

FUJITSU Software

BS2000 OSD/BC V10.0

Commands

Volume 6: SHOW-FILE – SHOW-PUBSET-SPACEPRO-OPTIONS

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-FILE

Display contents of file

Description status:	SHOW-FILE V17.1B
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SHOW-FILE command displays the contents of a file on the terminal without requiring the user to load an editor program. The following file types are supported:

- SAM file
- ISAM file
- PAM file
- PLAM library element with the following record types:
 - format B records are contained in type C (executable program), L (LLM) and H (compiler information file) elements. The record length is always a multiple n of 2048 bytes ($1 \leq n \leq 128$).
 - format A records can occur in any element type. The record length is variable. If an element contains both record types, only the format B records are displayed.

After the command has been entered, the specified file or library element is opened and the first section is displayed on the terminal. The program then expects further statements from the user, e.g. scrolling in the file (vertical/horizontal), searching for a character string, modification of the output format, reading in of another element from the specified library, termination of file output.

This command may be used only in interactive mode.

With the help of XHCS, SHOW-FILE can also display files if the terminal does not support the data character set (e.g. Unicode). For details, see section [“Character sets” on page 6-8](#). If the XHCS subsystem is not active, SHOW-FILE terminates and message SH00021 is issued.

Format

SHOW-FILE	Alias: SHF
<pre> FILE-NAME = *LIBRARY-ELEMENT(...) / <filename 1..54> *LIBRARY-ELEMENT(...) LIBRARY = <filename 1..54> ,ELEMENT = <composed-name 1..64 with-under>(…) <composed-name 1..64 with-under>(…) VERSION = *HIGHEST-EXISTING / <composed-name 1..24 with-under> ,TYPE = <alphanum-name 1..8> ,OUTPUT-FORMAT = *STD / *DUMP / *CHARACTER / *HEX </pre>	

Operands

FILE-NAME = *LIBRARY-ELEMENT(...) / <filename 1..54>

Name of the file to be output.

FILE-NAME = *LIBRARY-ELEMENT(...)

Indicates the PLAM library element to be output.

LIBRARY = <filename 1..54>

Name of the PLAM library containing the element to be output.

ELEMENT = <composed-name 1..64 with-under>(…)

Name of the element to be output. Further elements of the same library can be output with the OPEN statement without calling the command again (see [page 6-25](#)).

VERSION = *HIGHEST-EXISTING / <composed-name 1..24 with-under>

Version number of the element (max. 24 characters).

VERSION = *HIGHEST-EXISTING

The element with the highest version and variant number is opened.

TYPE = <alphanum-name 1..8>

Designation of the element type.

OUTPUT-FORMAT =

Determines the output format.

OUTPUT-FORMAT = *STD

SAM and ISAM files, in addition to library elements, which contain exclusively format A records, are displayed in a character-oriented text format, the character format (OUTPUT-FORMAT=*CHARACTER).

Library elements which contain format B records and PAM files are displayed in dump format (OUTPUT-FORMAT=*DUMP), but tape files with nonstandard blocks are not supported.

OUTPUT-FORMAT = *CHARACTER

Library elements which contain format B records are displayed in dump format after message SHO0313 has been issued.

The data is output in a character-oriented text format, the character format. The data is output as characters. The substitute character specified is output in place of non-printable characters (see SUBSTITUTE-CHARACTER in the output of the SHOW-TERMINAL-OPTIONS command).

When the characters are displayed, the bytes in the specified data character set which are read from the file are interpreted and displayed in the specified communication character set. Interpretation begins with the character which is logically the first in each record (depending on the specified OFFSET).

The position count begins with the first character with the *not displayable* or *not defined* attribute; characters which cannot be converted to the communication character set are replaced by the specified substitute character. In this context the null character is regarded as displayable (in accordance with the XHCS attribute but contrary to the Unicode convention).

In the case of UTFE or UTF8, byte sequences which are illegal in the data character set are converted byte by byte to the substitute character. The restart point is the continuation byte for the byte which is substituted. Illegal UTF16 characters are replaced completely (2 bytes) by the substitute character. Any isolated remainder byte which is present at the end of the record is also replaced by the substitute character.

When output is to a file, in other words if SYSOUT is assigned to a file in procedure mode, these specifications apply analogously, with the file's CCS being taken as the communication character set.

Each record is terminated with a logical end-of-line character. An empty record is displayed with just the logical end-of-line character. The logical end-of-line character is not output if SYSOUT is assigned to a file in procedure mode. When a 3270 data display terminal is used, no logical end-of-line characters are displayed, either, but the lines are filled with null characters.

The HEX ON statement (see [page 6-22](#)) is used to switch the display to hex format (see OUTPUT-FORMAT=*HEX).

OUTPUT-FORMAT = *HEX

Library elements which contain format B records are displayed in dump format after message SHO0313 has been issued.

The data is edited in a character-oriented text format, hex format. This output complies with character format; the hexadecimal character encoding is displayed in printable form in additional lines:

- The data is output as characters in the first lines (as with character format).
- Pairs of hex lines which display the content of each byte are then output. The upper line contains the high-order half byte, the lower line the low-order half byte. Depending on the data character set, the number of these line pairs can vary: precisely one line pair is required with 7/8-bit character sets. Two hex lines are generally not sufficient for output in the case of Unicode files. With UTF16 two line pairs are required for the hex display, with UTF8 up to three line pairs, and with UTFE as many as four line pairs. However, with UTF8 and UTFE one line pair is normally adequate as the characters can be encoded with variable lengths, and more line pairs are needed only for special characters (such as umlauts, “ß” or the euro sign).
- An edited record is followed by a format line as an optical separator to the next record.

If the hexadecimal output of a record no longer fits completely in the data window, this record, and possibly others, will only be displayed in character format in the remaining lines and will only be edited when further positioning takes place.

The HEX OFF statement (see [page 6-22](#)) can be used to switch to character format (see OUTPUT-FORMAT=*CHARACTER).

OUTPUT-FORMAT = *DUMP

This output format is not allowed for library elements that only contain format A records or for tape files with nonstandard blocks.

Output takes place in dump format. For this purpose SHOW-FILE opens the file to be output using the PAM access method or opens the library element with PLAM and outputs the content in 2-Kbyte units (PAM page):

Each line begins with an 8-digit hexadecimal number, the byte number of the first data byte in the line in the current PAM page. The output follows as an eight-digit decimal number in parentheses.

The byte number is followed by 16 data bytes in groups of 4 bytes each as hexadecimal constants. 32 bytes are displayed in screen format F2.

The data bytes are then displayed as printable characters. As with character format, the substitute character is displayed in place of non-printable characters. The line ends with a logical end-of-line character. The position count begins with 0, i.e. the first byte of a record occupies byte position 0.

Multibyte sequences of variable length (UTF8, UTFE) are displayed in the part edited for printing in such a way that the character is output at the position of the 1st byte; null characters are output as filler characters at the positions of the 2nd, 3rd and 4th bytes

(depending on the length of the sequence). Interpretation begins with the first byte displayed in the data window . Multibyte sequences which extend over more than one screen line result in the character string concerned being made up when it is edited for printing.

Multibyte sequences of fixed length (UTF16) are displayed without filler characters, i.e. two bytes are displayed as one character. If, in the case of UTF16, the problem occurs that interspersed 1-byte characters cause the interpretation to be incorrect up to the end of the block, this is simple to correct by shifting the area displayed by one byte. This also applies for the case that unaligned UTF16 character strings in the file which it would not be possible to correct using the OFFSET statement occur in the middle of the block.

As the dump format should in particular also display files which do not have consistent encoding, it is accepted that (in contrast to the text output formats) horizontal displacement might change how the characters are interpreted. The OFFSET statement is consequently also rejected for dump format with message SH00128.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
2	0	SHO0004	File is empty (HIGHEST-USED-PAGE=0)
	1	CMD0202	Error while executing in batch mode
	32	SHO0001	Internal error
	32	SHO0003	Error during execution of a system component Guaranteed message: SHO0003
	32	SHO0023	PLAM error during library processing
	64	SHO0002	PLAM reported DMS error Guaranteed message: SHO0002
	64	SHO0005	Only SAM, ISAM, PAM files and PLAM libraries are supported
	64	SHO0006	Files with RECORD-FORMAT=UNDEFINED are not supported
	64	SHO0008	PLAM library elements cannot be output in dump format
	64	SHO0011	Specified file is not a PLAM library
	64	SHO0012	Specified PLAM library element is not known
	64	SHO0015	Terminal type is not supported
	64	SHO0016	Device type is not supported
	64	SHO0017	EOF in the case of SYSDTA in procedure mode
	64	SHO0018	WROUT error
	64	SHO0019	Invalid character set for SYSDTA
	64	SHO0020	Invalid character set for SYSOUT
	64	SHO0021	XHCS not available
	64	SHO0022	Dump format not possible with SAM or ISAM access method

Character sets

SHOW-FILE V17.1A or higher also supports the output of files with the character sets UTFE, UTF8 and UTF16 and further ASCII character sets. As BS2000 terminals only directly support selected EBCDIC character sets, a distinction must be made between the character set in which the data is available/interpreted and the character set in which the data is displayed.

SHOW-FILE interprets the data in the data character set and converts it to the communication character set for output. The contents of files can consequently be output in all the character sets supported by XHCS with the help of XHCS. This is also the case if the data character set is not supported by the terminal.

If XHCS is not active, SHOW-FILE cannot output the file and terminates with SH00021.

Data character set

The data character set is the character set in which SHOW-FILE interprets the content of the file. SHOW-FILE uses the character set which is stored in the catalog entry of the file or in the metadata of the library element (CCS, Coded Character Set) as the data character set. If no character set (*NONE) is entered, the EDF03IRV character set is used. If the character set is not known in XHCS, EDF03IRV is also used and warning SH00314 is output.

The data character set specified automatically by SHOW-FILE can be changed explicitly using the CODENAME statement. This also permits, for instance, a file to be displayed in which the character set from the catalog entry or the EDF03IRV character set which is used as a replacement does not match the character set actually used.

Communication character set

The communication character set is the character set in which the work window is displayed on the terminal and inputs from the terminal are received. The communication character set must therefore be a character set which is accepted by the terminal. When SHOW-FILE is called, it determines the communication character set as follows:

- The data character set if it is accepted by the terminal.
- A comprehensive character set of the EBCDIC equivalent of the data character set if it is accepted by the terminal.
- EDF041 (or EDF03IRV in the case of 7-bit terminals) if the terminal does not accept a comprehensive character set (e.g. data character set UTF16, but the terminal does not support UTFE).

This then results in the following substitutions:

Original	EBCDIC equivalent	Accepted by the terminal
ISO88591	EDF041	EDF041
UTF16	UTFE	UTFE
EDF03DRV	EDF03DRV	EDF041

The communication character set specified automatically by SHOW-FILE can also be changed explicitly using the TERMINAL statement.

Input and output character sets

In procedure mode (see [page 6-10](#)) SHOW-FILE uses the following character sets:

- Input character set for reading the statements:
 - Communication character set when SYSDTA has primary allocation (terminal)
 - CCS of the file to which SYSDTA is assigned
- As output characters for outputting the data:
 - Communication character set when SYSOUT has primary allocation (terminal)
 - CCS of the file to which SYSOUT is assigned

Both the input and output character set must be an EBCDIC character set. If this is not the case, SHOW-FILE issues message SHO0019 (input character set) or SHO0020 (output character set) and terminates.

Displaying nondisplayable characters

It may not be possible to display a byte code for the following reasons:

- The byte code is flagged in XHCS with the “not displayable” attribute (e.g. control character).
- The byte code is not defined in the character set (e.g. X'B5' in EDF03IRV).
- The byte code is illegal in the character set (e.g. X'5454' in UTFE, two consecutive multibyte start characters).
- The byte code cannot be converted to the communication character set (e.g. X'B5' = '\$' in EDF041 with communication character set EDF03IRV).

Instead of the nondisplayable byte code the substitute character which is specified as the SUBSTITUTE-CHARACTER in the terminal options is output (see the SHOW-TERMINAL-OPTIONS command).

In the case of illegal byte sequences, the individual bytes of a sequence are replaced byte by byte by the substitute character. The restart point is the continuation byte for the byte which is substituted.

In the case of files in UTF16 character code, occasionally the problem is encountered that a single byte is inserted in the actual UTF16 sequence.

A typical case is that the UTF16 sequence is preceded by a 1-byte printer feed control character (e.g. in IBM print files). Such a file can be displayed effectively if the OFFSET statement is used to ignore the first n bytes of each record.

SHOW-FILE in procedure mode

If job switch 5 is on when the command is called, SHOW-FILE operates in procedure mode, i.e. it reads its inputs from SYSDTA and writes its outputs to SYSOUT.

The maximum record length when reading from SYSDTA is 80 characters.

If a FIND or OPEN statement was entered incompletely up to an interrupt point, the next record which is read in is interpreted as a continuation line.

When SYSDTA or SYSOUT is assigned to the terminal, reading/writing takes place in the communication character set. When they are assigned to a file, this is the CCS of the file concerned. In this case only EBCDIC character sets are permitted (the communication character set can also only be an EBCDIC character set) to permit the statements to be interpreted.

In procedure mode, INFORMATION also outputs the input and output character sets.

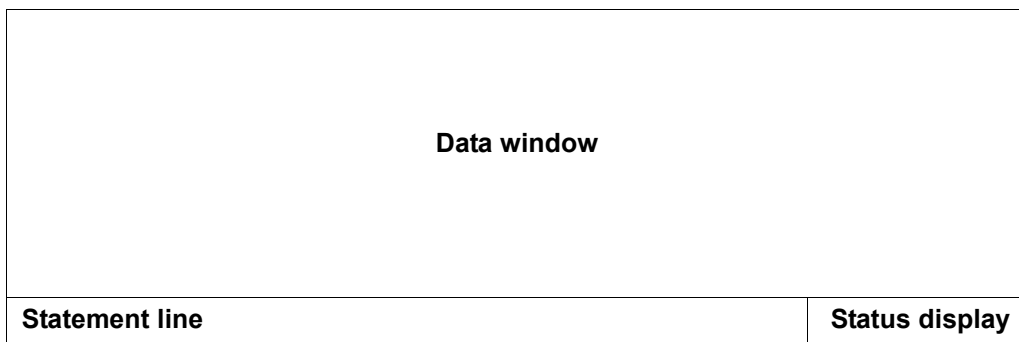
The penultimate line of the work window only contains the status indicator. The RDATA prompt appears in the last line if SYSDTA is assigned to a terminal.

For the output the screen is output to SYSOUT in its normal layout with all control characters. The terminating logical end-of-line characters are not output when a file is output.

Screen display

SHOW-FILE displays the opened file or the library element in the work window on the screen in formatted form. The size of the work window depends on the properties of the data display terminal or terminal emulation used. On a 975x terminal 24 lines each 80 characters long are available for the screen display. The same values apply for a 9763 terminal in start format (F1 format). Here the VDT statement (see [“VDT - Specify a new screen format” on page 6-24](#)) can also be used to set other formats (F2, F3 or F4 format). In the case of terminals which do not support the F1 format, the format which they support is used as the start format.

The work window subdivides the screen into three areas with different functions:



Data window

The data in the file or of the library element is output in the data window. All lines on the screen except the last line are available for this purpose in their full length. Normally this means 23 lines each containing 80 columns. When a different screen format is specified (see the VDT statement, [page 6-24](#)), the values change accordingly.

When required, the lower lines of the data window are used to output information lines (2 or 6 lines, see the INFORMATION statement), for message output (1 line) or to provide continuation lines (up to the maximum number of lines in the data window minus 1, see [page 6-24](#)). After the screen has been refreshed (e.g. using `Ⓚ3`), the original data lines are visible again.

Statement line

The statement line occupies the last line on the screen (by default line 24) with the exception of the last 26 characters, which are reserved for the status display.

In procedure mode this line is not displayed in the last line, but one line above this. The RDATA prompt becomes visible in the last line, and the statements can be entered there.

Status indicator

The status indicator provides information on the file type and positional attributes of the file section displayed. The display is in the form:

```
└<type>*<reference><direction><recordno>(<recordpos>)
```

where:

Position	Content	Meaning and value range
1	└	Blank
2	<type>	File type: I (=ISAM), S (=SAM), P (=PAM) or L (=PLAM)
3	*	Separator
4	<reference>	Reference position for recordno with <ul style="list-style-type: none"> – SOF=start of file – EOF=end of file – KEY=last record searched for with ISAM key For PLAM libraries (file type=L), the PLAM record type is shown.
7	<direction>	Direction specifies the sign for the record number in relation to the reference position: + or - In the case of library elements, only a blank is displayed.
8	<recordno>	Record number relative to the reference position (see <reference>) in the case of a SAM or ISAM file. For PAM files, the PAM page number is shown. For library elements, the record number is shown: <ul style="list-style-type: none"> – In the case of format A records, the record number within the record type displayed – In the case of format B records, the record number within the chain of format B records In the case of record numbers with more than 10 characters, the high-order part is truncated: the character # followed by the last 9 characters in the record number are displayed.
18	(Separator
19	<recordpos>	Record position, i.e. number of the first character on the screen. For PAM files, the position within the PAM page is displayed. For library elements with format B records, the current record position is specified. Starting with the position <recordpos>, the section of the format B record is displayed in dump format.
25)	Separator
26		Not assigned or <code>[LZE]</code> in procedure mode

Table 103: Status indicator of the SHOW-FILE command

Example

```
S*S0F+      1( 1)
```

Maximum character/byte position

Horizontal scrolling in character and hex format is possible to the maximum character position, and in dump format to the maximum byte position. The maximum character/byte position applies irrespective of whether records of this length exist.

The maximum character position in character and hex format specifies the (theoretical) maximum length for a record in this file. This applies irrespective of whether the file contains records of this length at all. The existence of a record length field is taken into account here, but no other file or device properties.

In the case of SAM and ISAM files with fixed record length, the maximum character position is exactly the record length defined in the catalog.

In the case of SAM and ISAM files with variable record length, the maximum character position is the block size minus 4.

In the case of library elements which only contain format A records, the maximum character position is 32764.

In dump format the maximum byte position for files is 2047 (PAM page), and for library elements with format B records 256 Kbytes-1.

In the text formats, scrolling to the right takes place only as far as to permit the maximum character position to be displayed in the first column of the data window.

In dump format, scrolling to the right takes place only as far as to permit the maximum byte position to be displayed in the first byte position of the data window.

Entering statements

One or more statements can be entered in the statement line. If several statements are entered, they must be separated by semicolons.

The statements are interpreted in EBCDIC. A distinction between uppercase/lowercase is only made within c-strings of the FIND statement if this has been preset using the LOWER operand or the LOWER statement. Keywords are not case-sensitive.

Null characters are treated like blanks when they are entered.

When job switch 5 is on, SHOW-FILE operates in procedure mode (see [“SHOW-FILE in procedure mode” on page 6-10](#)).

Commands can only be entered again after SHOW-FILE has terminated (e.g. /HELP-MSG-INFORMATION to explain an error message).

The **[K3]** key can be used to restore the screen contents if, for example, the screen has been overwritten by a message from the operator.

Continuation lines

The space required for the OPEN or CLOSE statement can be more than one line. If the statement completely fills and overruns the line allocated to it, the required continuation lines are provided.

When a search string is being entered, a continuation line is offered until the maximum search string length of 256 bytes (256 characters in the case of a c-string and 512 characters in the case of an X string) is reached or a concluding apostrophe is entered. When the maximum search string length is exceeded, the input is aborted with message SH00113.

No more than the maximum number of continuation lines required to make another data line visible are offered. If the statement is still incomplete after this, the input is aborted with message SH00101.

Interrupting long-running statements

Positioning and searching in big files may take a long time. In such cases it is possible to interrupt long-running statements of the SHOW-FILE command by pressing the **[K2]** key. This applies to the following statements:

- sequential forwards positioning with +n
- sequential backwards positioning with -n
- search for string (c-string or x-string) with FIND

In procedure mode interruption is not possible using the **[K2]** key.

If one of the above statements is interrupted, warning SH00307 is issued and SHOW-FILE waits for your next input. Screen output resumes at the position that had just been reached. The presetting of the statement line depends on the interrupted statement (see [“Presettings for the statement line” on page 6-15](#)).

Presettings for the statement line

In interactive dialog SHOW-FILE presets the statement line after a positioning statement has been entered or the FIND and OPEN statements have been issued with a plausible continuation statement. This permits, for example, the file to be scrolled through simply using **[DUE]** without reentering “+”.

After SHOW-FILE has been called, “+” is initially preset in the statement line if the file contains more than one record.

Input	Preset with	No presetting
+ [n]	+ [n]	Only one record is displayed.
++	- + if fewer records exist than can be displayed in the data window	Only one record exists.
- [n]	- [n]	The first record is displayed.
--	+	Only one record exists.
> [n]	> [n]	Maximum character or byte position has been reached.
< [n]	< [n]	First character or byte position is displayed.
<<	>	
FIND [REVERSE]	FIND [REVERSE]	No hit found.
OPEN	+	The element contains only one record.

The statement line is not preset in the following cases:

- SHOW-FILE was called in procedure mode (job switch 5 is set).
- The file consists of only one record,
- When errors occur, the last entry is output once more in the statement line. If the statement line was overwritten, the presetting can be made visible again with **[K3]**.

Overview of the statements

The table below lists all the statement in the order in which they are subsequently described. Statement names and operands can be abbreviated from left to right as long as they remain unambiguous.

Statement	Function	Page
<i>Statements for vertical positioning (scrolling)</i>		6-17
++	Position to end of file	6-17
+ <i>[n]</i>	Scroll forward <i>n</i> lines	6-17
- <i>[n]</i>	Scroll backward <i>n</i> lines	6-17
--	Position to start of file	6-17
R <i>n</i>	Position to a particular record	6-18
<i>Statements for horizontal positioning</i>		6-18
<<	Position to first character or byte 1	6-18
< <i>[n]</i>	Move <i>n</i> characters/bytes to the left	6-18
> <i>[n]</i>	Move <i>n</i> characters/bytes to the right	6-18
S <i>n</i>	Position to a particular character or byte	6-19
FIND	Search for character string or ISAM key	6-19
LOWER	Preset conversion of lowercase letters in search strings	6-22
HEX	Enable/disable hexadecimal presentation	6-22
OFFSET	Ignore bytes at start of record	6-22
CODE-NAME	Specify a new data character set	6-23
TERMINAL	Specify a new communication character set	6-23
VDT	Specify a new screen format	6-24
INFORMATION	Output information about file or library element	6-24
OPEN	Open new library element	6-25
END	Terminate file output	6-26

Table 104: Statement overview (SHOW-FILE command)

Statements for scrolling

The character or byte position currently set is not changed when vertical scrolling takes place. This also applies if the records in the new display are shorter than the position set.

++ Position to the end of file, i.e. the last record is (if possible) displayed in the last line of the data window.

In the text formats the last record is displayed as far down in the data window as possible when scrolling takes place.

In hex output format it is ensured that the last record is displayed in edited form. To enable the first record in the data window also to be displayed in edited form, unused lines (filled with null characters) may appear at the end of the data window.

In dump format the last record is scrolled to.

In the case of tape files, this statement is rejected with message SH00129.

-- Position to the start of file, i.e. the first record is displayed in the first line of the data window.

+*[n]* Scroll forward in the file (toward the end of file).

n determines the number of records by which you scroll forward.

Values where $n = \langle \text{integer } 0..9223372036854775807 \rangle$ are accepted. Leading zeros are ignored.

If *n* is not specified, you scroll forward by the number of lines contained in the data window. If records which had not yet been edited were visible in hex output format, you scroll to the first record which has not been edited.

Any hidden lines are taken into account in the text formats.

In hex output format it is ensured that this record is displayed in edited form. To permit the first record in the data window to be displayed in edited form, records which were already visible in the current data window may be displayed again at the end of the data window.

You scroll forward no further than to the last record. If *n* goes beyond this, you scroll to the last record and message SH00301 is issued.

-*[n]* Scroll backward in the file (toward the start of file).

n determines the number of records by which you scroll backward.

Values where $n = \langle \text{integer } 0..9223372036854775807 \rangle$ are accepted. Leading zeros are ignored.

If *n* is not specified, you scroll in such a manner that the record preceding the first record visible in the data window is displayed as far down as possible in the data window.

In hex output format it is ensured that this record is displayed in edited form. To

permit the first record in the data window to be displayed in edited form, records which were already visible in the current data window may be displayed again at the end of the data window.

You scroll backward no further than to the first record. If *n* goes beyond this, you scroll to the first record and message SH00302 is issued.

Vertical positioning to a specific record

Rn Position to the *n*th record, in the case of a display in dump format to the *n*th PAM page.
Values where *n*=<integer 0..9223372036854775807> are accepted. Leading zeros are ignored.

The records in the file are regarded as being numbered consecutively. This is also the case for library elements in which the numbering is displayed for each record type.

When *n*=0, the position is set to the first record. If *n* is greater than the number of the last record, the position is set to the last record and message SH00301 is issued.

Statements for horizontal positioning

<< Move the record section to the left, to the start of the record.
The record section displayed then begins at character position 1 or byte position 0.

<[*n*] Move the record section to the left character by character or byte by byte (toward the start of the record). *n* determines the number of characters or bytes by which it is moved.
Values where *n*=<integer 0..2147483647> are accepted. Leading zeros are ignored.

If *n* is not specified, the following default applies:

- With the text formats, the record section is moved to the left by the current line length.
- With dump format, the record section is moved to the left by the number of bytes visible in the data window.

If *n* is greater than the current character or byte position, the position is set to the first character position or the first byte (byte position 0) and message SH00316 is issued.

>[*n*] Move the record section to the right character by character or byte by byte (toward the end of the record and beyond). *n* determines the number of characters or bytes by which it is moved.
Values where *n*=<integer 0..2147483647> are accepted. Leading zeros are ignored.

If *n* is not specified, the following default applies:

- With the text formats, the record section is moved to the right by the current line length.
- With dump format, the record section is moved to the right by the number of bytes visible in the data window.

However, the record section is moved to the right no farther than to permit the maximum character position of a record to be displayed in the first column of the data window or to permit the maximum byte position of a record to be displayed in the first byte position of the data window (see “[Maximum character/byte position on page 6-13](#)”).

Horizontal positioning to a particular character or byte

S[*n*] Position the record section displayed to the *n*th character, in the case of display in dump format to the *n*th byte of the PAM page.

Values where *n* = <integer 0..2147483647> are accepted. Leading zeros are ignored. Default: *n* = 1.

If *n*=0 is specified, the position is set to column 1 in the text formats, and in dump format to byte position 0.

The position is set to the right no farther than to permit the maximum character position of a record to be displayed in the first column of the data window or to permit the maximum byte position of a record to be displayed in the first byte position of the data window (see “[Maximum character/byte position on page 6-13](#)”).

FIND - Search for a character string or an ISAM key

The FIND statement is used to search for character strings or ISAM keys and sets the position to the first hit.

```
Format:      FIND  [[K] { [C]'string' [, LOWER = { ON } ] } ] [, ALL] [, REVERSE]
              { X'hexstring'
```

Meaning of the operands:

- K Specifies that the search string is to be interpreted as an ISAM key. A search string which does not comply with the key length is filled with null characters on the write if it has too few characters or truncated on the right if it has too many.
The ALL and REVERSE operands are ignored. If the current file was not opened with ISAM, SHOW-FILE rejects the statement with message SH00118.

[C]'string'

Search string (character string containing a maximum of 256 characters from the communication character set or the CCS assigned to SYSDTA). Quotes within the search string must be doubled.

If the character string is too long, the statement is rejected with SH00113. If the character string is empty, the statement is rejected with SH00122.

The character string is converted to the data character set for the search. If that is not possible, the statement is rejected with SH00402.

X'hexstring'

Search string in hexadecimal format (character string containing a maximum of 512 hexadecimal characters). An even number of characters must be specified, otherwise the statement is rejected with SH00115.

If the character string is too long, the statement is rejected with SH00113. If the character string is empty, the statement is rejected with SH00122.

LOWER=

Specifies whether lowercase letters in the search string are to be converted to uppercase letters. If this operand is not specified, the default value of the LOWER statement applies (see [“LOWER - Preset conversion of lowercase letters in search strings” on page 6-22](#)).

ON

Lowercase letters are retained. A hit is found only if uppercase/lowercase match.

OFF

Lowercase letters are converted to uppercase letters. Even when lowercase letters are entered, only uppercase letters are found.

ALL

Selects the hit-based search strategy (see [“Search strategies” on page 6-21](#)). This operand can only be specified in conjunction with a search string.

The operand is ignored in a search for ISAM keys.

REVERSE

Reverses the search direction, i.e. the search is made toward the start of file.

The operand is ignored in a search for ISAM keys.

Hit display when searching for ISAM keys

When the K operand is specified, the specified search string is interpreted as an ISAM key and the search is restricted to the ISAM keys. The following applies for the hit display:

- Data is output starts at the record with the specified ISAM key, the character/byte position in the record remaining unchanged.
- If no corresponding key exists, error message SH00409 is issued and the position is set to the record with the next highest existing key. If there is no record with a higher key, the position is set to the last record.

Search strategies

In a new search (a character or byte string was specified) FIND starts at the current character or byte position in the uppermost record which is displayed in the data window. Depending on the data type and the ALL operand, the FIND statement uses two different search strategies when searching for character or byte strings:

- The **record-based strategy** is employed for SAM and ISAM files and library elements with format A records if they are displayed in a text format and the ALL operand is not specified. In the event of a hit, i.e. when a record is found which contains the search string at least once, the position is set to the start of the hit record. The search for the next hit begins at the start of the record following the hit record or, in the case of REVERSE, at the start of the preceding record.
- The **hit-based strategy** is always employed for PAM files and library elements with format B records. It is also always employed for SAM and ISAM files if these are displayed in dump format. In all other cases it is employed only if the ALL operand is specified. To permit the hit-based strategy to be used in the reverse direction, the search direction is also reversed within the record. In the event of a hit, the position is set to the first byte of the character string or byte string found. If, when searching for byte strings, a hit is recorded within a character encoded in several bytes, the position is set to the first byte of this character. The search for the next hit begins with the first byte following the hit byte or, in the case of REVERSE, with the byte preceding the hit byte.

Further information

- In the event of a hit, the statement line is preset with FIND or FIND REVERSE, thus enabling the search to be continued in the same direction simply by pressing **[DUE]**. If the continued search (FIND without a search string) yields no further hits, message SH00303 is issued and the statement line is no longer preset.
- If no hit is found in the first search (FIND with a search string), error message SH00408 is issued. To search the entire file backward in accordance with the hit-based strategy, the position must first be set to the last character or byte of the last record (or behind it).
- If no operand or only the REVERSE operand is specified, the search is continued with the last search string specified, and if required the search direction is changed. If no search string has been saved, the statement is rejected with message SHO0401.

LOWER - Preset conversion of lowercase letters in search strings

The LOWER statement determines whether SHOW-FILE should convert lowercase letters in the search string to uppercase letters if the LOWER parameter is not specified in a FIND statement.

Format: LOWER [ON / OFF]

Meaning of the operands:

- ON Lowercase letters are retained if no other specification is made within a search statement.
- OFF Lowercase letters are converted if no other specification is made within a search statement.

LOWER OFF is preset when SHOW-FILE is called.

HEX - Switch hexadecimal on/off

The HEX statement switches the display between the two text output formats.

Format: HEX [ON / OFF]

Meaning of the operands:

- ON Output takes place in hex format (see OUTPUT-FORMAT=*HEX).
- OFF Output takes place in character format (see OUTPUT-FORMAT=*CHARACTER).

In dump format the statement is rejected with message SH00119.

OFFSET - Ignore bytes at the start of a record

In text formats the OFFSET statement causes the first n bytes in each record to be ignored.

In dump format the statement is rejected with message SH00128.

In this display mode records with a length $\leq n$ are treated like records with a length of zero.

Format: OFFSET [n]

Meaning of the operands:

- n Number of bytes which are to be ignored at the start of the record. Values where $n = \langle \text{integer } 0..2147483647 \rangle$ are accepted. Leading zeros are ignored.
When the maximum search string length is exceeded, the input is aborted with message SH00125.
If n is not specified, no bytes are ignored (corresponds to $n=0$).

When the statement is executed, the character position for the display is implicitly reset to 1 because the way the characters are interpreted may change.

CODENAME - Specify a new data character set

The CODENAME statement is used to explicitly specify the data character set in which the content of the file is interpreted.

Format: CODENAME [ccs-name]

Meaning of the operands:

css-name Name of the data character set to be specified (<name 1..8>). The character set named must be known to XHCS, otherwise SHOW-FILE will reject the statement with message SH00405.

If the operand is not specified, SHOW-FILE once again specifies the data character set which was determined automatically (see also [page 6-8](#)).

Switching the data character set implicitly triggers a number of actions:

- If automatic selection of the communication character set is active (see the TERMINAL statement), it is determined again and, if necessary, specified once more.
- The last search string is invalidated, i.e. a FIND statement without a search string is then rejected.
- The character position is reset to 1 or the byte position to 0 because the way the data is interpreted may have changed.

The file position remains unchanged so that the user can recognize the effects which changing the character set has on the record which is currently being examined.

TERMINAL - Specify a new communication character set

The TERMINAL statement is used to explicitly specify the communication character set.

Format: TERMINAL [ccs-name]

Meaning of the operands:

css-name Name of the communication character set to be specified (<name 1..8>). The character set named must be known to XHCS and must be accepted by the terminal, otherwise SHOW-FILE will reject the statement with message SH00405.

If the statement is specified without an operand, SHOW-FILE once again specifies the communication character set which was determined automatically (see also [page 6-9](#)).

VDT - Specify a new screen format

The VDT statement is used to explicitly specify a screen format (see also [page 6-11](#)) if the terminal supports the format specified.

Format: VDT [F1 / F2 / F3 / F4]

Meaning of the operands:

- F1 Sets the screen format to 24 lines and 80 columns.
- F2 Sets the screen format to 27 lines and 132 columns.
- F3 Sets the screen format to 32 lines and 80 columns.
- F4 Sets the screen format to 43 lines and 80 columns.

Screen formats F2, F3 and F4 are only supported by terminals of the type 9763. If the terminal does not support the format specified, the statement is rejected with message SH00306.

INFORMATION - Output information about a file or library element

The INFORMATION statement outputs information about the file or library element which is currently displayed.

Format: INFORMATION

In the case of files, the information output overwrites the last two data lines (by default lines 22-23). The file name and an information line containing the character sets concerned (CCS of the file, data character set and communication character set) are displayed:

```
FILE: <filename 1..54>
CCSN: FILE=<name 1..8> DATA=<name 1..8> TERM=<name 1..8>

FILE: <filename 1..54>
CCSN: FILE=<name 1..8> DATA=<name 1..8> TERM=<name 1..8>
```

In the case of library elements, the information output overwrites the last six data lines (by default lines 19-23). The library name, element name, element type, version and variant are displayed, as well as an information line containing the character sets concerned (CCS of the file, data character set and communication character set):

```
LIBRARY: <filename 1..54>
ELEMENT: <composed-name 1..64>
TYPE:   <name 1..8>
VERSION: <text 1..24>
VARIANT: <integer 1..9999>
CCSN: FILE=<name 1..8> DATA=<name 1..8> TERM=<name 1..8>
```

The information displayed can be cleared by pressing **[DUE]** (send key) or by entering the next statement. It disappears the next time the screen is redrawn.

If INFORMATION is entered as part of a statement chain, the information is displayed on the next screen of output information. Processing of the statement chain is not interrupted. If output of another message is pending at the same time, it takes precedence over the INFORMATION output.

Example

If you enter **++;inf;find c'find'** and the 'find' string is not found, the message "SH00408 SPECIFIED STRING DOES NOT EXIST" is output instead of the information.

OPEN - Open new library element

This statement opens a new element in the library specified with the SHOW-FILE call. Any element which had already been opened is automatically closed. If a file is specified in the SHOW-FILE call instead of a library element, the statement is rejected with message SH00107.

Format: **OPEN ([type[,elname[,version]]])**

Meaning of the operands:

<code>type</code>	Element type (see also the TYPE operand, page 6-4). If this specification is missing, SHOW-FILE selects the last available element type in alphabetical order.
<code>elname</code>	Element name (see also the ELEMENT operand, page 6-4). If this specification is missing, SHOW-FILE selects the last available element in alphabetical order.
<code>version</code>	Version of the element (see also the VERSION operand, page 6-4). If this specification is missing, SHOW-FILE selects the highest available version of the element in alphabetical order.

Notes:

- When the new element is opened, the data character set and the output format are determined again in accordance with the element's properties.
- The communication character set is determined again if automatic selection is enabled.
- The position is reset and the search string is invalidated.
- Any communication character set which is explicitly specified, the screen format and the default for converting lowercase letters to search strings (see the LOWER statement) are retained.
- If the element does not exist, SHOW-FILE issues message SH00407. No library element can then be opened and SHOW-FILE only accepts the OPEN and END statements.

END - Terminate file output

The END statement closes the file or library element which is currently being displayed and terminates SHOW-FILE. The terminating message SH00500 contains the complete file name of the last file displayed or the library name, element name, version, variant and element type of the last library element displayed.

Format: END

The **[K1]** key has the same effect as the END statement. However, specifications in the statement line are ignored.

Notes for disk files

- Files with BLOCK-CONTROL-INFORMATION=*PAMKEY or *WITHIN-DATA-BLOCK may exhibit interblock gaps, i.e. logical blocks which are in fact reserved for a file but not yet actually occupied. These logical blocks are recognized via their invalid CFIDs. As these blocks may still contain data that does not belong to the file, the PAM pages of such blocks are output as “empty” PAM pages (2048 * X'00'). In addition, a message is issued pointing out that
 - the currently displayed PAM page (OUTPUT-FORMAT=*DUMP) or
 - one or more PAM pages (in the case of PAM files and OUTPUT-FORMAT=*CHAR or *HEX)

is/are not occupied.

This applies to all PAM files (regardless of the OUTPUT-FORMAT) and to all ISAM and SAM files with OUTPUT-FORMAT=*DUMP.

- If DMS error '0BB7' (record with invalid length was read) occurs when a SAM file is being displayed, SHOW-FILE is terminated with a message.
- The following disk files are opened with SHARED-UPDATE=*YES:
 - PAM files, irrespective of the output format
 - ISAM files, only when displayed in one of the text formats

Write accesses of another task are not possible if the file is also opened with SHARED-UPDATE=*YES.

Notes for tape files

- The SHOW-FILE command can also be used to display the contents of tape files, in which case attention must be payed to the following:
- Positioning to the end of the file (using ++) is not possible and is rejected with message SH00129.
- Tape files of the type PAM (in all output formats) and type files of the type SAM (in dump format) can be displayed only if the catalog entry contains the correct number of data blocks.
- Tape files of the type SAM without a catalog entry (foreign files) can be displayed in the text formats as follows:
 - Create catalog entry with IMPORT-FILE, e.g.:

```
/import-file support=*tape(volume=vol001,  
                             dev-type=tape,file-name=tape.file)
```
 - Create TFT entry with the link name DSHOW and the access method SAM using ADD-FILE-LINK, e.g.:

```
/add-file-link link=dshow, file-name=band.datei, access-method=*sam
```
 - Open the file with SHOW-FILE, e.g.:

```
/show-file tape.file
```
 - Tape files should be displayed sequentially right to the end of the file in a single SHOW-FILE call. When the output is concluded the current block counter is transferred to the catalog entry as the number of file data blocks (see SHOW-FILE-ATTRIBUTES command, BLK-COUNT output field).
If SHOW-FILE is terminated before the end of the file is reached, the file will only be output up to this data block the next time SHOW-FILE is called, the remaining data blocks will not be displayed.
In order to resolve this, the catalog entry may have to be deleted and recreated (EXPORT-FILE and IMPORT-FILE commands).
- Tape files of the type SAM which have no catalog entry cannot be displayed in dump format. Tape files of the type PAM which have no catalog entry can never be displayed.

Examples

Hex format display of a file in the UTF8 character set (=data character set):

```
Habe nun, ach! Philosophie,<.....
C88849A96488854D8899A998886.....
81250545B0138A078936267895B.....
-----1-----2-----3-----4-----5-----6-----7-----8
Juristerei und Medizin,<.....
DA98AA89884A984D888A896.....
1499235959045404549995B.....
-----1-----2-----3-----4-----5-----6-----7-----8
Und leider auch Theologie«θεωλογία»,<.....
E9849888948A884E889998885AAAAAAA56.....
45403594590143803856367954DDEDDDD4B.....
.....F9AB8AFD8F.....
.....AD04BBAAFA.....
.....9.....8.....
.....A.....A.....
-----1-----2-----3-----4-----5-----6-----7-----8
Durchaus studiert, mit heißem Bemühn.<.....
CA9888AA4AAA8889A6498A48889894C896894.....
44938142023449593B04930859E540254885B.....
.....A.....B.....
.....B.....7.....
-----1-----2-----3-----4-----5-----6-----7-----8
Da steh ich nun ich armer Tor!<.....
+.....S*S0F+ 1( 1)
```

Dump format display of a file in the UTF8 character set (=data character set):

```
00000000 ( 0) 3DA7841C 00000001 01000000 000001E4 ?xd?....??...?U<.....
00000010 ( 16) 01D44040 E6859595 40A28983 88404541 M Wenn sich A<.....
00000020 ( 32) EA45AA8B 45AA9045 AABE45AA 9D45AAB7 .e..ä..ä..e..i..<.....
00000030 ( 48) 45AA9D45 B0416B40 9EB29285 6B40E672 e..?.., Ä.ke, Wl<.....
00000040 ( 64) B08184A8 A272B081 A640A495 8440FC8F .adys?.aw und A<.....
00000050 ( 80) AEB5ADDA AD8BAD8B ADA0ADDA ADABAE80 χ.ι.λ.ε.ι.ο.ς.<.....
00000060 ( 96) 40858995 85954054 B2BA40A3 85899385 einen .. teile<.....
00000070 ( 112) 956B4082 85929694 94A34091 85848599 n, bekommt jeder<.....
00000080 ( 128) 4067B754 B2BA4B40 E6859595 40A28983 ¼_... Wenn sic<.....
.....
.....P*S0F+ 1( 0)
```

SHOW-FILE-ATTRIBUTES

Output file attributes from catalog

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	@

Function

The SHOW-FILE-ATTRIBUTES command enables users to request information on the catalog entries which they are permitted to access, for files, file generations and file generation groups. This information can be a simple listing of the names of files, etc., which satisfy the criteria specified in the SHOW-FILE-ATTRIBUTES command; or on the other hand, detailed information from the catalog entry can be requested. Users can request information on all files under their own user IDs and on files under user IDs for which they are co-owners (see [“Privileged functions” on page 6-30](#) in the CREATE-FILE command), as well all other users' files that they are permitted to access (see USER-ACCESS, BASIC-ACL, GUARDS, and PROTECTION-ACTIVE). The request can cover all the information stored in the catalog (INFORMATION=*ALL-ATTRIBUTES), or the following information units:

- Names and storage space allocations for the selected files (INFORMATION=*NAME-AND-SPACE; default)
- The total number of PAM pages allocated to the selected files, split into storage space on public volumes, on Net-Storage and on private volumes (INFORMATION=*SPACE-SUMMARY)
- The following blocks of information, individually or in any combination (INFORMATION=*PARAMETERS):
 - history block with historic data of the file: time of creation, time of last access, time the file was last changed, number of storage space extensions (secondary allocations).
 - security block with the protection attributes of the file
 - backup block with all the file attributes for backing up data
 - organization block with all the file attributes related to the file structure
 - allocation block with all the relevant information on storage space allocation

- Brief information on the access method with which the file was created, the password protection, and the highest activated access control (INFORMATION=*MINIMUM)
- Storage space allocation for all selected files and file generations, with totals for each type of volume (INFORMATION=*STATISTICS).

