CLASSES ALLOWED:
%JCBNACHT JCBSHUT JCB00050 JCB00200 JCB02000 JCB05000 JCB10000 JCB32000
%JCDSTD
%-----
%SHOW-USER-ATTRIBUTES                END OF DISPLAY FOR USER COGN11   ON PUBSET 10SH

/unlock-user cogni1
/show-user-attrib cogni1

%SHOW-USER-ATTRIBUTES --- PUBSET 10SH - USER COGN11                2012-01-28 17:35:28
%-----
%USER-ID                             USER1                          PUBLIC-SPACE-USED                0
%GROUP-ID                             *UNIVERSAL                     PUBLIC-SPACE-LIMIT                0
%DEFAULT-PUBSET                        20SG                            PUBLIC-SPACE-EXCESS              *NO
%MAX-ACCOUNT-RECORDS                   100                             TEMP-SPACE-USED                  0
%DEFAULT-MSG-LANGUAGE                   TEMP-SPACE-LIMIT                2147483647
%                                       FILES                            0
%PROTECTION-ATTRIBUTES...             FILE-NUMBER-LIMIT                16777215
%LOGON-PASSWORD                        *YES                             JOB-VARIABLES                    0
%PASSWORD-MGMT                         *BY-LOGON-PROTECT              JV-NUMBER-LIMIT                  16777215
%TAPE-ACCESS                           *PRIVILEGED                     RESIDENT-PAGES                    32767
%FILE-AUDIT                             *NO                             ADDRESS-SPACE-LIMIT              256
%                                       DMS-TUNING-RESOURCES            *NONE
%TEST-OPTIONS...                       CSTMP-MACRO-ALLOWED             *NO
%READ-PRIVILEGE                         1                                CODED-CHARACTER-SET              EDF031RV
%WRITE-PRIVILEGE                       1                                PHYSICAL-ALLOCATION                *NO
%MODIFICATION                           *CONTROLLED                     USER-LOCKED                       *NO
%                                       CRYPTO-SESSION-USED              0
%AUDIT...                               CRYPTO-SESSION-LIMIT            128
%HARDWARE-AUDIT                        *ALLOWED                         NET-STORAGE-USAGE                 *ALLOWED
%LINKAGE-AUDIT                         *ALLOWED
%
%PROFILE-ID *NONE
%MAIL-ADDRESS HOLL                    INCOGNITO GMBH-05-114           1230                               MCH-P/AL
%EMAIL-ADDRESS alfred.holl@incognito.de,
%                                       joachim.vogi@incognito.de,
%                                       johannes.kuli@incognito.de,
%                                       mathias.reh@incognito.de
%
%+-----+-----+-----+-----+-----+-----+-----+-----+
%!ACCOUNT-#! CPU-LIMIT !SPOOLOUT-!MAX-RUN-!MAX-ALLOWED-!NO-CPU-!START-!INHIB-!
%!          !          ! CLASS !PRIORITY! CATEGORY ! LIMIT ! IMMED! DEACT!
%+-----+-----+-----+-----+-----+-----+-----+-----+
%! 89001 ! 2147476225! 1 ! 255 ! STD ! NO ! NO ! NO !
%+-----+-----+-----+-----+-----+-----+-----+-----+
%DEFAULT-ACCOUNT-# FOR LOGON:          *NONE
%DEFAULT-ACCOUNT-# FOR REMOTE-LOGIN:  *NONE
%
%DEFAULT-JOB-CLASS FOR BATCH-JOBS:   JCB05000
%DEFAULT-JOB-CLASS FOR DIALOG-JOBS:   JCDSTD
%LIST OF JOB-CLASSES ALLOWED:
%JCBNACHT JCBSHUT JCB00050 JCB00200 JCB02000 JCB05000 JCB10000 JCB32000
%JCDSTD
%-----
%SHOW-USER-ATTRIBUTES                END OF DISPLAY FOR USER COGN11   ON PUBSET 10SH
```



## WAIT-EVENT

Put job on hold waiting for event

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Job variables
<b>Domain:</b>	JOB-VARIABLES USER-ADMINISTRATION
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

With the WAIT-EVENT command, the user can make the time at which a job runs dependent on user switch settings and time specifications (in procedures or batch jobs only) or on the status of a job variable (JV).

#### *User switches*

The user switch settings for the user's own ID or for another user ID can be interrogated. If the desired switch settings are obtained before the specified time limit (TIME-LIMIT operand) is exceeded, the waiting job is continued with the following command. If the time has elapsed, spin-off is initiated. In a non-S procedure, processing branches to one of the following commands: SET-JOB-STEP, EXIT-JOB, CANCEL-PROCEDURE, END-PROCEDURE or EXIT-PROCEDURE.

In an S procedure, processing branches to the next error handling block (see IF-BLOCK-ERROR command, description of SDF-P error handling).

If no user switches are specified (ON or OFF), any time specification (TIME-LIMIT) is ignored and processing is resumed immediately with the next command.

#### *Time specifications*

Time specifications can be entered in the form of a time period or a specific time. After the specified time has elapsed, the waiting job is continued with the next command. If the time specification for waiting is "zero" or the specified time is in the past, processing is continued immediately with the next command.

### *Job variables (JV)*

The user defines a condition (CONDITION) and sets a time limit (TIME-LIMIT). In addition, the user can specify that the condition is checked if one of the job variables affected by it is modified during the wait time (CHECK-CURRENT-VALUE operand). If the condition is satisfied before the time limit is reached, the waiting job is continued with the next command. If the time has elapsed, processing is continued at the branch destination specified by TIMEOUT-LABEL (if any) or spin-off is initiated.

If user switches or time specifications are interrogated in interactive dialog, the WAIT-EVENT command is rejected. Interrogating a job variable condition is, however, possible in interactive dialog. In SDF guided dialog, only the structure JV(...) is displayed.

### Format

#### WAIT-EVENT

**UNTIL** = \*USER-SWITCHES(...) / \*PERIOD(...) / \*DATE(...) / \*JV(...)

\*USER-SWITCHES(...)

USER-IDENTIFICATION = \*OWN / <name 1..8>

    , ON = \*NONE / list-poss(32): <integer 0..31>

    , OFF = \*NONE / list-poss(32): <integer 0..31>

    , TIME-LIMIT = \*SHUTDOWN / <integer 0..9999999 *minutes*>

\*PERIOD(...)

SECONDS = 0 / <integer 0..9999999 *seconds*>

\*DATE(...)

DATE = \*TODAY / \*TOMORROW / <date>

    , TIME = <time>

\*JV(...)

CONDITION = \*NONE / <text 0..1800 with-low *cond-expr*>

    , TIME-LIMIT = 600 / <integer 1..65535 *seconds*>

    , TIMEOUT-LABEL = \*NONE / <name 1..8>

    , CHECK-CURRENT-VALUE = \*YES / \*NO

## Operands

### UNTIL =

Type of event.

### UNTIL = \*USER-SWITCHES(...)

The job is to wait dependent on user switch settings (not possible in interactive dialog). If user switches are not specified in the ON and OFF operands, any time specification in the TIME-LIMIT operand is ignored and processing resumes immediately with the following command.

#### **USER-IDENTIFICATION = \*OWN / <name 1..8>**

User ID whose user switches are to be interrogated. The default value is \*OWN, i.e. the user switches of the user ID under which the current job is running are interrogated.

#### **ON = \*NONE / list-poss(32): <integer 0..31>**

User switches. The job is continued as soon as the specified switches are set to ON and the switches specified in the OFF operand are set to OFF.

The default value is \*NONE, i.e. the user switches are not checked to see whether they are set to ON.

#### **OFF = \*NONE / list-poss(32): <integer 0..31>**

User switches. The job is continued as soon as the specified switches are set to OFF and the switches specified in the ON operand are set to ON.

The default value is \*NONE, i.e. the user switches are not checked to see whether they are set to OFF.

#### **TIME-LIMIT = \*SHUTDOWN / <integer 0..9999999 minutes>**

Time limit in minutes. Maximum time the job is to wait for the event to occur.

### UNTIL = \*PERIOD(...)

The job is to wait a specific time (not possible in interactive mode).

#### **SECONDS = 0 / <integer 0..9999999 seconds>**

Time specified in seconds. If the time specification for waiting is "zero", processing is continued immediately with the next command.