The FILE-NAME and SELECT operands are used to select the files for which the required information is to be output:

- FILE-NAME: the selection criteria are the catalog ID, user ID, and file name (fully or partially qualified, with or without wildcards) Default value: all permanent files under the user's own user ID from the default catalog on the local computer (FILE-NAME=*ALL)
- SELECT: restricts the selection of files within those with the specified FILE-NAME. File attributes are used as selection criteria. Only the files which have the specified file attributes will be selected from the file set defined by FILE-NAME. Default value: the complete file set defined by FILE-NAME (SELECT=*ALL).

Temporary files must be addressed using the tempfile prefix (# or @).

The command supports structured output in S variables (see ["Output in S variable" on page 6-106](#)).

Privileged functions

By default, systems support (TSOS privilege) can obtain information on the temporary or permanent files belonging to any user ID. However, if SECOS is used it is possible to restrict TSOS co-ownership of a user ID for permanent files.

Wildcards are supported within the user ID. Please note the following:

- Files in non-local pubsets which can be accessed through an RFA connection are not displayed.
- If no catalog ID is specified, information is supplied about files in the associated default pubsets of the selected user IDs.

In interactive mode, INFORMATION=*PAR(PASSWORDS=*YES) causes passwords to be displayed explicitly.

Overview of functions

	Function / Meaning	Level 1 operands	Level 2/3 operands
6-46	File name of the file whose catalog entries are to be output.	FILE-NAME	
	Scope of information to be output	INFORMATION	
6-47	File name and reserved storage space	=*NAME-AND-SPACE	
6-47	Total occupied, reserved and free storage space for all selected files	=*SPACE-SUMMARY	
6-47	Total catalog entry	=*ALL-ATTRIBUTES	
6-47	Selection of individual data blocks of the catalog entry	=*PARAMETERS	
6-48	– information on password protection		PASSWORDS
6-48	– attributes of storage space allocation		ALLOCATION
6-49	– attributes of data backup		BACKUP
6-49	– attributes of historical nature		HISTORY
6-50	– attributes of file organization		ORGANIZATION
6-51	– attributes of file protection		SECURITY
6-51	Statistical information on all selected files	=*STATISTICS	
6-51	Brief information on access control and file structure	=*MINIMUM	
6-52	Selection criteria for files whose catalog entries are to be output	SELECT= *BY-ATTRIBUTES	
	Date specification		
6-52	– Creation date – Time		CREATION-DATE TIME
6-55	– Expiration date (implicit retention period) – Time		EXPIRATION-DATE TIME
6-84	– Date when file is freed for deletion – Time		FREE-FOR-DELETION TIME
6-60	– date of last access – Time		LAST-ACCESS-DATE TIME
6-64	– Date of last write access – Time		LAST-CHANGE-DATE TIME
6-91	– Number of accesses to the file		ACCESS-COUNTER

Table 105: Overview of SHOW-FILE-ATTRIBUTES command functions (Part 1 of 4)

SHOW-FILE-ATTRIBUTES

	Function / Meaning	Level 1 operands	Level 2/3 operands
6-67	<ul style="list-style-type: none"> – Type of volume <ul style="list-style-type: none"> – Pubset and Net-Storage – Private disk – tape 		SUPPORT =*PUBLIC-DISK =*PRIVATE-DISK =*TAPE
6-89	– VOLUME-SET		VOLUME-SET
6-68	– Volume identifier (VSN)		VOLUME
6-89	– Availability		AVAILABILITY
6-67	– Storage type		STORAGE-TYPE
6-67	– File type (on Net-Storage)		FILE-TYPE
6-88	– Storage class		STORAGE-CLASS
	Storage space		
6-68	– Reserved storage space		SIZE
6-69	– Number of extents		NUMBER-OF-EXTENTS
6-69	– Size of reserved storage space not yet used		NUMBER-OF-FREE-PAGES
6-70	– Number of the last page used (last page pointer)		HIGHEST-USED-PAGE
6-70	– Number of logical blocks in a tape file		BLOCK-COUNTER
	File security/file protection		
6-71	– Access		ACCESS
6-72	– Shareability		USER-ACCESS
6-72	– Basic access control list		BASIC-ACL
6-73	– Password protection		PASSWORD
6-75	– Highest activated access control		PROTECTION-ACTIVE
6-71	– Password protection		GUARDS
6-91	– protection against release of storage space		SPACE-RELEASE-LOCK
6-90	– Work file attribute		WORK-FILE
6-79	– BACKUP level		BACKUP-CLASS
6-81	– Type of file <ul style="list-style-type: none"> – file generation groups only – PLAM libraries only 		TYPE-OF-FILES =*FILE-GROUP =*PLAM-LIBRARY
6-80	– information on each generation in a file generation group		GENERATIONS

Table 105: Overview of SHOW-FILE-ATTRIBUTES command functions (Part 2 of 4)

	Function / Meaning	Level 1 operands	Level 2/3 operands
6-90	– preferred file format		FILE-PREFORMAT
6-91	– Type of file encryption		ENCRYPTION
6-78	– file format		BLOCK-CONTROL-INFO
6-77	– Access method at creation		FILE-STRUCTURE
6-91	– Code table (XHCS)		CODED-CHARACTER-SET
6-83	– Performance attributes <ul style="list-style-type: none"> – Performance requirements – Type of I/O operations 		IO-ATTRIBUTES PERFORMANCE USAGE
6-84	– Time of ensuring data consistency after write operations		DISK-WRITE
6-81	– Information source <ul style="list-style-type: none"> – File catalog of the default pubset – All locally available file catalogs – VTOC of a private disk – Catalog of a Net-Storage volume 		FROM-CATALOG =*STD =*LOCAL =*PRIVATE =*NET
6-75	– Status of the file <ul style="list-style-type: none"> – Closed – Processed in a cache – Not closed properly and not yet reconstructed – Locked due to inconsistency – Contains defective disk blocks – Modified data not written out to disk when closed 		STATUS CLOSED-OUTPUT CACHED REPAIR-NEEDED OPEN-ALLOWED DEFECT-REPORTED CACHE-NOT-SAVED
6-89	– user information		USER-INFORMATION
6-89	– systems support information		ADM-INFORMATION
	HSMS-related file attributes		
6-79	– Ability to migrate from processing level (S0) to background level (S1 or S2)		MIGRATE
6-90	– Ability to migrate within processing level (S0)		S0-MIGRATION
6-80	– Storage level		STORAGE-LEVEL
6-88	– Storage management class		MANAGEMENT-CLASS

Table 105: Overview of SHOW-FILE-ATTRIBUTES command functions (Part 3 of 4)

SHOW-FILE-ATTRIBUTES

	Function / Meaning	Level 1 operands	Level 2/3 operands
6-92	Control information output	OUTPUT	
6-92	Suppress output	=*NONE	
6-92	Output to SYSOUT	=*SYSOUT	
6-92	Output to SYSLST <ul style="list-style-type: none"> – Control print editing – File names only – File name and other information in table form 	=*SYSLST	FORM-NAME =*FILE-NAME =*STD
6-93	Output to printer <ul style="list-style-type: none"> – Control print editing – File names only – File name and other information in table form 	=*PRINTER	FORM-NAME =*FILE-NAME =*STD
6-94	Output to a file <ul style="list-style-type: none"> – Control print editing 	=<filename>	FORM-NAME
6-94	Output option <ul style="list-style-type: none"> – Sequence of information units – Alphabetically sorted by file names – Not sorted (as in the file catalog) 	OUTPUT-OPTIONS= *PARAMETERS	SORT-LIST =*BY-FILENAME =*NO

Table 105: Overview of SHOW-FILE-ATTRIBUTES command functions (Part 4 of 4)

Format

SHOW-FILE-ATTRIBUTES

Alias: SH / SHFA

FILE-NAME = *ALL / <filename 1..54 with-wild(80)>

INFORMATION = *NAME-AND-SPACE / *SPACE-SUMMARY / *ALL-ATTRIBUTES / [*PARAMETERS](...)/
*STATISTICS / *MINIMUM

[*PARAMETERS](...)

ALLOCATION = *NO / *YES

BACKUP = *NO / *YES

HISTORY = *NO / *YES

ORGANIZATION = *NO / *YES

PASSWORDS = *NO / *YES

SECURITY = *NO / *YES

STANDARD = *NO / *YES

PROTECTION = *NO / *YES

FILE = *NO / *YES / *FILE

SELECT = *ALL / [*BY-ATTRIBUTES](...)

[*BY-ATTRIBUTES](...)

CREATION-DATE = *ANY / *TODAY(...) / *YESTERDAY(...) / <integer -99999..991231>(...) /
<date>(...) / *INTERVAL(...) / *NONE

*TODAY(...)

TIME = *ANY / [*INTERVAL](...)

[*INTERVAL](...)

FROM = 00:00:00 / <time>

TO = 23:59:59 / <time>

*YESTERDAY(...)

TIME = *ANY / [*INTERVAL](...)

[*INTERVAL](...)

FROM = 00:00:00 / <time>

TO = 23:59:59 / <time>

(Part 1 of 12)

```

<integer -99999..991231>(…)
|
| TIME = *ANY / [*INTERVAL](…)
|
|   [*INTERVAL](…)
|   |
|   | FROM = 00:00:00 / <time>
|   | ,TO = 23:59:59 / <time>
|
|
| <date>(…)
|
| TIME = *ANY / [*INTERVAL](…)
|
|   [*INTERVAL](…)
|   |
|   | FROM = 00:00:00 / <time>
|   | ,TO = 23:59:59 / <time>
|
|
| *INTERVAL(…)
|
| FROM = 1950-01-01 / <integer -99999..991231>(…) / <date>(…) / *TODAY(…) /
|   *YESTERDAY(…)
|
|   <integer -99999..991231>(…)
|   |
|   | TIME = 00:00:00 / <time>
|
|   <date>(…)
|   |
|   | TIME = 00:00:00 / <time>
|
|   *TODAY(…)
|   |
|   | TIME = 00:00:00 / <time>
|
|   *YESTERDAY(…)
|   |
|   | TIME = 00:00:00 / <time>
|
| ,TO = *TODAY (…)/ *YESTERDAY(…) / <integer -99999..991231>(…) /
|   <date>(…)
|
|   *TODAY(…)
|   |
|   | TIME = 23:59:59 / <time>
|
|   *YESTERDAY(…)
|   |
|   | TIME = 23:59:59 / <time>
|
|   <integer -99999..991231>(…)
|   |
|   | TIME = 23:59:59 / <time>
|
|   <date>(…)
|   |
|   | TIME = 23:59:59 / <time>

```

(Part 2 of 12)


```

<date>(…)
|   TIME = 00:00:00 / <time>

*TOMORROW(…)
|   TIME = 00:00:00 / <time>

*TODAY(…)
|   TIME = 00:00:00 / <time>

*YESTERDAY(…)
|   TIME = 00:00:00 / <time>

,TO = *ANY / TODAY(…) / *TOMORROW(…) / *YESTERDAY(…) /
      <integer -99999..991231>(…) / <date>(…) / *ANY

*TODAY(…)
|   TIME = 23:59:59 / <time>

*TOMORROW(…)
|   TIME = 23:59:59 / <time>

*YESTERDAY(…)
|   TIME = 23:59:59 / <time>

<integer -99999..991231>(…)
|   TIME = 23:59:59 / <time>

<date>(…)
|   TIME = 23:59:59 / <time>

, LAST-ACCESS-DATE = *ANY / *TODAY(…) / *YESTERDAY(…) / <integer -99999..991231>(…) /
      <date>(…) / *INTERVAL(…) / *NONE

*TODAY(…)
|   TIME = *ANY / [*INTERVAL](…)
      [*INTERVAL](…)
      |   FROM = 00:00:00 / <time>
      ,TO = 23:59:59 / <time>

*YESTERDAY(…)
|   TIME = *ANY / [*INTERVAL](…)
      [*INTERVAL](…)
      |   FROM = 00:00:00 / <time>
      ,TO = 23:59:59 / <time>

```

(Part 4 of 12)

```

<integer -99999..991231>(…)
|
| TIME = *ANY / [*INTERVAL](…)
|
|   [*INTERVAL](…)
|   |
|   | FROM = 00:00:00 / <time>
|   | ,TO = 23:59:59 / <time>
|
|
| <date>(…)
|
| TIME = *ANY / [*INTERVAL](…)
|
|   [*INTERVAL](…)
|   |
|   | FROM = 00:00:00 / <time>
|   | ,TO = 23:59:59 / <time>
|
|
| *INTERVAL(…)
|
| FROM = 1950-01-01 / <integer -99999..991231>(…) / <date>(…) / *TOMORROW /
|   *TODAY(…) / *YESTERDAY(…)
|
|   <integer -99999..991231>(…)
|   |
|   | TIME = 00:00:00 / <time>
|
|   <date>(…)
|   |
|   | TIME = 00:00:00 / <time>
|
|   *TODAY(…)
|   |
|   | TIME = 00:00:00 / <time>
|
|   *YESTERDAY(…)
|   |
|   | TIME = 00:00:00 / <time>
|
| ,TO = *TODAY (…)/ *TOMORROW / *YESTERDAY(…) /
|   <integer -99999..991231>(…) / <date>(…)
|
|   *TODAY(…)
|   |
|   | TIME = 23:59:59 / <time>
|
|   *YESTERDAY(…)
|   |
|   | TIME = 23:59:59 / <time>
|
|   <integer -99999..991231>(…)
|   |
|   | TIME = 23:59:59 / <time>
|
|   <date>(…)
|   |
|   | TIME = 23:59:59 / <time>

```

(Part 5 of 12)

,LAST-CHANGE-DATE = ***ANY** / ***NONE** / ***TODAY(...)** / ***YESTERDAY(...)** / **<integer -99999..0>(…)** / **<date>(…)** / ***INTERVAL(...)**

***TODAY(...)**

TIME = ***ANY** / **[*INTERVAL](…)**

[*INTERVAL](…)

FROM = **00:00:00** / **<time>**

,TO = **23:59:59** / **<time>**

***YESTERDAY(...)**

TIME = ***ANY** / **[*INTERVAL](…)**

[*INTERVAL](…)

FROM = **00:00:00** / **<time>**

,TO = **23:59:59** / **<time>**

<integer -99999..0>(…)

TIME = ***ANY** / **[*INTERVAL](…)**

[*INTERVAL](…)

FROM = **00:00:00** / **<time>**

,TO = **23:59:59** / **<time>**

<date>(…)

TIME = ***ANY** / **[*INTERVAL](…)**

[*INTERVAL](…)

FROM = **00:00:00** / **<time>**

,TO = **23:59:59** / **<time>**

***INTERVAL(...)**

FROM = **1950-01-01** / **<integer -99999..0>(…)** / **<date>(…)** / ***TODAY(...)** / ***YESTERDAY(...)**

<integer -99999..0>(…)

TIME = **00:00:00** / **<time>**

<date>(…)

TIME = **00:00:00** / **<time>**

***TODAY(...)**

TIME = **00:00:00** / **<time>**

***YESTERDAY(...)**

TIME = **00:00:00** / **<time>**


```

,TO = *TODAY / <integer -99999..0>(…) / <date>(…) / *TODAY(…) /
      *YESTERDAY(…)
      <integer -99999..0>(…)
      |   TIME = 23:59:59 / <time>
      <date>(…)
      |   TIME = 23:59:59 / <time>
      *TODAY(…)
      |   TIME = 23:59:59 / <time>
      *YESTERDAY(…)
      |   TIME = 23:59:59 / <time>

,SUPPORT = *ANY / list-pos(3): *PUBLIC-DISK / *PRIVATE-DISK / *TAPE

,STORAGE-TYPE = *ANY / *PUBLIC-SPACE / *NET-STORAGE(…)
      *NET-STORAGE(…)
      |   FILE-TYPE = *ANY / *BS2000 / *NODE-FILE

,VOLUME = *ANY / <vsn 1..6>

,SIZE = *ANY / *FREESIZE / <integer 0..2147483647> / [*INTERVAL](…)
      [*INTERVAL](…)
      |   FROM = 0 / <integer 0..2147483647>
      |   ,TO = 2147483647 / STD / <integer 0..2147483647>

,NUMBER-OF-EXTENTS = *ANY / *NOT-ZERO / <integer 0..65535> / [*INTERVAL](…)
      [*INTERVAL](…)
      |   FROM = 0 / <integer 0..65535>
      |   ,TO = 65535 / <integer 0..65535>

,NUMBER-OF-FREE-PAGES = *ANY / *ALL-ALLOCATED / *NOT-ZERO /
      <integer 0..2147483647> / [*INTERVAL](…)
      [*INTERVAL](…)
      |   FROM = 0 / <integer 0..2147483647>
      |   ,TO = 2147483647 / <integer 0..2147483647>

,HIGHEST-USED-PAGE = *ANY / <integer 0..2147483647> / [*INTERVAL](…)
      [*INTERVAL](…)
      |   FROM = 0 / <integer 0..2147483647>
      |   ,TO = 2147483647 / <integer 0..2147483647>

```

(Part 7 of 12)

```

, BLOCK-COUNTER = *ANY / <integer 0..2147483647> / [*INTERVAL](...)
    [*INTERVAL](...)
        |
        | FROM = 0 / <integer 0..2147483647>
        |
        | TO = 2147483647 / <integer 0..2147483647>
, ACCESS = *ANY / *READ / *WRITE
, PASSWORD = *ANY / list-poss(4): *NONE / *READ-PASSWORD / *WRITE-PASSWORD /
    *EXEC-PASSWORD
, USER-ACCESS = *ANY / list-poss(3): *OWNER-ONLY / *ALL-USERS / *SPECIAL
, BASIC-ACL = *ANY / *NONE / *YES / [*PARAMETERS](...)
    [*PARAMETERS](...)
        |
        | OWNER = *ANY / *NO-ACCESS / [*PARAMETERS](...)
        | [*PARAMETERS](...)
        | |
        | | READ = *ANY / *NO / *YES
        | | WRITE = *ANY / *NO / *YES
        | | EXEC = *ANY / *NO / *YES
        |
        | GROUP = *ANY / *NO-ACCESS / [*PARAMETERS](...)
        | [*PARAMETERS](...)
        | |
        | | READ = *ANY / *NO / *YES
        | | WRITE = *ANY / *NO / *YES
        | | EXEC = *ANY / *NO / *YES
        |
        | OTHERS = *ANY / *NO-ACCESS / [*PARAMETERS](...)
        | [*PARAMETERS](...)
        | |
        | | READ = *ANY / *NO / *YES
        | | WRITE = *ANY / *NO / *YES
        | | EXEC = *ANY / *NO / *YES
, GUARDS = *ANY / *YES / *NO / [*PARAMETERS](...)
    [*PARAMETERS](...)
        |
        | READ = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>
        |
        | WRITE = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>
        |
        | EXEC = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>

```

(Part 8 of 12)

```

,PROTECTION-ACTIVE = *ANY / list-poss(3): *LEVEL-0 / *LEVEL-1 / *LEVEL-2
,STATUS = *ANY / [*PARAMETERS](...)
  [*PARAMETERS](...)
    |
    |   CLOSED-OUTPUT = *ANY / *YES / *NO
    |   ,CACHED = *ANY / *YES / *NO
    |   ,REPAIR-NEEDED = *ANY / *YES
    |   ,OPEN-ALLOWED = *ANY / *YES / *NO
    |   ,DEFECT-REPORTED = *ANY / *YES
    |   ,CACHE-NOT-SAVED = *ANY / *YES
    |
,FILE-STRUCTURE = *ANY / list-poss(5): *PAM / *SAM / *ISAM / *BTAM / *NONE
,BLOCK-CONTROL-INFO = *ANY / list-poss(9): *NONE / *NO / *WITHIN-DATA-BLOCK /
  *WITHIN-DATA-2K-BLOCK / *WITHIN-DATA-4K-BLOCK / *PAMKEY /
  *NK / *NK2 / *NK4
,BACKUP-CLASS = *ANY / list-poss(5): *A / *B / *C / *D / *E
,MIGRATE = *ANY / list-poss(3): *ALLOWED / *INHIBITED / *FORBIDDEN
,STORAGE-LEVEL = *ANY / list-poss(3): *S0 / *S1 / *S2
,GENERATIONS = *NO / *YES
,TYPE-OF-FILES = *ANY / list-poss(2): *FILE-GROUP / *PLAM-LIBRARY
,FROM-CATALOG = *STD / *PRIVATE(...) / *NET(...) / *LOCAL
  *PRIVATE(...)
    |
    |   VOLUME = <vsn 1..6>
    |   ,DEVICE = <device>
    |
  *NET(...)
    |
    |   VOLUME = <vsn 1..6>
    |   ,FILE-TYPE = *ANY / *BS2000 / *NODE-FILE
,IO-ATTRIBUTES = *ANY / [*PARAMETERS](...)
  [*PARAMETERS](...)
    |
    |   PERFORMANCE = *ANY / list-poss(3): *STD / *HIGH / *VERY-HIGH
    |   ,USAGE = *ANY / list-poss(3): *READ-WRITE / *WRITE / *READ
,DISK-WRITE = *ANY / *IMMEDIATE / *BY-CLOSE

```

(Part 9 of 12)

,**FREE-FOR-DELETION** = *ANY / *NONE / *TOMORROW(...) / *TODAY(...) / *YESTERDAY(...) /
 <integer -99999..99999>(…) / <date>(…) / *INTERVAL(...)

*TOMORROW(...)

TIME = *ANY / *INTERVAL(...)

*INTERVAL(...)

FROM = 00:00:00 / <time>

,TO = 23:59:59 / <time>

*TODAY(...)

TIME = *ANY / *INTERVAL(...)

*INTERVAL(...)

FROM = 00:00:00 / <time>

,TO = 23:59:59 / <time>

*YESTERDAY(...)

TIME = *ANY / *INTERVAL(...)

*INTERVAL(...)

FROM = 00:00:00 / <time>

,TO = 23:59:59 / <time>

<integer -99999..99999>(…)

TIME = *ANY / *INTERVAL(...)

*INTERVAL(...)

FROM = 00:00:00 / <time>

,TO = 23:59:59 / <time>

<date>(…)

TIME = *ANY / *INTERVAL(...)

*INTERVAL(...)

FROM = 00:00:00 / <time>

,TO = 23:59:59 / <time>

(Part 10 of 12)

***INTERVAL(...)**

FROM = 1900-01-01 / *TOMORROW(...) / *TODAY(...) / *YESTERDAY(...) /
 <integer -99999..99999>(…) / <date>(…)

***TOMORROW(...)**

| **TIME** = 00:00:00 / <time>

***TODAY(...)**

| **TIME** = 00:00:00 / <time>

***YESTERDAY(...)**

| **TIME** = 00:00:00 / <time>

<integer -99999..99999>(…)

| **TIME** = 00:00:00 / <time>

<date>(…)

| **TIME** = 00:00:00 / <time>

,TO = *ANY / *TODAY(...) / *TOMORROW(...) / *YESTERDAY(...) /
 <integer -99999..99999>(…) / <date>(…)

***TODAY(...)**

| **TIME** = 23:59:59 / <time>

***TOMORROW(...)**

| **TIME** = 23:59:59 / <time>

***YESTERDAY(...)**

| **TIME** = 23:59:59 / <time>

<integer -99999..99999>(…)

| **TIME** = 23:59:59 / <time>

<date>(…)

| **TIME** = 23:59:59 / <time>

,STORAGE-CLASS = *ANY / *NONE / <composed-name 1..8>

,MANAGEMENT-CLASS = *ANY / *NONE / <composed-name 1..8>

,ADM-INFORMATION = *ANY / *NONE / <c-string 1..8 with-low>

,USER-INFORMATION = *ANY / *NONE / <c-string 1..8 with-low>

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

,AVAILABILITY = *ANY / list-poss(2): *STD / *HIGH

,S0-MIGRATION = *ANY / list-poss(2): *ALLOWED / *FORBIDDEN

,WORK-FILE = *ANY / *NO / *YES

(Part 11 of 12)

```

,FILE-PREFORMAT = *ANY / list-poss(4): *NONE / *K / *NK2 / *NK4
,ACCESS-COUNTER = *ANY / <integer 0..2147483647> / [*INTERVAL](...)
    [*INTERVAL](...)
        | FROM = 0 / <integer 0..2147483647>
        | ,TO = 2147483647 / <integer 0..2147483647>
,CODED-CHARACTER-SET = *ANY / *NONE / <name 1..8>
,SPACE-RELEASE-LOCK = *ANY / *NO / *YES
,ENCRYPTION = *ANY / list-poss(3): *NONE / *AES / *DES
,OUTPUT = *SYSOUT / *NONE / *SYSLST(...) / *PRINTER(...) / <filename 1..54 without-gen-vers>(…)
    *SYSLST(...)
        | FORM-NAME = *STD / *FILE-NAME
    *PRINTER(...)
        | FORM-NAME = *STD / *FILE-NAME
    <filename 1..54 without-gen-vers>(…)
        | FORM-NAME = *STD / *FILE-NAME
,OUTPUT-OPTIONS = [*PARAMETERS] (…
    [*PARAMETERS](…)
        | SORT-LIST = *BY-FILENAME / *NO

```

(Part 12 of 12)

Operands

FILE-NAME = *ALL / <filename 1..54 with-wild(80)>

The name of the file(s) for which information is to be output. If the SHOW-FILE-ATTRIBUTES command is issued without selection operands or with the default values (FILE-NAME=*ALL, SELECT=*ALL), the output will show the storage space reservation and path name for all (permanent) files under the user's own user ID, in alphabetical order. If a user ID for which the user is listed as co-owner is specified (see "Privileged functions" in the CREATE-FILE command), information can be requested for all permanent files. If a "foreign" user ID is specified, the only files for which information can be requested are those which the catalog entry shows the user is authorized to access (see USER-ACCESS, BASIC-ACL, GUARDS, and PROTECTION-ACTIVE).

If the FILE-NAME operand identifies a file generation group, only information about the group entry will be output, and none about the individual generations. The latter information will only be output if the operand GENERATIONS=*YES is also specified (under SELECT=*BY-ATTRIBUTES). This also applies to FILE-NAME=*ALL.

With the special prefix characters (# or @) for temporary files, the user can request information on all the temporary files for the current job. The special prefix character is replaced in the SYSOUT or SYSLST log by the name component used internally by the system.

For files addressed by an alias or the defined ACS prefix, the actual name from the file catalog appears in the output (see the ACS functions described in the LOAD-ALIAS-CATALOG and SET-FILE-NAME-PREFIX commands).

FILE-NAME = *ALL

The storage space reservation and file name will be output, in alphabetical order, for all the files recorded in the default catalog on the local computer under the user's own user ID.

FILE-NAME = <filename 1..54 with-wild(80)>

FILE-NAME specifies the files or file generation groups for which information is required. The user can obtain information on either permanent files or temporary files (by specifying the tempfile prefix), but not both.

INFORMATION = *NAME-AND-SPACE / *SPACE-SUMMARY / *ALL-ATTRIBUTES / *PARAMETERS(...) / *STATISTICS / *MINIMUM

The type of information to be shown on output to SYSOUT (see OUTPUT operand [page 6-92](#)).

INFORMATION = *NAME-AND-SPACE

For the selected files, the number of PAM pages used will be output with the file name, in alphabetical order of file name.

INFORMATION = *SPACE-SUMMARY

Provides information on the storage space usage of the files and file generations identified in the current SHOW-FILE-ATTRIBUTES command, because GEN=*YES applies implicitly. The output shows separate details for public and private volumes.

INFORMATION = *ALL-ATTRIBUTES

For the selected files, outputs all the information held in the catalog (*NAME-AND-SPACE, *PARAMETERS). In the table [table "File attribute output fields for the SHOW-FILE-ATTRIBUTES command" on page 6-96](#)ff the output fields are shown in alphabetical order, with further explanation of their possible values.

INFORMATION = *PARAMETERS(...)

Returns only the selected information for the files in question. The information from the catalog is logically arranged into information blocks. Only those information blocks which are explicitly selected by the user are output. Totals lines with the overall storage space allocation for each selected file are shown at the end of the returned information (see INFORMATION=*SPACE-SUMMARY).

STANDARD = *NO / *YES

Specifies whether standard information is to be output.



The STANDARD operand is only supported for compatibility reasons. It is not offered in guided dialog. STANDARD=*YES is equivalent to INFORMATION=*PARAMETERS(ORGANIZATION=*YES, ALLOCATION=*YES).

PROTECTION = *NO / *YES

Specifies whether information concerning the file protection and expiration date is to be output.



The PROTECTION operand is only supported for compatibility reasons. It is not offered in guided dialog. PROTECTION=*YES is equivalent to INFORMATION=*PARAMETERS(ORGANIZATION=*YES, SECURITY=*YES, BACKUP=*YES).

FILE = *NO / *YES

Output: storage space used in PAM pages, and file attributes.



The FILE operand is only supported for compatibility reasons. It is not offered in guided dialog. FILE=*YES is equivalent to INFORMATION=*PARAMETERS(ORGANIZATION=*YES, ALLOCATION=*YES).

PASSWORDS = *NO / *YES

Specifies whether or not information on passwords is to be output. A header line with the title "PASSWORDS" and a line with the information on file passwords (which corresponds to the first information line of the security block) are output.

PASSWORDS = *NO

No PASSWORD information is to be output.

PASSWORDS = *YES

The first line of the security block is output.

This line provides information on the types of password which protect a file or file generation group. The passwords themselves are not shown to the nonprivileged user. If a user forgets a file password, only the system administrator can help him (see ["Privileged functions" on page 6-30](#)). The following attributes are output:

Header line with the word "PASSWORDS"

<i>EXEC-PASS</i>	protection with execution password
<i>READ-PASS</i>	protection with read password
<i>WRITE-PASS</i>	protection with write password

ALLOCATION = *NO / *YES

Outputs the allocation block for the selected files, i.e. all file attributes that affect the allocation of storage space. The allocation block contains the following attributes:

Header line with the word "ALLOCATION"

<i>DEVICE-TYPE</i>	device type for volume
<i>EXTENTS</i>	total number of extents for the file
<i>HIGH-US-PA</i>	highest used PAM page

<i>NUM-OF-EXT</i>	Number of extents
<i>S-ALLOC</i>	secondary allocation for file extension
<i>SUPPORT</i>	type of volume
<i>VOLUME</i>	volume serial number

BACKUP = *NO / *YES

Outputs the backup block for the selected files, i.e. all file attributes that affect backups. The backup block contains the following attributes:

Header line with the word "BACKUP"

<i>BACK-CLASS</i>	backup level for ARCHIVE or HSMS
<i>MAN-CLASS</i>	HSMS storage management class
<i>MIGRATE</i>	indicates whether the file may be migrated
<i>SAVED-PAG</i>	indicates whether the file must always be fully saved
<i>STOR-LEVEL</i>	indicates the storage level for migrated files
<i>VERSION</i>	internal attribute for incremental saving with the ARCHIVE or HSMS utility routine.

HISTORY = *NO / *YES

Outputs the history block for the selected files, i.e. all file attributes related to the file history. The history block contains the following attributes:

Header line with the word "HISTORY"

<i>ACC-COUNT</i>	access counter
<i>ACC-DATE</i>	date of last access
<i>ACC-TIME</i>	time of last access
<i>CHANG-DATE</i>	date the file was last changed (written to)
<i>CHANG-TIME</i>	time the file was last changed (written to)
<i>CRE-DATE</i>	creation date
<i>CRE-TIME</i>	time of creation
<i>S-ALLO-NUM</i>	number of secondary allocations

ORGANIZATION = *NO / *YES

Outputs the organization block for the selected files, i.e. all file attributes related to the structure of the file. The organization block contains the following attributes:

<i>ADM-INFO</i>	systems support information
<i>AVAIL</i>	availability
<i>BLK-CONTR</i>	Block control information
<i>BLK-COUNT</i>	block counter (tape files)
<i>BLK-OFFSET</i>	block offset (tape files)
<i>BUF-LEN</i>	block type (standard or nonstandard block)
<i>COD-CH-SET</i>	coded character set (CCS) with XHCS support
<i>CODE</i>	code specification for tape files
<i>DISK-WRITE</i>	suitability of file for processing in a volatile cache
<i>F-PREFORM</i>	preferred file format
<i>FILE-SEQ</i>	file sequence number (tape file)
<i>FILE-STRUC</i>	access method when the file was created
<i>IO(PERF)</i>	performance requirement for file processing
<i>IO(USAGE)</i>	type of I/O operations for performance requirement
<i>KEY-LEN</i>	length of ISAM key
<i>KEY-POS</i>	position of ISAM key
<i>LABEL</i>	standard version of labels (tape file)
<i>LOG-FL-LEN</i>	length of logical ISAM flag
<i>PROPA-VAL</i>	propagation of ISAM flag
<i>REC-FORM</i>	Record format
<i>REC-SIZE</i>	Record length
<i>STOR-CLASS</i>	Storage class
<i>S0-MIGR</i>	specifies whether the file may be migrated on processing level
<i>USER-INFO</i>	user information
<i>VAL-FL-LEN</i>	length of ISAM value flag
<i>WORK-FILE</i>	work file attribute

The information block for file generation groups begins with the header line “GENERATION-INFO” and contains the following attributes:

<i>BASE-NUM</i>	base value for relative generation numbers
<i>DEVICE-TYPE</i>	device type for volume
<i>EXTENTS</i>	total number of extents for the file
<i>FIRST-GEN</i>	oldest existing file generation
<i>LAST-GEN</i>	most recent or last cataloged file generation
<i>MAXIMUM</i>	maximum number of simultaneously cataloged generations
<i>OVERFL-OPT</i>	overflow option when maximum number is reached
<i>VOLUME</i>	volume serial number

SECURITY = *NO / *YES

Outputs the security block for the selected files, i.e. all file attributes related to the file security. The security block contains the following attributes:

Header line with the word "SECURITY"

<i>ACCESS</i>	type of access (standard access control)
<i>ACL</i>	file protection with ACL (only supported for reasons of compatibility)
<i>AUDIT</i>	file monitoring
<i>DESTROY</i>	data automatically destroyed on deletion
<i>ENCRYPTION</i>	encryption method
<i>EXEC-PASS</i>	protection with execution password
<i>EXPIR-DATE</i>	date on which the file may be changed again
<i>EXPIR-TIME</i>	time relative to <i>EXPIR-DATE</i>
<i>FREE-DEL-D</i>	free-for-deletion date
<i>FREE-DEL-T</i>	time relative to free-for-deletion date
<i>GUARD-READ</i>	read protection using a guard
<i>GUARD-WRIT</i>	write protection using a guard
<i>GUARD-EXEC</i>	protection with execute guard
<i>GROUP</i>	access rights of user class "group" (BASIC-ACL)
<i>OTHERS</i>	access rights of user class "others" (BASIC-ACL)
<i>OWNER</i>	access rights of file owner (BASIC-ACL)
<i>READ-PASS</i>	protection with read password
<i>SP-REL-LOCK</i>	protection against release of storage space
<i>USER-ACC</i>	shareability attribute (standard access control)
<i>WRITE-PASS</i>	protection with write password

INFORMATION = *STATISTICS

Returns information on storage space allocation for all selected files. The storage space allocations for files and file generation groups are output separately and include additional information for each type of volume (public disks, private disks, and tapes). Files for which no entry has been made in the volume list are indicated in a separate line with "NO VSN".

INFORMATION = *MINIMUM

Outputs a line of information with the most important file attributes in summarized form for each selected file. This line contains brief information on the FILE-STRUCTURE, passwords, highest activated access protection level, the number of reserved PAM pages, and the file name (there may be a line break if the file name is of maximum length). The brief information is indicated as follows:

- the access method with which the file was created: indicated by the first letter in the value of FILE-STRUCTURE;
- information for read, write, and execute passwords: shown in each case with "Y" or "N" to indicate whether or not the corresponding password was assigned;

- information on the highest activated access control method: see the PROTECTION-ACTIVE operand.

When standard access control is the highest protection:

- USER-ACCESS with “Y” for ALL-USERS or SPECIAL; “N” for OWNER-ONLY
- ACCESS with “W” for write access or “R” for read access only.

When basic access control list (BASIC-ACL) is the highest protection:

the access rights assigned for each of the user groups OWNER, GROUP and OTHERS are shown (“RWX” or “-” for an access right that has not been set).

When access control via GUARDS is the highest protection:

the value “GUARDS” and the protected access mode (“RWX” or “-” for an access mode not granted) are shown.

SELECT = *ALL / *BY-ATTRIBUTES(...)

The file selection criteria.

SELECT = *ALL

Returns information on all the files which the user is authorized to access.

SELECT = *BY-ATTRIBUTES(...)

Restricts the files selected from the set specified by FILE-NAME to those which satisfy the following specifications. The default values *ANY or ANY for an attribute mean that the file set is not to be restricted to particular values of that attribute.

CREATION-DATE = *ANY / *TODAY(...) / *YESTERDAY(...) / <integer -99999.991231>(…) / <date>(…) / *INTERVAL(...) / *NONE

Returns information on files and FGGs on the basis of their creation date (CREATION-DATE); range specifications are inclusive of the limit values. It is meaningless to specify a CREATION-DATE which lies in the future!

CREATION-DATE = *ANY

The creation date is not to be used as a selection criterion.

CREATION-DATE = *TODAY(...)

Returns information for files which have today’s date entered as the CREATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified creation date.

TIME = *INTERVAL(...)

Returns information on files that were created on the specified day within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the time of creation \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the time of creation \leq the specified time.

CREATION-DATE = *YESTERDAY(...)

Returns information for files which have yesterday's date entered as the CREATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified creation date.

TIME = *INTERVAL(...)

Returns information on files that were created on the specified day within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the time of creation \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the time of creation \leq the specified time.

CREATION-DATE = <integer -99999..991231>(...)

Returns information on files which were created on the specified date. Here, the user can specify the creation date in either of two ways:

1. as an *absolute date value*: (6 digits), a specific date in the form yymmdd (yy = year, mm = month, dd = day)
2. as a *relative date value*: (6 digits, with preceding sign) the number of days from today's date, in the form -n for dates in the past, and +n for dates in the future; (YESTERDAY $\hat{=}$ -1 or TODAY $\hat{=}$ ± 0)

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified creation date.

TIME = *INTERVAL(...)

Returns information on files that were created on the specified day within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the time of creation \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the time of creation \leq the specified time.

CREATION-DATE = <date>(...)

Returns information on files which were created on the specified date. The user can specify the creation date in the form [yy]yy-mm-dd.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified creation date.

TIME = *INTERVAL(...)

Returns information on files that were created on the specified day within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the time of creation \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the time of creation \leq the specified time.

CREATION-DATE = *INTERVAL(...)

Returns information on files which were created within the specified time period. The upper and lower limits are both included in the range specified. See also the explanation of how dates are specified in the EXPIRATION-DATE=<integer ...> operand. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). Whichever of the operands is not specified will be replaced by the default value for use as the limit of the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit.

FROM = 1950-01-01 / <integer -99999..991231>(…) /

<date>(…) / *TODAY(…) / *YESTERDAY(…)

Returns information on files which were created after the specified date (i.e. CREATION-DATE \geq specified date).

FROM = <integer -99999..991231>(…)

Returns information on files which were created after the specified date (i.e. CREATION-DATE \geq specified date).

TIME = 00:00:00 / <time>

Time on the specified date. All files created at or after the specified time are selected.

FROM = <date>(…)

Returns information on files which were created after the specified date (i.e. CREATION-DATE \geq specified date).

TIME = 00:00:00 / <time>

Time on the specified date. All files created at or after the specified time are selected.

FROM = *TODAY(…)

Returns information on files which were created after the specified date (i.e. CREATION-DATE \geq current date).

TIME = 00:00:00 / <time>

Time on the specified date. All files created at or after the specified time are selected.

FROM = *YESTERDAY(…)

Returns information on files which were created after the specified date (i.e. CREATION-DATE \geq date of preceding day).

TIME = 00:00:00 / <time>

Time on the specified date. All files created at or after the specified time are selected.

TO = *TODAY(...) / *YESTERDAY(...) / <integer -99999..991231>(…) / <date>(…)

Returns information on files which were created before the specified date (i.e. CREATION-DATE ≤ specified date).

TO = *TODAY(…)

Returns information on files which were created before the specified date (i.e. CREATION-DATE ≤ current date).

TIME = 23:59:59 / <time>

Time on the specified date. All files created at or before the specified time are selected.

TO = *YESTERDAY(…)

Returns information on files which were created before the specified date (i.e. CREATION-DATE ≤ date of preceding day).

TIME = 23:59:59 / <time>

Time on the specified date. All files created at or before the specified time are selected.

TO = <integer -99999..991231>(…)

Returns information on files which were created before the specified date (i.e. CREATION-DATE ≤ specified date).

TIME = 23:59:59 / <time>

Time on the specified date. All files created at or before the specified time are selected.

TO = <date>(…)

Returns information on files which were created before the specified date (i.e. CREATION-DATE ≤ specified date).

TIME = 23:59:59 / <time>

Time on the specified date. All files created at or before the specified time are selected.

CREATION-DATE = *NONE

Returns information on files for which no creation data is entered in the catalog entry.

EXPIRATION-DATE = *ANY / *TOMORROW(…) / *TODAY(…) / *YESTERDAY(…) / <integer -99999..991231>(…) / <date>(…) / *INTERVAL(…) / *NONE

The EXPIRATION-DATE operand requests information on the file/FGG as a function of the “expiration date”, i.e. the date from which write accesses to the file are allowed. It is meaningful to specify a date in the future if retention periods are being queried.

EXPIRATION-DATE = *ANY

The expiration date (output field *EXPIR-DATE*) is not to be used as a selection criterion.

EXPIRATION-DATE = *TOMORROW(...)

Returns information on files which have tomorrow's date entered as the EXPIRATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(...)

Returns information on files for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects files for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the time of expiration \leq the specified time.

EXPIRATION-DATE = *TODAY(...)

Returns information on files which have today's date entered as the EXPIRATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(...)

Returns information on files for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects files for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the time of expiration \leq the specified time.

EXPIRATION-DATE = *YESTERDAY(...)

Returns information on files which have yesterday's date entered as the EXPIRATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(...)

Returns information on files for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects files for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the time of expiration \leq the specified time.