### UNTIL = \*DATE(...)

The job is to wait until a specific time (not possible in interactive mode). If the time specified is in the past, processing is continued immediately with the next command.

#### **DATE = \*TODAY / \*TOMORROW / <date>**

Date specification.

#### **TIME = <time>**

Time specification.

### **UNTIL = \*JV(...)**

The length of time that the job waits is to be dependent on the state of a JV.

### **CONDITION = \*NONE / <text 0..1800 with-low cond-expr>**

Conditional expression (enclosed in parentheses). The job is continued as soon as the condition is satisfied.

The permitted specifications are described in [section "Conditional expressions \(job variables\)" on page 1-70](#). Special job variables are not allowed.

### **TIME-LIMIT = 600 / <integer 1..65535 seconds>**

Time limit in seconds. Maximum time the job is to wait for the event "condition satisfied" to occur, the time of the check being determined by the CHECK-CURRENT-VALUE operand. Time values greater than 65280 seconds are interpreted as unlimited waiting times.

### **TIMEOUT-LABEL = \*NONE / <name 1..8>**

Branch destination. Name of the non-S mark specifying the command with which processing is to continue if the specified time elapses and the event has not yet occurred.

If no branch destination is defined, spin-off is initiated when the time has elapsed. In dialog, specification of a branch destination is ignored and a warning issued.

If WAIT-EVENT was issued within a procedure, the branch destination must also be contained within this procedure, otherwise the procedure is aborted. If the branch destination appears within a CJC command sequence (see the ADD-CJC-ACTION command), it will not be recognized.

### **CHECK-CURRENT-VALUE = \*YES / \*NO**

Specifies whether the condition should be checked immediately.

The default \*YES specifies an immediate check of the condition. If \*NO is specified, the condition is checked only if write access takes place to a job variable affected by the condition.

## Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CJC0022	UNTIL=*JV: Waiting time expired, no branch label specified (TIMEOUT-LABEL=*NONE)
1	0	CMD0001	UNTIL=*USER-SWITCHES: Command executed without error, but the condition did not occur before timeout
2	0	CMD0002	UNTIL=*USER-SWITCHES: The user switch was set, but an error occurred while the WHEN queue was being searched (SYSOUT message EXC0823)
	1	CMD0202	Syntax error, error in the condition, branch label not found, or branch label of the WAIT-EVENT command
	32	CMD0221	Internal error
	32	EXC0041	System error
	64	CMD0025	JV catalog exported
	64	EXC0868	User ID not found
	64	EXC0878	Branch destination not found
	130	CJC0002	JV cannot be accessed
	130	CJC0003	Memory saturation
	130	CMD2282	SHUTDOWN or CANCEL-JOB active, user ID locked or file open
	140	CMD2382	SHUTDOWN or CANCEL-JOB active, program loaded, user ID locked or file open

## Notes

- The wait state for a job pended by a WAIT-EVENT command (with UNTIL=\*JV(...)) can be temporarily suspended to allow execution of CJC command sequences. Thereafter, the job returns to the wait state.
- When the command is processed (with UNTIL=\*USER-SWITCHES, \*PERIOD oder \*DATE set), all the job's system resources that were previously requested either implicitly or with a SECURE-RESOURCE-ALLOCATION command are released, i.e. the device requests must be repeated.
- The period preceding the branch destination must not be inserted by expression replacement, because then the branch destination as such will no longer be found.

## WRITE-ACCOUNTING-RECORD

Identify job section for accounting system

<b>Description status:</b>	BS2000 OSD/BC V10.0A
<b>Functional area:</b>	Accounting system control
<b>Domain:</b>	ACCOUNTING
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE

### Function

The WRITE-ACCOUNTING-RECORD command

- generates and identifies a UDAT accounting record
- generates and identifies a UACC accounting record

As identification, a character string is to be specified, which is to be placed into the accounting records.

For UDAT and UACC accounting records see the “Introduction to System Administration” [14]. The user can ascertain the maximum permissible number of user-specific accounting records from his entry in the user catalog (see the *MAX-ACCOUNT-RECORDS* output field of the SHOW-USER-ATTRIBUTES command).