EXPIRATION-DATE = <integer -99999..991231>(…)

Here, the user can specify the expiration date in either of two ways:

1. as an *absolute date value*: (6 digits), a specific date in the form yymmdd (yy = year, mm = month, dd = day)
2. as a *relative date value*: (6 digits with preceding sign), the number of days from today's date, in the form -n for dates in the past, and +n for dates in the future; (YESTERDAY $\hat{=}$ -1, TODAY $\hat{=}$ ± 0 or TOMORROW $\hat{=}$ +1)

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(...)

Returns information on files for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects files for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the time of expiration \leq the specified time.

EXPIRATION-DATE = <date>(…)

Returns information on files for which exactly the specified date is entered as the EXPIRATION-DATE in the catalog entry. The user can specify the expiration date in the form [yy]yy-mm-dd.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(...)

Returns information on files for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects files for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the time of expiration \leq the specified time.

EXPIRATION-DATE = *INTERVAL(...)

Returns information on only the files whose expiration dates lie within the period specified as the operand value, i.e. files whose retention period expires during the specified period. The upper and lower limits are both included in the range specified. See also the explanation of how dates are specified in the EXPIRATION-DATE=<integer ...> operand. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). Whichever of the operands is not specified will be replaced by the default value for use as the limit of the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit.

FROM = 1950-01-01 / <integer -99999..991231>(...)

<date>(...) / *TOMORROW(...) / *TODAY(...) / *YESTERDAY(...)

Returns information on files for which the EXPIRATION-DATE \geq the specified date.

FROM = <integer -99999..991231>(...)

Returns information on files for which the EXPIRATION-DATE \geq the specified date.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

FROM = <date>(...)

Returns information on files for which the EXPIRATION-DATE \geq the specified date.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

FROM = TOMORROW(...)

Returns information on files for which the EXPIRATION-DATE \geq date of the next day.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

FROM = *TODAY(...)

Returns information on files for which the EXPIRATION-DATE \geq date of the current day.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

FROM = *YESTERDAY(...)

Returns information on files for which the EXPIRATION-DATE \geq date of the preceding day.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

**TO = *ANY / *TODAY(...) / *TOMORROW(...) / *YESTERDAY(...)
<integer -99999..991231>(…) / <date>(…)**

Returns information on files for which the EXPIRATION-DATE \leq the specified date.

TO = *ANY

Specifies an open interval that starts with the EXPIRATION-DATE but has no upper limit.

TO = *TODAY(...)

Returns information on files for which the EXPIRATION-DATE \leq date of the current day.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TO = *TOMORROW

Returns information on files for which the EXPIRATION-DATE \leq date of the next day.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TO = *YESTERDAY(...)

Returns information on files for which the EXPIRATION-DATE \leq date of the preceding day.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TO = <integer -99999..991231>(…)

Returns information on files for which the EXPIRATION-DATE \leq the specified date.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TO = <date>(…)

Returns information on files for which the EXPIRATION-DATE \leq the specified date.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

EXPIRATION-DATE = *NONE

Returns information on files for which no expiration data has been entered in the catalog entry.

LAST-ACCESS-DATE = *ANY / *TODAY(…) / *YESTERDAY(…) / <integer -99999..991231>(…) / <date>(…) / *INTERVAL(…) / *NONE

Returns information on files/file generations/FGGs as a function of the date of last access to the file. If the output fields *CRE-DATE* and *ACC-DATE* show the same date, the last access to the file was a write-access; if *CRE-DATE* < *ACC-DATE*, the last access to the file was to read it.

LAST-ACCESS-DATE = *ANY

The date of last access (output field *ACC-DATE*) is not to be used as a selection criterion.

LAST-ACCESS-DATE = *TODAY(…)

Returns information on files for which today's date is entered as the LAST-ACCESS-DATE in the catalog entry.

TIME = *ANY / *INTERVAL(…)

Restricts the selection of files to a time interval related to the specified LAST-ACCESS-DATE.

TIME = *INTERVAL(…)

Returns information on files that were last accessed within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the LAST-ACCESS-DATE \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the LAST-ACCESS-DATE \leq the specified time.

LAST-ACCESS-DATE = *YESTERDAY(...)

Returns information on files for which yesterday's date is entered as the LAST-ACCESS-DATE in the catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified LAST-ACCESS-DATE.

TIME = *INTERVAL(...)

Returns information on files that were last accessed within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the LAST-ACCESS-DATE \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the LAST-ACCESS-DATE \leq the specified time.

LAST-ACCESS-DATE = <integer -99999..991231>(...)

Here, the user can specify the last access date in either of two ways:

1. as an *absolute date value*: (6 digits), a specific date in the form yymmdd (yy = year, mm = month, dd = day)
2. as a *relative date value*: (6 digits, with preceding sign) the number of days from today's date, in the form -n for dates in the past, and +n for dates in the future; (YESTERDAY $\hat{=}$ -1 or TODAY $\hat{=}$ \pm 0)

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified LAST-ACCESS-DATE.

TIME = *INTERVAL(...)

Returns information on files that were last accessed within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the LAST-ACCESS-DATE \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the LAST-ACCESS-DATE \leq the specified time.

LAST-ACCESS-DATE = <date>(...)

Returns information on files for which the specified date has been entered as the LAST-ACCESS-DATE in the catalog entry. The user can specify the date in the form [yy]yy-mm-dd.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified LAST-ACCESS-DATE.

TIME = *INTERVAL(...)

Returns information on files that were last accessed within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the LAST-ACCESS-DATE \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the LAST-ACCESS-DATE \leq the specified time.

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

Returns information on only those files which were last accessed within the specified time period. The range of dates covered by the specification includes the two end dates (see also the explanation of how dates are specified for the LAST-ACCESS-DATE= <integer...> operand. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). For whichever operand is not specified, the default value will be used as the limit for the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit.

FROM = 1950-01-01 / <integer -99999..991231>(…) / <date>(…) / *TODAY(...) / *YESTERDAY(...)

Returns information on only those files which were accessed on or after the specified date (LAST-ACCESS-DATE \geq specified date).

FROM = <integer -99999..991231>(…)

Returns information on files for which the LAST-ACCESS-DATE \geq the specified date.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a LAST-ACCESS-DATE after the specified time are selected.

FROM = <date>(…)

Returns information on files for which the LAST-ACCESS-DATE \geq the specified date.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a LAST-ACCESS-DATE after the specified time are selected.

FROM = *TODAY(...)

Returns information on files for which the LAST-ACCESS-DATE \geq date of the current day.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a LAST-ACCESS-DATE after the specified time are selected.

FROM = *YESTERDAY(...)

Returns information on files for which the LAST-ACCESS-DATE \geq date of the preceding day.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a LAST-ACCESS-DATE after the specified time are selected.

TO = *TODAY(...) / *YESTERDAY(...) / <integer -99999..991231>(…) / <date>(…)

Returns information on only those files which were accessed on or before the specified date (LAST-ACCESS-DATE \leq specified date).

TO = *TODAY(…)

Returns information on files for which the LAST-ACCESS-DATE \leq date of the current day.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a LAST-ACCESS-DATE before the specified time are selected.

TO = *YESTERDAY(...)

Returns information on files for which the LAST-ACCESS-DATE \leq date of the preceding day.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a LAST-ACCESS-DATE before the specified time are selected.

TO = <integer -99999..991231>(…)

Returns information on files for which the LAST-ACCESS-DATE \leq the specified date.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a LAST-ACCESS-DATE before the specified time are selected.

TO = <date>(…)

Returns information on files for which the LAST-ACCESS-DATE \leq the specified date.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a LAST-ACCESS-DATE before the specified time are selected.

LAST-ACCESS-DATE = *NONE

Returns information on files for which no LAST-ACCESS-DATE has been entered in the catalog entry. File generation groups are not selected.

LAST-CHANGE-DATE = *ANY / *NONE / *TODAY(...) / *YESTERDAY(...) / <integer -99999..0>(…) / <date>(…) / *INTERVAL(...)

Returns information on files, file generations, and FGGs based on the date on which the file was last changed (accessed for writing).

LAST-CHANGE-DATE = *ANY

The date of the last write access (output field *CHANG-DATE*) is not to be used as a selection criterion.

LAST-CHANGE-DATE = *NONE

Returns information on files for which no LAST-CHANGE-DATE has been entered in the catalog entry.

LAST-CHANGE-DATE = *TODAY(...)

Returns information on files for which today's date has been entered as the LAST-CHANGE-DATE in the catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified LAST-CHANGE-DATE.

TIME = *INTERVAL(...)

Returns information on files that were changed within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the LAST-CHANGE-DATE \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the LAST-CHANGE-DATE \leq the specified time.

LAST-CHANGE-DATE = *YESTERDAY(...)

Returns information on files for which yesterday's date has been entered as the LAST-CHANGE-DATE in the catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of files to a time interval related to the specified LAST-CHANGE-DATE.

TIME = *INTERVAL(...)

Returns information on files that were changed within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the LAST-CHANGE-DATE \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the LAST-CHANGE-DATE \leq the specified time.

LAST-CHANGE-DATE = <integer -99999..0>(…)

Here, the user can specify the date of the last write access relative to the current date (in the form -n).

TIME = *ANY / *INTERVAL(…)

Restricts the selection of files to a time interval related to the specified LAST-CHANGE-DATE.

TIME = *INTERVAL(…)

Returns information on files that were changed within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the LAST-CHANGE-DATE \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the LAST-CHANGE-DATE \leq the specified time.

LAST-CHANGE-DATE = <date>(…)

Returns information on only those files which have exactly the specified date entered as the LAST-CHANGE-DATE in their catalog entry. The user can specify the date in the form [yy]yy-mm-dd.

TIME = *ANY / *INTERVAL(…)

Restricts the selection of files to a time interval related to the specified LAST-CHANGE-DATE.

TIME = *INTERVAL(…)

Returns information on files that were changed within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects files for which the LAST-CHANGE-DATE \geq the specified time.

TO = 23:59:59 / <time>

Selects files for which the LAST-CHANGE-DATE \leq the specified time.

LAST-CHANGE-DATE = *INTERVAL(…)

Returns information on only those files which were last changed within the specified time period. The range of dates covered by the specification includes the two end dates (see also the explanation of how dates are specified for the LAST-CHANGE-DATE= <integer...> operand. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). For whichever operand is not specified, the default value will be used as the limit for the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit.

FROM = 1950-01-01 / <integer -99999..0>(…) / <date>(…) / *TODAY(…) / *YESTERDAY(…)

Returns information on only those files which have been changed since the specified date (LAST-CHANGE-DATE ≥ specified date).

FROM = <integer -99999..0>(…)

Returns information on files for which the LAST-CHANGE-DATE ≥ the specified date.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a LAST-CHANGE-DATE after the specified time are selected.

FROM = <date>(…)

Returns information on files for which the LAST-CHANGE-DATE ≥ the specified date.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a LAST-CHANGE-DATE after the specified time are selected.

FROM = TODAY(…)

Returns information on files for which the LAST-CHANGE-DATE ≥ the current date.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a LAST-CHANGE-DATE after the specified time are selected.

FROM = YESTERDAY(…)

Returns information on files for which the LAST-CHANGE-DATE ≥ date of the preceding day.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a LAST-CHANGE-DATE after the specified time are selected.

TO = TODAY(…) / *YESTERDAY(…) / <integer -99999..0>(…) / <date>(…)

Returns information on files that have been changed on or before the specified date (LAST-CHANGE-DATE ≤ specified date).

TO = *TODAY(…)

Returns information on files for which the LAST-CHANGE-DATE ≤ the current date.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a LAST-CHANGE-DATE before the specified time are selected.

TO = YESTERDAY(…)

Returns information on files for which the LAST-CHANGE-DATE ≤ date of the preceding day.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a LAST-CHANGE-DATE before the specified time are selected.

TO = <integer -99999..0>(…)

Returns information on files for which the LAST-CHANGE-DATE ≤ the specified date.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a LAST-CHANGE-DATE before the specified time are selected.

TO = <date>(…)

Returns information on files for which the LAST-CHANGE-DATE ≤ the specified date.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a LAST-CHANGE-DATE before the specified time are selected.

SUPPORT = *ANY / list-poss(3): *PUBLIC-DISK / *PRIVATE-DISK / *TAPE

Returns information on files/ file generations/FGGs as a function of the type of volume on which they are stored. If the volume types are specified in the form of a list, the system will combine them by a logical OR.

SUPPORT = *ANY

The volume type is not to be used as a selection criterion.

SUPPORT = *PUBLIC-DISK

Returns information on files stored on public volumes and on Net-Storage.

SUPPORT = *PRIVATE-DISK

Returns information on files etc. stored on private volumes.

SUPPORT = *TAPE

Returns information on files stored on tape.

STORAGE-TYPE = *ANY / *PUBLIC-SPACE / *NET-STORAGE(…)

Returns information on files assigned the specified storage type.

STORAGE-TYPE = *ANY

The storage type is not a selection criterion.

STORAGE-TYPE = *PUBLIC-SPACE

Returns information only on files stored on public volumes.

STORAGE-TYPE = *NET-STORAGE(…)

Returns information only on files stored on Net-Storage volumes.

FILE-TYPE = *ANY / *BS2000 / *NODE-FILE

Returns information on files on Net-Storage volumes, depending on the file type with which they are created.

FILE-TYPE = *ANY

The file type is not a selection criterion.

FILE-TYPE = *BS2000

Returns information only on BS2000 files on Net-Storage volumes.

FILE-TYPE = *NODE-FILE

Returns information only on node files on Net-Storage volumes.

VOLUME = *ANY / <vsn 1..6>

Returns information on all files/FGGs which have an entry in their volume list for the volume with the specified VSN <vsn 1..6>.

SIZE = *ANY / FREESIZE / <integer 0..2147483647> / *INTERVAL(...)

Requests information on files/file generations depending on the size of storage space reserved for them.

SIZE = *ANY

The file size is not to be used as a selection criterion.

SIZE = *FREESIZE

Returns information on files for which none of the reserved PAM pages has yet been used.

SIZE = <integer 0..2147483647>

Returns information on files with the specified number of reserved PAM pages.

SIZE = *INTERVAL(...)

Returns information on files for which the number of reserved PAM pages lies within the specified range. The upper and lower limits are both included in the range specified. See also the explanation of the SIZE = <integer> operand. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). For whichever operand is not specified, the default value will be used as the limit for the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit. Information will only be returned about files for which the number of PAM pages reserved is at least equal to the FROM value and at most equal to the TO value ($FROM \leq SIZE \leq TO$).

FROM = 0 / <integer 0..2147483647>

Returns information only about those files for which the number of PAM pages reserved is at least the specified number ($SIZE \geq$ specified value).

TO = STD / <integer 0..2147483647>

Returns information only about those files for which the number of PAM pages reserved is at most the specified number ($SIZE \leq$ specified value).

NUMBER-OF-EXTENTS = *ANY / *NOT-ZERO / <integer 0..65535> / *INTERVAL(...)

Returns information on disk files/FGGs depending on the number of their extents. An extent is a contiguous area on a disk, occupied by one file; the output field *EXTENTS* shows how many extents the file has.

NUMBER-OF-EXTENTS = *ANY

The number of extents is not to be used as a selection criterion.

NUMBER-OF-EXTENTS = *NOT-ZERO

Returns information only about those files whose number of extents is not zero.

NUMBER-OF-EXTENTS = <integer 0..65535>

Returns information on those files which have exactly the specified number of extents.

NUMBER-OF-EXTENTS = *INTERVAL(...)

Selects all the files whose number of extents lies within the specified range. The upper and lower limits are both included in the range specified. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). For whichever operand is not specified, the default value will be used as the limit for the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit. Information will only be returned about the disk files for which the number of extents is at least equal to the FROM value and at most equal to the TO value (FROM \leq NUMBER-OF-EXTENTS \leq TO).

FROM = 0 / <integer 0..65535>

Returns information on only those files with at least the specified number of extents.

TO = 65535 / <integer 0..65535>

Returns information on only those files with at most the specified number of extents.

NUMBER-OF-FREE-PAGES = *ANY / *ALL-ALLOCATED / *NOT-ZERO / <integer 0..2147483647> / *INTERVAL(...)

Returns information on files/file generations depending on the size of their free (=reserved but unused) storage space.

NUMBER-OF-FREE-PAGES = *ANY

The size of the free storage space is not to be used as a selection criterion.

NUMBER-OF-FREE-PAGES = *ALL-ALLOCATED

Returns information on files whose number of free PAM pages is equal to their number of reserved PAM pages.

NUMBER-OF-FREE-PAGES = *NOT-ZERO

Returns information on files with at least one unused PAM page.

NUMBER-OF-FREE-PAGES = <integer 0..2147483647>

Returns information on files with exactly the specified number of reserved but unused PAM pages.

NUMBER-OF-FREE-PAGES = *INTERVAL(...)

Returns information on files whose number of free PAM pages lies within the specified range. The upper and lower limits are both included in the range specified. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). For whichever operand is not specified, the default value will be used as the limit for the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit. Information will only be returned about files for which the number of free PAM pages is at least equal to the FROM value and at most equal to the TO value ($\text{FROM} \leq \text{NUMBER-OF-FREE-PAGES} \leq \text{TO}$).

FROM = 0 / <integer 0..2147483647>

Returns information on only those files which have at least as many free PAM pages as specified ($\text{NUMBER-OF-FREE-PAGES} \geq$ specified value).

TO = 2147483647 / <integer 0..2147483647>

Returns information on only those files which have at most as many free PAM pages as specified ($\text{NUMBER-OF-FREE-PAGES} \leq$ specified value).

HIGHEST-USED-PAGE = *ANY / <integer 0..2147483647> / INTERVAL(...)

Selects all files for which the specified number of PAM pages have been written. (Last Page Pointer points to the specified page).

HIGHEST-USED-PAGE = *ANY

The number of PAM pages written (output field *HIGH-US-PA*) is not to be used as a selection criterion.

HIGHEST-USED-PAGE = <integer 0..2147483647>

Selects all files for which the specified number of PAM pages have been written. (Last Page Pointer points to the specified page).

HIGHEST-USED-PAGE = *INTERVAL(...)

Selects all files for which the number of pages written lies within the specified range.

FROM = 0 / <integer 0..2147483647>

Selects all files for which the number of pages written \geq the specified number.

TO = 2147483647 / <integer 0..2147483647>

Selects all files for which the number of pages written \leq the specified number.

BLOCK-COUNTER = *ANY / <integer 0..2147483647> / *INTERVAL(...)

Returns information on all tape files that occupy the specified number of tape blocks.

BLOCK-COUNTER = *ANY

The number of occupied tape blocks is not to be used as a selection criterion.

BLOCK-COUNTER = <integer 0..2147483647>

Returns information on all tape files which occupy exactly the specified number of tape blocks.

BLOCK-COUNTER = *INTERVAL(...)

Returns information on all tape files for which the occupied number of tape blocks falls within the specified interval which follows.

FROM = 0 / <integer 0..2147483647>

Returns information on all tape files for which the number of occupied tape blocks \geq the specified number.

TO = 2147483647 / <integer 0..2147483647>

Returns information on all tape files for which the number of occupied tape blocks \leq the specified number.

ACCESS = *ANY / *READ / *WRITE

Returns information on files/file generation depending on their access type.

ACCESS = *ANY

The ACCESS value is not to be used as a selection criterion.

ACCESS = *READ

Returns information on only those files to which writing is prohibited by ACCESS=READ, i.e. to which only read access is permitted.

ACCESS = *WRITE

Returns information on only those files to which write access is permitted.

PASSWORD = *ANY / list-poss(4): *NONE / *READ-PASSWORD / *WRITE-PASSWORD / *EXEC-PASSWORD

Returns information on files/file generation groups depending on the password protection defined. If several types of password are specified as a list, the system will link them by logical Or, and will return information on all the files which satisfy any one of the specified conditions.

PASSWORD = *ANY

Password protection is not to be used as a selection criterion.

PASSWORD = *NONE

Returns information on files which have no password protection.

PASSWORD = *READ-PASSWORD

Returns information on files which are protected by a read password; the actual passwords will not be output.

PASSWORD = *WRITE-PASSWORD

Returns information on files which are protected by a write password; the actual passwords will not be output.

PASSWORD = *EXEC-PASSWORD

Returns information on files which are protected by an execute password; the actual passwords will not be output.

USER-ACCESS = *ANY / *OWNER-ONLY / *ALL-USERS / *SPECIAL

Returns information on files/file generation groups depending on whether or not they are shareable. If a user ID other than the user's own is specified, then implicitly USER-ACCESS=ALL-USERS.

USER-ACCESS = *ANY

The access authorization is not to be used as a selection criterion.

USER-ACCESS = *OWNER-ONLY

Returns information on files which only the file owner may access.

USER-ACCESS = *ALL-USERS

Returns information on files which may be also be accessed under other user IDs.

USER-ACCESS = *SPECIAL

Returns information on files which may also be accessed under all user IDs and the maintenance IDs (user IDs with HARDWARE-MAINTENANCE privilege).

BASIC-ACL = *ANY / *NONE / *YES / *PARAMETERS(...)

Selects all files whose BASIC-ACL entry matches the specified values.

BASIC-ACL = *NONE

Returns information on files that have no BASIC-ACL entry in the catalog.

BASIC-ACL = *YES

Returns information on files that have a BASIC-ACL entry in the catalog.

BASIC-ACL = *PARAMETERS(...)

Selects all files for which the specified access rights are defined in the BASIC-ACL entry. NO-ACCESS means that no access rights have been defined.



Access rights specified with the OWNER, GROUP and OTHERS operands within the *PARAMETERS(...) structure are logically ORed.

OWNER = *ANY / *NO-ACCESS / *PARAMETERS(...)

Specifies which access rights must already be defined for the owner.

OWNER = *PARAMETERS(...)

Access rights that must be present for the owner (logically ORed together):

READ = *ANY / *NO / *YES

Specifies whether read access authorization must be present.

WRITE = *ANY / *NO / *YES

Specifies whether write access authorization must be present.

EXEC = *ANY / *NO / *YES

Specifies whether execute access authorization must be present.

GROUP = *ANY / *NO-ACCESS / *PARAMETERS(...)

Specifies which access rights should already be defined for the owner's user group.

GROUP = *PARAMETERS(...)

Access rights that must be present for the owner's user group (logically ORed together):

READ = *ANY / *NO / *YES

Specifies whether read access authorization must be present.

WRITE = *ANY / *NO / *YES

Specifies whether write access authorization must be present.

EXEC = *ANY / *NO / *YES

Specifies whether execute access authorization must be present.

OTHERS = *ANY / *NO-ACCESS / *PARAMETERS(...)

Specifies which access rights should already be defined for all other users.

OTHERS = *PARAMETERS(...)

Access rights that must be present for all other users (logically ORed together):

READ = *ANY / *NO / *YES

Specifies whether read access authorization must be present.

WRITE = *ANY / *NO / *YES

Specifies whether write access authorization must be present.

EXEC = *ANY / *NO / *YES

Specifies whether execute access authorization must be present.

GUARDS = *ANY / *NO / *YES / *PARAMETERS(...)

Returns information on files for which access is controlled using GUARDS (see the CREATE-FILE or MODIFY-FILE-ATTRIBUTES command).

GUARDS = *ANY

Access control with GUARDS is not to be used as a selection criterion.

GUARDS = *NO

Returns information on files that are not protected by GUARDS against unauthorized access.

GUARDS = *YES

Returns information on files that are protected by GUARDS against unauthorized access, i.e. files for which access is controlled via the GUARDS subsystem.

GUARDS = *PARAMETERS(...)

Returns information on files which are protected by GUARDS against unauthorized access as specified, i.e. files for which access control is implemented using GUARDS: Access to the file is controlled by a guard, i.e. a special object which contains all the conditions under which a user is granted access authorization, e.g. date, time, user ID. The GUARDS function unit of the chargeable software product SECOS (see the "SECOS" manual [35]) must be installed in order to create and maintain a guard. Each access mode can be controlled by a separate guard. If no guard (*NONE) is defined for a given access mode, no corresponding access is permitted. If a defined guard is not accessible, the mode of access protected by it is not permitted. If the GUARDS subsystem is not available at the time of accessing the job variable, no access of any kind is allowed for the job variable.



The values specified for the following READ, WRITE and EXEC operands are logically ORed.

READ = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>

Returns information on files which are protected against unauthorized read access by the specified "guard". The default value *ANY means that the selection of files is not based on read protection with a guard. *NONE selects files for which no read guard was defined, i.e. files for which no read access is permitted.

WRITE = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>

Returns information on files which are protected against unauthorized write access by the specified "guard". The default value *ANY means that the selection of files is not based on a guard. *NONE selects files for which no guard was defined, i.e. files for which no write access is permitted.

EXEC = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>

Returns information on files which are protected against unauthorized execution by the specified "guard". The default value *ANY means that the selection of files is not based on execute protection with a guard. *NONE selects files for which no guard was defined, i.e. files which cannot be executed.

PROTECTION-ACTIVE = *ANY / list-poss(3): *LEVEL-0 / *LEVEL-1 / *LEVEL-2

Returns information on files for which the specified protection level is the highest activated access control.

When the file is accessed, the highest activated protection level applies. The following table shows the method used for access control, the protection attributes, and the job variable protection hierarchy (protection levels):

Access control	Protection attribute	Prot. level
Standard access control	ACCESS and USER-ACCESS	0
Basic access control list	BASIC-ACL	1
Access control via guards	PASSWORD	2

Table 106: Hierarchy of access control methods

All other protection attributes of the file (e.g. passwords) are evaluated independently, without regard to the implemented protection level.

PROTECTION-ACTIVE = *ANY

The access control method is not to be used as a selection criterion.

PROTECTION-ACTIVE = *LEVEL-0

Returns information on files for which access is controlled via standard access control.

PROTECTION-ACTIVE = *LEVEL-1

Returns information on files for which access is controlled via a basic access control list (BASIC-ACL protection)

PROTECTION-ACTIVE = *LEVEL-2

Returns information on files for which access is controlled via an access control list (ACL) or by GUARDS.

STATUS = *ANY / *PARAMETERS(...)

Returns information on files/file generations based on the current file status.

STATUS = *ANY

The file status is not to be used as a selection criterion.

STATUS = *PARAMETERS(...)

Returns information on files which have the specified status. The following selection criteria are possible:



The selection criteria within the *PARAMETERS(...) structure are logically ORed.

CLOSED-OUTPUT = *ANY / *YES / *NO

Specifies whether the "file closed" status is to be used as a selection criterion.

CLOSED-OUTPUT = *YES

Returns information on the output files which have already been closed.

CLOSED-OUTPUT = *NO

Returns information on output files which have been opened (OPEN OUTIN, INOUT or OUTPUT) in a program, and about files which were not closed in an earlier system run or because a job was aborted. GENERATIONS=*YES applies implicitly.

CACHED = *ANY / *YES / *NO

Specifies whether file processing via a cache is to be used as a selection criterion.

CACHED = *ANY

Returns information on files regardless of whether or not they are cached.

CACHED = *YES

Returns information on the files/file generations which are currently cached.

CACHED = *NO

Returns information on the files/file generations for which no data has been cached.

REPAIR-NEEDED = *ANY / *YES

Specifies whether files which were not closed in an earlier system run and not reconstructed with REPAIR-DISK-FILES are to be selected.

REPAIR-NEEDED = *ANY

Returns information on files regardless of whether or not they need to be repaired.

REPAIR-NEEDED = *YES

Returns information on only those files which were not closed in an earlier system run and which are not yet reconstructed.

OPEN-ALLOWED = *ANY / *YES / *NO

Specifies whether files which could not be opened due to data inconsistency are to be selected.

OPEN-ALLOWED = *ANY

Returns information on files regardless of whether or not they can be opened.

OPEN-ALLOWED = *YES

Returns information on the files that can be opened.

OPEN-ALLOWED = *NO

Returns information on files which cannot be opened due to data inconsistency.

DEFECT-REPORTED = *ANY / *YES

Specifies whether files which may contain defective disk blocks are to be used as a selection criterion.

DEFECT-REPORTED = *ANY

Returns information on files regardless of whether they may contain defective disk blocks.

DEFECT-REPORTED = *YES

Returns information on files which contain defective disk blocks.

CACHE-NOT-SAVED = *ANY / *YES

Specifies whether to select files for which updates have not been written out from the cache.

CACHE-NOT-SAVED = *ANY

Returns information on files regardless of whether there are updates which have not been written out from the cache.

CACHE-NOT-SAVED = *YES

Returns information on files for which updates have not been written out from the cache.

FILE-STRUCTURE = *ANY / list-poss(5): *PAM / *SAM / *ISAM / *BTAM / *NONE

Returns information on files which were created with the specified access method.

FILE-STRUCTURE = *ANY

The access method is not to be used as a selection criterion.

FILE-STRUCTURE = *PAM

Returns information on PAM files.

FILE-STRUCTURE = *SAM

Returns information on SAM files.

FILE-STRUCTURE = *ISAM

Returns information on ISAM files.

FILE-STRUCTURE = *BTAM

Returns information on BTAM files.

FILE-STRUCTURE = *NONE

Returns information on files which have been cataloged, but which contain no data i.e. files which have not yet been opened, or files for which storage space has been released (logically deleted) by using the OPTION=*DATA operand in a DELETE-FILE command.

BLOCK-CONTROL-INFO = *ANY / list-poss(9): *NONE / *NO / *WITHIN-DATA-BLOCK / *WITHIN-DATA-2K-BLOCK / *WITHIN-DATA-4K-BLOCK / *PAMKEY / *NK / *NK2 / *NK4

Returns information on files, depending on the block format with which data was stored in the file (defined by the BLOCK-CONTROL-INFO operand in a ADD-FILE-LINK command).

BLOCK-CONTROL-INFO = *ANY

The BLOCK-CONTROL information is not to be used as a selection criterion.

BLOCK-CONTROL-INFO = *NONE

Returns information on files for which no BLOCK-CONTROL-INFORMATION value has yet been entered, i.e. which have not yet been opened.

BLOCK-CONTROL-INFO = *NO

Returns information on files which were created with BLOCK-CONTROL-INFO=*NO i.e. files created without a PAM key.

BLOCK-CONTROL-INFO = *WITHIN-DATA-BLOCK

Returns information on files which were created with BLOCK-CONTROL-INFO=*WITHIN-DATA-BLOCK, i.e. whose block control information is held in a block control field at the start of and within the data block.

BLOCK-CONTROL-INFO = *WITHIN-DATA-2K-BLOCK

Returns information on NK-ISAM files which were created with BLOCK-CONTROL-INFO=*WITHIN-DATA-2K-BLOCK, i.e. files for which block control information is located at the start of each 2K block.

BLOCK-CONTROL-INFO = *WITHIN-DATA-4K-BLOCK

Returns information on NK-ISAM files which were created with BLOCK-CONTROL-INFO=*WITHIN-DATA-4K-BLOCK, i.e. files for which block control information is located at the start of each 4K block.

BLOCK-CONTROL-INFO = *PAMKEY

Returns information on files which were created with BLOCK-CONTROL-INFO=*PAMKEY, i.e. whose block control information is contained in a separate PAM key outside the PAM block.

BLOCK-CONTROL-INFO = *NK

Returns information on NK files, i.e. files which can also be stored on volumes (NK2 and NK4).

BLOCK-CONTROL-INFO = *NK2

Returns information on files which can also be stored on NK2 volumes but not on NK4 volumes.

BLOCK-CONTROL-INFO = *NK4

Returns information on files which can also be stored on NK4 volumes.

BACKUP-CLASS = *ANY / list-poss(5): *A / *B / *C / *D / *E

Returns information on files/FGGs whose ARCHIVE or HSMS backup level is the same as the specified operand value. Several backup levels may be specified as a list. In this case, all the files/FGGs which satisfy one of the listed conditions will be selected (logical ORing).

BACKUP-CLASS = *ANY

The BACKUP-CLASS level is not to be used as a selection criterion.

BACKUP-CLASS = *A

Returns information on files/FGGs with the attribute *BACK-CLASS = A*.

BACKUP-CLASS = *B

Returns information on files/FGGs with the attribute *BACK-CLASS = B*.

BACKUP-CLASS = *C

Returns information on files/FGGs with the attribute *BACK-CLASS = C*.

BACKUP-CLASS = *D

Returns information on files/FGGs with the attribute *BACK-CLASS = D*.

BACKUP-CLASS = *E

Returns information on files/FGGs with the attribute *BACK-CLASS = E*.

MIGRATE = *ANY / list-poss(3): *ALLOWED / *INHIBITED / *FORBIDDEN

Returns information for all the files whose catalog entry contains the specified MIGRATE value. This entry is evaluated by the Hierarchical Storage Management System (HSMS) when files are being migrated (CREATE.../ MODIFY... command, MIGRATE operand). If multiple attributes are specified in the form of a list, all files that satisfy one of the conditions are selected.

MIGRATE = *ANY

The entry for MIGRATE is not to be used as a selection criterion.

MIGRATE = *ALLOWED

Returns information for only those files whose catalog entry shows *MIGRATE = ALLOWED*, i.e. files which may be migrated to storage level S1 or S2.

MIGRATE = *INHIBITED

Returns information for only those files for which *MIGRATE = INHIBITED* was defined in the catalog entry, i.e. files which may only be migrated for a brief period, e.g. for reorganization purposes (normal migration lock).

MIGRATE = *FORBIDDEN

Returns information for only those files for which *MIGRATE = FORBIDDEN* was defined in the catalog entry, i.e. files which must never be migrated (intensified migration lock).

STORAGE-LEVEL = *ANY / list-poss(3): *S0 / *S1 / *S2

Returns information on files which are currently held at the specified hierarchical storage level (see the "HSMS" manual [18]). HSMS supports the following hierarchical storage levels: When HSMS (**H**ierarchical **S**torage **M**anagement **S**ystem) is being used, files on public storage space may be held at any of three storage levels:

- S0: This comprises all pubsets which the user is authorized to access, according to his/her user entry. These are implemented as fast access disk storage (online processing).
- S1: This comprises disks on which HSMS has stored files which have been migrated from the S0 level. When DMS requires to access them, they are fetched back to the processing level, S0. Implemented as high capacity disk storage (background level, available online).
- S2: This is a tape archive in which HSMS stores files which have been migrated from S0 on a longer term basis. When DMS requires to access them they are fetched back to the processing level, S0, in accordance with the HSMS operating parameters which have been set and the availability of tape devices. Implemented as a magnetic tape and tape cartridge archive (background level, available offline).

Files which have been migrated are identified as follows when the catalog entry is output: The character "#" is interposed between the number of reserved PAM pages and the file name. The field *SUPPORT* contains PUB/S1 or PUB/S2. In addition, migrated files have a *STOR-LEVEL* field containing S1 or S2. If multiple attributes are specified in the form of a list, all files that satisfy one of the conditions are selected.

STORAGE-LEVEL = *ANY

Returns information on the specified files, irrespective of the hierarchical storage level at which they are held.

STORAGE-LEVEL = *S0

Returns information on only those files held at level S0.

STORAGE-LEVEL = *S1

Returns information on only those files held at level S1.

STORAGE-LEVEL = *S2

Returns information on only those files held at level S2.

GENERATIONS = *NO / *YES

File generation details. Specifies whether additional information is required about individual generations as well as that about the file generation group. Unless explicitly requested here, information on the individual file generations in any group will not be output.

GENERATIONS = *NO

If the FILE-NAME operand identifies a file generation group, then only the information on the group entry will be output, but none about the individual generations in the group.

GENERATIONS = *YES

Information will be output about the individual file generations in any file generation group. GENERATIONS=*YES is ignored unless a file generation or file generation group has been specified in the FILE-NAME operand.

The interaction between the operand GENERATIONS = *NO or *YES and the operand TYPE-OF-FILES = *FILE-GROUP described below is summarized by the following table:

Operand combinations			Information provided about		
TYPE-OF-FILES = *FILE-GROUP	GENERATIONS = *YES	GENERATIONS = *NO	FGG	File gener- ations	Files
X	X		*	*	-
X		X	*	-	-
	X		*	*	*
		X	*	-	*

x specified as a SHOW-FILE-ATTRIBUTES command operand
 * taken into account by the command processing
 - not taken into account by the command processing

Table 107: Effects of the TYPE-OF-FILES operand

TYPE-OF-FILES = *ANY / list-poss(2): *FILE-GROUP / *PLAM-LIBRARY

Specifies whether information is to be listed on the basis of the file type. The returned information can be restricted to file generations or groups or to PLAM libraries.

TYPE-OF-FILES = *ANY

Returns information on files without taking their file type into account.

TYPE-OF-FILES = *FILE-GROUP

Restricts the returned information to file generation groups and file generations (see GENERATIONS=*YES). Only file generation groups will be selected from the file set identified by the specified FILE-NAME.

TYPE-OF-FILES = *PLAM-LIBRARY

Returns information on PLAM libraries only.

FROM-CATALOG = *STD / *PRIVATE(...) / *NET(...) / *LOCAL

The FROM-CATALOG operand defines the source to be used for the information output by SHOW-FILE-ATTRIBUTES.

FROM-CATALOG = *STD

If the file name (FILE-NAME operand) is specified without a catalog ID, the source of information for the SHOW-FILE-ATTRIBUTES command will be the file catalog (TSOSCAT) for the user ID's default pubset, i.e. the catalog with the default catalog ID. If a catalog ID is specified explicitly, the information is taken from the file catalog with that catalog ID. If wildcards are used in the catalog ID, the information is taken from the file catalogs of the selected available pubsets.

FROM-CATALOG = *PRIVATE(...)

The source of information for the SHOW-FILE-ATTRIBUTES command will be the directory of the private disk identified by the VOLUME operand which follows. The device type for the private disk must then be specified under DEVICE. The permissible specifications for DEVICE-TYPE can also be found in the device table in [section "Device type table" on page 1-82](#) (device type column)).

No value may be specified for the operands SUPPORT=... and VOLUME=... above.

VOLUME = <vsn 1..6>

The VSN of the private disk.

DEVICE = <device>

Device type for the private disk. If DEVICE-TYPE=? is entered in interactive mode, SDF lists the device types current known on the system.

FROM-CATALOG = *NET(...)

The SHOW-FILE-ATTRIBUTES command obtains its information from the catalog of a Net-Storage volume. Only *ANY may have been specified for the SUPPORT=, STORAGE-TYPE= and VOLUME= operands.

VOLUME = <vsn 1..6>

Volume serial number of the Net-Storage volume

FILE-TYPE = *ANY / *BS2000 / *NODE-FILE

Returns information on files on Net-Storage volumes, depending on the file type with which they are created.

FILE-TYPE = *ANY

The file type is not a selection criterion.

FILE-TYPE = *BS2000

Returns information only on BS2000 files on the Net-Storage volume.

FILE-TYPE = *NODE-FILE

Returns information only on node files on the Net-Storage volume.

FROM-CATALOG = *LOCAL

The source of information for the SHOW-FILE-ATTRIBUTES command will be the system catalogs of all the selected local pubsets.

IO-ATTRIBUTES = *ANY / *PARAMETERS(...)

Returns information on files that have the specified performance attributes in the catalog entry (see the IO-ATTRIBUTES operand in the CREATE-FILE/ MODIFY-FILE-ATTRIBUTES command).

IO-ATTRIBUTES = *ANY

The performance attributes are not to be used as a selection criterion.

IO-ATTRIBUTES = *PARAMETERS(...)

Returns information on files for which the specified performance attributes that follow have been entered in the catalog.

PERFORMANCE = *ANY / list-poss(3): *STD / *HIGH / *VERY-HIGH

Returns information on files with the specified performance attribute (output field *IO(PERF)*).

If multiple attributes are specified in the form of a list, all files that satisfy one of the conditions are selected.

PERFORMANCE = *ANY

The performance attribute is not a selection criterion.

PERFORMANCE = *STD

Returns information on files which can be processed without any special performance requirements.

PERFORMANCE = *HIGH

Returns information on files which should be processed via a cache (high performance priority).

PERFORMANCE = *VERY-HIGH

Returns information on files containing data which should be processed via a cache and which should be permanently maintained in the cache if possible (highest performance priority).

USAGE = *ANY / list-poss(3): *READ-WRITE / *WRITE / *READ

Returns information on the files which have a performance attribute that applies to the specified I/O operations (output field *IO(USAGE)*). If multiple attributes are specified in the form of a list, all files that satisfy one of the conditions are selected.

USAGE = *ANY

The type of I/O operations to which the performance attribute applies is not to be used as a selection criterion.

USAGE = *READ-WRITE

Returns information on files for which the performance attribute applies to read-write operations.

USAGE = *WRITE

Returns information on files for which the performance attribute applies to write operations only.

USAGE = *READ

Returns information on files for which the performance attribute applies to read operations only.

DISK-WRITE = *ANY / *IMMEDIATE / *BY-CLOSE

Returns information on files based on the time at which data consistency is required after a write operation (see the *DISK-WRITE* output field).

DISK-WRITE = *ANY

The point at which data consistency is required is not a selection criterion.

DISK-WRITE = *IMMEDIATE

Returns information on files for which data consistency is required immediately after write operations.

DISK-WRITE = *BY-CLOSE

Returns information on files for which data consistency is required only after CLOSE processing.

FREE-FOR-DELETION = *ANY / *NONE / *TOMORROW(...) / *TODAY(...) / *YESTERDAY(...) / <integer -99999..99999>(…) / <date>(…) / *INTERVAL(...)

Returns information on files with the specified free-for-deletion date (date of release for deletion; *FREE-DEL-D* and *FREE-DEL-T* output fields). The selection for a specified date can be restricted to a specific period of time on the free-for-deletion date (see the TIME operands in the various structures)

FREE-FOR-DELETION = *ANY

The free-for-deletion date is not used as a selection criterion.

FREE-FOR-DELETION = *NONE

Returns information only on files for which no free-for-deletion date has yet been entered in the catalog

FREE-FOR-DELETION = *TOMORROW(...)

Only returns information on files for which the next day is specified as the free-for-deletion date in the catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the file selection to a period relative to the date of the next day.

TIME = *INTERVAL(...)

Returns information only on files with a free-for-deletion date which falls within the period specified next.

FROM = 00:00:00 / <time>

Selects files with a free-for-deletion date \geq the specified time.

TO = 23:59:59 / <time>

Selects files with a free-for-deletion date \leq the specified time.

FREE-FOR-DELETION = *TODAY(...)

Returns information only on files with today's date recorded as free-for-deletion date in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection to a period of time relative to today's date.

TIME = *INTERVAL(...)

Returns information only on files with a free-for-deletion date which falls within the period specified next.

FROM = 00:00:00 / <time>

Selects files with a free-for-deletion date \geq the specified time.

TO = 23:59:59 / <time>

Selects files with a free-for-deletion date \leq the specified time.

FREE-FOR-DELETION = *YESTERDAY(...)

Returns information only on files with yesterday's date recorded as free-for-deletion date in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection to a period of time relative to yesterday's date.

TIME = *INTERVAL(...)

Returns information only on files with a free-for-deletion date which falls within the period specified next.

FROM = 00:00:00 / <time>

Selects files with a free-for-deletion date \geq the specified time.

TO = 23:59:59 / <time>

Selects files with a free-for-deletion date \leq the specified time.

FREE-FOR-DELETION = <integer -99999..99999>(…)

Returns information only on files with the specified date recorded as free-for-deletion date in their catalog entry. The free-for-deletion date is specified relative to today's date (in the form -n for the past or +n for the future).