### Format

<b>WRITE-ACCOUNTING-RECORD</b>
<b>RECORD-TYPE</b> = <u>*USER-DATA</u> (...) / *USER-ACCOUNTING-STEP(...) / <c-string 1..254> *USER-DATA(...)   <b>TEXT</b> = <c-string 1..254> *USER-ACCOUNTING-STEP(...)   <b>INFORMATION</b> = <c-string 1..8> / <x-string 1..16>

**Operands****RECORD-TYPE =**

Type of identification.

**RECORD-TYPE = \*USER-DATA(...)**

Generates a UDAT accounting record for the current job.

**TEXT = <c-string 1..254>**

Character string to be entered into a UDAT accounting record for the job. The character '&' must not be used.

**RECORD-TYPE = \*USER-ACCOUNTING-STEP(...)**

Generates a UACC accounting record for the current job.

**INFORMATION = <c-string 1..8> / <x-string 1..16>**

Character string with which the accounting record for the job is to be identified.

**RECORD-TYPE = <c-string 1..254>**

Character string to be entered into a UDAT accounting record for the job. The character '&' must not be used.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	CMD0202	Syntax error
	32	CMD0221	Internal error
	64	NAM3003	Semantic error

**Example**

```
/write-acc-rec rec-type=user-acc-step(inf=c'test #01') _____ (1)
/write-acc-rec rec-type=user-data(text=c'project #01 testruns') _____ (2)
```

- (1) A UACC accounting record is written, into which the string "TEST #01" is entered.
- (2) A UDAT accounting record is written, into which the string "PROJECT #01 TESTRUNS" is entered.

## WRITE-IOCF

Write IOCF

<b>Description status:</b>	IOFCOPY V19.0A
<b>Functional area:</b>	System control and optimization
<b>Domain:</b>	SYSTEM-MANAGEMENT
<b>Privileges:</b>	TSOS

### Function

Systems support can write an IOCF which is stored as a PAM file on a BS2000 disk to the hard disk of the service system with the WRITE-IOCF command.

The input file has to be available in the form of a PAM file. The system checks whether the file contains an IOCF. If the IOCF does not suit the system type the write job is rejected with the message IOF0126.

The command cannot be issued on an VM2000 guest system.

The SHOW-IOCF command provides information on existing IOCFs. An IOCF can be written from the hard disk of the service system to a PAM file with the READ-IOCF command.

### Format

#### WRITE-IOCF

**FILE-NAME** = <filename 1..54>

, **LEVEL** = 0 / <integer 0..9>

### Operands

**FILE = <filename 1..54>**

Name of the BS2000 file.

**LEVEL = 0 / <integer 0..9>**

Level number of the IOCF to be written. The value range covers all existing ranges. The active IOCF cannot be overwritten.

The maximum number of levels is hardware-dependent.



**Return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
2	0	CMD0001	Specified IOCF is empty
	0	IOF0125	Bus configuration, no IOCF
	1	CMD2201	Parameter error: At least one value from the command call is incorrect (e.g. file does not exist, incorrect format or incorrect file contents, level number does not exist, etc.). The exact cause of the error is contained in a preceding message.
	32	CMD0221	Internal error: A system interface which was called reports an error. The exact cause of the error is contained in a preceding message.
	64	CMD0216	User does not have authorization
	64	IOF0119	Function not possible in the current HSI or not permitted.

## WRITE-SPOOL-TAPE

Output files to tape

<b>Description status:</b>	SPOOL V4.9A
<b>Functional area:</b>	Controlling spoolout job
<b>Domain:</b>	SPOOL-PRINT-ADMINISTRATION
<b>Privileges:</b>	STD-PROCESSING PRINT-SERVICE-ADMINISTRATION HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
<b>Routing code:</b>	\$

### Function

The system creates a separate spoolout job which runs independently of the job issuing the command (own TSN). A SAM tape file with standard labels is generated as the output file and is assigned the following name:

$$\left. \begin{array}{l} \{ S.tsn. \} \\ \{ S.pname. \} \end{array} \right\} \left\{ \begin{array}{l} [hhmmss.]filename \\ EAMno \end{array} \right\}$$

where:

- S.tsn.           tsn is the task sequence number of the SPOOL job
- S.pname.       job name if the SPOOLOUT-NAME operand is specified
- filename       name of the cataloged input file
- hhmmss.       time of day if several files are output under the same job and file names
- EAMno          EAM file number if SYSLST or SYSOUT has been specified as the input file.

SPOOL creates an MF set (multifile tape) if

- a tape containing more than one file
- file generations
- partially qualified file names

are to be output. This tape file can be output to a printer by means of PRINT-DOCUMENT; it cannot be output to tape.

## Format

## WRITE-SPOOL-TAPE

**FILE-NAME** = \***LIBRARY-ELEMENT**(...) / list-poss(16): \***OMF** / \***SYSLST** / \***SYSLST-NUMBER**(...) / \***SYSOUT** / <filename 1..54 with-wild(80)> / <integer 1..65535>

\***LIBRARY-ELEMENT**(...)

| **LIBRARY** = <filename 1..54 without-vers>

| ,**ELEMENT** = <composed-name 1..64 with-under with-wild(80)>(…)

| <composed-name 1..64 with-under with-wild(80)>(…)

| | **VERSION** = \***HIGHEST-EXISTING** / \***UPPER-LIMIT** /  
| | <composed-name 1..24 with-under with-wild(40)>

| ,**TYPE** = <alphanum-name 1..8 with-wild(12)>

| ,**CREATION-DATE** = \***LATEST** / \***RANGE**(…) / <date>(…)

| \***RANGE**(…)

| | **FROM** = \***FIRST** / <date>

| | ,**TO** = \***LAST** / <date>

| <date>(…)

| | **FROM** = \***FIRST** / <time>

| | ,**TO** = \***LAST** / <time>

\***SYSLST-NUMBER**(…)

| **SYSLST-NUMBER** = <integer 1..99>

,**MONJV** = \***NONE** / \***STD** / <filename 1..49 without-gen>

,**JV-PASSWORD** = \***NONE** / <c-string 1..4> / <x-string 1..8> / \***SECRET**

,**START-SPOOL** = \***IMMEDIATE** / \***CLOSE** / \***NO**

,**LOCK-FILE** = \***STD** / \***YES** / \***NO**

,**DELETE-FILE** = \***NO** / \***YES** / \***DESTROY**

,**SPOOLOUT-NAME** = \***STD** / <alphanum-name 1..8> / <c-string 1..8>

,**SPOOLOUT-PRIORITY** = \***JOB-PRIORITY** / <integer 30..255>

,**DEVICE-TYPE** = \***ANY** / <alphanum-name 1..8>

,**VOLUME** = \***ANY** / list-poss(4): <alphanum-name 1..6>

,**RETENTION-PERIOD** = \***STD** / <integer 0..999>

## Operands

**FILE-NAME = \*LIBRARY-ELEMENT(...)** / list-poss(16): \*SYSLST-NUMBER(...)/ \*OMF / \*SYSLST / \*SYSOUT / <filename 1..54 with-wild(80)> / <integer 1..65535>

Names of the files to be output.

**FILE-NAME = \*LIBRARY-ELEMENT(...)**

The specified element is to be output from a PLAM library. An element is fully defined by its name, its type and its version.

### Notes

- Access to the directory of the library is executed via command validation, i.e. you must have access authorization for the library at this time; otherwise, the command is rejected.
- The library which contains the elements to be output cannot be locked until the spoolout job is executed.  
A global setting LOCK-FILE = \*YES in the SPOOL parameter file (MODIFY-SPOOL-PARAMETERS) is ignored.
- PAM elements of element type X cannot be processed.

**LIBRARY = <filename 1..54 without-gen>**

The name of the PLAM library from which an element is to be output.

**ELEMENT = <composed-name 1..64 with-under with-wild(80)>**

The name of the element which is to be output from the specified PLAM library.

**VERSION = \*HIGHEST-EXISTING / \*UPPER-LIMIT / <composed-name 1..24 with-under with-wild(40)>**

The version of the element which is to be output. Default is \*HIGHEST-EXISTING, i.e. the last element in alphabetical order.

If the version is specified in wildcard format, and if there are library elements with the same names to which the wildcard specification applies, then all of these library elements are output.