TIME = *ANY / *INTERVAL(...)

Restricts the selection to a period of time relative to the specified date.

TIME = *INTERVAL(...)

Returns information only on files with a free-for-deletion date which falls within the period specified next.

FROM = 00:00:00 / <time>

Selects files with a free-for-deletion date \geq the specified time.

TO = 23:59:59 / <time>

Selects files with a free-for-deletion date \leq the specified time.

FREE-FOR-DELETION = <date>(…)

Returns information only on files with the specified date recorded as free-for-deletion date in their catalog entry. The date is specified in the form [yy]yy-mm-dd. 20 is automatically prefixed to two-digit year specifications < 60 , 19 to two-digit year specifications ≥ 60 .

TIME = *ANY / *INTERVAL(...)

Restricts the selection to a period of time relative to the specified date.

TIME = *INTERVAL(...)

Returns information only on files with a free-for-deletion date which falls within the period specified next.

FROM = 00:00:00 / <time>

Selects files with a free-for-deletion date \geq the specified time.

TO = 23:59:59 / <time>

Selects files with a free-for-deletion date \leq the specified time.

FREE-FOR-DELETION = *INTERVAL(...)

Returns information only on files with a free-for-deletion date which falls within the specified period. The range of dates covered by the specification includes the two end dates (see also the explanation of how dates are specified for the FREE-FOR-DELETION= <integer...> operand. It is also possible to specify only the FROM operand (lower limit) or the TO operand (upper limit). For whichever operand is not specified, the default value will be used as the limit for the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit.

**FROM = 1900-01-01 / *TOMORROW(...)
/ *TODAY(...)
/ *YESTERDAY(...)
/ <integer -99999..99999>(…)
/ <date>(…)**

Returns information only on files with a free-for-deletion date \geq the specified date.

FROM = *TOMORROW(...)

Provides information on files whose free-for-deletion date \geq the date of the next day.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a free-for-deletion date after the specified time are selected.

FROM = *TODAY(...)

Returns information only on files with a free-for-deletion date \geq today's date.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a free-for-deletion date after the specified time are selected.

FROM = *YESTERDAY(...)

Returns information only on files with a free-for-deletion date \geq yesterday's date.

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a free-for-deletion date after the specified time are selected.

FROM = <integer -99999..99999>(...)

Returns information only on files with a free-for-deletion date \geq the specified date (in the form -n for the past or +n for the future).

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a free-for-deletion date after the specified time are selected.

FROM = <date>(...)

Returns information only on files with a free-for-deletion date \geq the specified date. The date is specified in the form [yy]yy-mm-dd. 20 is automatically prefixed to two-digit year specifications < 60 , 19 to two-digit year specifications ≥ 60 .

TIME = 00:00:00 / <time>

Time on the specified date. All files that have a free-for-deletion date after the specified time are selected.

**TO = *ANY / *TODAY(...) / *TOMORROW(...) / *YESTERDAY(...)
<integer -99999..99999>(...)
<date>(...)**

Returns information only on files with a free-for-deletion date \leq the specified date.

TO = *ANY

There is no upper limit on the selection range based on the free-for-deletion date.

TO = *TODAY(...)

Returns information only on files with a free-for-deletion date \leq today's date.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a free-for-deletion date before the specified time are selected.

TO = *TOMORROW(...)

Provides information on files whose free-for-deletion date \leq the date of the next day.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a free-for-deletion date before the specified time are selected.

TO = *YESTERDAY(...)

Returns information only on files with a free-for-deletion date \leq yesterday's date.

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a free-for-deletion date before the specified time are selected.

TO = <integer -9999..9999>(...)

Returns information only on files with a free-for-deletion date \leq the specified date (in the form -n for the past or +n for the future).

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a free-for-deletion date before the specified time are selected.

TO = <date>(...)

Returns information only on files with a free-for-deletion date \leq the specified date. The date is specified in the form [yy]yy-mm-dd. 20 is automatically prefixed to two-digit year specifications < 60 , 19 to two-digit year specifications ≥ 60 .

TIME = 23:59:59 / <time>

Time on the specified date. All files that have a free-for-deletion date before the specified time are selected.

STORAGE-CLASS = *ANY / *NONE / <composed-name 1..8>

Returns information on files assigned the specified storage class.

STORAGE-CLASS = *ANY

The storage class is not a selection criterion.

STORAGE-CLASS = *NONE

Returns information only on files with no storage class assigned to them

STORAGE-CLASS = <composed-name 1..8>

Returns information on files assigned the specified storage class.

MANAGEMENT-CLASS = *ANY / *NONE / <composed-name 1..8>

Returns information on files assigned the specified HSMS management class.

MANAGEMENT-CLASS = *ANY

The HSMS management class is not a selection criterion.

MANAGEMENT-CLASS = *NONE

Returns information only on files with no HSMS management class assigned to them

MANAGEMENT-CLASS = <composed-name 1..8>

Returns information on files assigned the specified HSMS management class.

ADM-INFORMATION = *ANY / *NONE / <c-string 1..8 with-low>

Returns information on files with the specified systems support information in their catalog.

ADM-INFORMATION = *ANY

The systems support information is not a selection criterion.

ADM-INFORMATION = *NONE

Returns information only on files with no systems support information in their catalog.

ADM-INFORMATION = <c-string 1..8 with-low>

Returns information only on files with the specified string as the systems support information in their catalog.

USER-INFORMATION = *ANY / *NONE / <c-string 1..8 with-low>

Returns information on files with the specified user information in their catalog.

USER-INFORMATION = *ANY

The user information is not a selection criterion.

USER-INFORMATION = *NONE

Returns information only on files with no user information in their catalog.

USER-INFORMATION = <c-string 1..8 with-low>

Returns information only on files with the specified string as the user information in their catalog.

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

Returns information on files stored in the specified volume set.

VOLUME-SET = *ANY

The volume set is not a selection criterion.

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

Returns information only on files stored in the specified volume set.

AVAILABILITY = *ANY / list-poss(2): *STD / *HIGH

Returns information on files with the specified availability requirements.

AVAILABILITY = *ANY

Availability is not a selection criterion.

AVAILABILITY = *STD

Returns information only on files with no high availability requirements.

AVAILABILITY = *HIGH

Returns information only on files with high availability requirements. The files are typically on disks mirrored by DRV.

S0-MIGRATION = *ANY / list-poss(2): *ALLOWED / *FORBIDDEN

Returns information on files with the specified migration permission within the processing level (SO).

S0-MIGRATION = *ANY

Migration within the processing level is not a selection criterion.

S0-MIGRATION = *ALLOWED

Returns information only on files for which migration to other volume sets within the processing level is allowed.

S0-MIGRATION = *FORBIDDEN

Returns information only on files for which migration to other volume sets within the processing level is forbidden.

WORK-FILE = *ANY / *NO / *YES

Returns information on files with the specified work file attribute.

WORK-FILE = *ANY

The work file attribute is not a selection criterion.

WORK-FILE = *NO

Returns information only on files which are not flagged as work files.

WORK-FILE = *YES

Returns information only on files which are flagged as work files.

FILE-PREFORMAT = *ANY / list-poss(4): *NONE / *K / *NK2 / *NK4

Returns information only on files with the specified preferred file format.

FILE-PREFORMAT = *ANY

The preferred file format is not a selection criterion.

FILE-PREFORMAT = *NONE

Returns information only on files for which no preferred file format has been indicated.

FILE-PREFORMAT = *K

Returns information only on files which are intended to be K files.

FILE-PREFORMAT = *NK2

Returns information only on files which are intended to be NK files in 2K format.

FILE-PREFORMAT = *NK4

Returns information only on files which are intended to be NK files in 4K format.

ACCESS-COUNTER = *ANY / <integer 0..2147483647> / *INTERVAL(...)

Returns information on all files that were accessed the specified number of times (output field *ACC-COUNT*).

ACCESS-COUNTER = *ANY

The access counter is not to be used as a selection criterion.

ACCESS-COUNTER = <integer 0..2147483647>

Returns information on files for which the access counter exactly matches the specified value.

ACCESS-COUNTER = *INTERVAL(...)

Returns information on files for which the access counter lies in the specified value range which follows.

FROM = 0 / <integer 0..2147483647>

Returns information on files for which the access counter \geq the specified value.

TO = 2147483647 / <integer 0..2147483647>

Returns information on files for which the access counter \leq the specified value.

CODED-CHARACTER-SET = *ANY / *NONE / <name 1..8>

Returns information on all files for which the specified coded character set (CCS) is entered in the catalog entry (output field *COD-CH-SET* if a CCS is defined; see the CREATE-FILE or MODIFY-FILE-ATTRIBUTES command for an explanation).

CODED-CHARACTER-SET = *ANY

The defined character set is not to be used as a selection criterion.

CODED-CHARACTER-SET = *NONE

Returns information on files for which no coded character set was explicitly defined.

CODED-CHARACTER-SET = <name 1..8>

Returns information on files for which the specified coded character set was defined.

SPACE-RELEASE-LOCK = *ANY / *NO / *YES

Returns information on files selected on the basis of the lock to prevent the release of unused memory space (see the *SP-REL-LOCK* output field)

SPACE-RELEASE-LOCK = *ANY

The permission to release unused memory space is not used as a selection criterion.

SPACE-RELEASE-LOCK = *NO

Returns information on files for which unused memory space may be released.

SPACE-RELEASE-LOCK = *YES

Returns information on files for which the release of unused memory space is not permitted.

ENCRYPTION = *ANY / list-poss(3): *NONE / *AES / *DES

Returns information on all files in accordance with the encryption method.

ENCRYPTION = *ANY

The encryption method is not a selection criterion.

ENCRYPTION = *NONE

Returns information on unencrypted files.

ENCRYPTION = *AES

Returns information on files which were encrypted using the AES method.

ENCRYPTION = *DES

Returns information on files which were encrypted using the DES method.

OUTPUT = *SYSOUT / *NONE / *SYSLST(...) / *PRINTER(...) / <filename 1..54 without-gen-vers>(...)

The OUTPUT operand defines the output medium for the current SHOW-FILE-ATTRIBUTES command. The requested information will be output in tabular format.

OUTPUT = *SYSOUT

Default value. The SHOW-FILE-ATTRIBUTES output will be routed via the SYSOUT system file, i.e. in interactive mode to the data display terminal. This is the only case where the value of the INFORMATION operand affects the type of information which is output.

OUTPUT = *NONE

Suppresses the output of information. This specification is typically useful when only the command return code is to be evaluated in a procedure.

OUTPUT = *SYSLST(...)

The outputs will be sent in tabular format to SYSLST. SYSLST is automatically output at the end of the job.

The INFORMATION operand has no effect on the type of information which is to be output to SYSLST. The output from SHOW-FILE-ATTRIBUTES is via the system file SYSLST; the format of the output will be determined by the additional specification FORM-NAME=*STD/*FILE-NAME (see below). SYSLST may be assigned (beforehand) to a temporary or a permanent file by an ASSIGN-SYSLST command.

FORM-NAME = *STD / *FILE-NAME

Output format: tabular presentation or simply file names.

FORM-NAME = *STD

The SHOW-FILE-ATTRIBUTES command outputs an edited list containing the following information:

<i>FILENAME</i>	File/path name
<i>PAM PAGES</i>	Reserved storage space
<i>FREE PAGES</i>	Reserved but unused storage space
<i>SEC-ALLOC</i>	Secondary allocation
<i>FCBTYPE</i>	Access method used to create the file
<i>SHARE</i>	Shareable: yes/no
<i>ACCESS</i>	Permissible access type: read/write

<i>PASSWORDS</i>	Passwords exist: yes/no
<i>BKL</i>	Backup level
<i>#EXT</i>	Total number of extents for the file
<i>VOLUME</i>	Volume serial number of the volume

FORM-NAME = *FILE-NAME

The SHOW-FILE-ATTRIBUTES command outputs an unedited list (the first byte of each output record contains X'40') of the names of the selected files, file generations and FGGs.

OUTPUT = *PRINTER(...)

Requests output on a printer in tabular format (immediate SPOOL job, output with /PRINT-DOCUMENT and operand LINE-SPACING=*BY-EBCDIC-CONTROL).

The INFORMATION operand has no effect on the type of information which is to be sent to the printer. The output from SHOW-FILE-ATTRIBUTES is routed directly to the printer; the format of the output is determined by the supplementary operand FORM-NAME=*STD/*FILE-NAME (see below).

FORM-NAME = *STD / *FILE-NAME

Output format: tabular presentation or simply file names.

FORM-NAME = *STD

The SHOW-FILE-ATTRIBUTES command outputs an edited list containing the following information:

<i>FILENAME</i>	File/path name
<i>PAM PAGES</i>	Reserved storage space
<i>FREE PAGES</i>	Reserved but unused storage space
<i>SEC-ALLOC</i>	Secondary allocation
<i>FCBTYPE</i>	Access method used to create the file
<i>SHARE</i>	Shareable: yes/no
<i>ACCESS</i>	Permissible access type: read/write
<i>PASSWORDS</i>	Passwords exist: yes/no
<i>BKL</i>	Backup level
<i>#EXT</i>	Total number of extents for the file
<i>VOLUME</i>	Volume serial number of the volume

FORM-NAME = *FILE-NAME

The SHOW-FILE-ATTRIBUTES command outputs an unedited list (the first byte of each output record contains X'40') of the names of the selected files, file generations and FGGs.

OUTPUT = <filename 1..54 without-gen-vers>(…)

The output is written to the specified file OUTPUT=<filename>, and the format of the output is specified in the following operand.

The INFORMATION operand has no effect on the type of information which is to be output to a file. If the file name specified here is identical with the file name specified at the beginning of the SHOW-FILE-ATTRIBUTES command in the FILE-NAME operand, i.e. is the same as the name of the file about which information is being requested, this file (FILE-NAME=…) will be overwritten with the information output by the SHOW-FILE-ATTRIBUTES command.

FORM-NAME = *STD / *FILE-NAME

Output format: tabular presentation or simply file names.

FORM-NAME = *STD

The SHOW-FILE-ATTRIBUTES command outputs an edited list containing the following information:

<i>FILENAME</i>	File/path name
<i>PAM PAGES</i>	Reserved storage space
<i>FREE PAGES</i>	Reserved but unused storage space
<i>SEC-ALLOC</i>	Secondary allocation
<i>FCBTYPE</i>	Access method used to create the file
<i>SHARE</i>	Shareable: yes/no
<i>ACCESS</i>	Permissible access type: read/write
<i>PASSWORDS</i>	Passwords exist: yes/no
<i>BKL</i>	Backup level
<i>#EXT</i>	Total number of extents for the file
<i>VOLUME</i>	Volume serial number of the volume

FORM-NAME = *FILE-NAME

The SHOW-FILE-ATTRIBUTES command outputs an unedited list (the first byte of each output record contains X'40') of the names of the selected files, file generations and FGGs.

OUTPUT-OPTIONS = *PARAMETERS(…)**SORT-LIST = *BY-FILENAME / *NO**

Determines how the catalog entries/path names are sorted in the display.

SORT-LIST = *BY-FILENAME

The catalog entries/path names are sorted alphabetically.

SORT-LIST = *NO

The catalog entries/path names are displayed in the order in which they are contained in the catalog.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed
1	0	CMD0001	Interrupted by K2 key
2	0	DMS05B6	Invalid time conversion from UTC to LT
2	0	DMS0616	Volume set in SM pubset might not be available
	1	CMD0202	Syntax or semantic error in command
	32	CMD2009	Internal error during S variable generation
	32	DMS0584	A state that does not allow the function to continue was reported during processing
	32	DMS05C7	Unexpected internal error in DMS
	64	CMD0216	Privilege errors
	64	DMS0501	Requested catalog not available
	64	DMS0512	Requested catalog not found
	64	DMS051B	Requested user ID not in pubset Guaranteed message: DMS051B
	64	DMS051C	User not authorized to access pubset Guaranteed message: DMS051C
	64	DMS0533	Requested file not cataloged in pubset Guaranteed message: DMS0533
	64	DMS0535	Specified file not shareable
	64	DMS0585	Error detected when processing catalog or multiprocessor system
	64	DMS0586	It is not possible to access or reserve a volume at present
	64	DMS05F8	DMS error reported Guaranteed message: DMS05F8
	64	DMS05FC	Specified user ID not in HOME pubset
	64	DMS0609	No access to system file
	64	DMS0616	Volume set not accessible in SM pubset
	64	DMS06C4	File generation group not yet cataloged
	64	DMS06CC	No file corresponding to specified operands
	64	DMS06FF	BCAM connection severed
	64	OPS0001	Space problems when generating S variables
	64	OPS0002	Interrupt (e.g. by K2 key) during S variable generation
	130	DMS0524	System address space exhausted
	130	DMS0582	File is currently locked or being used and cannot be processed
	130	DMS0585	Error detected when processing catalog or multiprocessor system
	130	DMS0586	It is not possible to access or reserve a volume at present
	130	DMS0594	Not enough virtual memory available

Meanings of the output fields

- n – numeric character
- a – alphanumeric character

Header line

Output field	Format	Meaning
File size	nnnnnnnnnn[x]	10-digit number; specifies how many PAM pages were reserved for the file; leading zeros are not displayed. Optionally, an additional character (x) may be displayed as an identifier for specific files. The following values are possible: * identifier for file on private volume # identifier for migrated file n identifier for a file on Net-Storage volume w identifier for work file
	:aaaa:	Specifies the catalog identifier; i.e. the ID of the subset in which the file is cataloged
	\$userid.	User ID (max. 8 characters) of the file
	filename	Name of the permanent or temporary file, file generation or file generation group for which information is being output

Table 108: Output fields in the SHOW-FILE-ATTRIBUTES header line

File attributes

Output field	Values	Description
ACC-DATE	yyyy-mm-dd	yyyy = year; mm = month; dd = day; date on which the file was last accessed
ACC-TIME	hh:mm:ss	hh = hours; mm = minutes; ss = seconds; Time of the last file access
	NONE	The file has not yet been opened or has been deleted using OPTION=*DATA
ACC-COUNT	nnnnnnnnnn	10-digit number which specifies how often the file was accessed. Set to 0 when the file is created, and increased by 1 each time it is opened; the maximum value is 2147483647, after which the counter is no longer updated

Table 109: File attribute output fields for the SHOW-FILE-ATTRIBUTES command (Part 1 of 9)

Output field	Values	Description
ACCESS	WRITE	Write access to the file is permitted
	READ	Only read access to the file is permitted, not write access
ADM-INFO	aaaaaaaa	Systems support information (output only if text has been defined)
ACL	NO	ACL protection is provided only for reasons of compatibility: the default is NO
	YES	
AUDIT	NONE	No monitoring by system exit routines or SAT is defined for the file
	ALL	All DMS actions for the file are monitored
	SUCC	All successful DMS actions are monitored
	FAIL	All unsuccessful DMS actions are monitored
AVAIL	*STD	There are no high-availability requirements for the file
	*HIGH	The file is stored on high-availability volumes
BACK-CLASS	A	The file is saved in each backup run
	T	The file is saved in backup runs for files with the attribute BACK-CLASS= B/C/D
	C	The file is saved in backup runs for files with the attribute BACK-CLASS= C/D
	D	The file is only saved in backup runs for files with the attribute BACK-CLASS= D
	E	This file is not automatically saved by ARCHIVE
BASE-NUM	nnnnn	Only for file generation groups; 5-digit number indicating which absolute generation number is currently used as the base for relative generation numbers
BLK-CONTR	DATA	The block control information is in the data block
	DATA (2K)	For NK2-ISAM files only: data format without key; block control information at the start of each 2K block
	DATA (4K)	For NK4-ISAM files only: data format without key; block control information at the start of each 4K block
	NONE	The file has not yet been opened
	NO	The file was created without any block control information
	PAMKEY	Block control information is in the PAM key
BLK-COUNT	nnnnnnn	For tape files: 7-digit number indicating the number of data blocks in the file

Table 109: File attribute output fields for the SHOW-FILE-ATTRIBUTES command (Part 2 of 9)

SHOW-FILE-ATTRIBUTES

Output field	Values	Description
BLK-OFFSET	nn	For tape files: buffer offset
BUF-LEN	STD(1)	Standard blocks: buffer size = 1 PAM block
	STD(n)	Specifies the blocking factor ($n \leq 16$) which has been defined for the file.
	nnnnn	Nonstandard blocks (tape files) 6-digit number; the size of the buffer, in bytes
CHANG-DATE	yyyy-mm-dd	yyyy = year; mm = month; dd = day; date on which the file was last changed
	NONE	The file has not yet been opened or has been deleted using OPTION=*DATA
CHANG-TIME	hh:mm:ss	hh = hours; mm = minutes; ss = seconds; time at which the file was last changed
	NONE	The file has not yet been opened or has been deleted using OPTION=*DATA
COD-CH-SET	aaaaaaaa	CCS name of the code table (output only if a code table has been defined)
CODE	EBCDIC/ISO7/ OWN	For tape files: specifies the code table used in creating the file
CRE-DATE	yyyy-mm-dd	yy = year; mm = month; dd = day; creation date of the file, i.e. the date of the first write access
	NONE	The file has not yet been opened or has been deleted using OPTION=*DATA
CRE-TIME	hh:mm:ss	hh = hours; mm = minutes; ss = seconds; time at which the file was created
	NONE	The file has not yet been opened or has been deleted using OPTION=*DATA
DEF-STO-CL	storage-class	For file generation groups only; default storage class; output only for the group entry if a storage class has been defined

Table 109: File attribute output fields for the SHOW-FILE-ATTRIBUTES command (Part 3 of 9)

Output field	Values	Description
DESTROY	NO	No automatic data destruction (overwriting with X'00')
	YES	When a disk file is deleted or its storage space is released, the data contained in it is destroyed; For tape files: residual data is overwritten during EOF or EOVS processing
DEVICE-TYPE	aaaaa	Specifies the device type for the volume (see device table, device type column, in section "Device type table" on page 1-82). The volume type NETSTOR is specified for Net-Storage volumes.
DISK-WRITE	IMMEDIATE	I/O operations are written back to disk immediately
	BY-CLOSE	I/O operations can be executed using a volatile write cache. The file is written back at the latest when it is closed
ENCRYPTION	*NONE	No file encryption
	AES	The file has been encrypted with the AES method
	DES	The file has been encrypted with the DES method
EXEC-PASS	NONE	No execute password is defined for the file
	YES	The file is protected by an execute password, i.e. the file can be executed by CALL-/INCLUDE-PROCEDURE, ENTER-JOB, ENTER-PROCEDURE, LOAD-PROGRAM, and START-PROGRAM only if this password is specified
EXPIR-DATE	yyyy-mm-dd	yy = year; mm = month; dd = day; the date until which the file is locked for write access, i.e. the file cannot be updated or deleted
EXPIR-TIME	hh:mm:ss	hh = hours; mm = minutes ; ss = seconds; time relative to EXPIR-DATE, currently always 00:00:00
EXTENTS	nnn	The number of extents for the file on the volume designated by "VSN".
	*	The file has no extents on the volume designated by "VSN".

Table 109: File attribute output fields for the SHOW-FILE-ATTRIBUTES command (Part 4 of 9)

SHOW-FILE-ATTRIBUTES

Output field	Values	Description
F-PREFORM	*NONE	No preferred file format has been specified for the file
	*K	The file is intended to be created as a K file
	*NK2	The file is intended to be created as an NK file in 2K format
	*NK4	The file is intended to be created as an NK file in 4K format
FILE-TYPE	BS2000	File type of a file on a Net-Storage volume: The file was created as a BS2000 file; write access is only possible from a BS2000 system
	NODE-FILE	The file was created as a node file; write access is also possible from open systems
FILE-STRUC	NONE	There is only a catalog entry for the file; the file has never been opened; storage space may have been allocated for it (see CRE-DATE)
	ISAM / BTAM SAM / PAM	The access method with which the file was created; “(PLAM)” is an additional specification for PLAM libraries
FILE-SEQ	nnnnn	For tape files; 5-digit number indicating the position of the file in an MF set.
FIRST-GEN	nnnnn	Only for file generation groups; 5-digit absolute generation number of the oldest generation cataloged for this file generation group
FREE-DEL-D	yyyy-mm-dd	yyyy = year; mm = month; dd = day; date when the file is released for deletion
	*NONE	The file has not yet been opened or has been deleted using OPTION=*DATA
FREE-DEL-T	hh:mm:ss	hh = hours; mm = minutes; ss = seconds; time when the file is released for deletion
	*NONE	The file has not yet been opened or has been deleted using OPTION=*DATA
GUARD-EXEC	guardname	Name of a GUARD that controls execute access
	NONE	The file cannot be executed
GUARD-READ	guardname	Name of a GUARD that controls read access
	NONE	No read access is allowed

Table 109: File attribute output fields for the SHOW-FILE-ATTRIBUTES command (Part 5 of 9)

Output field	Values	Description
GUARD-WRIT	guardname	Name of a GUARD that controls write access
	NONE	No write access is allowed
GROUP	R W X	The access authorizations specified for the "GROUP" class of users
	- - -	No access rights
	a a a	Combinations of the characters RWX- allowed
HIGH-US-PA	nnnnnnnnnn	10-digit number indicating the number of PAM pages occupied by the file
IO(PERF)	STD	No special performance requirements
	HIGH	The file should be processed via a cache
	VERY-HIGH	The file should be processed via a cache, and the entire file should be retained in the cache if possible
IO(USAGE)	READ-WRITE	The performance requirements given in IO(PERF) are for read and write operations
	READ	The performance requirements given in IO(PERF) are for read operations only
	WRITE	The performance requirements given in IO(PERF) are for write operations only
KEY-LEN	nnn	Only for ISAM files; 3-digit number indicating the length of the ISAM key in the ISAM index (in bytes).
KEY-POS	nnnnn	Only for ISAM files; 5-digit number indicating the position of the ISAM key in the record.
LABEL	(STD,n)	For tape files with standard labels; the interchange level for DIN 66029, and thus the labels with which the file was created.
	NSTD	Identifies tape files with nonstandard labels.
	NO LAB	Identifies tape files without labels.
LAST-GEN	nnnnn	Only for file generation groups; 5-digit absolute generation number of the youngest generation cataloged for the file generation group
LOG-FL-LEN	nnn	Only in the case of ISAM files containing a logical flag in the ISAM index. 3-digit number which specifies the length of the logical flag in the ISAM index in bytes
MAN-CLASS	hsms-class	Name of the HSMS management class (output only if a value has been defined)

Table 109: File attribute output fields for the SHOW-FILE-ATTRIBUTES command (Part 6 of 9)

SHOW-FILE-ATTRIBUTES

Output field	Values	Description
MAXIMUM	nnnnn	Only for file generation groups: 5-digit number indicating the maximum number of generations which may be cataloged simultaneously for this file generation group
MIGRATE	ALLOWED	File may be migrated (HSMS)
	INHIBITED	File must not be migrated (exceptions possible)
	FORBIDDEN	File must never be migrated (intensified migration lock)
OWNER	R W X	The access authorizations specified for the "OWNER" class of users (the file owner and system administrator).
	- - -	No access rights
	a a a	Combinations of the characters RWX- allowed
OTHERS	R W X	The access authorizations specified for the "OTHERS" class of users (other users).
	- - -	No access rights
	a a a	Combinations of the characters RWX- allowed
OVERFL-OPT	CYCLE-REPL	Only for file generation groups; when the MAXIMUM limit is reached, the oldest file and its catalog entry are deleted
	REUSE-VOL	Only for file generation groups; when the MAXIMUM limit is reached, the oldest file and its catalog entry are deleted; for files on private volumes, the new generation is stored on the volume which becomes free
	DELETE-ALL	Only for file generation groups; when the MAXIMUM limit is reached, all existing generations are deleted
	KEEP-GEN	Only for file generation groups; when the MAXIMUM limit is reached, no file generations are automatically deleted; this is done when a a group entry is modified for the FGG
PROPA-VAL	MIN	Only for K-ISAM files which have a value flag in the ISAM index; the lowest value flag in each data or index block is placed in the related index entry in the next higher level
	MAX	Only for K-ISAM files which have a value flag in the ISAM index; the highest value flag in each data or index block is placed in the related index entry in the next higher level
READ-PASS	NONE	No read password exists for the file
	YES	A read password has been defined for the file, i.e. read access is possible only after specifying this password

Table 109: File attribute output fields for the SHOW-FILE-ATTRIBUTES command (Part 7 of 9)

Output field	Values	Description
REC-FORM		Specifies: a) the record format defined for the file, b) which printer control characters are valid
	(V, (F, (U,	the file contains variable-length records; the file contains fixed-length records; the file contains records of undefined length
	(,A (,M (,N)	ASA control characters are valid for the file; EBCDIC control characters are valid for the file; the file contains no printer control characters
REC-SIZE	nnnnn	5-digit number which specifies the defined length in bytes of the records in this file (for REC-FORM=F) or the maximum permissible record length (for REC-FORM=V)
	00000	For files with FILE-STRUC ≠ NONE and CRE-DATE ≠ NONE: in combination with REC-FORM=V/U: max. record length = BUF-LEN
S-ALLOC	nnnnn	5-digit number indicating the value defined for secondary allocation
S-ALLO-NUM	nnn	3-digit number indicating how often extra storage space was requested to extend the file (number of secondary allocations)
S0-MIGR	*ALLOWED	Migration within the processing level (S0) is allowed
	*FORBIDDEN	S0 migrations lock; migration within the processing level (S0) is not allowed
SAVED-PAG	COMPL-FILE	Save runs with ARCHIVE always save the entire file.
	MOD-PAGE	Save runs with ARCHIVE save only the PAM pages of the file which have been updated since the last save run
SP-REL-LOCK	NO	Storage space can be released
	YES	Storage space cannot be released
STOR-CLASS	storage-class	Name of the assigned storage class (output only if a storage class has been defined)
STOR-LEVEL	S1 / S2	Only for migrated files (HSMS): the file has been migrated to the specified storage level, S1 or S2

Table 109: File attribute output fields for the SHOW-FILE-ATTRIBUTES command (Part 8 of 9)

SHOW-FILE-ATTRIBUTES

Output field	Values	Description
SUPPORT	PUB	The file is stored on public volumes (pubsets) or Net-Storage volumes
	PUB/S1	The file has been migrated to the online background level S1 (see the “HSMS” manual [18])
	PUB/S2	The file has been migrated to the offline background level S2 (see the “HSMS” manual [18])
	PVT	The file is stored on private volumes (tape or disk)
USER-ACC	OWNER-ONLY	The file is not shareable
	ALL-USERS	The file is shareable
	SPECIAL	The file may be accessed under the user ID for maintenance personnel
USER-INFO	aaaaaaaa	User information (output only if an information text has been defined)
VAL-FL-LEN	nnn	Only for ISAM files which have a value flag in the ISAM index; 3-digit number indicating the length of the value flag in the ISAM index (in bytes).
VERSION		3-digit internal version number of the file; can only be interpreted/modifies by the utility routines ARCHIVE and HSMS (e.g. for an incremental save).
VOLUME	aaaaaa	The volume serial number (VSN) for the volume on which storage space is reserved for the file.
	NONE	Only for migrated files (HSMS): the file has been migrated to storage level S1 or S2.
WORK-FILE	*YES	The file is a work file and may if necessary be deleted by systems support
	*NO	The file is not a work file
WRITE-PASS	NONE	There is no write password for the file.
	YES	A write password is defined for the file, i.e. write access is possible only if this password is specified.

Table 109: File attribute output fields for the SHOW-FILE-ATTRIBUTES command (Part 9 of 9)

Totals lines

Output field	Values	Description
:catid:	:a:	Catalog ID of the pubset on which the files are cataloged.
FRE	nnnnnnnnnn	Number of reserved but unused PAM pages on the volume.
NET	n FILES	Number of files stored on Net-Storage volumes
NO VSN	n FILES	Number of files which are cataloged in the named pubset and for which no volume has been assigned (with INFORMATION=*STATISTICS).
PRDISC	n FILES	Number of files cataloged in the specified pubset which are stored on private disks.
PRIVATE	n FILES	Number of files cataloged in the specified pubset which are stored on private disks (with INFORMATION=*STATISTICS).
PUBLIC	n FILES	Number of files cataloged in this pubset (processing level S0).
PUB/S1	n FILES	Number of files cataloged in this pubset which have been migrated to storage level S1
PUB/S2	n FILES	Number of files cataloged in this pubset which have been migrated to storage level S2
REL	nnnnnnnnnn	Number of PAM pages on the volume that could be released.
RES	nnnnnnnnnn or: nnnnnnnn T or: nnnnnnnn M	Number of PAM pages reserved on the volume. <i>With more than 2147483647 reserved PAM pages:</i> Display in thousands of PAM pages, the right-justified qualifier "T" being specified Display in millions of PAM pages, the right-justified qualifier "M" being specified
TAPE	n FILES	Number of cataloged files stored on tape (the RES, FRE and REL fields do not appear).

Table 110: Output fields of the totals line for the SHOW-FILE-ATTRIBUTES command

Output in S variable

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-ATTRIBUTES	1
INFORMATION = *MINIMUM	2
INFORMATION = *NAME-AND-SPACE	3
INFORMATION = *PAR(ALLOCATION=YES)	4
INFORMATION = *PAR(BACKUP=YES)	5
INFORMATION = *PAR(HISTORY=YES)	6
INFORMATION = *PAR(ORGANIZATION=YES)	7
INFORMATION = *PAR(PASSWORD=YES)	8
INFORMATION = *PAR(SEcurity=YES)	9
INFORMATION = *SPACE-SUMMARY	10
INFORMATION = *STATISTICS	11

Output information	Name of the S variable	T	Contents	Condition
Access	var(*LIST).ACCESS	S	READ WR	1,9
Number of accesses to the file	var(*LIST).ACCESS-COUNT	I	<integer>	1,6
Only provided for reasons of compatibility: the default is NO	var(*LIST).ACL	S	NO YES	1,9
Administrator metadata	var(*LIST).ADM-INFO	S	" <c-string 1..8>	1,7
Audit monitoring	var(*LIST).AUDIT	S	ALL FAIL NONE SUCC	1,9
Availability of the files	var(*LIST).AVAIL	S	" *HIGH *STD	1,7
BASIC-ACL protection active	var(*LIST).B-ACL.ACTIVE	B	FALSE TRUE	1,9
GROUP execute permission (BASIC-ACL)	var(*LIST).B-ACL.GROUP.EXEC	S	" NO YES	1,9
GROUP read permission (BASIC-ACL)	var(*LIST).B-ACL.GROUP.READ	S	" NO YES	1,9
GROUP write permission (BASIC-ACL)	var(*LIST).B-ACL.GROUP.WRITE	S	" NO YES	1,9

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Output information	Name of the S variable	T	Contents	Condition
OTHERS execute permission (BASIC-ACL)	var(*LIST).B-ACL.OTHERS.EXEC	S	" NO YES	1,9
OTHERS read permission (BASIC-ACL)	var(*LIST).B-ACL.OTHERS.READ	S	" NO YES	1,9
OTHERS write permission (BASIC-ACL)	var(*LIST).B-ACL.OTHERS.WRITE	S	" NO YES	1,9
OWNER execute permission (BASIC-ACL)	var(*LIST).B-ACL.OWNER.EXEC	S	" NO YES	1,9
OWNER read permission (BASIC-ACL)	var(*LIST).B-ACL.OWNER.READ	S	" NO YES	1,9
OWNER write permission (BASIC-ACL)	var(*LIST).B-ACL.OWNER.WRITE	S	" NO YES	1,9
BACKUP-CLASS level (backup frequency of the file)	var(*LIST).BACK-CL	S	A B C D E	1,5
Block control information	var(*LIST).BLOCK-CONTR-INFO	S	" NO NONE PAMKEY WITHIN-DATA-2K-BLOCK WITHIN-DATA-4K-BLOCK WITHIN-DATA-BLOCK	1,7
Number of data blocks (tape file)	var(*LIST).BLOCK-COUNT	I	<integer>	1,4
block offset (tape file)	var(*LIST).BLOCK-OFF	I	<integer>	1,7
Buffer size	var(*LIST).BUF-LEN	S	" <integer> NONE STD(n)	1,7
Pubset catalog ID	var(*LIST).CAT-ID	S	<cat-id>	1-9

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SHOW-FILE-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Code table	var(*LIST).CODE	S	" EBCDIC ISO7 NONE OWN	1,7
Name of the code table	var(*LIST).CODED-CHAR-SET	S	" <ccs>	1,7
File creation date	var(*LIST).CRE-DATE	S	<yyyy-mm-dd> NONE	1,6
File creation time	var(*LIST).CRE-TIME	S	<hh:mm:ss> NONE	1,6
File deletion date	var(*LIST).DEL-DATE	S	<yyyy-mm-dd> *NONE	1,9
File deletion time	var(*LIST).DEL-TIME	S	<hh:mm:ss> *NONE	1,9
Destroy data on deletion	var(*LIST).DESTROY	S	NO YES	1,9
Time of data consistency of cached write data	var(*LIST).DISK-WRITE	S	" BY-CLOSE IMMED	1,7
Execute password	var(*LIST).EXEC-PASS	S	NONE YES	1,8,9
Execute password in hexadecimal	var(*LIST).EXEC-PASS-HEX	S	" ADM:'<xstring 1..8>'	8
Expiration date	var(*LIST).EXPIR-DATE	S	<yyyy-mm-dd> NONE	1,9
Expiration time	var(*LIST).EXPIR-TIME	S	<hh:mm:ss> NONE	1,9
Name of the volume on which the extents of the file are located	var(*LIST).EXT(*LIST).DEV	S	" <dev-name>	1,4
Number of extents	var(*LIST).EXT(*LIST).NUM-OF-EXT	I	<integer>	1,4
VSN of the volume on which the extents of the file are located	var(*LIST).EXT(*LIST).VOL	S	" <vsn>	1,4
Type of file encryption	var(*LIST).F-ENCRYPT	S	" *NONE *AES *DES	1-9
File path name	var(*LIST).F-NAME	S	<path-name>	1-9

(Part 3 of 8)

Output information	Name of the S variable	T	Contents	Condition
File format	var(*LIST).F-PREFORM	S	" *NONE *K *NK2 *NK4	1,7
File size	var(*LIST).F-SIZE	I	<integer>	1-9
File structure (access method used to create the file)	var(*LIST).F-STRUCT	S	" BTAM ISAM NONE PAM SAM	1,7
Position of the file in an MF set (for tape files)	var(*LIST).FILE-SEQ	I	<integer>	1,7
File type of a file on a Net-Storage volume: BS2000file or node file	var(*LIST).FILE-TYPE	S	" BS2000 NODE	1,7
Absolute generation number (for file generation groups)	var(*LIST).GEN-PAR.BASE-NUM	I	<integer>	1,7
Absolute generation number of the oldest generation in a file generation group	var(*LIST).GEN-PAR.FIRST-GEN	I	<integer>	1,7
Absolute generation number of the newest generation in a file generation group	var(*LIST).GEN-PAR.LAST-GEN	I	<integer>	1,7
Maximum number of generations in a file generation group	var(*LIST).GEN-PAR.MAX	I	<integer>	1,7
Behavior when the maximum number of generations in a file generation group is exceeded	var(*LIST).GEN-PAR.OV-OPT	S	" CYCL-REPL DEL-ALL KEEP-GEN REUSE-VOL	1,7
GUARD protection active	var(*LIST).GUARD-ACTIVE	B	FALSE TRUE	1,9
Name of the guard controlling execute access	var(*LIST).GUARDS.EXEC	S	" <guard-name>	1,9
Name of the guard controlling read access	var(*LIST).GUARDS.READ	S	" <guard-name>	1,9
Name of the guard controlling write access	var(*LIST).GUARDS.WRITE	S	" <guard-name>	1,9
Number of PAM pages occupied by the file	var(*LIST).HIGHEST-USED-PAGES	I	<integer>	1,4

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SHOW-FILE-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Performance requirements for I/O operations	var(*LIST).IO-ATTR.PERF	S	" HIGH STD VERY-HIGH	1,7
Operation(s) affected by the I/O performance requirements	var(*LIST).IO-ATTR.USAGE	S	" READ READ-WR WR	1,7
Length of ISAM key	var(*LIST).KEY-LEN	I	<integer>	1,7
Position of the ISAM key in the record	var(*LIST).KEY-POS	I	<integer>	1,7
Type of labels used when creating tape files	var(*LIST).LABEL	S	" NO-LAB NONE NSTD STD(0) STD(1) STD(2) STD(3)	1,7
Date of last file access	var(*LIST).LAST-ACCESS-DATE	S	<yyyy-mm-dd> NONE	1,6
Time of last file access	var(*LIST).LAST-ACCESS-TIME	S	<hh:mm:ss> NONE	1,6
Date of last file modification	var(*LIST).LAST-CHA-DATE	S	<yyyy-mm-dd> NONE	1,6
Time of last file modification	var(*LIST).LAST-CHA-TIME	S	<hh:mm:ss> NONE	1,6
Length of the logical flag in the ISAM index	var(*LIST).LOGIC-FLAG	I	<integer>	1,7
File management class	var(*LIST).MANAGE-CLASS	S	" <comp.-name 1..8>	1,5
File migration	var(*LIST).MIGRATE	S	" ALLOW *FORBID INHIBITE	1,5
Migration to level S1, reserved but unused storage	var(*LIST).MIGRATE-S1.FREE	I	<integer>	10
Migration to level 1, number of files	var(*LIST).MIGRATE-S1.NUM-OF-F	I	<integer>	10
Migration to level 1, releasable storage	var(*LIST).MIGRATE-S1.REL	I	<integer>	10
Migration to level 1, reserved storage	var(*LIST).MIGRATE-S1.RESERVED	I	<integer>	10

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Output information	Name of the S variable	T	Contents	Condition
Migration to level 1, reserved storage in units of 1000 PAM pages if MIGRATE-S1.RESERVED contains the maximum value 2147483647	var(*LIST).MIGRATE-S1.RESERVED-T	I	<integer>	10
Migration to level 2, reserved but unused storage	var(*LIST).MIGRATE-S2.FREE	I	<integer>	10
Migration to level 2, number of files	var(*LIST).MIGRATE-S2.NUM-OF-F	I	<integer>	10
Migration to level 2, releaseable storage	var(*LIST).MIGRATE-S2.REL	I	<integer>	10
Migration to level 2, reserved storage	var(*LIST).MIGRATE-S2.RESERVED	I	<integer>	10
Migration to level 2, reserved storage in units of 1000 PAM pages if MIGRATE-S2.RESERVED contains the maximum value 2147483647	var(*LIST).MIGRATE-S2.RESERVED-T	I	<integer>	10
Reserved but unused storage on Net-Storage	var(*LIST).NET.FREE	I	<integer>	10
Number of files on Net-Storage	var(*LIST).NET.NUM-OF-F	I	<integer>	10
Releasable storage on Net-Storage	var(*LIST).NET.REL	I	<integer>	10
Reserved storage on Net-Storage	var(*LIST).NET.RESERVED	I	<integer>	10
Reserved but unused storage on Net-Storage in units of 1000 PAM pages if NET.RESERVED contains the maximum value 2147483647	var(*LIST).NET.RESERVED-T	I	<integer>	10
Number of files on the named pubset which have not yet been assigned a volume	var(*LIST).NO-VOL.NUM-OF-F	I	<integer>	11
Number of extents	var(*LIST).NUM-OF-EXT	I	<integer>	1,4
Printer control characters for the file	var(*LIST).PRINT-CONTR	S	" *ASA *EBCDIC *NONE	1,7
Number of file generation groups on private volumes	var(*LIST).PRIV.F-GEN-GROUP	I	<integer>	11
Reserved but unused storage on private volumes	var(*LIST).PRIV.FREE	I	<integer>	10,11
Number of files on private volumes	var(*LIST).PRIV.NUM-OF-F	I	<integer>	10,11