**TYPE = <alphanum-name 1..8 with-wild(12)>**

The type of the library element to be output.

**CREATION-DATE =**

The creation date with which elements are selected for output.

**CREATION-DATE = \*LATEST**

By default, the last library element created is output.

**CREATION-DATE = \*RANGE(...)**

Library elements created within the specified time range are to be output.

**FROM = \*FIRST / <date>**

Specifies the first day of the possible creation period for the library element.

By default, FIRST is assumed, i.e. the creation date of the library element which was created first.

**TO = \*LAST / <date>**

Specifies the last day of the possible creation period for the library element.

By default, LAST is assumed, i.e. the creation date of the library element which was created last.

*Note*

If the two digits for the century are not specified, the following defaults are used:

- 19 if the last two digits of the year number lie between 50 and 99;
- 20 in all other cases.

**CREATION-DATE = <date>(...)**

The date on which the desired library elements were created.

**FROM = \*FIRST / <time>**

The earliest time of day at which elements in the specified library must have been created in order to be printed.

The default is FIRST, i.e. 00:00:00 hours.

**TO = \*LAST / <time>**

The latest time of day at which elements in the specified library must have been created in order to be output.

The default is LAST, i.e. 23:59:59 hours.

**FILE-NAME = \*OMF**

Specifies the temporary EAM object module file of the current job. The following defaults apply to this job:

- OMF is not locked (LOCK-FILE=\*NO)
- OMF is deleted after execution of the output (DELETE-FILE=\*YES).

The temporary EAM object module file \*OMF may be combined in any manner with the system files SYSLST and SYSOUT in one WRITE-SPOOL-TAPE command, for example: WRITE-SPOOL-TAPE (\*OMF,\*SYSLST,\*SYSOUT). It must not, however, be combined with an EAM file number or a cataloged file.

**FILE-NAME = \*SYSLST**

Outputs the SYSLST system file. Unless otherwise specified, the following points apply to output:

- SYSLST is not locked (LOCK-FILE=\*NO)
- SYSLST is deleted at the end of output (DELETE-FILE=\*YES).

System file SYSLST may be combined in any sequence with the temporary EAM object module file \*OMF and system file SYSOUT in a WRITE-SPOOL-TAPE command, e.g. WRITE-SPOOL-TAPE (\*OMF,\*SYSLST,\*SYSOUT). It must not, however, be combined with an EAM file number or a cataloged file.

**FILE-NAME = \*SYSLST-NUMBER(...)**

Specifies system file SYSLST-nn.

**SYSLST-NUMBER = <integer 1..99>**

Two-digit number nn to be used to form the SYSLSTnn file name. A maximum of 11 different SYSLSTnn system files can be specified in a list (in parentheses and separated by commas). All the specified operand values then apply to each of these system files.

**FILE-NAME = \*SYSOUT**

Outputs system file SYSOUT.

System file SYSOUT may be combined in any sequence with the temporary EAM object module file \*OMF and system file SYSLST in the same WRITE-SPOOL-TAPE command, e.g. WRITE-SPOOL-TAPE (\*OMF,\*SYSLST,\*SYSOUT).

It must not, however, be combined with an EAM file number or a cataloged file.

**FILE-NAME = <filename 1..54 with wild(80)>**

Name of the file to be output to tape.

PAM files must not be specified in batch mode.

The WRITE-SPOOL-TAPE command is rejected if the specified file

- is a newly cataloged file to which no data has yet been written
- has already been opened in output mode

If the file does not belong to the user's own user ID, read access must be allowed (see the SHOW-FILE-ATTRIBUTES command).

The following points should be noted in connection with the output of cataloged files:

- A spoolout job is generated even if the file to be output is reserved by a SECURE-RESOURCE-ALLOCATION command. However, this reservation must be canceled before the spoolout job is processed, otherwise the job cannot be executed. The file to be output is locked until the end of the session the operand LOCK-FILE=\*YES was specified in the WRITE-SPOOL-TAPE command and the job could not be executed because of the reservation.
- The \*OMF, \*SYSLST and \*SYSOUT files cannot be specified together with a cataloged file in a spoolout job.

**FILE-NAME = <integer 1..65535>**

Number of the EAM file to be output. See also the PRINT-DOCUMENT command.

**START-SPOOL =**

Determines when the \*SYSLST file is to be output before the end of the job.

**START-SPOOL = \*IMMEDIATE**

The spoolout job is to be generated and processed immediately after the command is entered.

**START-SPOOL = \*CLOSE**

The spoolout job is to be processed immediately after the system file is closed. A system file is closed:

- a) for a primary assignment: by an EXIT-JOB (or LOGOFF) command or by CANCEL-JOB (from another ID), i.e. at the end of the job
- b) if assigned to a cataloged file:
  - by an EXIT-JOB (or LOGOFF) command or by CANCEL-JOB (from another ID), i.e. at the end of the job
  - by another ASSIGN-SYSFILE command (change of assignment) issued for the same system file
- c) in a procedure run after procedure level 0 has been reached.

**START-SPOOL = \*NO**

Any previously defined CLOSE option is canceled. Any other operands are rejected.

**MONJV =**

Specifies the job variable in which information on job processing is to be stored. See also the PRINT-DOCUMENT command.

**MONJV = \*NONE**

No job variable is to be linked to the job.

**MONJV = \*STD**

The job variable will be given the name of the file to be printed (without catalog ID and without user ID). It is created under the user ID and catalog ID of the caller.

**MONJV = <filename 1..49 without-gen>**

The job variable should contain the specified name. If the job contains several files, the following suffix is added to the name of the job variable:

- a consecutive number <1..9999> if FAMILY=\*YES is also specified;
- the TSN of the spoolout job if FAMILY=\*NO or START-SPOOL=<integer 1..2147483639> is also specified.

**JV-PASSWORD = \*NONE / <c-string 1..4> / <x-string 1..8> / \*SECRET**

Specifies the password with which the job variable is protected.

See also the PRINT-DOCUMENT command.

**LOCK-FILE = \*STD / \*YES / \*NO**

Locks the files so that changes cannot be made until the end of output. This protection remains in force while the spoolout job is in the job queue (T4); the file is automatically protected during output (T5) (even if LOCK-FILE=\*NO is specified).

**LOCK-FILE = \*STD**

The value defined in the SPOOL parameter file (\*YES or \*NO).

**DELETE-FILE =**

Specifies whether the file is to be deleted at the end of output and if so, whether its data are to be overwritten with X'00'.

Default: the file is not deleted after printing and not overwritten with binary zeros. The user must have write access to the file.

If the file to be output belongs to a file generation group (see FILE-NAME operand), the DELETE-FILE operand is ignored. This operand must not be specified in conjunction with \*SYSLST, \*SYSLSTnn or \*SYSOUT.

**DELETE-FILE = \*NO**

The file is not to be deleted after printing (unless it is an EAM or system file).

**DELETE-FILE = \*YES**

The file is to be deleted as soon as output has been completed.

**DELETE-FILE = \*DESTROY**

Specifies that once the file has been printed its data are to be overwritten with binary zeros. This operand value is invalid for EAM and cataloged system files.

**SPOOLOUT-NAME = \*STD / <alphanum-name 1..8> / <c-string 1..8>**

Job name for the spoolout job.

The job name can be formed from a maximum of 8 characters from the set (A,...,Z,0,...9,@,#,\$,..-) but must not start with a hyphen or end with a period. It may only start with a period if this is followed by an alpha character; in this case, the period itself as part of the job name is not printed on the header page.

The job name is printed on the header page in the third outsize line and also appears in the output of the SHOW-JOB-STATUS command. If this operand is omitted the job name from the SET-LOGON-PARAMETERS command is used instead.

**SPOOLOUT-NAME = \*STD**

No separate job name for the spoolout job. If a job name has been assigned to the job issuing the command (in the SET-LOGON-PARAMETERS command) this name is printed in the third outsize line on the header page.



**SPOOLOUT-NAME = <alphanum-name 1..8>**

Job name which is to be assigned to the spoolout job (and which will overwrite any job name already assigned to the job issuing the command).