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SHOW-FILE-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Releasable storage on private volumes	var(*LIST).PRIV.REL	I	<integer>	10,11
Reserved storage on private volumes	var(*LIST).PRIV.RESERVED	I	<integer>	10,11
Treatment of the value flag within a data or index block (for K-ISAM files)	var(*LIST).PROPA-VAL	S	" MAX MIN	1,7
Pubset catalog ID	var(*LIST).PUBSET-ID	S	<pvs-id>	10,11
Number of file generation groups on the specified pubset	var(*LIST).PUBSET.F-GEN-GROUP	I	<integer>	11
Reserved but unused storage on the specified pubset	var(*LIST).PUBSET.FREE	I	<integer>	10,11
Number of files on the specified pubset	var(*LIST).PUBSET.NUM-OF-F	I	<integer>	10,11
Releasable storage on the specified pubset	var(*LIST).PUBSET.REL	I	<integer>	10,11
Reserved but unused storage on the specified pubset	var(*LIST).PUBSET.RESERVED	I	<integer>	10,11
Reserved but unused storage on the specified pubset in units of 1000 PAM oages if PUBSET.RESERVED contains the maximum value 2147483647	var(*LIST).PUBSET.RESERVED-T	I	<integer>	10, 11
Read password	var(*LIST).READ-PASS	S	NONE YES	1,8,9
Read password in hexadecimal	var(*LIST).READ-PASS-HEX	S	" ADM: '<xstring 1..8>'	8
File record format	var(*LIST).REC-FORM	S	" FIXED NONE UNDEF VAR	1,7
File record length	var(*LIST).REC-SIZE	I	<integer>	1,7
Scope of backup in ARCHIVE run	var(*LIST).SAVED-PAGES	S	COMPL-FILE MOD-PAGE	1,5
Secondary allocation for file extensions	var(*LIST).SEC-ALLOC	I	<integer>	1,4
Number of secondary allocation requests	var(*LIST).SECONDARY-ALLOC-NUM	I	<integer>	1,6
File name (excluding catalog and user ID)	var(*LIST).SHORT-F-NAME	S	<filename>	1-9

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Output information	Name of the S variable	T	Contents	Condition
S0 migration	var(*LIST).S0-MIGR	S	" *ALLOW *FORBID	1,7
Release storage space	var(*LIST).SPACE-RELE-LOCK	S	" NO YES	1,9
File storage class	var(*LIST).STOR-CLASS	S	" <comp.-name 1..8	1,7
Hierarchical storage level	var(*LIST).STOR-LEV	S	" S1 S2	1,5
File storage medium	var(*LIST).SUP	S	*NONE *PRIV-DISK *PUB *PUB/S1 *PUB/S2 *TAPE	1,4
Number of files on tape	var(*LIST).TAPE.NUM-OF-F	I	<integer>	10,11
File type	var(*LIST).TYPE	S	" PLAM	1,7
File shareability	var(*LIST).USER-ACCESS	S	ALL-USERS OWNER-ONLY SPECIAL	1,9
user ID	var(*LIST).USER-ID	S	<userid>	1-9
Metadata for the file owner	var(*LIST).USER-INFO	S	" <c-string 1..8>	1,7
Length of the value flag in the ISAM index	var(*LIST).VAL-FLAG-LEN	I	<integer>	1,7
Internal version number of the file	var(*LIST).VERSION	I	<integer>	1,5
Work file	var(*LIST).WORK-F	S	" *NO *YES	1,7
Write password	var(*LIST).WRITE-PASS	S	NONE YES	1,8,9
Write password in hexadecimal	var(*LIST).WRITE-PASS-HEX	S	" ADM: '<xstring 1..8>'	8

(Part 8 of 8)

Examples

Example 1: Default function of the SHOW-FILE-ATTRIBUTES command

```

/show-file-attr
%      30 :20S2:$USER1.AH.LIB
%      3 :20S2:$USER1.C.PROC1
%      3 :20S2:$USER1.C.PROC2
%      6 :20S2:$USER1.LST.ADDCMD
%      3 :20S2:$USER1.LST.BSP.2
%     333 :20S2:$USER1.LST.DOMAIN.D
%     333 :20S2:$USER1.LST.DOMAIN.E
%      24 :20S2:$USER1.LST.HELP
%      24 :20S2:$USER1.LST.RFA.416
%      66 :20S2:$USER1.LST.SDF.D.1
%      30 :20S2:$USER1.LST.SDF.E
%      3 :20S2:$USER1.MAX.FILE.1
%      9 :20S2:$USER1.MAX.FILE.10
%     12 :20S2:$USER1.MAX.FILE.10.SORT-1
%     12 :20S2:$USER1.MAX.FILE.10.SORT-2
%      3 :20S2:$USER1.MAX.FILE.2
%      3 :20S2:$USER1.MAX.FILE.3
%      9 :20S2:$USER1.MAX.FILE.4
%      3 :20S2:$USER1.MAX.FILE.6
%      3 :20S2:$USER1.MAX.FILE.7
%      3 :20S2:$USER1.MAX.FILE.9
%      0 :20S2:$USER1.MAX.GROUP.2 (FGG)
%      0 :20S2:$USER1.MAX.GROUP.3 (FGG)
%     0* :20S2:$USER1.MAX.GROUP.4 (FGG)
%      :20S2:$USER1.MAX.TAPE-FILE.1
%      :20S2:$USER1.MAX.TAPE-FILE.2
%      9 :20S2:$USER1.PAUL.FILE.1
%      9 :20S2:$USER1.PAUL.FILE.2
%      9 :20S2:$USER1.PAUL.FILE.3
%     384 :20S2:$USER1.SF.NEU
%      48 :20S2:$USER1.SF.ROBAR
%     123 :20S2:$USER1.SF.TEST.DEV.1
%      84 :20S2:$USER1.TEST.BEISPIEL.1
%      33 :20S2:$USER1.TEST.BEISPIEL.2
%      48 :20S2:$USER1.TEST.BEISPIEL.3
%      3 :20S2:$USER1.TEST.BEISPIEL.4
%:20S2: PUBLIC:      33 FILES RES=      1665 FRE=          94 REL=          45 PAGES
%:20S2: PRDISC:       1 FILE RES=         0 FRE=           0 REL=           0 PAGES
%:20S2: TAPE :        2 FILES

```

The SHOW-FILE-ATTRIBUTES command without other operands lists in alphabetical order all files for the user ID *USER1*. The number of reserved PAM pages and the complete path name (*:catid:\$userid.file*) is output for each file. PAM pages cannot be reserved for tape files (see *MAX.TAPE-FILE.1* and *MAX.TAPE-FILE.2*). Files on private disk (see *MAX.GROUP.4*) are marked with an asterisk before the catalog ID. For all files displayed, statistics are output on the number of files and their storage space utilization per volume type.

RES shows the total of reserved PAM pages, *FRE* shows the total of unallocated PAM pages, *REL* shows the maximum number of unallocated PAM pages that can be released. The final total lines are output for each file catalog affected, i.e. per specified catalog ID (here for the default subset of the *USER1* user ID, i.e. the catalog ID *20S2*).

*Example 2: Operand SORT-LIST=*NO*

```

/show-file-attr output-opt=(sort-list=*no)
%      30 :20S2:$USER1.AH.LIB
%      24 :20S2:$USER1.LST.HELP
%       3 :20S2:$USER1.C.PROC1
%       3 :20S2:$USER1.C.PROC2
%      48 :20S2:$USER1.SF.ROBAR
%     384 :20S2:$USER1.SF.NEU
%       3 :20S2:$USER1.MAX.FILE.1
%       6 :20S2:$USER1.LST.ADDCMD
%      24 :20S2:$USER1.LST.RFA.416
%     123 :20S2:$USER1.SF.TEST.DEV.1
%      84 :20S2:$USER1.TEST.BEISPIEL.1
%      33 :20S2:$USER1.TEST.BEISPIEL.2
%      48 :20S2:$USER1.TEST.BEISPIEL.3
%       3 :20S2:$USER1.TEST.BEISPIEL.4
%      66 :20S2:$USER1.LST.SDF.D.1
%      30 :20S2:$USER1.LST.SDF.E
%     333 :20S2:$USER1.LST.DOMAIN.D
%     333 :20S2:$USER1.LST.DOMAIN.E
%      :20S2:$USER1.MAX.TAPE-FILE.1
%       3 :20S2:$USER1.MAX.FILE.3
%      0 :20S2:$USER1.MAX.GROUP.2 (FGG)
%      0 :20S2:$USER1.MAX.GROUP.3 (FGG)
%       3 :20S2:$USER1.MAX.FILE.6
%       3 :20S2:$USER1.MAX.FILE.2
%     0*:20S2:$USER1.MAX.GROUP.4 (FGG)
%       3 :20S2:$USER1.LST.BSP.2
%       9 :20S2:$USER1.MAX.FILE.4
%       3 :20S2:$USER1.MAX.FILE.7
%       3 :20S2:$USER1.MAX.FILE.9
%       9 :20S2:$USER1.MAX.FILE.10
%      12 :20S2:$USER1.MAX.FILE.10.SORT-1
%      12 :20S2:$USER1.MAX.FILE.10.SORT-2
%      :20S2:$USER1.MAX.TAPE-FILE.2
%       9 :20S2:$USER1.PAUL.FILE.1
%       9 :20S2:$USER1.PAUL.FILE.2
%       9 :20S2:$USER1.PAUL.FILE.3
%:20S2: PUBLIC:      33 FILES RES=      1665 FRE=      94 REL=      45 PAGES
%:20S2: PRDISC:      1 FILE RES=         0 FRE=         0 REL=         0 PAGES
%:20S2: TAPE :       2 FILES

```

The files of user ID *USER1* are displayed in the sequence in which they occur in the file catalog.

Example 3: Wildcards in the file name

```

/show-file-attr *file.*
%      3 :20S2:$USER1.MAX.FILE.1
%       9 :20S2:$USER1.MAX.FILE.10
%     12 :20S2:$USER1.MAX.FILE.10.SORT-1
%     12 :20S2:$USER1.MAX.FILE.10.SORT-2
%       3 :20S2:$USER1.MAX.FILE.2
%       3 :20S2:$USER1.MAX.FILE.3
%       9 :20S2:$USER1.MAX.FILE.4
%       3 :20S2:$USER1.MAX.FILE.6
%       3 :20S2:$USER1.MAX.FILE.7
%       3 :20S2:$USER1.MAX.FILE.9
%      :20S2:$USER1.MAX.TAPE-FILE.1
%      :20S2:$USER1.MAX.TAPE-FILE.2
%       9 :20S2:$USER1.PAUL.FILE.1
%       9 :20S2:$USER1.PAUL.FILE.2
%       9 :20S2:$USER1.PAUL.FILE.3
%:20S2: PUBLIC:      13 FILES RES=      87 FRE=      41 REL=      27 PAGES

```

SHOW-FILE-ATTRIBUTES

```
#:20S2: TAPE :      2 FILES
```

The symbol ***** replaces any character string before and after the character string *FILE.*, i.e. all files are listed whose file name includes the character sequence *FILE.*. Any character string can occur before *FILE.* (even an empty string) and there is at least one character after *FILE.* (an empty character string is not possible because the file name cannot end with a period).

Note

The wildcard ***** at the start of a wildcard character string must be doubled if at least one other character follows and no other wildcard is used. Example: all names ending in *ABC* are searched for with ****ABC**.

```
/show-file-attr max*
%      3 :20S2:$USER1.MAX.FILE.1
%      9 :20S2:$USER1.MAX.FILE.10
%     12 :20S2:$USER1.MAX.FILE.10.SORT-1
%     12 :20S2:$USER1.MAX.FILE.10.SORT-2
%      3 :20S2:$USER1.MAX.FILE.2
%      3 :20S2:$USER1.MAX.FILE.3
%      9 :20S2:$USER1.MAX.FILE.4
%      3 :20S2:$USER1.MAX.FILE.6
%      3 :20S2:$USER1.MAX.FILE.7
%      3 :20S2:$USER1.MAX.FILE.9
%      0 :20S2:$USER1.MAX.GROUP.2 (FGG)
%      0 :20S2:$USER1.MAX.GROUP.3 (FGG)
%     0* :20S2:$USER1.MAX.GROUP.4 (FGG)
%      :20S2:$USER1.MAX.TAPE-FILE.1
%      :20S2:$USER1.MAX.TAPE-FILE.2
#:20S2: PUBLIC:      12 FILES RES=      60 FRE=      33 REL=      24 PAGES
#:20S2: PRDISC:       1 FILE RES=       0 FRE=       0 REL=       0 PAGES
#:20S2: TAPE :       2 FILES
```

All files whose name starts in *MAX* and ends in any character string (including an empty string) are listed.

```

/show-file-attr max.file.
%      3 :20S2:$USER1.MAX.FILE.1
%      9 :20S2:$USER1.MAX.FILE.10
%     12 :20S2:$USER1.MAX.FILE.10.SORT-1
%     12 :20S2:$USER1.MAX.FILE.10.SORT-2
%      3 :20S2:$USER1.MAX.FILE.2
%      3 :20S2:$USER1.MAX.FILE.3
%      9 :20S2:$USER1.MAX.FILE.4
%      3 :20S2:$USER1.MAX.FILE.6
%      3 :20S2:$USER1.MAX.FILE.7
%      3 :20S2:$USER1.MAX.FILE.9
%:20S2: PUBLIC:      10 FILES RES=      60 FRE=      33 REL=      24 PAGES

```

All files which can be accessed on a partially qualified basis with the first name section *MAX.FILE.*, i.e. whose name starts with *MAX.FILE.* and contains at least one character after this.

```

/show-file-attr file-name=//.
%     30 :20S2:$USER1.AH.LIB
%    384 :20S2:$USER1.SF.NEU
%     48 :20S2:$USER1.SF.ROBAR
%    123 :20S2:$USER1.SF.TEST.DEV.1
%:20S2: PUBLIC:      4 FILES RES=     585 FRE=      30 REL=      9 PAGES

```

The character */* stands for any individual character. All the user's files are listed whose name starts with a character string of any two characters and a period (partially qualified).

```

/show-file-attr m*1
%      3 :20S2:$USER1.MAX.FILE.1
%     12 :20S2:$USER1.MAX.FILE.10.SORT-1
%      :20S2:$USER1.MAX.TAPE-FILE.1
%:20S2: PUBLIC:      2 FILES RES=     15 FRE=     10 REL=      9 PAGES
%:20S2: TAPE :      1 FILE

```

All the user's files are listed whose name starts in *M* and ends with *1*. Any character string (including an empty string) can occur in between.

```

/show-file-attr file-name=/////
%     30 :20S2:$USER1.AH.LIB
%    384 :20S2:$USER1.SF.NEU
%:20S2: PUBLIC:      2 FILES RES=     414 FRE=     13 REL=      6 PAGES

```

All the user's files are listed whose name starts with any six particular characters.

SHOW-FILE-ATTRIBUTES

```
/show-file-attr file-name=*
%      30 :20S2:$USER1.AH.LIB
%      3 :20S2:$USER1.C.PROC1
%      3 :20S2:$USER1.C.PROC2
%      6 :20S2:$USER1.LST.ADDCMD
%      3 :20S2:$USER1.LST.BSP.2
%     333 :20S2:$USER1.LST.DOMAIN.D
%     333 :20S2:$USER1.LST.DOMAIN.E
%     24 :20S2:$USER1.LST.HELP
%     24 :20S2:$USER1.LST.RFA.416
%     66 :20S2:$USER1.LST.SDF.D.1
%     30 :20S2:$USER1.LST.SDF.E
%      3 :20S2:$USER1.MAX.FILE.1
%      9 :20S2:$USER1.MAX.FILE.10
%     12 :20S2:$USER1.MAX.FILE.10.SORT-1
%     12 :20S2:$USER1.MAX.FILE.10.SORT-2
%      3 :20S2:$USER1.MAX.FILE.2
%      3 :20S2:$USER1.MAX.FILE.3
%      9 :20S2:$USER1.MAX.FILE.4
%      3 :20S2:$USER1.MAX.FILE.6
%      3 :20S2:$USER1.MAX.FILE.7
%      3 :20S2:$USER1.MAX.FILE.9
%      0 :20S2:$USER1.MAX.GROUP.2 (FGG)
%      0 :20S2:$USER1.MAX.GROUP.3 (FGG)
%     0* :20S2:$USER1.MAX.GROUP.4 (FGG)
%      :20S2:$USER1.MAX.TAPE-FILE.1
%      :20S2:$USER1.MAX.TAPE-FILE.2
%      9 :20S2:$USER1.PAUL.FILE.1
%      9 :20S2:$USER1.PAUL.FILE.2
%      9 :20S2:$USER1.PAUL.FILE.3
%     384 :20S2:$USER1.SF.NEU
%      48 :20S2:$USER1.SF.ROBAR
%     123 :20S2:$USER1.SF.TEST.DEV.1
%      84 :20S2:$USER1.TEST.BEISPIEL.1
%      33 :20S2:$USER1.TEST.BEISPIEL.2
%      48 :20S2:$USER1.TEST.BEISPIEL.3
%      3 :20S2:$USER1.TEST.BEISPIEL.4
%:20S2: PUBLIC:      33 FILES RES=      1665 FRE=      94 REL=      45 PAGES
%:20S2: PRDISC:      1 FILE RES=      0 FRE=      0 REL=      0 PAGES
%:20S2: TAPE :      2 FILES
```

All the user's files are listed. The character * stands for ant character string. Output corresponds to the default output with the presetting FILE-NAME=*ALL.

Example 4: Partial qualification

```
/show-file-attr file-name=paul.
%      9 :20S2:$USER1.PAUL.FILE.1
%      9 :20S2:$USER1.PAUL.FILE.2
%      9 :20S2:$USER1.PAUL.FILE.3
%:20S2: PUBLIC:      3 FILES RES=      27 FRE=      8 REL=      3 PAGES
```

All the user's files are listed which can be accessed with the partial qualification *PAUL*.

Example 5: Catalog entry of a temporary file

```

/show-file-attr file-name=# _____ (1)
% DMS0533 REQUESTED FILE NOT CATALOGED IN PUBSET '20S2'. COMMAND TERMINATED
/cre-file #hugo.1 _____ (2)
/copy-file from-file=1st.addcmd,to-file=#hugo.1st.addcmd _____ (3)
/show-file-attr # _____ (4)
%      6 :20S2:$USER1.S.152.2B4Z.HUGO.LST.ADDCMD
%      3 :20S2:$USER1.S.152.2B4Z.HUGO.1
%:20S2: PUBLIC:      2 FILES RES=      9 FRE=      4 REL=      3 PAGES
/show-file-attr #*cmd,inf=all _____ (5)
%0000000006 :20S2:$USER1.S.152.2B4Z.HUGO.LST.ADDCMD
% ----- HISTORY -----
% CRE-DATE   = 2014-07-02  ACC-DATE   = 2014-07-02  CHANG-DATE  = 2014-07-02
% CRE-TIME   = 17:52:52   ACC-TIME   = 17:52:59  CHANG-TIME  = 17:52:52
% ACC-COUNT  = 1          S-ALLO-NUM = 0
% ----- SECURITY -----
% READ-PASS  = NONE       WRITE-PASS  = NONE       EXEC-PASS   = NONE
% USER-ACC   = OWNER-ONLY ACCESS        = WRITE        ACL          = NO
% AUDIT      = NONE       FREE-DEL-D  = *NONE       EXPIR-DATE  = 2014-07-02
% DESTROY    = NO         FREE-DEL-T  = *NONE       EXPIR-TIME  = 00:00:00
% SP-REL-LOCK= NO         ENCRYPTION  = *NONE
% ----- BACKUP -----
% BACK-CLASS = E          SAVED-PAG  = COMPL-FILE  VERSION     = 1
% MIGRATE    = INHIBITED
% ----- ORGANIZATION -----
% FILE-STRUC = SAM        BUF-LEN    = STD(1)     BLK-CONTR   = PAMKEY
% IO(USAGE)  = READ-WRITE IO(PERF)    = STD         DISK-WRITE  = BY-CLOSE
% REC-FORM   = (V,M)      REC-SIZE   = 0
% AVAIL      = *STD
% ----- ALLOCATION -----
% SUPPORT    = PUB        S-ALLOC    = 24         HIGH-US-PA  = 5
% EXTENTS    VOLUME      DEVICE-TYPE EXTENTS     VOLUME      DEVICE-TYPE
%      1      20S2.6     D3435
% NUM-OF-EXT = 1
%:20S2: PUBLIC:      1 FILE RES=      6 FRE=      1 REL=      0 PAGES

```

- (1) All temporary files will be listed (tempfile prefix is set with #). Message *DMS0533* shows that no temporary files exist for the task.
- (2) `CREATE-FILE` creates the catalog entry for the temporary file *#HUGO.1*.
- (3) `COPY-FILE` copies the file *LST.ADDCMD* into temporary file *#HUGO.LST.ADDCMD*, which is thereby created.
- (4) `SHOW-FILE-ATTRIBUTES` for all temporary files of the task (`FILE-NAME=#`) shows the names of the temporary files created. Instead of the tempfile character, with which the user can access the files, the internal name section created by the system is output (here *S.152.2B4Z*).
- (5) Outputs the full catalog entry for all temporary files whose name ends with the character string *CMD*.

*Example 6a: Output with INFORMATION=*SPACE-SUMMARY*

```
/show-file-attr file-name=max.,inf=*space-summary
%:20S2: PUBLIC:      22 FILES RES=      180 FRE=      153 REL=      144 PAGES
%:20S2: PRDISC:      5 FILES RES=      12 FRE=      12 REL=      0 PAGES
%:20S2: TAPE :      2 FILES
```

Information is output for all the user's files whose name starts with *MAX*.

*Example 6b: Output with INFORMATION=*PAR(PASSWORDS=*YES)*

```
/sh-f-attr file-name=<ah,sf>.,inf=(passwords=*yes)
%0000000030 :20S2:$USER1.AH.LIB
% ----- PASSWORDS -----
% READ-PASS = YES      WRITE-PASS = NONE      EXEC-PASS = NONE
%0000000384 :20S2:$USER1.SF.NEU
% ----- PASSWORDS -----
% READ-PASS = NONE     WRITE-PASS = NONE     EXEC-PASS = NONE
%0000000048 :20S2:$USER1.SF.ROBAR
% ----- PASSWORDS -----
% READ-PASS = NONE     WRITE-PASS = NONE     EXEC-PASS = NONE
%0000000123 :20S2:$USER1.SF.TEST.DEV.1
% ----- PASSWORDS -----
% READ-PASS = NONE     WRITE-PASS = NONE     EXEC-PASS = NONE
%:20S2: PUBLIC:      4 FILES RES=      585 FRE=      30 REL=      9 PAGES
```

Output is for all the user's files whose name starts with one of the character strings *AH* or *SF* and a period.

*Example 6c: Output with INFORMATION=*MINIMUM*

```

/show-file-attr inf=*minimum
%P YNN NW          30 :20S2:$USER1.AH.LIB
%S NNN NW          3 :20S2:$USER1.C.PROC1
%S NNN NW          3 :20S2:$USER1.C.PROC2
%S NNN NW          6 :20S2:$USER1.LST.ADDCMD
%S NNN NW          3 :20S2:$USER1.LST.BSP.2
%S NNN NW         333 :20S2:$USER1.LST.DOMAIN.D
%S NNN NW         333 :20S2:$USER1.LST.DOMAIN.E
%S NNN NW          24 :20S2:$USER1.LST.HELP
%S NNN NW          24 :20S2:$USER1.LST.RFA.416
%S NNN NW          66 :20S2:$USER1.LST.SDF.D.1
%S NNN NW          30 :20S2:$USER1.LST.SDF.E
%N NNN NW          3 :20S2:$USER1.MAX.FILE.1
%S NNN NW          9 :20S2:$USER1.MAX.FILE.10
%S NNN NW         12 :20S2:$USER1.MAX.FILE.10.SORT-1
%S NNN NW         12 :20S2:$USER1.MAX.FILE.10.SORT-2
%S NNN NW          3 :20S2:$USER1.MAX.FILE.2
%N NNN GUARDS      3 :20S2:$USER1.MAX.FILE.3
%I NNN NW          9 :20S2:$USER1.MAX.FILE.4
%N NNN NW          3 :20S2:$USER1.MAX.FILE.6
%I NNN NW          3 :20S2:$USER1.MAX.FILE.7
%I NNN NW          3 :20S2:$USER1.MAX.FILE.9
%N YNN NW          0 :20S2:$USER1.MAX.GROUP.2 (FGG)
%N NNN NW          0 :20S2:$USER1.MAX.GROUP.3 (FGG)
%N NNN NW          0*:20S2:$USER1.MAX.GROUP.4 (FGG)
%S NNN YW          :20S2:$USER1.MAX.TAPE-FILE.1
%S NNN YW          :20S2:$USER1.MAX.TAPE-FILE.2
%I NNN NW          9 :20S2:$USER1.PAUL.FILE.1
%I NNN GUARDS      9 :20S2:$USER1.PAUL.FILE.2
%S NNN NW          9 :20S2:$USER1.PAUL.FILE.3
%I NNN NW         384 :20S2:$USER1.SF.NEU
%I NNN NW          48 :20S2:$USER1.SF.ROBAR
%I NNN NW         123 :20S2:$USER1.SF.TEST.DEV.1
%I NNN NW          84 :20S2:$USER1.TEST.BEISPIEL.1
%I NNN NW          33 :20S2:$USER1.TEST.BEISPIEL.2
%S NNN NW          48 :20S2:$USER1.TEST.BEISPIEL.3
%S NNN NW          3 :20S2:$USER1.TEST.BEISPIEL.4

```

Information is output for all the user's files.

*Example 6d: Output with INFORMATION=*STATISTICS*

```

/show-file-attr inf=*statistics
% FILES
%:20S2: PUBLIC:      31 FILES RES=      1665 FRE=      94 REL=      45 PAGES
%:20S2: TAPE :        2 FILES
% FILE GENERATIONGROUPS
%:20S2: PUBLIC:      2 FILES
%:20S2: PRIVAT:      1 FILE

```

Information is output for all the user's files.

*Example 6e: Output with INFORMATION=*PAR(SECURITY=*YES)*

```
/show-file-attr max.file.<1:3>,inf=(security=*yes)
%000000003 :20S2:$USER1.MAX.FILE.1
%----- SECURITY -----
% READ-PASS = NONE      WRITE-PASS = NONE      EXEC-PASS = NONE
% USER-ACC  = OWNER-ONLY ACCESS    = WRITE      ACL        = NO
% AUDIT     = NONE      FREE-DEL-D = *NONE    EXPIR-DATE = NONE
% DESTROY   = NO        FREE-DEL-T = *NONE    EXPIR-TIME = NONE
% SP-REL-LOCK= NO      ENCRYPTION = *NONE
%000000003 :20S2:$USER1.MAX.FILE.2
%----- SECURITY -----
% READ-PASS = NONE      WRITE-PASS = NONE      EXEC-PASS = NONE
% USER-ACC  = OWNER-ONLY ACCESS    = WRITE      ACL        = NO
% AUDIT     = NONE      DESTROY    = NO        EXPIR-DATE = 2014-02-02
% SP-REL-LOCK= NO      EXPIR-TIME = 00:00:00
% AUDIT     = NONE      FREE-DEL-D = *NONE    EXPIR-DATE = 2014-02-02
% DESTROY   = NO        FREE-DEL-T = *NONE    EXPIR-TIME = 00:00:00
% SP-REL-LOCK= NO      ENCRYPTION = *NONE
%000000003 :20S2:$USER1.MAX.FILE.3
%----- SECURITY -----
% READ-PASS = NONE      WRITE-PASS = NONE      EXEC-PASS = NONE
% USER-ACC  = OWNER-ONLY ACCESS    = WRITE      ACL        = NO
% OWNER     = R W X      GROUP     = - - -      OTHERS    = - - -
% AUDIT     = NONE      FREE-DEL-D = *NONE    EXPIR-DATE = NONE
% DESTROY   = NO        FREE-DEL-T = *NONE    EXPIR-TIME = NONE
% SP-REL-LOCK= NO      ENCRYPTION = *NONE
% GUARD-READ = $USER1.PROT-A01
% GUARD-WRIT = $USER1.PROT-A01
% GUARD-EXEC = NONE
%:20S2: PUBLIC:          3 FILES RES=          9 FRE=          8 REL=          6 PAGES
```

Information is output for all the user's files whose name starts with the character string *MAX.FILE.* and ends with one of the subsequent characters *1, 2* or *3*.

*Example 6f: Output with INFORMATION=*PAR(HISTORY=*YES)*

```
/show-file-attr sf.,inf=(history=*yes)
%0000000384 :20S2:$USER1.SF.NEU
%----- HISTORY -----
% CRE-DATE  = 2014-07-22 ACC-DATE  = 2014-07-30  CHANG-DATE = 2014-07-24
% CRE-TIME  = 18:59:58  ACC-TIME  = 13:37:48  CHANG-TIME = 10:17:48
% ACC-COUNT = 4         S-ALLO-NUM = 0
%0000000048 :20S2:$USER1.SF.ROBAR
%----- HISTORY -----
% CRE-DATE  = 2014-05-20 ACC-DATE  = 2014-05-20  CHANG-DATE = NONE
% CRE-TIME  = 01:00:00  ACC-TIME  = 01:00:00  CHANG-TIME = NONE
% ACC-COUNT = 1         S-ALLO-NUM = 0
%0000000123 :20S2:$USER1.SF.TEST.DEV.1
%----- HISTORY -----
% CRE-DATE  = 2014-06-30 ACC-DATE  = 2014-06-30  CHANG-DATE = 2014-06-30
% CRE-TIME  = 17:42:51  ACC-TIME  = 18:06:20  CHANG-TIME = 17:42:54
% ACC-COUNT = 3         S-ALLO-NUM = 0
%:20S2: PUBLIC:          3 FILES RES=          555 FRE=          24 REL=          3 PAGES
```

Information is output for all the user's files whose name begins with the character string *SF*.

*Example 6g: Output with INFORMATION=*PAR(ALLOCATION=*YES)*

```
/show-file-attrib file-name=*.4,inf=(allocation=*yes)
%0000000009 :20S2:$USER1.MAX.FILE.4
% ----- ALLOCATION -----
% SUPPORT = PUB S-ALLOC = 9 HIGH-US-PA = 7
% EXTENTS VOLUME DEVICE-TYPE EXTENTS VOLUME DEVICE-TYPE
% 1 20S2.A D3435
% NUM-OF-EXT = 1
%0000000000*:20S2:$USER1.MAX.GROUP.4 (FGG)
%0000000003 :20S2:$USER1.TEST.BEISPIEL.4
% ----- ALLOCATION -----
% SUPPORT = PUB S-ALLOC = 18 HIGH-US-PA = 3
% EXTENTS VOLUME DEVICE-TYPE EXTENTS VOLUME DEVICE-TYPE
% 1 20S2.H D3435
% NUM-OF-EXT = 1
%:20S2: PUBLIC: 2 FILES RES= 12 FRE= 2 REL= 0 PAGES
%:20S2: PRDISC: 1 FILE RES= 0 FRE= 0 REL= 0 PAGES
```

Information is output for all the user's files whose name starts with a particular character string (including an empty one) and ends with the character string `.4`.

*Example 6h: Output with INFORMATION=*PAR(BACKUP=*YES)*

```
/show-file-attrib file-name=*.10.*,inf=(backup=*yes)
%0000000012 :20S2:$USER1.MAX.FILE.10.SORT-1
% ----- BACKUP -----
% BACK-CLASS = A SAVED-PAG = COMPL-FILE VERSION = 1
% MIGRATE = ALLOWED
%0000000012 :20S2:$USER1.MAX.FILE.10.SORT-2
% ----- BACKUP -----
% BACK-CLASS = A SAVED-PAG = COMPL-FILE VERSION = 1
% MIGRATE = ALLOWED
%0000000006 :20S2:$USER1.SYSTEMPASS.VTSU-B.10.1A.19941119
% ----- BACKUP -----
% BACK-CLASS = A SAVED-PAG = COMPL-FILE VERSION = 1
% MIGRATE = ALLOWED
%:20S2: PUBLIC: 3 FILES RES= 30 FRE= 17 REL= 15 PAGES
```

Information is output for all the user's files whose name contains the character string `".10."` and at least one character must precede or follow this.

*Example 6i: Output with INFORMATION=*PAR(ORGANIZATION=*YES)*

```
/show-file-attrib file-name=max.*file.2,inf=(organization=*yes)
%0000000003 :20S2:$USER1.MAX.FILE.2
% ----- ORGANIZATION -----
% FILE-STRUC = SAM BUF-LEN = STD(1) BLK-CONTR = PAMKEY
% IO(USAGE) = READ-WRITE IO(PERF) = STD DISK-WRITE = IMMEDIATE
% REC-FORM = (V,N) REC-SIZE = 0
% AVAIL = *STD
% :20S2:$USER1.MAX.TAPE-FILE.2
% ----- ORGANIZATION -----
% FILE-STRUC = SAM BUF-LEN = STD(1) BLK-CONTR = PAMKEY
% REC-FORM = (V,M) REC-SIZE = 2044
% CODE = EBCDIC LABEL = (STD,1) FILE-SEQ = 2
% BLK-OFFSET = 4
%:20S2: PUBLIC: 1 FILE RES= 3 FRE= 2 REL= 0 PAGES
%:20S2: TAPE : 1 FILE
```

Information is output for all the user's files whose name starts with the character string `MAX.` and ends with `FILE.2`.

Example 7: Selection of files for which particular attributes apply

```
/show-file-attr select=(password=*read-pass)
%      30 :20S2:$USER1.AH.LIB
%      0 :20S2:$USER1.MAX.GROUP.2 (FGG)
%:20S2: PUBLIC:      2 FILES RES=      30 FRE=      6 REL=      6 PAGES
```

All the user's files are listed whose name is protected with a read password.

```
/show-file-attr select=(status=(closed-output=*no))
%      3 :20S2:$USER1.LST.BSP.2
%:20S2: PUBLIC:      1 FILE RES=      3 FRE=      2 REL=      0 PAGES
```

All the user's files are listed which are open for writing at the time the command is issued.

```
/show-file-attr select=(support=(*priv,*tape))
%      0*:20S2:$USER1.MAX.GROUP.4 (FGG)
%      :20S2:$USER1.MAX.TAPE-FILE.1
%      :20S2:$USER1.MAX.TAPE-FILE.2
%:20S2: PRDISC:      1 FILE RES=      0 FRE=      0 REL=      0 PAGES
%:20S2: TAPE :      2 FILES
```

All the user's files are listed which are stored on private disks or on tapes.

```
/show-file-attr select=(support=*priv,generation=*yes)
%      3*:20S2:$USER1.MAX.GROUP.1(*0004)
%      0*:20S2:$USER1.MAX.GROUP.4 (FGG)
%      3*:20S2:$USER1.MAX.GROUP.4(*0002)
%      3*:20S2:$USER1.MAX.GROUP.4(*0003)
%      3*:20S2:$USER1.MAX.GROUP.4(*0004)
%:20S2: PRDISC:      5 FILES RES=      12 FRE=      12 REL=      0 PAGES
```

All the user's files are listed which are stored on private disks. For file generation groups, the generations will also be output.

```
/show-file-attr select=(size=*int(100,400))
%      333 :20S2:$USER1.LST.DOMAIN.D
%      333 :20S2:$USER1.LST.DOMAIN.E
%      384 :20S2:$USER1.SF.NEU
%      123 :20S2:$USER1.SF.TEST.DEV.1
%:20S2: PUBLIC:      4 FILES RES=     1173 FRE=      19 REL=      3 PAGES
```

All the user's files are listed which occupy between 100 and 400 PAM pages.

```
/show-file-attr select=(num-of-free= 10)
%      24 :20S2:$USER1.LST.HELP
%      123 :20S2:$USER1.SF.TEST.DEV.1
%:20S2: PUBLIC:      2 FILES RES=     147 FRE=      20 REL=     12 PAGES
```

All the user's files are listed where exactly ten of the reserved PAM pages are not occupied.

```

/show-file-attr select=(acc-count=2)
%      24 :20S2:$USER1.LST.HELP
%      66 :20S2:$USER1.LST.SDF.D.1
%      30 :20S2:$USER1.LST.SDF.E
%      3  :20S2:$USER1.MAX.FILE.7
%:20S2: PUBLIC:      4 FILES RES=      123 FRE=      12 REL=      9 PAGES

```

All the user's files are listed which have been accessed exactly twice since the catalog entry was created.

```

/show-file-attr select=(last-acc-date=*today(time=(8:00,10:00)))
%      3  :20S2:$USER1.LST.BSP.2
%:20S2: PUBLIC:      1 FILE RES=      3 FRE=      2 REL=      0 PAGES

```

All the user's files are listed which were last accessed between 8 and 10 a.m. on the day the command was issued.

```

/show-file-attr select=(prot-active=*level-2)
%      3  :20S2:$USER1.MAX.FILE.3
%      9  :20S2:$USER1.PAUL.FILE.2
%:20S2: PUBLIC:      2 FILES RES=      12 FRE=      5 REL=      3 PAGES

```

All the user's files are listed where access control is with GUARDS.

```

/show-file-attr select=(prot-active=*level-1)
% DMS06CC NO FILE CORRESPONDING TO SPECIFIED OPERANDS

```

All the user's files are listed where access control is with BASIC-ACL. The files *MAX.FILE.3* and *PAUL.FILE.2* have a BASIC-ACL entry but access control is via GUARDS (see the following output).

```

/show-file-attr select=(basic-acl=*yes)
%      3  :20S2:$USER1.MAX.FILE.3
%      9  :20S2:$USER1.PAUL.FILE.2
%:20S2: PUBLIC:      2 FILES RES=      12 FRE=      5 REL=      3 PAGES

```

All the user's files which have a BASIC-ACL entry are listed.

```

/show-file-attr select=(type=(*plam,*file-group))
%      30 :20S2:$USER1.AH.LIB
%      0  :20S2:$USER1.MAX.GROUP.2 (FGG)
%      0  :20S2:$USER1.MAX.GROUP.3 (FGG)
%      0* :20S2:$USER1.MAX.GROUP.4 (FGG)
%:20S2: PUBLIC:      3 FILES RES=      30 FRE=      6 REL=      6 PAGES
%:20S2: PRDISC:      1 FILE RES=      0 FRE=      0 REL=      0 PAGES

```

All the user's file generation groups and PLAM libraries are listed.

```

/show-file-attr select=(support=*priv,type=*file-group,generation=*yes)
%      3*:20S2:$USER1.MAX.GROUP.1(*0004)
%      0*:20S2:$USER1.MAX.GROUP.4 (FGG)
%      3*:20S2:$USER1.MAX.GROUP.4(*0002)
%      3*:20S2:$USER1.MAX.GROUP.4(*0003)
%      3*:20S2:$USER1.MAX.GROUP.4(*0004)
%:20S2: PRDISC:      5 FILES RES=      12 FRE=      12 REL=      0 PAGES

```

All the user's file generation groups with generations are listed that are stored on private disks.

Example 8: File generation groups/file generations

Example 8a: List of all cataloged file generation groups with generations

```

/show-file-attr select=(type=*file-group)
%      0 :20S2:$USER1.MAX.GROUP.2 (FGG)
%      0 :20S2:$USER1.MAX.GROUP.3 (FGG)
%      0*:20S2:$USER1.MAX.GROUP.4 (FGG)
%:20S2: PUBLIC:      2 FILES RES=      0 FRE=      0 REL=      0 PAGES
%:20S2: PRDISC:      1 FILE  RES=      0 FRE=      0 REL=      0 PAGES

```

All the user's file generation groups are listed.

Example 8b: List of all cataloged file generation groups with generations

```

/show-file-attr select=(type=*file-group,gen=*yes)
%      3*:20S2:$USER1.MAX.GROUP.1(*0004)
%      0 :20S2:$USER1.MAX.GROUP.2 (FGG)
%      3 :20S2:$USER1.MAX.GROUP.2(*0011)
%      93 :20S2:$USER1.MAX.GROUP.2(*0012)
%      3 :20S2:$USER1.MAX.GROUP.2(*0013)
%      0 :20S2:$USER1.MAX.GROUP.3 (FGG)
%      3 :20S2:$USER1.MAX.GROUP.3(*0001)
%      3 :20S2:$USER1.MAX.GROUP.3(*0002)
%      3 :20S2:$USER1.MAX.GROUP.3(*0003)
%      3 :20S2:$USER1.MAX.GROUP.3(*0004)
%      3 :20S2:$USER1.MAX.GROUP.3(*0005)
%      3 :20S2:$USER1.MAX.GROUP.3(*0006)
%      3 :20S2:$USER1.MAX.GROUP.3(*0007)
%      0*:20S2:$USER1.MAX.GROUP.4 (FGG)
%      3*:20S2:$USER1.MAX.GROUP.4(*0002)
%      3*:20S2:$USER1.MAX.GROUP.4(*0003)
%      3*:20S2:$USER1.MAX.GROUP.4(*0004)
%:20S2: PUBLIC:      12 FILES RES=      120 FRE=      120 REL=      120 PAGES
%:20S2: PRDISC:      5 FILES RES=      12 FRE=      12 REL=      0 PAGES

```

All the user's file generation groups with generations are listed.

Example 8c: Complete catalog entries of a public FGG

```

/show-file-attr max.group.2,inf=*all,select=(gen=*yes)
%000000000 :20SG:$USERXY01.MAX.GROUP.2 (FGG)
%-----
% HISTORY -----
% CRE-DATE = 2014-11-21 ACC-DATE = NONE CHANG-DATE = NONE
% CRE-TIME = 17:31:03 ACC-TIME = NONE CHANG-TIME = NONE
% ACC-COUNT = 0 S-ALLO-NUM = 0
%-----
% SECURITY -----
% READ-PASS = YES WRITE-PASS = NONE EXEC-PASS = NONE
% USER-ACC = OWNER-ONLY ACCESS = WRITE ACL = NO
% AUDIT = NONE FREE-DEL-D = *NONE EXPIR-DATE = 2014-11-21
% DESTROY = NO FREE-DEL-T = *NONE EXPIR-TIME = 00:00:00
% SP-REL-LOCK= NO ENCRYPTION = *NONE
%-----
% BACKUP -----
% BACK-CLASS = A SAVED-PAG = COMPL-FILE VERSION = 0
% MIGRATE = ALLOWED
%-----
% GENERATION-INFO -----
% MAXIMUM = 3 BASE-NUM = 11 OVERFL-OPT = CYCL-REPL
% FIRST-GEN = 11 LAST-GEN = 13
%000000009 :20SG:$USERXY01.MAX.GROUP.2(*0011)
%-----
% HISTORY -----
% CRE-DATE = NONE ACC-DATE = NONE CHANG-DATE = NONE
% CRE-TIME = NONE ACC-TIME = NONE CHANG-TIME = NONE
% ACC-COUNT = 0 S-ALLO-NUM = 0
%-----
% SECURITY -----
% READ-PASS = YES WRITE-PASS = NONE EXEC-PASS = NONE
% USER-ACC = OWNER-ONLY ACCESS = WRITE ACL = NO
% AUDIT = NONE FREE-DEL-D = *NONE EXPIR-DATE = NONE
% DESTROY = NO FREE-DEL-T = *NONE EXPIR-TIME = NONE
% SP-REL-LOCK= NO ENCRYPTION = *NONE
%-----
% BACKUP -----
% BACK-CLASS = A SAVED-PAG = COMPL-FILE VERSION = 0
% MIGRATE = ALLOWED
%-----
% ORGANIZATION -----
% FILE-STRUC = NONE BUF-LEN = NONE BLK-CONTR = NONE
% IO(USAGE) = READ-WRITE IO(PERF) = STD DISK-WRITE = IMMEDIATE
% REC-FORM = NONE REC-SIZE = 0
% AVAIL = *STD
%-----
% ALLOCATION -----
% SUPPORT = PUB S-ALLOC = 9 HIGH-US-PA = 0
% EXTENTS VOLUME DEVICE-TYPE EXTENTS VOLUME DEVICE-TYPE
% 1 20SG.5 D3435
% NUM-OF-EXT = 1
%000000009 :20SG:$USERXY01.MAX.GROUP.2(*0012)
%-----
% HISTORY -----
% CRE-DATE = NONE ACC-DATE = NONE CHANG-DATE = NONE
% CRE-TIME = NONE ACC-TIME = NONE CHANG-TIME = NONE
% ACC-COUNT = 0 S-ALLO-NUM = 0
%-----
% SECURITY -----
% READ-PASS = YES WRITE-PASS = NONE EXEC-PASS = NONE
% USER-ACC = OWNER-ONLY ACCESS = WRITE ACL = NO
% AUDIT = NONE FREE-DEL-D = *NONE EXPIR-DATE = NONE
% DESTROY = NO FREE-DEL-T = *NONE EXPIR-TIME = NONE
% SP-REL-LOCK= NO ENCRYPTION = *NONE
%-----
% BACKUP -----
% BACK-CLASS = A SAVED-PAG = COMPL-FILE VERSION = 0
% MIGRATE = ALLOWED
%-----
% ORGANIZATION -----
% FILE-STRUC = NONE BUF-LEN = NONE BLK-CONTR = NONE
% IO(USAGE) = READ-WRITE IO(PERF) = STD DISK-WRITE = IMMEDIATE
% REC-FORM = NONE REC-SIZE = 0
% AVAIL = *STD
%-----
% ALLOCATION -----
% SUPPORT = PUB S-ALLOC = 9 HIGH-US-PA = 0
% EXTENTS VOLUME DEVICE-TYPE EXTENTS VOLUME DEVICE-TYPE
% 1 20SG.5 D3435

```

SHOW-FILE-ATTRIBUTES

```
% NUM-OF-EXT = 1
%0000000009 :20SG:$USERXY01.MAX.GROUP.2(*0013)
% ----- HISTORY -----
% CRE-DATE   = NONE          ACC-DATE   = NONE          CHANG-DATE = NONE
% CRE-TIME   = NONE          ACC-TIME   = NONE          CHANG-TIME = NONE
% ACC-COUNT  = 0             S-ALLO-NUM = 0
% ----- SECURITY -----
% READ-PASS  = YES           WRITE-PASS = NONE          EXEC-PASS  = NONE
% USER-ACC   = OWNER-ONLY   ACCESS     = WRITE         ACL         = NO
% AUDIT      = NONE          FREE-DEL-D = *NONE        EXPIR-DATE = NONE
% DESTROY    = NO            FREE-DEL-T = *NONE        EXPIR-TIME = NONE
% SP-REL-LOCK= NO            ENCRYPTION = *NONE
% ----- BACKUP -----
% BACK-CLASS = A             SAVED-PAG  = COMPL-FILE  VERSION    = 0
% MIGRATE    = ALLOWED
% ----- ORGANIZATION -----
% FILE-STRUC = NONE          BUF-LEN    = NONE          BLK-CONTR  = NONE
% IO(USAGE)  = READ-WRITE   IO(PERF)   = STD            DISK-WRITE = IMMEDIATE
% REC-FORM   = NONE          REC-SIZE   = 0
% AVAIL      = *STD
% ----- ALLOCATION -----
% SUPPORT    = PUB           S-ALLOC    = 9             HIGH-US-PA = 0
% EXTENTS    VOLUME         DEVICE-TYPE EXTENTS     VOLUME     DEVICE-TYPE
% 1          20SG.4         D3435
% NUM-OF-EXT = 1
%:20SG: PUBLIC:          4 FILES RES=          27 FRE=          27 REL=          27 PAGES
```

The complete catalog entries for the file generation group *MAX.GROUP.2* (group entry) and for all associated generations are listed.

Example 8d: Complete catalog entries for a private disk FGG

```
/show-file-attr max.group.4,inf=*all,select=(gen=*yes)
%0000000000*:20SG:$USERXY01.MAX.GROUP.4 (FGG)
% ----- HISTORY -----
% CRE-DATE   = 2014-07-02   ACC-DATE   = NONE          CHANG-DATE = 2014-07-02
% CRE-TIME   = 00:00:00    ACC-TIME   = NONE          CHANG-TIME = 00:00:00
% ACC-COUNT  = 0             S-ALLO-NUM = 0
% ----- SECURITY -----
% READ-PASS  = NONE          WRITE-PASS = NONE          EXEC-PASS  = NONE
% USER-ACC   = OWNER-ONLY   ACCESS     = WRITE         ACL         = NO
% AUDIT      = NONE          FREE-DEL-D = *NONE        EXPIR-DATE = 2014-07-02
% DESTROY    = NO            FREE-DEL-T = *NONE        EXPIR-TIME = 00:00:00
% SP-REL-LOCK= NO            ENCRYPTION = *NONE
% ----- BACKUP -----
% BACK-CLASS = A             SAVED-PAG  = COMPL-FILE  VERSION    = 0
% MIGRATE    = ALLOWED
% ----- GENERATION-INFO -----
% MAXIMUM    = 3             BASE-NUM    = 0             OVERFL-OPT = CYCL-REPL
% FIRST-GEN  = 1             LAST-GEN    = 3
% EXTENTS    VOLUME         DEVICE-TYPE
%            WORK01         D3435
%0000000003*:20SG:$USERXY01.MAX.GROUP.4(*0001)
% ----- HISTORY -----
% CRE-DATE   = NONE          ACC-DATE   = NONE          CHANG-DATE = NONE
% CRE-TIME   = NONE          ACC-TIME   = NONE          CHANG-TIME = NONE
% ACC-COUNT  = 0             S-ALLO-NUM = 0
% ----- SECURITY -----
% READ-PASS  = NONE          WRITE-PASS = NONE          EXEC-PASS  = NONE
% USER-ACC   = OWNER-ONLY   ACCESS     = WRITE         ACL         = NO
% AUDIT      = NONE          FREE-DEL-D = *NONE        EXPIR-DATE = NONE
% DESTROY    = NO            FREE-DEL-T = *NONE        EXPIR-TIME = NONE
% SP-REL-LOCK= NO            ENCRYPTION = *NONE
% ----- BACKUP -----
% BACK-CLASS = A             SAVED-PAG  = COMPL-FILE  VERSION    = 0
```



```

% MIGRATE = ALLOWED
----- ORGANIZATION -----
% FILE-STRUC = NONE      BUF-LEN = NONE      BLK-CONTR = NONE
% IO(USAGE) = READ-WRITE IO(PERF) = STD      DISK-WRITE = IMMEDIATE
% REC-FORM = NONE      REC-SIZE = 0
% AVAIL = *STD
----- 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
%000000003*:20SG:$USERXY01.MAX.GROUP.4(*0002)
----- HISTORY -----
% CRE-DATE = NONE      ACC-DATE = NONE      CHANG-DATE = NONE
% CRE-TIME = NONE      ACC-TIME = NONE      CHANG-TIME = NONE
% ACC-COUNT = 0      S-ALLO-NUM = 0
----- SECURITY -----
% READ-PASS = NONE      WRITE-PASS = NONE      EXEC-PASS = NONE
% USER-ACC = OWNER-ONLY ACCESS = WRITE      ACL = NO
% AUDIT = NONE      FREE-DEL-D = *NONE      EXPIR-DATE = NONE
% DESTROY = NO      FREE-DEL-T = *NONE      EXPIR-TIME = NONE
% SP-REL-LOCK= NO      ENCRYPTION = *NONE
----- BACKUP -----
% BACK-CLASS = A      SAVED-PAG = COMPL-FILE VERSION = 0
% MIGRATE = ALLOWED
----- ORGANIZATION -----
% FILE-STRUC = NONE      BUF-LEN = NONE      BLK-CONTR = NONE
% IO(USAGE) = READ-WRITE IO(PERF) = STD      DISK-WRITE = IMMEDIATE
% REC-FORM = NONE      REC-SIZE = 0
% AVAIL = *STD
----- ALLOCATION -----
% SUPPORT = PVT      S-ALLOC = 9      HIGH-US-PA = 0
% EXTENTS VOLUME      DEVICE-TYPE EXTENTS VOLUME DEVICE-TYPE
% 1      WORK01      D3435
% NUM-OF-EXT = 1
%000000003*:20SG:$USERXY01.MAX.GROUP.4(*0003)
----- HISTORY -----
% CRE-DATE = NONE      ACC-DATE = NONE      CHANG-DATE = NONE
% CRE-TIME = NONE      ACC-TIME = NONE      CHANG-TIME = NONE
% ACC-COUNT = 0      S-ALLO-NUM = 0
----- SECURITY -----
% READ-PASS = NONE      WRITE-PASS = NONE      EXEC-PASS = NONE
% USER-ACC = OWNER-ONLY ACCESS = WRITE      ACL = NO
% AUDIT = NONE      FREE-DEL-D = *NONE      EXPIR-DATE = NONE
% DESTROY = NO      FREE-DEL-T = *NONE      EXPIR-TIME = NONE
% SP-REL-LOCK= NO      ENCRYPTION = *NONE
----- BACKUP -----
% BACK-CLASS = A      SAVED-PAG = COMPL-FILE VERSION = 0
% MIGRATE = ALLOWED
----- ORGANIZATION -----
% FILE-STRUC = NONE      BUF-LEN = NONE      BLK-CONTR = NONE
% IO(USAGE) = READ-WRITE IO(PERF) = STD      DISK-WRITE = IMMEDIATE
% REC-FORM = NONE      REC-SIZE = 0
% AVAIL = *STD
----- 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: 4 FILES RES= 9 FRE= 9 REL= 0 PAGES

```

The complete catalog entries for the file generation group *MAX.GROUP.4* (group entry) and for all associated generations are listed. The file generation and its generations are stored on the private disk *WORK01*.

Example 9: Complete catalog entry of a tape file

```

/show-file-attr max.tape-file.2,inf=*all
%          :20S2:$USER1.MAX.TAPE-FILE.2
%          ----- HISTORY -----
% CRE-DATE   = 2014-07-01  ACC-DATE   = 2014-07-01  CHANG-DATE = 2014-07-01
% CRE-TIME   = 13:22:17   ACC-TIME   = 13:22:27   CHANG-TIME = 13:22:27
% ACC-COUNT  = 1          S-ALLO-NUM = 0
%          ----- SECURITY -----
% READ-PASS  = NONE       WRITE-PASS  = NONE       EXEC-PASS  = NONE
% USER-ACC  = ALL-USERS  ACCESS     = WRITE      ACL        = NO
% AUDIT     = NONE       DESTROY    = NO         EXPIR-DATE = 2014-07-01
%          ----- BACKUP -----
%          ----- ORGANIZATION -----
% BACK-CLASS = A          SAVED-PAG  = COMPL-FILE  VERSION    = 1
%          ----- ALLOCATION -----
% FILE-STRUC = SAM        BUF-LEN    = STD(1)     BLK-CONTR  = PAMKEY
% REC-FORM   = (V,M)     REC-SIZE   = 2044      LABEL      = (STD,1)
% CODE      = EBCDIC     LABEL      = (STD,1)   FILE-SEQ   = 2
% BLK-OFFSET = 4
%          ----- ALLOCATION -----
% SUPPORT    = PVT
% EXTENTS    VOLUME      DEVICE-TYPE  EXTENTS    VOLUME      DEVICE-TYPE
%          M5658K        TAPE-C4
%:20S2: TAPE :          1 FILE
    
```

The complete catalog entry of the tape file *MAX.TAPE-FILE.2* is output. The file is the second file (*FILE-SEQ=2*) on a magnetic tape cartridge of volume type *TAPE-C4* with the volume serial number *D2326K*.

Example 10: Output to printer

```

/show-file-attr file-name=max.file.,output=*printer
%:20S2: PUBLIC:          10 FILES RES=          60 FRE=          33 REL=          24 PAGES
    
```

A print-edited list of all files starting with *MAX.FILE.* is produced and printed out¹ with the spoolout name *FSTATPRT*. The user receives the following listing:

17:11:24 15-03-13 PAGE 1

FILENAME	PAM-PAGES	FREE-PAGES	SEC-ALLOC	FCB-TYPE	SHARE	ACCESS	PASS-WORDS	BKL	#EXT	VOLUME
:20S2:\$USER1.MAX.FILE.1	3	3	9	NONE	NO	WRITE		A	1	20S2.O
:20S2:\$USER1.MAX.FILE.10	9	4	9	SAM	NO	WRITE		A	1	20S2.D
:20S2:\$USER1.MAX.FILE.10.SORT-1	12	7	9	SAM	NO	WRITE		A	2	20S2.F
:20S2:\$USER1.MAX.FILE.10.SORT-2	12	7	9	SAM	NO	WRITE		A	3	20S2.5
:20S2:\$USER1.MAX.FILE.2	3	2	9	SAM	NO	WRITE		A	1	20S2.O
:20S2:\$USER1.MAX.FILE.3	3	3	9	NONE	NO	WRITE		A	1	20S2.C
:20S2:\$USER1.MAX.FILE.4	9	2	9	ISAM	NO	WRITE		A	1	20S2.A
:20S2:\$USER1.MAX.FILE.6	3	3	9	NONE	NO	WRITE		A	1	20S2.E
:20S2:\$USER1.MAX.FILE.7	3	1	9	ISAM	NO	WRITE		A	1	20S2.G
:20S2:\$USER1.MAX.FILE.9	3	1	9	ISAM	NO	WRITE		A	1	20S2.H
PUBLIC SPACE:	10 FILES	60								

¹ If the print-edited list is output to a file, the first data byte in each case contains a print control character which is evaluated by the printer at the time of print output with *PRINT-DOCUMENT* and *LINE-SPACING=*BY-EBCDIC-CONTROL*.

SHOW-FILE-LINK

Output file attributes from TFT

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT

Function

The SHOW-FILE-LINK command enables the user to request information from the job-specific task file table (TFT) about the files and devices currently being used. For tape files, TST information can be requested (see the VOLUME operand). TFT entries can be created using the ADD-FILE-LINK command.

If the user specifies no operands in the SHOW-FILE-LINK command, he/she will receive on SYSOUT a list of the current TFT entries showing the file link names and the associated file names, sorted by the file link names.

With the operands FILE-NAME and LINK-NAME the output can be restricted to information on specific TFT entries; otherwise, the command will process the entire TFT.

The command supports structured output in S variables (see [“Output in S variables” on page 6-143](#)).

Note

The information as to whether the creation and/or processing of large files is permitted in the TFT entry (see the EXCEED-32GB operand in the ADD-FILE-LINK command), can only be determined from the S variable output.

Format

SHOW-FILE-LINK	Alias: SHFL
<p>LINK-NAME = <u>*ALL</u> / *BLANK(...) / <filename 1..8 without-gen with-wild(80)></p> <p> *BLANK(...)</p> <p> NUMBER = <u>0</u> / <integer 0..255></p> <p>,FILE-NAME = <u>*ALL</u> / *DUMMY / <filename 1..54 with-wild(80)></p> <p>,INFORMATION = <u>*NAMES-AND-FILES</u> / *ALL / [*PARAMETERS](...)</p> <p> [*PARAMETERS](...)</p> <p> STATUS = <u>*NO</u> / *YES / *STATUS</p> <p> PROTECTION = <u>*NO</u> / *YES / *PROTECTION</p> <p> FILE-CONTROL-BLOCK = <u>*NO</u> / *YES / *FILE-CONTROL-BLOCK</p> <p> VOLUME = <u>*NO</u> / *YES / *VOLUME</p>	

Operands

LINK-NAME = *ALL / *BLANK(...) / <filename 1..8 without-gen with-wild(80)>

The file link name of the TFT entry to which the SHOW-FILE-LINK command relates. The information returned will be restricted to the TFT entry identified by LINK-NAME.

LINK-NAME = *ALL

All the entries created by the job currently running will be output.

LINK-NAME = *BLANK(...)

Outputs details of a TFT entry whose name consists of blanks (C'.....'). Such an entry is created if neither the link name nor the file name is defined in the FCB macro call of a program and if no appropriate ADD-FILE-LINK command is issued before the program call. The file name in this entry is the symbolic name of the FCB macro call.

See "OPEN processing" in the "DMS Macros" manual [12].

NUMBER = 0 / <integer 0..255>

Specifies the TFT entry, whose link name consists of blanks, for which information is to be shown.

LINK-NAME = <filename 1..8 without-gen with-wild(80)>

The file link name of the TFT entry to which the SHOW-FILE-LINK command relates. A wildcard sequence (of up to 8 characters) may be specified to ensure that only valid file link names are addressed.

FILE-NAME = *ALL / *DUMMY / <filename 1..54 with-wild(80)>

Only information on the TFT entry linked to FILE-NAME will be output. The file specified by FILE-NAME identifies a permanent or temporary file, or a file generation. File generations must be fully qualified and specified with the absolute generation number. For temporary files, the internal file name is shown in the SHOW-FILE-LINK output.

FILE-NAME = *ALL

All the entries created by the job currently running will be output.

FILE-NAME = *DUMMY

Only the information on TFT entries linked with DUMMY files will be output.

FILE-NAME = <filename 1..54 with-wild(80)>

Fully or partially qualified file name, optionally containing wildcards. Only information on the TFT entry linked to FILE-NAME will be output. A wildcard sequence may be specified to ensure that only valid file names are addressed.

INFORMATION = *NAMES-AND-FILES / *ALL / *PARAMETERS(...)

The scope of the information to be output (*NAMES-AND-FILES: file name and link name; *ALL: all information; *PARAMETERS: files with the specified attributes).

INFORMATION = *NAMES-AND-FILES

Only the file link names and associated file names will be output.

Output format

The header line is only output once for all selected TFT entries.

– For files on public disks:

```
%-- LINK-NAME ----- FILE-NAME -----
%  linkname           pfadname
```

– For files on private disks:

```
%-- LINK-NAME ----- FILE-NAME -----
%D linkname           pfadname
```

– For files on a Net-Storage volume:

```
%-- LINK-NAME ----- FILE-NAME -----
%N linkname           pfadname
```

- For files on tape:

```
%-- LINK-NAME ----- FILE-NAME -----  
%T linkname           pfadname
```

- For files on a remote system (see the “RFA” manual [31]):

```
%-- LINK-NAME ----- FILE-NAME -----  
%R linkname           pfadname (wie im ADD-FILE-LINK angegeben)
```

INFORMATION = *ALL

In addition to the file link name and file name, all the information specified by *PARAMETERS will be output. For each selected TFT entry, a header line is output along with file link name and file name (see INFORMATION=*NAMES-AND-FILES).

INFORMATION = *PARAMETERS(...)

Outputs the file link name and file name. In addition, the following extracts can be selected from the complete information held in the entries: file status, file backup, file attributes, and device characteristics. For each selected TFT entry, a header line is output along with file link name and file name (see INFORMATION=*NAMES-AND-FILES).

STATUS = *NO / *YES

Specifies whether information is required about the status of the file links.

STATUS = *NO

No information will be output about the status of the file links.

STATUS = *YES

Information will be output about the status of the file links (whether the file is being processed; whether the link name is locked; actions to be carried out when the lock is removed; how the file link was created; number of tape devices assigned). For information contained in the STATUS block, see [“Meaning of the output fields” on page 6-136](#).

PROTECTION = *NO / *YES

Specifies whether information concerning the file protection and expiration date is to be output.

PROTECTION = *NO

No information on the file protection and expiration date is to be output.

PROTECTION = *YES

Information on the file protection and retention period is to be output. For information contained in the PROTECTION block, see [“Meaning of the output fields” on page 6-136](#).

FILE-CONTROL-BLOCK = *NO / *YES

Specifies whether information on file attributes defined by the ADD-FILE-LINK command is to be output.

FILE-CONTROL-BLOCK = *NO

No information on file attributes will be output.

FILE-CONTROL-BLOCK = *YES

The following information on file attributes is displayed. This information is subdivided into four information blocks:

- GENERAL ATTRIBUTES with general attributes from the FCB
- DISK FILE ATTRIBUTES with attributes for disk files
- TAPE FILE ATTRIBUTES with attributes for tape files
- ISAM FILE ATTRIBUTES with attributes for ISAM files

Each of the four information blocks begins with a header line.

The details contained in the individual information blocks of FILE-CONTROL-BLOCK are listed under [“Meaning of the output fields” on page 6-136](#).

VOLUME = *NO / *YES

Specifies whether information on device types and volumes required for the file is to be output.

VOLUME = *NO

No information on device types and volumes required for the file will be output.

VOLUME = *YES

Information on device types and volumes required for the file will be output.

For information contained in the VOLUME block, see [“Meaning of the output fields” on “Meaning of the output fields” on page 6-136](#).

Return codes

(SC2)	SC1	Maincode	Meaning
0	0	CMD0001	Command executed
1	0	CMD0001	Interrupted by K2 key
	1	CMD0202	Syntactical or semantic error in command
	32	CMD2009	Internal error during S variable generation
	32	DMS0584	A state that does not allow the function to continue was reported during processing
	32	DMS05C7	Unexpected internal error in DMS
	64	DMS05E1	TFT not available or specified file not in TFT
	64	OPS0001	SDF-P reporting space problems
	64	OPS0002	Interrupt (e.g. by K2 key) during S variable generation
	130	DMS0594	Not enough virtual memory available

Meaning of the output fields

- n – numeric character
- a – alphanumeric character

Status of the file links

The information block begins with the header line "STATUS".

Output field	Values	Description
STATE	ACTIVE INACTIVE	File is being processed File is not being processed
ORIGIN	FILE OPEN	TFT entry was created by a ADD-FILE-LINK command or a FILE macro TFT entry was created with OPEN
LOCK-F-LI	YES	Only included in the output if the link name was locked with LOCK-FILE-LINK
REM-F-LINK	YES/NO	Only included in the output if a locked link name is to be released with REMOVE-FILE-LINK
RELE-DEV	YES/NO	Only included in the output if a locked link name is to be released with REMOVE-FILE-LINK ...,RELEASE-DEVICE=*YES*/NO
UNL-R-TAPE	YES/NO	Only included in the output if a locked link name is to be released with REMOVE-FILE-LINK ...,UNLOAD-RELEASED-TAPE=*YES*/NO
NUMBER OF TAPES CONTAINING DATA OF FILE	nnn	Only output for tape files. Indicates the number of tapes that contain the data of the tape file

Table 111: Output fields for status of file links, from the SHOW-FILE-LINK command

File protection and retention period

The information block begins with the header line "PROTECTION".

Output field	Values	Description
RET-PER	*BY-PROG nnnnn	No retention period for the file exists Retention period in days.
PROT-LEV	*BY-PROG HIGH LOW	Protection level not specified For standard labels, high protection level for label checking For standard labels, low protection level for label checking
OVERW-PROT	YES NO	Only output if PROT-LEV = *HIGH/*LOW File protected against overwriting No protection against overwriting
BYPASS	*BY-PROG NO ABS(nnnnn) FORW(nnnnn) BACK(nnnnn)	Label processing not specified No label processing; tape position will not be changed No label processing; the tape will be positioned to the specified tape mark, counting from the beginning of the tape No label processing; the tape will be advanced by the specified number of tape marks No label processing; the tape will be wound back by the specified number of tape marks
DESTROY	*BY-CAT YES NO	Deletion to end of tape not specified After EOF/EOV labels are written, the remaining data to the end of the tape will be deleted Deletion to end of tape not specified

Table 112: Output fields for file protection/retention period, from the SHOW-FILE-LINK command

File attributes

The values *BY-CAT and *BY-PROG have been omitted in the following table. *BY-PROG may be assumed for all the output fields except *F-CL-MSG*; it indicates that no value was specified for the corresponding operand. The value *BY-CAT means that the appropriate attribute is taken from the catalog entry of the file (see* the relevant operands in the ADD-FILE-LINK command with operand value *BY-CATALOG). The use of values entered in the catalog can be defined for the following attributes:

ACC-METH, REC-FORM, REC-SIZE, BUF-LEN, BLOCK-OFF, KEY-POS, KEY-LEN, LOGIC-FLAG, VAL-FLAG, PROPA-VAL, CODE, F-SEQ, BLK-CONTR, IO(PERF), IO(USAGE)

More detailed explanations will be found in the descriptions of the corresponding operands for the ADD-FILE-LINK command.

The information supplied here is divided into four information blocks:

- a) GENERAL ATTRIBUTES with general attributes from the FCB
 - b) DISK FILE ATTRIBUTES with attributes for disk files
 - c) TAPE FILE ATTRIBUTES with attributes for tape files
 - d) ISAM FILE ATTRIBUTES with attributes for ISAM files
- a) The information block begins with the header line "FILE CONTROL BLOCK - GENERAL ATTRIBUTES"

Output field	Values	Description
ACC-METH	SAM ISAM BTAM UPAM	Access methods (see the ACCESS-METHOD operand in the ADD-FILE-LINK command)
OPEN-MODE	INPUT OUTPUT EXTEND REVERSE UPDATE OUTIN INOUT SINOUT	OPEN modes (see the OPEN-MODE operand in the ADD-FILE-LINK command)
REC-FORM	FIXED VARIABLE UNDEFINED	File consists of fixed-length records File consists of variable-length records File consists of records of undefined length
REC-SIZE	nnnnn	Record length in bytes
BUF-LEN	(STD,n) nnnnn	Standard blocking with blocking factor n Block length in bytes
BLK-CONTR	NO	Data format includes no key
	DATA DATA (2K) DATA (4K) PAMKEY	Data format includes no key, block control information is at the start of the block For NK2-ISAM files only: data format without key; block control information at the start of each 2K block For NK4-ISAM files only: data format without key; block control information at the start of each 4K block Data format includes a PAM key

Table 113: Output fields for file attributes (Part 1 of 2)

Output field	Values	Description
F-CL-MSG	STD	Default setting
	YES	Close message after CLOSE
	NO	No close message after CLOSE
CLOSE-MODE	INVALIDATE	Specification for CLOSE mode: Blocks still in the cache are invalidated
	REWIND	Tape rewound to start of tape after CLOSE
	REPOS	Tape repositioned to logical start of file after CLOSE
	UNLOAD	Like REWIND, but tape is also unloaded and released
	LEAVE	Tape repositioned to logical end of file after CLOSE
	KEEP	Blocks still in the cache remain valid

Table 113: Output fields for file attributes (Part 2 of 2)

- b) The information block begins with the header line "FILE CONTROL BLOCK - DISK FILE ATTRIBUTES"

Output field	Values	Description
SHARED-UPD	YES	The file can be concurrently processed by more than one job
	NO	No concurrent processing
	WEAK	For UPAM processing only: the file can be opened for writing by one job only; other jobs can open it for reading at the same time
WR-CHECK	YES	Read-after-write checking
	NO	No read-after-write checking
IO(PERF)	STD	No special performance requirements
	HIGH	The file should be processed via a cache
	VERY-HIGH	The file should be processed via a cache, and the entire file should be retained in the cache if possible
	USER-MAX	The file is processed with the highest permitted performance attribute that is entered in the user catalog

Table 114: Output fields for disk file attributes (Part 1 of 2)

Output field	Values	Description
IO(USAGE)	RDWRT	The performance requirements given in IO(PERF) are for read and write operations
	READ	The performance requirements given in IO(PERF) are for read operations only
	WRITE	The performance requirements given in IO(PERF) are for write operations only
LOCK-ENV	HOST-SYS	The file cannot be opened for writing concurrently from different systems
	XCS	The file can be opened for writing concurrently from different systems in an XCS network

Table 114: Output fields for disk file attributes (Part 2 of 2)

- c) The information block begins with the header line "FILE CONTROL BLOCK - TAPE FILE ATTRIBUTES"

Output field	Values	Description
LABEL	NO	No label processing
	STD	Standard labels
	NON-STD	Tape file with nonstandard labels
DIN-R-NUM	n	Interchange level for DIN 66029, which regulates how the labels of the file are created
TAPE-MARK	YES	Tape marks will be written
CODE	EBCDIC	No code conversion required
	ISO7	EBCDIC ↔ ISO7 conversion with international table
	ISO7D	Umsetzung EBCDIC ↔ ISO7 conversion with German table
	OWN	Code conversion using tables created by the use
EBCDIC-TR	YES	ISO7 or OWN codes will be converted to EBCDIC
	NO	ISO7 code will be converted to 8 bit format with a leading zero

Table 115: Output fields for tape file attributes (Part 1 of 2)

Output field	Values	Description
F-SEQ	nnnnn	Sequence number of file in file set
	UNKNOWN	Starting position of file unknown
	NEW	New file at the end of the file set
CP-AT-BLIM	YES	Checkpoint automatically written when block limit is reached
CP-AT-FEOV	YES	Checkpoint automatically written at every FEOV macro call
BLOCK-LIM	nnnnn	Maximum nnnnnn data blocks per tape
REST-USAGE	DUMMY	File will be treated as a DUMMY file when a restart is carried out
BLOCK-OFF	nnn	Length of buffer offset (see BLOCK-OFFSET operand in the ADD-FILE-LINK command)
	BY-HDR2	Buffer offset determined by the HDR2 label for the file, or the default value
TAPE-WRITE	DEV-BUFFER	Buffered output to tape cartridge
	IMMEDIATE	Immediate output to tape cartridge
STREAM	YES	Streaming mode I/O

Table 115: Output fields for tape file attributes (Part 2 of 2)

- d) The information block begins with the header line “FILE CONTROL BLOCK - ISAM FILE ATTRIBUTES”

Output field	Values	Description
KEY-POS	nnnnn	position of ISAM key
KEY-LEN	nnn	Length of the ISAM key in bytes.
POOL-LINK	aaaaaaaa	ISAM pool link name
LOGIC-FLAG	nnn	Length of a logical flag in the ISAM index, in bytes
VAL-FLAG	nnn	Length of a value flag in the ISAM index, in bytes
PROPA-VAL	MINIMUM	The lowest value of any value flag within a data or index block will be copied into the index entry for the next higher level
	MAXIMUM	Analogous to above: the highest value is copied

Table 116: Output fields for (ISAM file) attributes (Part 1 of 2)

Output field	Values	Description
DUP-KEY	YES	ISAM keys may be duplicated
	NO	ISAM keys may not be duplicated
PAD-FACT	nnnnn	Block padding factor
READ-I-ADV	YES	If a second input/output area is defined in the program, read operations can be overlapped
	NO	No overlapped processing
WR-IMMED	YES	Every updated block is written back to disk immediately
	NO	No immediate writing back
POOL-SIZE	nnnnnnn	Size of the file-specific ISAM pool

Table 116: Output fields for (ISAM file) attributes (Part 2 of 2)

Device types and volumes

The information block begins with the header line "VOLUME". The output fields *T-SET-SHR*, *F-SET-ID*, and *T-SET-VSN* are only shown for:

- TFT entries that are linked to a tape set (see the command `ADD-FILE-LINK . . . ,SUPPORT=TAPE(. . . ,VOLUME=*BY-TAPE-SET)`)
- TFT entries created with a `CREATE-TAPE-SET` command (TFT entry for tape files with the file name `*DUMMY`; the value of the *T-SET-NAME* output field is then identical with the link name)

The output fields *NUM-OF-VOL* and *NUM-OF-DEV* are only shown if the TFT entry contains private volumes or Net-Storage volumes.

Output field	Values	Description
NUM-OF-VOL	nnn	Number of volumes for the file or the tape set (for Net-Storage volumes this value is always 1)
NUM-OF-DEV	nnn	Number or reserved devices (for Net-Storage volumes this value is 1 if the Net-Storage volume is requested, otherwise it is 0)
DEV-TYPE	aaaaa	Device type; for Net-Storage volumes the volume type NETSTOR
	*NONE	Device type not specified
T-SET-NAME	aaaa	Name of the tape set
	*NONE	TFT entry not linked to a tape set
T-SET-SHR	nnnnn	The number of TFT entries linked to the tape set
F-SET-ID	aaaaaa	VSN of the first tape of the file or tape set

Table 117: Output fields for device types/volumes (Part 1 of 2)

Output field	Values	Description
VSN/DEV	aaaaaa/ aaaaaaaa *NONE	VSNs and device type codes of the volumes linked to the TFT entry (possibly several pairs of values; 3 pairs per output line) (for Net-Storage volumes the volume type NETSTOR is displayed instead of the device type code) None specified
T-SET-VSN	(aaaaaa)	List of VSNs of the tape set; first current VSN in parentheses

Table 117: Output fields for device types/volumes (Part 2 of 2)

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 = *NAMES-AND-FILES	2
INFORMATION = *PAR(FILE-CONTROL-BLOCK=YES)	3
INFORMATION = *PAR(PROTECTION=YES)	4
INFORMATION = *PAR(STATUS=YES)	5
INFORMATION = *PAR(VOLUME=YES)	6

Output information	Name of the S variable	T	Contents	Condition
Access method for file processing	var(*LIST).ACCESS-METHOD	S	" *BTAM *BY-CAT *ISAM *SAM *UPAM	1,3
Current VSN of the tape set	var(*LIST).ACTUAL-TAPE-SET-VOL	S	" <vsn>	1,6
Block control information	var(*LIST).BLOCK-CONTR-INFO	S	" *BY-CAT *NO *PAMKEY *WITHIN-DATA-2K-BLOCK *WITHIN-DATA-4K-BLOCK *WITHIN-DATA-BLOCK	1,3

(Part 1 of 6)

SHOW-FILE-LINK

Output information	Name of the S variable	T	Contents	Condition
Maximum number of data blocks	var(*LIST).BLOCK-LIM	S	" n	1,3
buffer offset	var(*LIST).BLOCK-OFFSET	S	" *BY-CAT *BY-HDR2 n	1,3
Block length	var(*LIST).BUF-LEN	S	" *BY-CAT *STD(n) n	1,3
Label handling	var(*LIST).BYPASS-LABEL-CHECK	S	" *ABS-POS(n) *BACKWARD-POS(n) *FORWARD-POS(n) *NO-POS	1,4
Checkpoint at block limit	var(*LIST).CHECKP-AT-BLIM	S	" *YES	1,3
Checkpoint on FEOV macro call	var(*LIST).CHECKP-AT-FEOV	S	" *YES	1,3
Close mode	var(*LIST).CLOSE-MODE	S	" *INVALIDATE *KEEP-DATA-IN- CACHE *LEAVE *REPOS *REWIND *UNLOAD	1,3
Code translation	var(*LIST).CODE	S	" *BY-CAT *EBCDIC *ISO7 *ISO7D *OWN	1,3
Erase to end of tape	var(*LIST).DESTROY-OLD	S	*BY-CAT *NO *YES	1,4
Device type	var(*LIST).DEV-TYPE	S	" <dev-type>	1,6
DIN 66029 interchange level	var(*LIST).DIN-REVISION-NUM	S	" n	1,3
ISAM key duplication	var(*LIST).DUP-KEY	S	" *NO *YES	1,3

(Part 2 of 6)

Output information	Name of the S variable	T	Contents	Condition
EBCDIC code translation	var(*LIST).EBCDIC-TRANSL	S	" *NO *YES	1,3
Maximum file size	var(*LIST).EXC-32GB		" *ALLOW *FORBID	1,3
Close message after CLOSE	var(*LIST).F-CLOSE-MSG	S	*NO *STD *YES	1,3
File name	var(*LIST).F-NAME	S	" *DUMMY <filename>	1,2,3,4,5,6
Sequence number of file in file set	var(*LIST).F-SEQ	S	" *BY-CAT *NEW 4 n	1,3
VSN of the first tape in the tape set	var(*LIST).F-SET-ID	S	" <string>	1,6
Chained input/output	var(*LIST).IO-CHAIN	S	" n	1,3
Performance requirements for I/O operations	var(*LIST).IO-PERF	S	" *BY-CAT *HIGH *STD *USER-MAX *VERY-HIGH	1,3
Operation(s) affected by the I/O performance requirements	var(*LIST).IO-USAGE	S	" *BY-CAT *READ *READ-WRITE *WRITE	1,3
Length of ISAM key	var(*LIST).KEY-LEN	S	" *BY-CAT n	1,3
Position of the ISAM key in the record	var(*LIST).KEY-POS	S	" *BY-CAT n	1,3
Type of labels used when creating tape files	var(*LIST).LABEL-TYPE	S	" *NO *NON-STD *STD	1,3

(Part 3 of 6)

SHOW-FILE-LINK

Output information	Name of the S variable	T	Contents	Condition
File link name	var(*LIST).LINK	S	*BLANK <link-name> <x-string 1..16>	1,2,3,4,5,6
Specification indicating whether the file can be opened for write access from two or more systems of an XCS network simultaneously	var(*LIST).LOCK-ENV	S	*HOST-SYS *XCS	1,3
Lock on link name	var(*LIST).LOCK-F-LINK	S	*NO *YES	1,5
Length of the logical flag in the ISAM index	var(*LIST).LOGIC-FLAG	S	" *BY-CAT n	1,3
Number or reserved devices	var(*LIST).NUM-OF-DEV	S	" n	1,6
Number of volumes	var(*LIST).NUM-OF-VOL	S	" n	1,6
OPEN mode	var(*LIST).OPEN-MODE	S	" *EXT *INOUT *INPUT *OUTIN *OUTPUT *REV *SINOUT *UPDATE	1,3
Creation of the TFT entry	var(*LIST).ORIG	S	*FILE *OPEN	1,5
Overwrite protection	var(*LIST).OVERWRITE-PROT	S	" *NO *YES	1,4
Block padding factor	var(*LIST).PAD-FACT	S	" n	1,3
Pool link name	var(*LIST).POOL-LINK	S	" <link-name>	1,3
Size of the file-specific ISAM pool	var(*LIST).POOL-SIZE	S	" n	1,3
Printer control characters for the file	var(*LIST).PRINT-CONTR	S	" *ASA *EBCDIC	1,3
Treatment of the value flag within a data or index block (for K-ISAM files)	var(*LIST).PROPA-VAL	S	" *BY-CAT *MAX *MIN	1,3

(Part 4 of 6)

Output information	Name of the S variable	T	Contents	Condition
Label check protection level	var(*LIST).PROT-LEV	S	" *HIGH *UNDEF	1,4
Overlapping reads	var(*LIST).READ-IN-ADV	S	" *NO *YES	1,3
File record format	var(*LIST).REC-FORM	S	" *BY-CAT *FIXED *UNDEF *VAR	1,3
File record length	var(*LIST).REC-SIZE	S	" *BY-CAT n	1,3
Locked device releasing with the REMOVE-FILE-LINK command	var(*LIST).REL-DEV	S	*NO *YES	1,5
Locked link name releasing with the REMOVE-FILE-LINK command	var(*LIST).REMOVE-F-LINK	S	*NO *YES	1,5
File handling on restarts	var(*LIST).RESTART-USAGE	S	" *DUMMY	1,3
File retention period	var(*LIST).RETENT-PERIOD	S	" n	1,4
Shared update capability	var(*LIST).SHARE-UPDATE	S	" *NO *WEAK *YES	1,3
Status of the file	*ACCESSIBLE	S	*NOT-ACTIVE *INACTIVE	1,5
Streaming mode I/O	var(*LIST).STREAM-MODE	S	" *YES	1,3
File storage medium	var(*LIST).SUP	S	*PRIV-DISK *PUB *REM *TAPE	1,2,3,4,5,6
Tape mark writing	var(*LIST).TAPE-MARK-WRITE	S	" *YES	1,3
Name of the tape set	var(*LIST).TAPE-SET-NAME	S	" <string>	1,6
The number of TFT entries linked to the tape set	var(*LIST).TAPE-SET-SHARE	S	" n	1,6
VSN of the tape set	var(*LIST).TAPE-SET-VOL(*LIST)	S	" <vsn>	1,6

(Part 5 of 6)

SHOW-FILE-LINK

Output information	Name of the S variable	T	Contents	Condition
Type of output to tape cartridge	var(*LIST).TAPE-WRITE	S	" *DEV-BUF *IMMED	1,3
Unload released tapes	var(*LIST).UNLOAD-REL-TAPE	S	*NO *YES	1,5
Length of a value flag in the ISAM index	var(*LIST).VAL-FLAG-LEN	S	" *BY-CAT n	1,3
Number of tapes containing data from the file	var(*LIST).VOL-WITH-DATA	S	" n	1,5
Device type (entry in the volume table)	var(*LIST).VT(*LIST).DEV	S	" <device>	1,6
Volume sequence number (entry in the volume table)	var(*LIST).VT(*LIST).VOL	S	" <vsn>	1,6
Read-after-write checking	var(*LIST).WRITE-CHECK	S	" *NO *YES	1,3
Updated block write-back	var(*LIST).WRITE-IMMED	S	" *NO *YES	1,3

(Part 6 of 6)

Examples

For examples of the output of SHOW-FILE-LINK, see the ADD-FILE-LINK and CREATE-TAPE-SET commands.

SHOW-FILE-LOCKS

Show locks on files

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING TSOS

Function

The SHOW-FILE-LOCKS command provides the file owner and any users who have access authorization with information about the locks currently in force on a file. This helps the user to diagnose processing problems which are due to the presence of a file lock. The file locks shown are those which have the following causes:

- The file is currently open.
- The file has been explicitly reserved with the SECURE-RESOURCE-ALLOCATION command.
- A lock has been imposed to enable the file to be printed. A lock on a file which is to be printed can be placed explicitly in a PRINT-DOCUMENT command (LOCK-FILE=*YES) or in a PRNT macro. A file lock can also be imposed by making YES the default value of LOCK-FILE in the SPOOL parameter file. Similarly, the WRITE-DISKETTE command or the PNCH macro can be used to impose a lock on a file to enable it to be written to a floppy disk. A file which is in the process of being output to printer or floppy disk is in any case locked until the output process has been completed.
- The file has been reserved for a file transfer (see the TRANSFER-FILE command).
- The file is a SYSLST file which is waiting to be printed following job completion.
- The file is currently being processed by a Concurrent Copy job.
- The file is the source file for a batch job which is still waiting in the queue.
- A temporary connection failure in a computer network or a system error in the local system make it impossible to reset the file lock.