**SPOOLOUT-PRIORITY =**

Specifies the priority (urgency) with which this spoolout job is started relative to other spoolout jobs.

**SPOOLOUT-PRIORITY = \*JOB-PRIORITY**

The spoolout job is to have the same priority as the job issuing the command; default value.

**SPOOLOUT-PRIORITY = <integer 30..255>**

Priority to be assigned to the spoolout job.

The highest priority you can assign is defined in the user catalog and can be displayed by means of the SHOW-USER-ATTRIBUTES command.

If an invalid operand is specified (or if the operand is omitted), the spoolout job is assigned the same priority as the job issuing the command.

**DEVICE-TYPE = \*ANY / <alphanum-name 1..8>**

Device type to which the required tapes are assigned.

**DEVICE-TYPE = \*ANY**

Any device type. The highest available recording density is used for output.

**VOLUME = \*ANY / list-poss(4): <alphanum-name 1..6>**

Volume labels of the required tapes.

**VOLUME = \*ANY**

Scratch tapes supplied by the operator are used for output.

**RETENTION-PERIOD = \*STD / <integer 0..999>**

Specifies the period in days during which the output file cannot be updated or deleted.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SCP0829	Command registered
2	0	SCP0862	Not file owner. DELETE-FILE ignored
2	0	SCP0863	FGG file. DELETE-FILE ignored
2	0	SCP0864	File protected by read access. DELETE-FILE ignored
2	0	SCP0865	File protected by write access. DELETE-FILE ignored
2	0	SCP0866	File protected by EXPIRATION-DATE. DELETE-FILE ignored
2	0	SCP0930	HP/SPOOLFILE not available
2	0	SCP0971	RECORD-CLASS 164 not accessible (PLAM)
2	0	SCP1000	JV access error. MONJV ignored
	1	CMD0202	Syntax error

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning
	1	SCP0973	Semantic error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value
	128	SPS0266	SPOOL administrator task not available
	128	SCP0896	Subsystem not loaded/ready
	128	SCP0996	JV subsystem not loaded/ready

(Part 2 of 2)

## WRITE-TEXT

Write text to SYSOUT or SYSLST

<b>Description status:</b>	SDF V4.7D
<b>Functional area:</b>	Job processing
<b>Domain:</b>	JOB PROCEDURE SDF
<b>Privileges:</b>	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

### Function

The WRITE-TEXT command outputs the specified text to SYSOUT or SYSLST.

In programs with an SDF interface, WRITE-TEXT is available as a standard statement with identical syntax and functionality.

### Format

<b>WRITE-TEXT</b>	Alias: <b>WRTX</b>
<pre> <b>TEXT</b> = '...' / &lt;c-string 1..1024 with-low&gt; , <b>OUTPUT</b> = *<b>SYSOUT</b> / *<b>SYSLST</b>(...)   *<b>SYSLST</b>(...)       <b>SYSLST-NUMBER</b> = *<b>STD</b> / &lt;integer 1..99&gt; </pre>	

### Operands

**TEXT** = '...' / <c-string 1..1024 with-low>

Text to be output to SYSOUT or SYSLST. The default value is a string containing a blank.

**OUTPUT** = \***SYSOUT** / \***SYSLST**(...)

Specifies where the information is to be output.

**OUTPUT** = \***SYSOUT**

The information is output to the system file SYSOUT.

**OUTPUT = \*SYSLST(...)**

The information is output to the system file SYSLST.

**SYSLST-NUMBER = \*STD / <integer 1..99>**

Specifies whether the information is to be output to the system file SYSLST or to a SYSLST file from the set SYSLST01 through SYSLST99. The default is \*STD, i.e. output is directed to the system file SYSLST.

**Return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error

**Example**

A procedure file (PROC .1) begins with the following commands:

```
/BEGIN-PROC  PAR=*YES(PROC-PAR=(&FILE=))  
/WRITE-TEXT 'procedure for linking'  
...  
...  
...  
/WRITE-TEXT 'procedure ended without error'  
/END-PROC
```

When the procedure is run, the text specified in WRITE-TEXT will be output to SYSOUT:

```
/call-proc name=proc.1  
procedure for linking  
.  
.  
.  
procedure ended without error
```