File locks which are in force on the basis of the file's catalog entry are not shown (see the CREATE-FILE or MODIFY-FILE-ATTRIBUTES command). Locks of this type are shown by the SHOW-CE-LOCK command.

The command supports structured output in S variables (see [“Output in S variables” on page 6-154](#)).

Privileged functions

Systems support (TSOS privilege) has the same access rights as the file owner (user group OWNER) and thus can request information about file locks on any files.

Format

SHOW-FILE-LOCKS
FILE-NAME = <filename 1..54>

Operands

FILE-NAME = <filename 1..54>

Name of the file for which lock information is required.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
2	0	DMS13EE	File is not locked
	1	CMD0221	Syntax error in command
	32	DMS13EA	Internal system error
	64	CMD2203	Error in syntax file
	64	DMS0301	Catalog not available
	64	DMS13EB	RFA connections not supported
	64	DMS13EC	Output in S variables not possible
	64	DMS13ED	Output to SYSOUT not possible
	64	DMS13EF	Metadata cannot be accessed
	64	DMS13E1	File access denied
	64	DMS13E2	No access permission for associated pubset
	64	DMS13E3	User ID does not exist
	128	DMS13E0	Resource bottleneck

Output format

A table is displayed for the specified file, showing the locks it is subject to on the system. The output starts with a line showing the command name (SHOW-FILE-LOCKS) and the date and time of output, followed by a second line showing the file's path name. Then comes a table comprising up to 20 rows of values for up to 20 locks. The total number of locks present is indicated in a totals line at the end of the table.

The locks in force on a file can all be allocated to one of the following types:

- locks held by a job
- locks held by a system component
- locks held by the FT subsystem

Layout for locks held by jobs

Jobs which have caused a lock are shown. Further information on these jobs can be found by specifying the associated TSN in a SHOW-JOB-STATUS command.

```
SHOW-FILE-LOCKS                               Date: yyyy-mm-dd, Time: hh:mm:ss
File name: <filename 1..54>
```

Locks identified by TSN:

TSN	Job name	User ID	Job type	Lock type	Host name	XCS name
@@@@	@@@@@@@@	@@@@@@@@	@@@@@@	@@@@@@@@	@@@@@@@@	@@@@@@@@
@@@@	@@@@@@@@	@@@@@@@@	@@@@@@	@@@@@@@@	@@@@@@@@	@@@@@@@@
.
.
.
@@@@	@@@@@@@@	@@@@@@@@	@@@@@@	@@@@@@@@	@@@@@@@@	@@@@@@@@

Total number of locks is: #####

```
SHOW-FILE-LOCKS                               End of display
```

Layout for locks held by system components

The locks which are shown were caused by the EAM or Concurrent Copy system component. These locks cannot be associated with a job (TSN).

```
SHOW-FILE-LOCKS                               Date: yyyy-mm-dd, Time: hh:mm:ss
File name: <filename 1..54>
```

Locks hold by system program:

Identifier	Lock type	Host name	XCS name
@@@@@@@@@@@@	@@@@@@	@@@@@@@@	@@@@@@@@
@@@@@@@@@@@@	@@@@@@	@@@@@@@@	@@@@@@@@
.	.	.	.
.	.	.	.
.	.	.	.
@@@@@@@@@@@@	@@@@@@	@@@@@@@@	@@@@@@@@

Total number of locks is: #####

```
SHOW-FILE-LOCKS                               End of display
```

Layout for locks held by the FT subsystem

The locks which are shown were imposed by the FT (File Transfer) subsystem. These locks cannot be associated with a job (TSN). Further information on the file transfer requests responsible can be found by specifying the associated file transfer ID in a SHOW-FILE-TRANSFER command.

```
SHOW-FILE-LOCKS                               Date: yyyy-mm-dd, Time: hh:mm:ss
File name: <filename 1..54>
```

```
-----
Locks identified by File Transfer ID:
Transfer ID                                     Lock type   Host name   XCS name
#####                                          @@@@@@@@  @@@@@@@@  @@@@@@@@
#####                                          @@@@@@@@  @@@@@@@@  @@@@@@@@
.                                               .           .           .
.                                               .           .           .
.                                               .           .           .
#####                                          @@@@@@@@  @@@@@@@@  @@@@@@@@
```

```
-----
Total number of locks is: ####
```

```
SHOW-FILE-LOCKS                               End of display
```

Key to the output columns

Output column	Possible values	Meaning
TSN	<alphanum-name 1..4>	Task sequence number
Job name	<name 1..8> *NONE	Job name Job name not known
User ID	<name 1..8> *UNKNOWN	Job user ID Job user ID not known
Job type	DIALOG BATCH HOLD ENTER SPOOL SYSTEM UNDEF	Job type to which the lock can be allocated: Interactive job Batch job Batch job suspended by /HOLD-TASK Type 1 batch job waiting in queue. The lock only affects the source file. Spoolout job System job Unidentifiable job type

Table 118: Output columns of the SHOW-FILE-LOCKS command (Part 1 of 2)

Output column	Possible values	Meaning
Lock type	INPUT OUTPUT INPUT-Y INOUT-Y INPUT-W INOUT-W SECURE RES-INPUT MIGRATE EXCLUSIVE BACKUP RESERVE	Type of file lock: Lock on opening the file for reading Lock on opening the file for writing Lock on opening the file for reading with SHARED-UPDATE=*YES Lock on opening the file for writing with SHARED-UPDATE=*YES Lock on opening the file for reading with SHARED-UPDATE=*WEAK Lock on opening the file for writing with SHARED-UPDATE=*WEAK Lock imposed by SECURE-RESOURCE-ALLOCATION command Lock on file modification Lock in force while the file is being migrated by the HSMS subsystem Lock on all access Lock while Concurrent Copy backup is in progress File reserved for specific application
Host name	<alphanum-name 1..8> *OWN *UNKNOWN	System the job is running on: MSCF name of the host Local host Host name not known
XCS name	<alphanum-name 1..8> *NONE *UNKNOWN	Indicates that the host is connected to a cross-coupled system Name of the cross-coupled system Not connected Name of cross-coupled system not known

Table 118: Output columns of the SHOW-FILE-LOCKS command (Part 2 of 2)

Output in S variables

The output scope varies depending on the type of lock: lock set by a job TSN (TSN lock), lock set by system component (SYS lock) or lock set for file transfer (FT lock).

Output information	Name of the S variable	T	Contents	Condition
MSCF name of the processor on which the FT job specified by the transfer ID is running	var(*LIST).LOCK-ENTRY(*LIST).FT-LOCK. HOST	S	*OWN *UNKNOWN <c-string 1..8>	FT lock
Type of file lock *BACKUP=file is saved by means of CCOPY *EXCL=file is locked against access of any kind *INOUT-WEAK=lock against opening for write access with SHARUPD=WEAK *INOUT-YES=lock against opening for write access with SHARUPD=YES *INPUT=lock against opening for read access *INPUT-WEAK=lock against opening for read access with SHARUPD=WEAK *INPUT-YES=lock against opening for read access with SHARUPD=YES *MIGR=lock during migration by means of HSMS *NONE=no lock *OUTPUT=lock against opening for write access *RESERVE=file is reserved for a particular application *RES-INPUT=lock against updating *SEC=lock by means of /SECURE-RESOURCE-ALLOCATION	var(*LIST).LOCK-ENTRY(*LIST).FT-LOCK. LOCK-TYPE	S	*BACKUP *EXCL *INOUT-WEAK *INOUT-YES *INPUT *INPUT-WEAK *INPUT-YES *MIGR *NONE *OUTPUT *RESERVE *RES-INPUT *SEC	FT lock
Type of file lock (cont.)				
Identification of the FT job	var(*LIST).LOCK-ENTRY(*LIST).FT-LOCK. TRANSFER-ID	S	<c-string 1..11>	FT lock
Name of the cross-coupled system to which the host is connected	var(*LIST).LOCK-ENTRY(*LIST).FT-LOCK. XCS-NAME	S	*NONE *UNKNOWN <c-string 1..8>	FT lock

(Part 1 of 4)

Output information	Name of the S variable	T	Contents	Condition
Type or cause of the lock	var(*LIST).LOCK-ENTRY(*LIST).LOCK-CLASS	S	*FT-LOCK *SYS-LOCK *TSN-LOCK	
MSCF name of the processor on which the function unit specified by the program ID is running	var(*LIST).LOCK-ENTRY(*LIST).SYS-LOCK.HOST	S	*OWN *UNKNOWN <c-string 1..8>	SYS lock
Type of file lock *BACKUP=file is saved by means of C-COPY *EXCL=file is locked against access of any kind *INOUT-WEAK=lock against opening for write access with SHARUPD=WEAK *INOUT-YES=lock against opening for write access with SHARUPD=YES *INPUT=lock against opening for read access *INPUT-WEAK=lock against opening for read access with SHARUPD=WEAK *INPUT-YES=lock against opening for read access with SHARUPD=YES *MIGR=lock during migration by means of HSMS *NONE=no lock *OUTPUT=lock against opening for write access *RESERVE=file is reserved for a particular application *RES-INPUT=lock against updating *SEC=lock by means of /SECURE-RESOURCE-ALLOCATION	var(*LIST).LOCK-ENTRY(*LIST).SYS-LOCK.LOCK-TYPE	S	*BACKUP *EXCL *INOUT-WEAK *INOUT-YES *INPUT *INPUT-WEAK *INPUT-YES *MIGR *NONE *OUTPUT *RESERVE *RES-INPUT *SEC	SYS lock
Identification of the function unit	var(*LIST).LOCK-ENTRY(*LIST).SYS-LOCK.PROGRAM-ID	S	*C-COPY *EAM	SYS lock
Name of the cross-coupled system to which the host is connected	var(*LIST).LOCK-ENTRY(*LIST).SYS-LOCK.XCS-NAME	S	*NONE *UNKNOWN <c-string 1..8>	SYS lock
MSCF name of the processor on which the job specified by the TSN is running	var(*LIST).LOCK-ENTRY(*LIST).TSN-LOCK.HOST	S	*OWN *UNKNOWN <c-string 1..8>	TSN lock

(Part 2 of 4)

SHOW-FILE-LOCKS

Output information	Name of the S variable	T	Contents	Condition
Job name assigned to the TSN	var(*LIST).LOCK-ENTRY(*LIST).TSN-LOCK. JOB-NAME	S	*NONE *UNKNOWN <c-string 1..8>	TSN lock
Job type of the lock enforcer *BATCH=active batch job *DIALOG=dialog job *ENTER=pending batch job; only the file from which the batch job will read its commands is locked. *HOLD=batch job suspended by /HOLD-TASK *SPOOL=print job *SYS=system job *UNDEF=not defined	var(*LIST).LOCK-ENTRY(*LIST).TSN-LOCK. JOB-TYPE	S	*BATCH *DIALOG *ENTER *HOLD *SPOOL *SYS *UNDEF	TSN lock
Type of file lock *BACKUP=file is saved by means of C-COPY *EXCL=file is locked against access of any kind *INOUT-WEAK=lock against opening for write access with SHARUPD=WEAK *INOUT-YES=lock against opening for write access with SHARUPD=YES *INPUT=lock against opening for read access *INPUT-WEAK=lock against opening for read access with SHARUPD=WEAK *INPUT-YES=lock against opening for read access with SHARUPD=YES *MIGR=lock during migration by means of HSMS *NONE=no lock *OUTPUT=lock against opening for write access *RESERVE=file is reserved for a particular application *RES-INPUT=lock ag. updating *SEC=lock by means of SECURE- RESOURCE-ALLOCATION	var(*LIST).LOCK-ENTRY(*LIST).TSN-LOCK. LOCK-TYPE	S	*BACKUP *EXCL *INOUT-WEAK *INOUT-YES *INPUT *INPUT-WEAK *INPUT-YES *MIGR *NONE *OUTPUT *RESERVE *RES-INPUT *SEC	TSN lock
Task sequence number to which the lock is assigned	var(*LIST).LOCK-ENTRY(*LIST).TSN-LOCK. TSN	S	*REM <c-string 1..4>	TSN lock
User ID of the owner of the TSN	var(*LIST).LOCK-ENTRY(*LIST).TSN-LOCK. USER-ID	S	*UNKNOWN <c-string 1..8>	TSN lock

(Part 3 of 4)

Output information	Name of the S variable	T	Contents	Condition
Name of the cross-coupled system to which the host is connected	var(*LIST).LOCK-ENTRY(*LIST).TSN-LOCK. XCS-NAME	S	*NONE *UNKNOWN <c-string 1..8>	TSN lock
Name of the locked file	var(*LIST).PATH-NAME	S	<c-string 1..54>	

(Part 4 of 4)

Examples

The file ABK . ISAM is locked against opening for writing because the file transfer has not yet been completed:

```

/show-file-transfer
%TRANS-ID  INI STATE PARTNER DIR  BYTE-COUNT  FILE-NAME
%45709604  LOC HOLD  D016ZE07 TO  0          ABK.ISAM
% FTR0004 FT-BS2000: INFORMATION COMPLETED
/show-file-locks abk.isam
%SHOW-FILE-LOCKS                               Date: 2012-03-14, Time: 13:10:00
%File name:  :20SG:$USER1.ABK.ISAM
%-----
%Locks identified by File Transfer ID:
% Transfer ID                               Lock type  Host name  XCS name
% 45709604                                RES_INPUT  *OWN      *NONE
%-----
%Total number of locks is: 1
%-----
%SHOW-FILE-LOCKS                               End of display

```

The file SYSSDF .USER. 1 has been opened in write mode using the SDF-A utility and so is locked against opening:

```

/show-file-locks syssdf.user.1
%SHOW-FILE-LOCKS                               Date: 2012-03-14, Time: 13:11:39
%File name:  :20SG:$USER1.SYSSDF.USER.1
%-----
%Locks identified by TSN:
% TSN   Job name   User ID   Job type   Lock type  Host name  XCS name
% 3PBR  ALT           USER1    DIALOG     OUTPUT     *OWN      *NONE
%-----
%Total number of locks is: 1
%-----
%SHOW-FILE-LOCKS                               End of display

```

The file SYSRME.SPOOL.049.D is currently being printed. It is locked against modification until the print job has been completed:

```
/print-doc sysrme.spool.049.d,line-spacing=*by-ebcdic
% SCP0810 SPOOLOUT FOR FILE ':20SG:$USER1.SYSRME.SPOOL.049.D' ACCEPTED. TSN:
'3PIU', SPOOLOUT-NAME: 'ALT', MONJV: '*NONE'
% SCP1025 PRINT JOB ACCEPTED BY SERVER 'GH5090Y0' WITH TSN '40VG'
/show-file-locks sysrme.spool.049.d
%SHOW-FILE-LOCKS Date: 2012-03-14, Time: 13:14:23
%File name: :20SG:$USER1.SYSRME.SPOOL.049.D
%-----
%Locks identified by TSN:
% TSN Job name User ID Job type Lock type Host name XCS name
% 3PIU *UNKNOWN *NONE SPOOL RES_INPUT *OWN *NONE
%-----
%Total number of locks is: 1
%-----
%SHOW-FILE-LOCKS End of display %
```

SHOW-FILE-NAME-PREFIX

Show defined file name prefix

Description status:	ACS V19.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

With the ACS subsystem active, the SHOW-FILE-NAME-PREFIX command shows which prefix was defined by the user with the SET-FILE-NAME-PREFIX command. The output is written to SYSOUT. In addition a character indicates the range (definition in the RANGE operand). Possible values are "F" (*FILE), "J" (*JV) and "B" (*BOTH).

If no prefix was defined, the value *NONE is shown.

The command supports structured output in S variables (see ["Output in S variables" on page 6-160](#)).

Format

SHOW-FILE-NAME-PREFIX	Alias: SHFNP

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed normally Guaranteed message: ACS0019
	32	CMD2009	Error during S variable generation
	64	OPS0001	Not enough memory for output to S variables
	128	ACS0018	ACS not active
	130	ACS0036	Resource bottleneck

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
File name prefix	var(*LIST).F-NAME-PREFIX	S	*NONE <part.-filename 1..53>	
Range of the prefix definition (for files and/or job variables)	var(*LIST).RANGE	S	*FILE *JV *BOTH	

Examples

For examples, see the SET-FILE-NAME-PREFIX command.

SHOW-GCF-CATALOGS

Show information on object types and GCF catalogs

Description status:	GCF V1.9A
Functional area:	File processing
Domain:	FILE
Privileges:	TSOS

Function

This command tells systems support which of the catalogs managed by the Generic Catalog Facility (GCF) contains the individual object types and which GCF catalogs are currently being serviced by the individual GCF server tasks.

The command supports structured output in S variables (see [“Output in S variables” on page 6-162](#)).

Format

SHOW-GCF-CATALOGS

OUTPUT = list-poss(2): *SYSOUT / *SYSLST

Operands

OUTPUT = list-poss(2): *SYSOUT / *SYSLST

Specifies which of the system files is to be used for information output.

Return code

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	GCF1000	Operand error
	32	CMD2009	Internal error during S variable generation
	32	GCF1001	Internal error
	64	GCF1014	User not authorized to perform function
	64	OPS0002	Interrupt (e.g. K2 key) during S variable generation
	128	GCF1002	No catalog open
	128	GCF1003	No server task active
	128	GCF1010	GCF subsystem being replaced

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning
	128	GCF1037	Resource bottleneck
	130	CMD2009	VAS subsystem not available
	130	OPS0001	Space problems when generating S variables

(Part 2 of 2)

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Name of the GCF catalog served by the server task	var(*LIST).CATALOG(*LIST).NAME	S	<filename 1..54>	
TSN of the server task	var(*LIST).CATALOG(*LIST).SERVERTASK	S	<c-string 4..4>	
Name of the catalog containing the output object types	var(*LIST).OBJECT-TYPE(*LIST).CATALOG(*LIST)	S	<filename 1..54>	
Name of the object type	var(*LIST).OBJECT-TYPE(*LIST).NAME	S	<struc.-name 1..32>	

SHOW-GCF-OBJECT-TYPES

Show information on all GCF object types

Description status:	GCF V1.9A
Functional area:	File processing
Domain:	FILE
Privileges:	TSOS

Function

This command tells systems support which object types are stored in all the catalogs managed by the Generic Catalog Facility (GCF).

The command supports structured output in S variables (see [“Output in S variables” on page 6-164](#)).

Format

SHOW-GCF-OBJECT-TYPES

OUTPUT = list-poss(2): *SYSOUT / *SYSLST

Operands

OUTPUT = list-poss(2): *SYSOUT / *SYSLST

Specifies which of the system files is to be used for information output.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	GCF1000	Operand error
	32	CMD2009	Internal error during S variable generation
	32	GCF1001	Internal error
	64	GCF1014	User not authorized to perform function
	64	OPS0002	Interrupt (e.g. K2 key) during S variable generation
	128	GCF1002	No catalog open
	128	GCF1010	GCF subsystem being replaced
	128	GCF1037	Resource bottleneck
	130	CMD2009	VAS subsystem not available
	130	OPS0001	Space problems when generating S variables

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Name of the catalog in which the output object types are to be found	var(*LIST).CATALOG(*LIST).NAME	S	<filename 1..54>	
Name of the object type	var(*LIST).CATALOG(*LIST).OBJECT-TYPE(*LIST)	S	<struc.-name 1..32>	

SHOW-GCF-SERVER-TASKS

Show information on GCF server task

Description status:	GCF V1.9A
Functional area:	File processing
Domain:	FILE
Privileges:	TSOS

Function

This command tells systems support which server task is currently servicing all the catalogs managed by the Generic Catalog Facility (GCF).

The command supports structured output in S variables (see [“Output in S variables” on page 6-166](#)).

Format

SHOW-GCF-SERVER-TASKS

OUTPUT = list-poss(2): *SYSOUT / *SYSLST

Operands

OUTPUT = list-poss(2): *SYSOUT / *SYSLST

Specifies which of the system files is to be used for information output.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	GCF1000	Operand error
	32	CMD2009	Internal error during S variable generation
	32	GCF1001	Internal error
	64	GCF1014	User not authorized to perform function
	64	OPS0002	Interrupt (e.g. K2 key) during S variable generation
	128	GCF1003	No server task active
	128	GCF1010	GCF subsystem being replaced
	128	GCF1037	Resource bottleneck
	130	CMD2009	VAS subsystem not available
	130	OPS0001	Space problems when generating S variables

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Name of the catalog served by the server task	var(*LIST).SERVERTASK(*LIST).CATALOG(*LIST)	S	<filename 1..54>	
TSN of the server task	var(*LIST).SERVERTASK(*LIST).TSN	S	<c-string 4..4>	

SHOW-GS-COMPLEX-CONFIGURATION

Output the configuration of a GS complex

Description status:	GSMAN V19.0A
Functional area:	Global storage administration
Domain:	DEVICE
Privileges:	TSOS OPERATING SW-MONITOR-ADMINISTRATION
Routing code:	@

Function

Systems support can use the SHOW-GS-COMPLEX-CONFIGURATION command to obtain information on the configuration of GS complexes.

The information is output at SYSOUT. However, it can also be written to SYSLST or a SYSLST file from the set SYSLST01 to SYSLST99.

The scope of the information that is to be output can be controlled in the SELECT operand. By default, information is output on all the existing GS servers and GS units together with their assignment to a GS complex. Optionally, information output can be restricted to the “local” GS complex (i.e. the GS complex to which the local host belongs). In this case, the status of the GS units is output together with the status, host name and, if relevant, VM2000 information for each GS server.

For more detailed information on administering global storage, see the “Introduction to System Administration” [14].

The command supports structured output in S variables (see “Output in S variables” on page 6-169).

Format

```
SHOW-GS-COMPLEX-CONFIGURATION
```

```
SELECT = *ALL-OBJECTS / *OBJECTS-OF-OWN-GS-COMPLEX
```

```
,OUTPUT = *SYSOUT / *SYSLST(...)
```

```
  *SYSLST(...)
```

```
    | SYSLST-NUMBER = *STD / <integer 1..99>
```

Operands

SELECT = *ALL-OBJECTS / *OBJECTS-OF-OWN-GS-COMPLEX

Defines the scope of the information that is to be output.

SELECT = *ALL-OBJECTS

Outputs the GS server number of the local host and the numbers of the associated GS servers and GS units for each GS complex present (see examples 1 and 2, page 6-171).

SELECT = *OBJECTS-OF-OWN-GS-COMPLEX

Only outputs information on the GS complex to which the local host belongs. The information output contains the GS server number of the local host. If available, the status of the associated GS units is output together with the status, hostname and, if relevant, VM2000 information of the associated GS servers (see example 3, page 6-171). If the host does not belong to a GS complex then this additional information is not output (see example 4, page 6-171).

OUTPUT = *SYSOUT / *SYSLST(...)

Specifies the target for the output. By default, the output is sent to SYSOUT.

OUTPUT = *SYSOUT

The output is to be sent to SYSOUT.

OUTPUT = *SYSLST(...)

The output is sent formatted for printing to the SYSLST system file.

The first byte of each output record is X'40'.

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

Specifies whether the output is to be sent to the SYSLST system file or to a SYSLST file from the set SYSLST01 to SYSLST99.

The default value is *STD, i.e. the output is sent to the SYSLST file.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	1	CMD0202	Syntax error
	32	CMD0221	Internal error
	64	CMD0216	No authorization to invoke command
	128	EGC0110	Memory bottleneck
	128	EGC0111	System error on command
	128	EGC2050	GS function not available
	128	EGC2051	SVP function not available
	128	EGC2052	Internal SVP error

Output in S variables

The SELECT operand of the command allows you to define the S variables that are to be assigned values. The following specifications are possible for SELECT:

Notation used in command	Abbreviated form used in table
SELECT=*ALL-OBJECTS	1
SELECT=*OBJECTS-OF-OWN-COMPLEX	2

Output information	Name of the S variable	T	Contents	Condition
GS complex ID	var(*LIST).GS-COMPLEX(*LIST).GS-COMPLEX		*UNIQUE-GS-COMPLEX *GSU1-COMPLEX *GSU2-COMPLEX	
GS server number of the server which is a member of the GS complex	var(*LIST).GS-COMPLEX(*LIST).GS-SERVERS(*LIST).GS-SERVER	S	<integer 1..16>	1
GS unit number of the GS unit which is a member of the GS complex	var(*LIST).GS-COMPLEX(*LIST).GS-UNITS(*LIST).GS-UNIT	S	1 2	1
GS configuration	var(*LIST).GS-CONF	S	REAL VIRT *UNKNOWN	1, 2
GS server numbers of the servers which are not members of any GS complex (offline status)	var(*LIST).OFFLINE-GS-SERVERS(*LIST).GS-SERVER	S	<integer 1..16>	1
GS unit numbers of the GS units which are not members of any GS complex (offline status)	var(*LIST).OFFLINE-GS-SERVERS(*LIST).GS-UNIT	S	1 2	1
Number of a GS server of the same GS complex as this computer	var(*LIST).ONLINE-GS-SERVERS(*LIST).GS-SERVER	S	<integer 1..16>	2
BCAM name of a GS server of the same GS complex as this computer	var(*LIST).ONLINE-GS-SERVERS(*LIST).HOSTS(*LIST).HOSTNAME	S	<name 1..8> *UNKNOWN	2
System ID of a GS server of the same GS complex as this computer	var(*LIST).ONLINE-GS-SERVERS(*LIST).HOSTS(*LIST).SYSID	S	<name 1..3> *UNKNOWN	2
VM connection status of a GS server of the same GS complex as this computer (when operating in VM mode) or *NONE (when operating in native mode)	var(*LIST).ONLINE-GS-SERVERS(*LIST).HOSTS(*LIST).VM-CONNECT	S	Y N *NONE	2

(Part 1 of 2)

SHOW-GS-COMPLEX-CONFIGURATION

Output information	Name of the S variable	T	Contents	Condition
VM ID of a GS server of the same GS complex as this computer (when operating in VM mode) or *NONE (when operating in native mode)	var(*LIST).ONLINE-GS-SERVERS(*LIST).HOSTS(*LIST).VM-ID	S	<integer 1..16> *NONE	2
Operating mode of a GS server of the same GS complex as this computer	var(*LIST).ONLINE-GS-SERVERS(*LIST).OPERATION-MODE	S	VM2000 NATIVE *UNKNOWN	2
Status of a GS server of the same GS complex as this computer	var(*LIST).ONLINE-GS-SERVERS(*LIST).STA	S	CONN DISCONN	2
Number of a GS unit of the same GS complex as this computer	var(*LIST).ONLINE-GS-UNITS(*LIST).GS-UNIT	S	1 2	2
Status of a GS-Unit of the same GS complex as this computer	var(*LIST).ONLINE-GS-UNITS(*LIST).STA	S	ATTACHED DETACHED	2
GS server number of the local host	var(*LIST).OWN-GS-SERVER		<integer 1..16>	1

(Part 2 of 2)

Examples

1. Output with SELECT=*ALL-OBJECTS with only one GS complex:

```
/show-gs-complex-configuration
REAL GS-COMPLEX CONFIGURATION
OWN GS-SERVER:          1
UNIQUE-GS-COMPLEX:
  GS-SERVERS:          1,2
  GS-UNITS:            1,2
OFFLINE GS-SERVERS:    3,4
OFFLINE GS-UNITS:      -
```

If the GS servers are guest systems to which virtual GS has been assigned then output starts with the line:

```
VIRTUAL GS-COMPLEX CONFIGURATION
```

2. Output with SELECT=*ALL-OBJECTS and two GS complexes:

```

/show-gs-complex-configuration
REAL GS-COMPLEX CONFIGURATION
OWN GS-SERVER:          1
GSU1-COMPLEX
  GS-SERVERS:          1,2
  GS-UNITS:            1
GSU2-COMPLEX
  GS-SERVERS:          3,4
  GS-UNITS:            2
OFFLINE GS-SERVERS:    -
OFFLINE GS-UNITS:      -

```

If the GS servers are guest systems to which virtual GS has been assigned then output starts with the line:

```
VIRTUAL GS-COMPLEX CONFIGURATION
```

3. Output with SELECT=*OBJECTS-OF-OWN-GS-COMPLEX at GS server 1; a VM2000 system is to run on server 2, with GS being assigned as real at guest systems 2 and 3. GS server 1 is running in native mode and all the systems are active in an XCS. Server 3 is ONLINE and DISCONNECTED:

```

/show-gs-complex-configuration select=*objects-of-own-gs-complex
REAL GS-COMPLEX CONFIGURATION
OWN GS-SERVER:          1
GS-SERVERS OF OWN GS-COMPLEX:
GS-SERVER STATUS OPERATION-MODE VM-ID VM-CONN HOSTNAME SYSID
1      CONN      NATIVE      -      -      D017ZE01 101
2      CONN      VM2000     2      Y      D017ZE02 102
3      DISCONN  VM2000     3      Y      D017ZE03 103

GS-UNITS OF OWN GS-COMPLEX:
GS-UNIT STATUS
1      ATTACHED
2      ATTACHED

```

4. Output with SELECT=*OBJECTS-OF-OWN-GS-COMPLEX at GS server 4 which does not belong to any GS complex:

```

/show-gs-complex-configuration select=*objects-of-own-gs-complex
OWN GS-SERVER:          4
NO FURTHER INFORMATION AVAILABLE

```

SHOW-GS-STATUS

Query occupancy of global storage medium

Description status:	GSMAN V19.0A
Functional area:	Caching media control Global storage administration
Domain:	DEVICE
Privileges:	TSOS OPERATING SW-MONITOR-ADMINISTRATION
Routing code:	@

Function

Using the SHOW-GS-STATUS command, systems support can obtain an overview of the occupancy of storage space in global storage (GS), individual GS units and partitions. Global storage is a high-capacity, non-volatile storage medium used for buffer storage of data (see also “The global storage (GS) medium” in the “Introduction to System Administration” [14]).

The information is by default written to SYSOUT, but may also be redirected to SYSLST or to a SYSLST file in the set with names from SYSLST01 through SYSLST99.

The amount of information which is to be output can be controlled with the SELECT operand. In the case of partition information, partitions with specific attributes can be selected.

Regardless of the SELECT operand, the command shows whether GS is configured for local operation or for global operation in an XCS network (setting of the GSUSAGE subsystem parameter). This information is also output if the GSMAN subsystem is not ready or if the selection will supply no information.

In global GS operation within an XCS network, the command is effective for all systems in the network. In that case, the GSMAN subsystem is only ready after XCS has started.

The command supports structured output in S variables (see “Output in S variables” on [page 6-179](#)).

Format

SHOW-GS-STATUS
<pre> SELECT = <u>*ALL</u> / *GS-UNITS / *FREE-GS(...) / *PARTITIONS(...) *FREE-GS(...) MODE = <u>*ANY</u> / *DUAL / *MONO(...) *MONO(...) GS-UNIT = <u>*ALL</u> / <integer 1..2> *PARTITIONS(...) PARTITION-ID = <u>*ALL</u> / <name 1..8 with-wild> ,SELECT = <u>*ALL</u> / *BY-ATTRIBUTES(...) *BY-ATTRIBUTES(...) ACCESS = <u>*ANY</u> / *EXCLUSIVE / *SHARE / *NONE ASSIGNED-HOSTS = <u>*ANY</u> / *OWN / <alphanum-name 1..8> ,GS-UNIT = <u>*ALL</u> / <integer 1..2> ,ATTACH-DUAL = <u>*ANY</u> / *ALLOWED / *FORBIDDEN ,OUTPUT = <u>*SYSOUT</u> / *SYSLST(...) *SYSLST(...) SYSLST-NUMBER = <u>*STD</u> / <integer 1..99> </pre>

Operands

SELECT = *ALL / *GS-UNITS / *FREE-GS(...) / *PARTITIONS(...)

Governs how much information is to be output.

SELECT = *ALL

Selects output of all those information blocks which can be requested separately by specifying *GS-UNITS, *FREE-GS(...) and *PARTITIONS(...).

SELECT = *GS-UNITS

Only the size of the GS units and the space available on them are shown. See [“Information on GS units” on page 6-177](#).

SELECT = *FREE-GS(...)

Only information about free areas in GS is shown. See [“Information on free areas” on page 6-178](#).

MODE = *ANY / *DUAL / *MONO(...)

Specifies the operating mode for which free areas in GS are to be shown.

MODE = *ANY

No distinction is made as to the operating mode. All the free areas in both GS units are shown (mono and dual mode).

MODE = *DUAL

Only free areas occupied in dual mode are to be displayed, in other words free areas which match in terms of size and position on the two GS units.

MODE = *MONO(...)

Free areas which can be occupied in mono mode are to be displayed. A specific GS unit can be selected as follows.

GS-UNIT = *ALL / <integer 1..2>

Information is required for both GS units (*ALL) or only for the specified GS unit.

SELECT = *PARTITIONS(...)

Displays information about GS partitions. See [“Information on partitions” on page 6-177](#).

PARTITION-ID = *ALL / <name 1..8 with-wild>

The configuration of the specified partition is to be shown.

The default is *ALL, i.e. information is shown about all existing partitions.

SELECT = *ALL / *BY-ATTRIBUTES(...)

Specifies whether selection criteria are to be used to restrict the set of partitions. The default is *ALL, i.e. information is required about all partitions.

SELECT = *BY-ATTRIBUTES(...)

Defines selection criteria to restrict the set of partitions for which information is required.

The *ANY defaults mean that the output is not affected by the associated selection criterion. Only partitions which meet all the specified selection criteria are shown.

ACCESS = *ANY / *EXCLUSIVE / *SHARE / *NONE

The selection criterion is the partition's occupancy mode.

ACCESS = *EXCLUSIVE

Only partitions which are exclusively occupied are displayed.

ACCESS = *SHARE

Only shared partitions are displayed.

ACCESS = *NONE

Only unoccupied partitions are displayed.

ASSIGNED-HOSTS = *ANY / *OWN / <alphanum-name 1..8>

The selection criterion is the system assigned to the partition.

ASSIGNED-HOSTS = *OWN

Only partitions on the local system are displayed.

ASSIGNED-HOSTS = <alphanum-name 1..8>

Only partitions on the specified system are displayed.

GS-UNIT = *ALL / <integer 1..2>

The selection criterion is the GS unit on which the partition is set up.

Information is provided either about partitions on both GS units (*ALL) or only about partitions on the specified GS unit.

ATTACH-DUAL = *ANY / *ALLOWED / *FORBIDDEN

The selection criterion is the ability to attach a second GS unit online.

ATTACH-DUAL = *ALLOWED

Only partitions which allow a second GS unit to be attached online are displayed.

ATTACH-DUAL = *FORBIDDEN

Only partitions which do not allow a second GS unit to be attached online are displayed.

OUTPUT = *SYSOUT / *SYSLST(...)

Specifies the output destination. By default output is sent to SYSOUT.

OUTPUT = *SYSOUT

Output is to be sent to SYSOUT.

OUTPUT = *SYSLST(...)

Output is prepared for printing and sent to the SYSLST system file.

The first byte of each output record is X'40'.

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

Governs whether output is sent to the SYSLST system file or to a SYSLST file in the set with names from SYSLST01 through SYSLST99.

The default is *STD, which means that output is sent to the SYSLST system file.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	1	CMD0202	Syntax error
	32	CMD0221	Internal error
	32	CMD2009	Error on output to S variables
	32	EGC0112	No GS available
	64	CMD0216	No authorization to invoke command
	64	EGC0401	No information available for specified selection
	64	EGC1000	GS not available
	128	EGC0010	GSMAN subsystem is not ready
	128	EGC0110	Command temporarily cannot be executed
	130	OPS0001	Space problems when generating S variables

Output formats

The sizes of all the areas are output in multiples of 1 MB. If there is no GS available, the following line will be output:

```
NO GLOBAL STORAGE AVAILABLE
```

If global storage is available, four blocks of information are output with `SELECT= *ALL:`

1. Information on set GS usage
2. Information on GS units
3. Information on partitions
4. Information on free areas in GS

If no information is available for the specified selection, the corresponding information block is left empty.

Information on set GS usage

Which GS usage was set via the GSUSAGE subsystem parameter is always output:

```
SUBSYSTEM PARAMETER:  
GS-USAGE = <gsusage>
```

where the following values may be displayed for <gsusage>:

LOCAL the GS is only available locally
GLOBAL the GS is available globally within the XCS network

Information on GS units

This information block can also be requested separately with `SELECT=*GS-UNITS`. The block begins with “GS UNITS:” and a header line which divides the following rows of values into seven output columns:

```
GS-UNITS :
GS-UNIT BEGIN      END  SIZE  FREE CONTIGUOUS STATE
```

Key to the output columns and their possible values:

Output column	Meaning and possible values
GS-UNIT	Number of GS unit: 1 or 2
BEGIN	Start of GS unit in MB: <integer 0..67108864>
END	End of GS unit in MB: <integer 0..134217727>, where $END \leq BEGIN$
SIZE	Size of GS unit in MB: <integer 1..134217728>
FREE	Free space in MB: <integer 0..134217726>
CONTIGUOUS	Largest free contiguous area in MB: <integer 0..134217726>
STATE	GS unit status: ATTACHED or DETACHED

Table 119: Output columns of the SHOW-GS-STATUS command (SELECT=*GS-UNITS)

Information on partitions

This information block can also be requested separately with `SELECT=*PARTITIONS(...)`, in which case the volume of information can be restricted with the aid of selection criteria. The block begins with “PARTITIONS:” and a header line which divides the following rows of values into ten output columns:

```
PARTITIONS :
PART-ID ACCESS DATA  MODE GSU SIZE BEGIN END ATT-DUAL  HOST/SYSID
```

If there are no partitions, the following line is displayed:

```
NO GS PARTITIONS DEFINED
```

Key to the output columns and their possible values:

Output column	Meaning and possible values
PART-ID	Name of partition: <name 1..8>
ACCESS	Access mode: NONE (no access), SHARE (shareable) or EXCL (exclusive access)
DATA	Validity of data in partition: VALID or INVAL
MODE	Partition operating mode: DUAL (dual mode) or MONO (mono mode)
GSU	Number of GS unit containing partition: 1, 2 or 1/2 (=both)

Table 120: Output columns of the SHOW-GS-STATUS command (SELECT=*PARTITIONS) (Part 1 of 2)

Output column	Meaning and possible values
SIZE	Size of partition in MB: <integer 1..67108862>
BEGIN	Start of partition in MB: <integer 2..134217727>
END	End of partition in MB: <integer 2..134217727>, where END ≤ BEGIN
ATT-DUAL	Indicates whether dual-mode partitions allow the second GS unit to be attached online: ALLOWED or FORBID
HOST/SYSID	Name and system ID of host: <name 1..8>/<name 1..3>

Table 120: Output columns of the SHOW-GS-STATUS command (SELECT=*PARTITIONS) (Part 2 of 2)

Information on free areas

This information block can also be requested separately with INFORMATION=*FREE-GS(...), in which case the volume of information can be restricted with the MODE operand (and this may cause part of the output to be omitted; e.g. with MODE=*MONO, only free areas for mono mode are displayed).

The block is in two parts: one for free areas which can be operated in mono mode, and one for free areas which can be operated in dual mode. Each part begins with "FREE MONO GS-SPACE : " or "FREE GS DUAL-SPACE:" as appropriate and a header line which divides the following rows of values into four output columns:

```
FREE MONO GS-SPACE :
GS-UNIT   SIZE     BEGIN     END
```

or

```
FREE DUAL GS-SPACE :
GS-UNIT   SIZE     BEGIN     END
```

If there is no free area the following line is output:

```
NO MORE GS-SPACE AVAILABLE
```

or

```
NO (MORE) DUAL GS-SPACE AVAILABLE
```

Key to the output columns and their possible values:

Output column	Meaning and possible values
GS-UNIT	Number of GS unit: 1 or 2 for mono mode or 1/2 for dual mode
SIZE	Size of free area in MB: <integer 1..134217726> (mono) or <integer 1..67100862> (dual) <integer 256..16384>
BEGIN	Start of free area in MB: <integer 2..134217727> (mono) or <integer 2..67100863> (dual)
END	End of free area in MB: <integer 2..134217727> (mono) or <integer 2..67100863> (dual)

Table 121: Output columns of the SHOW-GS-STATUS command (SELECT=*FREE-GS)

Output in S variables

The command's SELECT operand identifies the S variables which are to be assigned values. The following specifications are possible for SELECT:

Notation used in command	Abbreviated form used in table
SELECT=*ALL	1
SELECT=*GS-UNITS	2
SELECT=*FREE-GS(MODE=*ANY)	3
SELECT=*FREE-GS(MODE=*DUAL)	4
SELECT=*FREE-GS(MODE=*MONO(...))	5
SELECT=*PARTITIONS(...)	6

Output information	Name of the S variable	T	Contents	Condition
Beginning of the free space for dual partitions in Mbytes	var(*LIST).FREE-DUAL-SPACE(*LIST).BEGIN	I	<integer 2..67108863>	1,3,4
End of the free space for dual partitions in Mbytes	var(*LIST).FREE-DUAL-SPACE(*LIST).END	I	<integer 2..67108863>	1,3,4
GS unit numbers of the free spaces for dual partitions	var(*LIST).FREE-DUAL-SPACE(*LIST).GS-UNIT	S	1/2	1,3,4
Size of the free space for dual partitions in Mbytes	var(*LIST).FREE-DUAL-SPACE(*LIST).SIZE	I	<integer 1..67108862>	1,3,4
Beginning of the free space for mono partitions in Mbytes	var(*LIST).FREE-MONO-SPACE(*LIST).BEGIN	I	<integer 2..134217727>	1,3,5
End of the free space for mono partitions in Mbytes	var(*LIST).FREE-MONO-SPACE(*LIST).END	I	<integer 2..134217727>	1,3,5
GS unit numbers of the free spaces for mono partitions	var(*LIST).FREE-MONO-SPACE(*LIST).GS-UNIT	S	1 2	1,3,5

(Part 1 of 3)

SHOW-GS-STATUS

Output information	Name of the S variable	T	Contents	Condition
Size of the free space for mono partitions in Mbytes	var(*LIST).FREE-MONO-SPACE(*LIST).SIZE	I	<integer 1..134217726>	1,3,5
Beginning of the available GS unit in Mbytes	var(*LIST).GS-UNITS(*LIST).BEGIN	I	<integer 0..67108864>	1,2
Largest free contiguous space of the available GS units in Mbytes	var(*LIST).GS-UNITS(*LIST).CONTIG	I	<integer 1..134217726>	1,2
End of the available GS unit in Mbytes	var(*LIST).GS-UNITS(*LIST).END	I	<integer 0..134217727>	1,2
Free space of the available GS unit in Mbytes	var(*LIST).GS-UNITS(*LIST).FREE	I	<integer 1..134217726>	1,2
GS unit numbers of the available GS units	var(*LIST).GS-UNITS(*LIST).GS-UNIT	S	1 2	1,2
Size of the available GS unit in Mbytes	var(*LIST).GS-UNITS(*LIST).SIZE	I	<integer 1..134217728>	1,2
Status of the available GS unit	var(*LIST).GS-UNITS(*LIST).STA	S	ATTACHED DETACHED	1,2
Type of access to the partition *EXCL=exclusive access *NONE=no access *SHARE=shared access	var(*LIST).PARTITIONS(*LIST).ACCESS	S	*EXCL *NONE *SHARE	1,6
Names of the hosts using the partition	var(*LIST).PARTITIONS(*LIST).ASS-HOSTS(*LIST).HOSTNAME	S	<name 1..8>	1,6
SYSIDs of the hosts using the partition	var(*LIST).PARTITIONS(*LIST).ASS-HOSTS(*LIST).SYSID	S	<name 1..3>	1,6
Indicates, for dual partitions, whether attaching the second GS unit is permitted or forbidden	var(*LIST).PARTITIONS(*LIST).ATTACH-DUAL	S	" *ALLOW *FORBIDDEN	1,6
Beginning of the partition in Mbytes	var(*LIST).PARTITIONS(*LIST).BEGIN	I	<integer 2..134217727>	1,6
Validity of the data in the partition	var(*LIST).PARTITIONS(*LIST).DATA	S	*INVALID *VALID	1,6
End of the partition in Mbytes	var(*LIST).PARTITIONS(*LIST).END	I	<integer 2..134217727>	1,6
Indicates on which GS unit the partition is located	var(*LIST).PARTITIONS(*LIST).GS-UNIT	S	1 2 1/2	1,6
Partition mode: *DUAL=partition on both GS units *MONO=partition on one GS unit	var(*LIST).PARTITIONS(*LIST).MODE	S	*DUAL *MONO	1,6
ID of the partition	var(*LIST).PARTITIONS(*LIST).PART-ID	S	<name 1..8>	1,6

(Part 2 of 3)

Output information	Name of the S variable	T	Contents	Condition
Size of the partition in Mbytes	var(*LIST).PARTITIONS(*LIST).SIZE	I	<integer 1..67108862>	1,6
Use of global storage LOCAL=local GLOBAL=global in the XCS network	var(*LIST).SUBSYS-PAR(*LIST).GS-USAGE	S	LOCAL GLOBAL	None

(Part 3 of 3)

Example

A global storage facility with two 512-MB GS units is configured using the following commands:

```
/create-gs-partition partition-id=gsv00001, size=256,mode=*dual
/create-gs-partition partition-id=pag00001, size=64, mode=*dual
/create-gs-partition partition-id=dabdc1, size=64,mode=*dual
/create-gs-partition partition-id=dab1cat2, size=64,
mode=*mono(gs-unit=1)
/create-gs-partition partition-id=dab2cat3, size=32,
mode=*mono(gs-unit=2)
/create-gs-partition partition-id=gsv00002, size=32,
mode=*mono(gs-unit=1), location=80
/create-gs-partition partition-id=gsv00003, size=32,
mode=*mono(gs-unit=2), location=584
```

Then SHOW-GS-STATUS is used with INFORMATION=*ALL to show all the available information about the current configuration of global storage:

```
/show-gs-status select=*all
SUBSYSTEM PARAMETER:
GS-USAGE = LOCAL
```

GS-UNITS:

GS-UNIT	BEGIN	END	SIZE	FREE	CONTIGUOUS	STATE
1	0	511	512	94	80	ATTACHED
2	512	1023	512	126	88	ATTACHED

PARTITIONS:

PART-ID	ACCESS	DATA	MODE	GSU	SIZE	BEGIN	END	ATT-DUAL	HOST/SYSID
GSV00003	NONE	INVAL	MONO	2	32	584	615		
GSV00002	NONE	INVAL	MONO	1	32	80	111		
DAB1CAT2	NONE	INVAL	MONO	1	64	2	65		
DABDCAT1	NONE	INVAL	DUAL	1/2	64	192	255	ALLOW	
D017ZE04/134									
DAB2CAT3	NONE	INVAL	MONO	2	32	514	545		

SHOW-GS-STATUS

GSV00001 NONE INVAL DUAL 1/2 256 256 511 ALLOW
D017ZE04/134

D017ZE07/135

FREE MONO GS-SPACE:

GS-UNIT	SIZE	BEGIN	END
1	14	66	79
1	80	112	191
2	38	546	583
2	88	616	703

FREE DUAL GS-SPACE:

GS-UNIT	SIZE	BEGIN	END
1/2	6	66	71
1/2	80	112	191

SHOW-GS-VOLUME-ATTRIBUTES

Fetch information on all available GS volumes

Description status:	GSVOL V1.3B
Functional area:	Caching media control Global storage administration
Domain:	DEVICE SYSTEM-TUNING STORAGE-MANAGEMENT
Privileges:	TSOS OPERATING SW-MONITOR-ADMINISTRATION
Routing code:	@

Function

The command provides systems support with information on all the available GS volumes.

The command supports structured output in S variables (see [“Output in S variables” on page 6-187](#)).

Format

SHOW-GS-VOLUME-ATTRIBUTES

```

VOLUME = *ALL / *SCRATCH / *BY-DEVICE-UNIT(...) / *BY-PARTITION-ID(...) /
list-poss(64): <composed-name 1..6 with-wild(20)>

*BY-DEVICE-UNIT(...)
| DEVICE-UNIT = list-poss(64): <composed-name 1..4 with-wild(20)>

*BY-PARTITION-ID(...)
| PARTITION-ID = list-poss(64): <composed-name 1..8 with-wild(20)>

,SELECT = *ALL / *BY-ATTRIBUTES(...)

*BY-ATTRIBUTES(...)
| ASSIGNED-HOSTS = *ANY / *NONE / *OWN / list-poss(16): <composed-name 1..8 with-wild(20)>

,INFORMATION = *STD / *ALL

```

Operands

VOLUME = *ALL / *SCRATCH / *BY-DEVICE-UNIT(...) / *BY-PARTITION-ID(...) / list-poss(64): <composed-name 1..6 with-wild(20)>

Specifies the GS volumes for which information is required.

VOLUME = *ALL

Information about all available GS volumes is to be displayed.

VOLUME = *SCRATCH

Information is required only for GS volumes which do not have a VSN, i.e. any GS volumes which were not formatted using the VOLIN utility.

VOLUME = *BY-DEVICE-UNIT(...)

Information is required only for GS volumes with one of the device mnemonics specified next.

DEVICE-UNIT = list-poss(64): <composed-name 1..4 with-wild(20)>

Specifies the device mnemonic of the GS volumes for which information is required. The device mnemonic is a hexadecimal string and must fall within the range 0300-03FF. A list or wildcards can be used to specify a set of GS volumes.

VOLUME = *BY-PARTITION-ID(...)

Information is required only for GS volumes set up on the GS partitions specified next.

PARTITION-ID = list-poss(64): <composed-name 1..8 with-wild(20)>

Specifies the partitions containing the GS volumes for which information is required. A list or wildcards can be used to specify a set of partitions.

SELECT = *ALL / *BY-ATTRIBUTES(...)

Indicates whether the set of GS volumes specified in the VOLUME operand is to be restricted by means of selection criteria.

SELECT = *ALL

Information is required for all the GS volumes specified in the VOLUME operand.

SELECT = *BY-ATTRIBUTES(...)

The set of GS volumes specified in the VOLUME operand is to be restricted by means of selection criteria.

ASSIGNED-HOSTS = *ANY / *NONE / *OWN /

list-poss(16): <composed-name 1..8 with-wild(20)>

Supplies information about GS volumes connected to the specified host.

ASSIGNED-HOSTS = *ANY

Supplies information about all GS volumes, regardless of whether they are connected to a host.

ASSIGNED-HOSTS = *NONE

Supplies information about all GS volumes which are not connected to any host.

ASSIGNED-HOSTS = *OWN

Supplies information about all GS volumes which are connected to the local host.

ASSIGNED-HOSTS = list-poss(16): <composed-name 1..8 with-wild(20)>

Supplies information about all GS volumes which are connected to the specified host (host name).

A list or wildcards can be used to specify a set of hosts. In this case information is supplied for all GS volumes which are connected to any of the specified hosts.

INFORMATION = *STD / *ALL

Amount of information to be output.

INFORMATION = *STD

All the information other than the XCS host names is shown.

INFORMATION= *ALL

All the information is shown.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	1	CMD0202	Syntax error in command
	32	CMD0221	Internal error
	64	CMD0216	User not authorized to issue command
	64	NDG0004	No matching volume found

Output format

```
/SHOW-GS-VOLUME-ATTRIBUTES *BY-DEVICE-UNIT(DEVICE-UNIT=0314),
  SELECT=*BY-ATTRIBUTES(ASSIGNED-HOSTS=(HOST1,HOST3)), INFORMATION=*ALL
```

```
MN          = 0314  VSN          = WORK01          PARTITION-ID = GSV00001
GS-UNIT     = 1     SIZE (PHP) = 131070          FORMAT      = NK4
DUAL        = NO    STATUS       = ACCESS
HOST        = (HOST3, HOST5, HOST2)
```

Output field	Meaning / Information
MN	Device mnemonic of the GS volume.
GS-UNIT	GS unit containing the GS volume. The possible output values are "1", "2" and "1/2".
DUAL	Indicates whether the GS volume is on a dual partition (DUAL = YES) or a mono partition (DUAL = NO).
HOST	Host names of the hosts attached to the GS volume.
VSN	VSN of the GS volume. If the GS volume does not have a VSN, "SCRATCH" appears here.
SIZE (PHP)	Size of the GS volume in physical half pages.
STATUS	Status of the GS volume. The following values are possible: ACCESS: The GS volume is on a mono partition and is accessible. DUAL: The GS volume is on a dual partition and both GS units are accessible. NOACC: The GS volume is not accessible. In the case of a dual partition, neither of the GS units is accessible. MONO-1 The GS volume is on a dual partition and only GS unit 1 is accessible. MONO-2 The GS volume is on a dual partition and only GS unit 2 is accessible.
PARTITION-ID	Name of the GS partition containing the GS volume.
FORMAT	Format of the GS volume.

Table 122: Key to the output fields of the SHOW-GS-VOLUME-ATTRIBUTES command

Output in S variables

The INFORMATION operand identifies the S variables which are to be assigned values. The values *STD/*ALL are possible for INFORMATION.

Output information	Name of the S variable	T	Contents	Condition
Mnemonic device name of the GS volume	var(*LIST).DEV-UNIT	S	<c-string 4..4>	
Container used for the GS volume *YES=DUAL partition *NO=MONO partition	var(*LIST).DUAL	S	*NO *YES	
Format of the data on the GS volume	var(*LIST).FORM	S	*K *NK2 *NK4	
GS unit on which the GS volume is to be found	var(*LIST).GS-UNIT	S	1 2 1/2	
XCS host names of the systems connected with the GS volume	var(*LIST).HOST(*LIST)	S	<c-string 1..8>	INF=*ALL
Partition ID of the GS volume	var(*LIST).PART-ID	S	<c-string 1..8>	
Size of the GS volume in physical half-pages	var(*LIST).SIZE	I	<integer 0..2147483647>	
Status of the GS volume ACCESS=the volume is to be found in a MONO partition and is available DUAL=the volume is to be found in a DUAL partition and both GS units are available MONO-1=the volume is to be found in a DUAL partition and GS unit 1 is available MONO-2=the volume is to be found in a DUAL partition and GS unit 2 is available NOACC=the volume is not available; for DUAL partitions this means that both GS units have failed	var(*LIST).STA	S	ACCESS DUAL MONO-1 MONO-2 NOACC	
VSN of the GS volume *SCRATCH=volume without VSN	var(*LIST).VOL	S	*SCRATCH <c-string 1..6>	

SHOW-HARDWARE-AUDIT

Output hardware AUDIT table

Description status:	BS2000 OSD/BC V10.0A
Functional area:	AUDIT mode control
Domain:	PROGRAM
Privileges:	STD-PROCESSING TSOS

Function

The SHOW-HARDWARE-AUDIT command outputs the entries in the hardware AUDIT table in which the audit mode addresses are recorded. Output is possible only as long as the audit mode has not been terminated by means of the STOP-HARDWARE-AUDIT command.

The output may be directed to SYSOUT or SYSLST.

In the TU and TPR states, the audit mode addresses are generally processed on the basis of the module name and the displacement. If an address cannot be assigned to a module, or if the processor status is TU, the string ABSOLUTE is inserted in place of the module name.

The TU hardware AUDIT tables of a foreign task are always issued in the form of absolute addresses because the link information is not available. A nonprivileged user can only request the entries concerning tasks running under his or her own user ID.

Privileged functions

Systems support (TSOS privilege) can request the entries for all tasks (including the TPR processor status).

The table entries of the hardware audit table and the backup table are output in reverse chronological order on the 'first in - last out' principle. If a task is active at the time the request is made, the tables may already have changed by the time they are output.

An extended hardware AUDIT table (4 KBytes in TPR) cannot be output. To request or edit an extended TPR AUDIT table, it is necessary to use CDUMP with SCOPE=*SYSTEM.

Format

SHOW-HARDWARE-AUDIT
<pre> STATE = *USER (...) / *SYSTEM(...) *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 / *TID(...) / *TSN(...) *TID(...) TID = <alphanum-name 1..8> *TSN(...) TSN = <alphanum-name 1..4> / <c-string 1..4> ,OUTPUT = *SYSOUT / *SYSLST </pre>

Operands

STATE = *USER(...) / *SYSTEM(...)

Processor state for which the hardware AUDIT table is to be output.

STATE = *USER(...)

The hardware AUDIT table is to be output for the nonprivileged processor state TU.

A nonprivileged user can only request the entries concerning tasks running under his or her own user ID.

SCOPE = *OWN-JOB / *TID(...) / *TSN(...)

Scope of the hardware AUDIT function.

SCOPE = *OWN-JOB

The hardware AUDIT table of the user's own task is to be output.

SCOPE = *TID(...)

Only the entries for a task that is identified by means of an internal task number are requested.

TID = <alphanum-name 1..8>

Task identifier that is assigned to the task whose entries are requested.

SCOPE = *TSN(...)

Only the entries for a task that is identified by means of its task sequence number (TSN) are requested.

TSN = <alphanum-name 1..4> / <c-string 1..4>

TSN that is assigned to the task whose entries are requested.

STATE = *SYSTEM(...)

Only privileged users are allowed to select this operand value.

The hardware AUDIT table is to be output for the nonprivileged processor state TPR.

SCOPE = *OWN-JOB / *TID(...) / *TSN(...)

Scope of application for the hardware AUDIT function.

SCOPE = *OWN-JOB

The hardware AUDIT table of the user's own (TSOS) task is to be output.

SCOPE = *TID(...)

Only the table for a task identified by an internal task number is requested.

TID = <alphanum-name 1..8>

Task identifier assigned to the task for which the table is being requested.

SCOPE = *TSN(...)

Only the table for a task identified by its task sequence number (TSN) is requested.

TSN = <alphanum-name 1..4> / <c-string 1..4>

TSN assigned to the task for which the table is requested.

OUTPUT = *SYSOUT / *SYSLST

Specifies whether the hardware AUDIT table is to be output to SYSOUT or to SYSLST.

The default value is SYSOUT, i.e. output is directed to SYSOUT.

The entries of the hardware AUDIT table appear in reverse order of their occurrence. The hardware AUDIT table is a 256-byte table, i.e. it can contain 64 logged branches. If BUFFER-SIZE=1 was specified in the START-HARDWARE-AUDIT command, the table is a 4096-byte table, i.e. it can contain 1024 logged branches.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
1	0	CMD0001	Hardware AUDIT table empty, so no output
	1	CMD2201	Specified task does not exist
	32	IDA0018	Internal system error. Hardware AUDIT table cannot be displayed
	32	IDA0022	No more storage space available for hardware AUDIT output SYSLST
	64	CMD0216	User does not have authorization
	64	IDA0001	Hardware AUDIT is not active
	64	IDA0011	Privilege error
	64	IDA0023	Hardware AUDIT not available user is not authorized
	64	IDA0024	Hardware AUDIT not available due to current test option settings for the active task

SHOW-HEL-CHECK

Show HEL threshold monitoring information

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	HARDWARE-MAINTENANCE

Function

The SHOW-HEL-CHECK command writes information about HEL record threshold monitoring to SYSOUT. It shows all the control records used to set hardware error monitoring thresholds. The MODIFY-HEL-CHECK command allows extra control records to be added to those which are present when the system is started up. Up to 50 records can be displayed. For each control record SHOW-HEL-CHECK indicates the monitoring function, the selection criteria for the HEL records which are to be monitored, and the threshold value itself.

The command is rejected if HEL logging is disabled.

The command supports structured output in S variables (see [“Output in S variables” on page 6-194](#)).

Format

SHOW-HEL-CHECK

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	32	CMD2009	Internal error on output to S variables
	64	HEL0010	Hardware error logging is not active
	64	HEL0110	Privilege error
	130	OPS0001	Insufficient memory for structured output in S variables

Output format

The information is displayed in the form of a table. There is one line of information for each control record (up to 50 control records). The first line of the output is a header line containing the headings for the 7 columns of information. The control records appear in the order in which they were created.

Output column	Value	Meaning / Operand in MODIFY-HEL-CHECK command
MONITOR	SYS_STD ON OFF	Status of monitoring function System setting: CHECK = *STD Monitoring active: CHECK = *ON Monitoring inactive: CHECK = *OFF
CTID	ANY M C R D T S B N Z	Selected monitoring class (CONTROL-ID =) Not used as selection criterion (= *ANY) Machine check (= *MCK) Channel check (= *CCK) Channel report words (= *CRW) Disk device error (= *DISK) Tape device error (= *TAPE) Spool device error (= *SPOOL) Error detected by BCAM (= *BCAM) No interrupt (= *NINT) Device statistics (= *STAT)
PRIO	ANY L M H	Selected error priority (PRIORITY =) Not used as selection criterion (= *ANY) Low priority (= *LOW) Medium priority (= *MEDIUM) High priority (= *HIGH)
ATTR	ANY H U C D T O	Selected error type (ATTRIBUTE =) Not used as selection criterion (= *ANY) Hardware error (= *HARDWARE-ERROR) Uncorrectable error (= *UNCORRECTABLE) Correctable error (= *CORRECTABLE) Disk error (= *DALTA-RESPONSIBLE) Tape error (= *TAPE-ERROR) Channel capacity exceeded (= *OVERRUN)
DEVICE	ANY MN = mn PATH = ccccuu	Selected device (DEVICE =) Not used as selection criterion (= *ANY) Device mnemonic (= <alphanum-name 2..4>) Device path name (= *UNIT(PATH = ccccuu))

Table 123: Output columns of the SHOW-HEL-CHECK command (Part 1 of 2)

Output column	Value	Meaning / Operand in MODIFY-HEL-CHECK command
THRESHOLD	<integer 1..255>	Threshold (MAXIMUM =)
ACT-COUNT	<integer 1..255>	Current value of threshold counter

Table 123: Output columns of the SHOW-HEL-CHECK command (Part 2 of 2)

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Current threshold counter of threshold monitoring	var(*LIST).ACTUAL	I	<integer 1..255>	
“Monitoring class” of the error reported in the HEL record	var(*LIST).CONTR-ID	S	*ANY *BCAM *CCK *CRW *DISK *MCK *NINT *SPOOL *STATIS *TAPE	
Name of the device for which the logging behavior is being defined	var(*LIST).DEV	S	*ANY <c-string 2..6>	
Type of device specification *BY-MN = specified by unit mnemonic *BY-PATH = specified by path name in cccuu form	var(*LIST).DEV-SPEC	S	*BY-MN *BY-PATH	
Type of error reported in the HEL record	var(*LIST).ERROR-ATTR	S	*ANY *CORRECTABLE *DALTA-RESPONSIBLE *HARDWARE-ERROR *OVERRUN *TAPE-ERROR *UNCORRECTABLE	
Monitored threshold	var(*LIST).MAX	I	<integer 1..255>	
Monitoring status	var(*LIST).MONITOR-STA	S	*OFF *ON *STD	
Device path name	var(*LIST).PATH	S	<c-string 1..4>	

(Part 1 of 2)

Output information	Name of the S variable	T	Contents	Condition
Priority of the error reported in the HEL record	var(*LIST).PRIO	S	*ANY *HIGH *LOW *MED	

(Part 2 of 2)

Example

```

/show-hel-check _____ (1)
% MONITOR CTID PRIO ATTR DEVICE THRESHOLD ACT-COUNT
% SYS_STD D H ANY ANY 16 0
% SYS_STD D M ANY ANY 21 0
% SYS_STD T M ANY ANY 21 0
% SYS_STD C H ANY ANY 16 0
% SYS_STD C M ANY ANY 16 0
% SYS_STD M H ANY ANY 1 0
% SYS_STD M M ANY ANY 3 0
% SYS_STD R H ANY ANY 1 0
% SYS_STD R M ANY ANY 16 0
% SYS_STD ANY ANY 0 ANY 1000 0
% SYS_STD T H ANY ANY 1 0

/mod-hel-check check=*std,control-id=*disk,prio=*low,max=100 _____ (2)
/mod-hel-check check=*off,control-id=*tape,device=a1 _____ (3)
/show-hel-check _____ (4)
% MONITOR CTID PRIO ATTR DEVICE THRESHOLD ACT-COUNT
% SYS_STD D H ANY ANY 16 0
% SYS_STD D M ANY ANY 21 0
% SYS_STD T M ANY ANY 21 0
% SYS_STD C H ANY ANY 16 0
% SYS_STD C M ANY ANY 16 0
% SYS_STD M H ANY ANY 1 0
% SYS_STD M M ANY ANY 3 0
% SYS_STD R H ANY ANY 1 0
% SYS_STD R M ANY ANY 16 0
% SYS_STD ANY ANY 0 ANY 1000 0
% SYS_STD T H ANY ANY 1 0
% SYS_STD D L ANY ANY 100 0
% OFF T ANY ANY MN = A1 0 0

/mod-hel-check check=*std _____ (5)
/show-hel-check _____ (6)
% MONITOR CTID PRIO ATTR DEVICE THRESHOLD ACT-COUNT
% SYS_STD D H ANY ANY 16 0
% SYS_STD D M ANY ANY 21 0
% SYS_STD T M ANY ANY 21 0
% SYS_STD C H ANY ANY 16 0
% SYS_STD C M ANY ANY 16 0
% SYS_STD M H ANY ANY 1 0
% SYS_STD M M ANY ANY 3 0
% SYS_STD R H ANY ANY 1 0
% SYS_STD R M ANY ANY 16 0
% SYS_STD ANY ANY 0 ANY 1000 0
% SYS_STD T H ANY ANY 1 0

```

- (1) The SHOW-HEL-CHECK command lists the system's default threshold monitoring control records.
- (2) The MODIFY-HEL-CHECK command adds a new control record: it sets a threshold of 100 for low-priority hardware errors in monitoring class D, and selects the system's default CHECK setting.
- (3) The MODIFY-HEL-CHECK command adds a new control record: it sets the system default threshold (10) for hardware errors in monitoring class T affecting the device with the mnemonic name A1, and explicitly disables monitoring.
- (4) The command lists all the currently defined threshold monitoring control records. The control records added at Points 2 and 3 above come at the end of the list.
- (5) /MODIFY-HEL-CHECK CHECK=*STD with no command-line arguments (all operands assuming their default values) resets the threshold monitoring mechanism, which means that all the additional control records defined in the session are deleted.
- (6) The SHOW-HEL-CHECK command again lists the system's default threshold monitoring control records (compare with Point 1).

SHOW-HEL-LOGGING

Show HEL record logging settings

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	HARDWARE-MAINTENANCE

Function

The SHOW-HEL-LOGGING command writes information about HEL record logging to SYSOUT. It shows all the control records used to set the conditions for HEL record logging. The MODIFY-HEL-LOGGING command allows extra control records to be added to those which are present when the system is started up. Up to 50 records can be displayed. For each control record SHOW-HEL-LOGGING indicates the status of the logging function and the selection criteria for the HEL records which are to be logged.

The command is rejected if HEL logging is disabled.

The command supports structured output in S variables (see [“Output in S variables” on page 6-199](#)).

Format

SHOW-HEL-LOGGING

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	32	CMD2009	Internal error on output to S variables
	64	HEL0010	Hardware error logging is not active
	64	HEL0110	Privilege error
	130	OPS0001	Insufficient memory for structured output in S variables

Output format

The information is displayed in the form of a table. There is one line of information for each control record (up to 50 control records). The first line of the output is a header line containing the headings for the 5 columns of information. The control records appear in the order in which they were created.

Output column	Value	Meaning/Operand in MODIFY-HEL-LOGGING command
LOGGING	SYS_STD ON OFF	Status of the monitoring function System setting: LOGGING = *STD Logging active: LOGGING = *ON Logging inactive: LOGGING = *OFF
CTID	ANY M C R D T S B N Z	Selected monitoring class (CONTROL-ID =) Not used as selection criterion (= *ANY) Machine check (= *MCK) Channel check (= *CCK) Channel report words (= *CRW) Disk device error (= *DISK) Tape device error (= *TAPE) Spool device error (= *SPOOL) Error detected by BCAM (= *BCAM) No interrupt (= *NINT) Device statistics (= *STAT)
PRIO	ANY L M H	Selected error priority (PRIORITY =) Not used as selection criterion (= *ANY) Low priority (= *LOW) Medium priority (= *MEDIUM) High priority (= *HIGH)
ATTR	ANY H U C D T O	Selected error type (ATTRIBUTE =) Not used as selection criterion (= *ANY) Hardware error (= *HARDWARE-ERROR) Uncorrectable error (= *UNCORRECTABLE) Correctable error (= *CORRECTABLE) Disk error (= *DALTA-RESPONSIBLE) Tape error (= *TAPE-ERROR) Channel capacity exceeded (= *OVERRUN)
DEVICE	ANY MN = mn PATH = ccccuu	Selected device (DEVICE =) Not used as selection criterion (= *ANY) Device mnemonic (= <alphanum-name 2..4>) Device path name (= *UNIT(PATH = ccccuu))

Table 124: Output columns of the SHOW-HEL-LOGGING command

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
"Monitoring class" of the error reported in the HEL record	var(*LIST).CONTR-ID	S	*ANY *BCAM *CCK *CRW *DISK *MCK *NINT *SPOOL *STATIS *TAPE	
Name of the device for which the logging behavior is being defined	var(*LIST).DEV	S	*ANY <c-string 2..6>	
Type of device specification *BY-MN = specified by unit mnemonic *BY-PATH = specified by path name in the form cccuu	var(*LIST).DEV-SPEC	S	*BY-MN *BY-PATH	
Type of error reported in the HEL record	var(*LIST).ERROR-ATTR	S	*ANY *CORRECTABLE *DALTA-RESPONSIBLE *HARDWARE-ERROR *OVERRUN *TAPE-ERROR *UNCORRECTABLE	
Monitoring status	var(*LIST).LOG-STA	S	*OFF *ON *STD	
Device path name	var(*LIST).PATH	S	<c-string 1..4>	
Priority of the error reported in the HEL record	var(*LIST).PRIO	S	*ANY *HIGH *LOW *MED	

Example

```
/show-hel-log _____ (1)
% LOGGING CTID PRIO ATTR DEVICE
% SYS_STD ANY ANY ANY ANY

/mod-hel-log logging=*off,control-id=*tape _____ (2)
/mod-hel-log logging=*on,control-id=*disk,attribute=*delta _____ (3)
/mod-hel-log logging=*on,device=*unit(001860) _____ (4)
/show-hel-log _____ (5)
% LOGGING CTID PRIO ATTR DEVICE
% SYS_STD ANY ANY ANY ANY
% OFF T ANY ANY ANY
% ON D ANY D ANY
% ON ANY ANY ANY UNIT = 001860

/mod-hel-log _____ (6)
/show-hel-log _____ (7)
% LOGGING CTID PRIO ATTR DEVICE
% SYS_STD ANY ANY ANY ANY
```

- (1) The SHOW-HEL-LOGGING lists the system's default control records for HEL record logging.
- (2) The MODIFY-HEL-LOGGING adds a new control record: HEL records for hardware errors in monitoring class T are not to be logged.
- (3) The MODIFY-HEL-LOGGING command adds another new control record: HEL records for hardware errors in monitoring class D and with error attribute D are to be logged.
- (4) The MODIFY-HEL-LOGGING command adds yet another control record: HEL records for hardware errors affecting the hardware unit with the device address 001860 are to be logged.
- (5) The command lists all the currently defined logging control records. The control records added at Points 2, 3 and 4 above come at the end of the list.
- (6) MODIFY-HEL-LOGGING with no command-line arguments (all operands assuming their default values) resets the logging mechanism, which means that all the additional control records defined in the session are deleted.
- (7) The SHOW-HEL-LOGGING command again lists the system's default logging control records (compare with Point 1).

SHOW-HEL-STATUS

Show hardware error logging status

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	HARDWARE-MAINTENANCE TSOS

Function

The SHOW-HEL-STATUS lists information relating to hardware error logging. The output indicates whether logging is active. If logging is active, the path name of the current logging file is shown as well.

Logging is started up automatically at system startup; but it can also be activated with the START-HEL-LOGGING command.

Format

SHOW-HEL-STATUS

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	64	HEL0110	Privilege error

SHOW-HEL-TELESERVICE-ALARM

Show Teleservice alarm settings

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	HARDWARE-MAINTENANCE

Function

The SHOW-HEL-TELESERVICE-ALARM command writes the settings of the Teleservice alarm to SYSOUT. It indicates whether the alarm function is on or off.

If the alarm function is active, the period in which alarm messages are issued is also shown. Within this period, alarm messages are displayed on the console whenever error thresholds are crossed (see the MODIFY-HEL-CHECK command description).

Teleservice alarm settings (on/off and period) can be altered with the MODIFY-HEL-TELESERVICE-ALARM command.

The command is rejected if HEL logging is disabled.

Format

SHOW-HEL-TELESERVICE-ALARM

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	64	HEL0010	Hardware error logging is not active
	64	HEL0110	Privilege error

Examples

See the MODIFY-HEL-TELESERVICE-ALARM command.

SHOW-INDEX-ATTRIBUTES

Output information on secondary indices (NK-ISAM)

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING

Function

The SHOW-INDEX-ATTRIBUTES command makes a read access to the specified file and outputs information on all existing secondary keys or generated secondary indices to SYSOUT.

The output consists of the file name and a table which contains one line for each defined key, showing:

- the key name
- the position of the key field within the data record
- the length of the key field
- whether duplicate keys are allowed
- any additional flags, with INCOMPLETE for any incomplete secondary index

The command supports structured output in S variables (see [“Output in S variables” on page 6-205](#)).

Format

SHOW-INDEX-ATTRIBUTES

FILE-NAME = <filename 1..54>

Operands

FILE-NAME = <filename 1..54>

The name of the NK-ISAM file for which information on the secondary keys is required.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	32	CMD2009	Internal error on structured output to S variables
	32	DMS0A37	Internal system error
	32	DMS0A42	Internal error on opening the file
	32	DMS0A43	Internal error on closing the file
	32	DMS0A4F	RDTFT error
	32	DMS0A3A	Inconsistent control block found
	64	DMS0A4A	No secondary indices exist
	64	DMS0A30	Remote system not supported
	64	DMS0A31	Specified catalog ID does not exist
	64	DMS0A46	Not an NK-ISAM file
	128	DMS0A49	Command interrupted
	130	DMS0A32	Specified catalog ID not available
	130	DMS0A38	Insufficient virtual memory

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Duplicate secondary keys allowed	var(*LIST).AIX(*LIST).DUP-KEY	S	*NO *YES	
Length of the secondary key	var(*LIST).AIX(*LIST).KEY-LEN	I	<integer 1..127>	
Name of the secondary key	var(*LIST).AIX(*LIST).KEY-NAME	S	<c-string 1..8>	
Position of the secondary key in the record	var(*LIST).AIX(*LIST).KEY-POS	I	<integer 1..32496>	
Incomplete secondary key present	var(*LIST).AIX(*LIST).NOT-COMPL	S	*NO *YES	
Name of the NK-ISAM file	var(*LIST).F-NAME	S	<c-string 1..54>	
Number of secondary keys defined	var(*LIST).KEY	I	<integer 1..30>	

Example

See the CREATE-ALTERNATE-INDEX command.

SHOW-INPUT-DEFAULTS

Output task-specific default values

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-INPUT-DEFAULTS command outputs all currently defined task-specific default values. Within the task, default values can be defined for commands and statements. The user can either display all default values or restrict the display to default values of commands or statements. If only defaults of commands/statements are to be displayed, the output can be restricted to specific commands or statements.

Output can be directed to either SYSOUT or SYSLST.

Task-specific default values can be deleted using the RESET-INPUT-DEFAULTS command. To identify a specific default value in the RESET-INPUT-DEFAULTS command, the output of the SHOW-INPUT-DEFAULTS command can be requested with input serial numbers (operand INPUT-SERIAL-NUMBER=*YES).

In programs with an SDF interface, SHOW-INPUT-DEFAULTS is available as a standard statement with the same functionality.

Format

SHOW-INPUT-DEFAULTS	Alias: SHID
<p>OBJECT = <u>*CMD</u> (...) / *STMT(...) / *ALL</p> <p><u>*CMD</u>(...)</p> <p> CMD = <u>*ALL</u> / <structured-name 1..30 with-wild(50)></p> <p><u>*STMT</u>(...)</p> <p> STMT = <u>*ALL</u> / <structured-name 1..30 with-wild(50)></p> <p> ,PROGRAM = <u>*CURRENT</u> / *ALL / <structured-name 1..30></p> <p>,OUTPUT = <u>*SYSOUT</u> / *SYSLST(...)</p> <p><u>*SYSLST</u>(...)</p> <p> SYSLST-NUMBER = <u>*STD</u> / <integer 1..99></p> <p>,INPUT-SERIAL-NUMBER = <u>*NO</u> / *YES</p>	

Operands

OBJECT = *CMD(...) / *STMT(...) / *ALL

Specifies the type of input for which the task-specific default values are to be output.

OBJECT = *CMD(...)

Only the task-specific default values of commands are output. The defaults of all or only of selected commands can be requested.

CMD = *ALL / <structured-name 1..30 with-wild 50>

Specifies whether the task-specific default values of all commands or only of selected commands are to be output.

CMD = *ALL

All task-specific default values of commands are output.

CMD = <structured-name 1..30 with-wild 50>

Name of the command whose task-specific default values are to be output. If wildcards are used, the default values of all commands which match the specified search pattern will be displayed.

OBJECT = *STMT(...)

Only the task-specific default values of statements are displayed. The user can request the default values of all or only of selected statements of a program to be output.

STMT = *ALL / <structured-name 1..30 with-wild (50)>

Specifies whether the task-specific default values of all statements or only of selected statements are to be output. In the PROGRAM operand the user can specify whether the output is to contain default values of statements of a specific program or of all programs.

STMT= *ALL

All task-specific default values of statements are output.

STMT = <structured-name 1..30 with-wild (50)>

Name of the statement whose task-specific default values are to be output. If wildcards are used, the default values of all statements which match the specified wildcard string will be output.

PROGRAM = *CURRENT / *ALL / <structured-name 1..30>

Specifies the program for whose statements specified in the STMT operand the task-specific default values are to be output.

PROGRAM = *CURRENT

Only default values of statements of the program currently defined in the SDF options are output. The program name can be set using the MODIFY-SDF-OPTIONS command (DEFAULT-PROGRAM-NAME operand).

PROGRAM = *ALL

The default values of all statements are output, regardless of the program name.

PROGRAM = <structured-name 1..30>

Program name, defined in a currently assigned syntax file.

Only default values of statements of the specified program are output.

OBJECT = *ALL

All task-specific default values, i.e. from both commands and statements, are output.

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.

INPUT-SERIAL-NUMBER = *NO / *YES

Specifies whether the inputs are to be shown with their input serial numbers. The default value is *NO for output without input serial numbers. The input serial number can be used in the RESET-INPUT-DEFAULTS command to delete a specific default value.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
1	0	CMD0001	There is no task-specific default value matching the specifications. Guaranteed message: CMD0561
1	32	CMD0500	Syntax description in current syntax file invalid Guaranteed message: CMD0500
1	64	CMD0561	Command execution unsuccessful Guaranteed message: CMD0561

Example

See the RESET-INPUT-DEFAULTS command.

SHOW-INPUT-HISTORY

Output buffered input to SYSOUT

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-INPUT-HISTORY command outputs the contents of the input buffer to SYSOUT. This enables information to be provided on previous inputs. The user can then request a specific input via the RESTORE-SDF-INPUT command and enter it again, either as it is or in modified form, without having to retype it. For an input to be reused, however, at least one character in the input string must be changed (e.g. you can overwrite a character with the same character).

For identification purposes in the RESTORE-SDF-INPUT command, the information can be requested with input serial numbers (operand: INPUT-SERIAL-NUMBER=*YES).

The user can restrict the scope of the output of the input buffer as follows:

- Specify the maximum number of saved inputs to be displayed (ENTRIES operand); the default value is eight.
- Specify the desired input type (SELECT operand) - either commands or statements; the default is commands.
- Specify a wildcard search pattern (PATTERN operand). Only commands or statements which match this string are displayed; the default value is no search pattern used.

The input buffer is controlled (activated/deactivated and deleted) via the MODIFY-SDF-OPTIONS command. Inputs in guided dialog are saved in ACCEPTED form, while inputs in unguided dialog are saved in INPUT form.

The SHOW-INPUT-HISTORY command or statement is not saved.

Values specified for “secret” operands which match neither the default value nor a value defined via SECRET=*NO are saved in the input buffer with “^”.

In unguided dialog when these values are displayed again with SHOW-INPUT-HISTORY, the user can do one of the following:

- send off the command/statement unchanged. In this case, SDF displays a blanked input field for each secret operand for the user to enter the desired value
- delete the “^” and insert the desired value directly before sending off the command/statement.

In programs with an SDF interface, SHOW-INPUT-HISTORY is available as a standard statement with the same functionality.

Format

SHOW-INPUT-HISTORY	Alias: SHIH
<p>ENTRIES = <u>g</u> / <integer 1..100> / *ALL</p> <p>,SELECT = *<u>CMD</u> / *ALL / *STMT</p> <p>,PATTERN = *<u>NONE</u> / <structured-name 1..30 with-wild></p> <p>,INPUT-SERIAL-NUMBER = *<u>NO</u> / *YES</p>	

Operands

ENTRIES = g / <integer 1..100> / *ALL

Determines the maximum number of entries to be displayed. If *ALL is specified, the entire contents of the buffer are displayed.

SELECT = *CMD / *ALL / *STMT

Specifies the type of entries to be displayed.

SELECT = *CMD

Only commands are displayed.

SELECT = *ALL

Commands and statements are displayed.

SELECT = *STMT

Only statements are displayed.

PATTERN = *NONE / <structured-name 1..30 with-wild>

Specifies whether the entries to be displayed are to be selected according to a pattern string. The default value is *NONE (i.e. no pattern string). If a pattern string is specified, only entries which match it are displayed.

INPUT-SERIAL-NUMBER = *NO / *YES

Specifies whether the entries are to be displayed with their input serial numbers. The default value is *NONE (i.e. input serial numbers not shown). The input serial numbers can be used with RESTORE-SDF-INPUT to select the desired entry.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
1	0	CMD0001	Output not possible because input buffer empty. Guaranteed message: CMD0560
1	32	CMD0500	Syntax description in current syntax file invalid. Guaranteed message: CMD0500
1	64	CMD0560	Command execution not successful. Guaranteed message: CMD0560

Example

See RESTORE-SDF-INPUT command.

SHOW-INSTALLATION-PATH

Show installation path

Description status:	IMON-GPN V3.3A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT
Privileges:	STD-PROCESSING SUBSYSTEM-MANAGEMENT

Function

The SHOW-INSTALLATION-PATH command can be used to show the logical name mapped to the path name of an installation item or to list the path names of all the installation items in an installation unit.

The output can be directed to SYSOUT (default) or to SYSLST.

An installation item which is part of an installation unit is uniquely identified by its logical name. The installation unit is uniquely identified by its name and its version string.

All the installation items in a given installation unit can be selected in a single invocation of the command.

If a partial version specification is used and there are a number of versions of the installation unit, information is supplied for each of these versions. The output consists of the name and version of the installation unit and the logical name, path name and attributes of each of the selected installation items.

The character "*" replaces the path name if the user cannot be shown the path name (i.e. the user is not authorized).

The information shown to nonprivileged users is restricted to installation items on user level TU (task unprivileged).

The command is a component of IMON-GPN. IMON is described in full in the "IMON" manual [19].

The command supports structured output in S variables (see ["Output in S variables" on page 6-216](#)).

Privileged functions

Privileged users are shown information on all installation items. The lock status for each installation unit is shown in the output field LOCKED.

Format

SHOW-INSTALLATION-PATH
<p>INSTALLATION-UNIT = <u>*ALL</u> (...) / <text 1..30 without-sep>(…)</p> <p><u>*ALL</u>(…)</p> <ul style="list-style-type: none"> VERSION = <u>*ALL</u> / <product-version> <p><text 1..30 without-sep> (…)</p> <ul style="list-style-type: none"> VERSION = <u>*ALL</u> / <product-version> <p>,LOGICAL-IDENTIFIER = <u>*ALL</u> / <u>*NONE</u> / <filename 1..30 without-cat-user-gen-vers with-wild></p> <p>,SCI-NAME = <u>*STD</u> / <filename 1..54 without-cat-user-gen-vers></p> <p>,OUTPUT = <u>*SYSOUT</u> / <u>*SYSLST</u>(…)</p> <p><u>*SYSLST</u>(…)</p> <ul style="list-style-type: none"> SYSLST-NUMBER = <u>*STD</u> / <integer 1..99>

Operands

INSTALLATION-UNIT =

Name of the installation unit containing the installation items.

INSTALLATION-UNIT = *ALL(…)

Selects all installation units.

VERSION =

Installation units version.

VERSION = *ALL

Selects all versions of the installation units.

VERSION = <product-version>

Explicit installation unit version specification in the format mm.n[a[so]].

INSTALLATION-UNIT = <text 1..30 without-sep>(…)

Explicit installation unit specification.

VERSION =

Installation unit version.

VERSION = *ALL

Selects all versions of the installation unit.

VERSION = <product-version>

Explicit installation unit version specification in the format mm.n[a[so]].

LOGICAL-IDENTIFIER =

Specifies whether in addition to information on the selected installation unit, information on associated installation items (with logical names) is also to be output. This information can either be requested for a specific logical name or for all logical names.

LOGICAL-IDENTIFIER = *ALL

Information on all logical names and assigned installation items in the selected installation unit is output.

LOGICAL-IDENTIFIER = <filename 1..30 without-cat-user-gen-vers with-wild>

Information on the specified logical name and the assigned installation item is output. A wildcard string can also be specified as the logical name. In this case the "*" symbol (asterisk) represents a placeholder for any string. The additional information is then output for all logical names that match this wildcard string.

LOGICAL-IDENTIFIER = *NONE

Information is output for the selected installation unit only.

SCI-NAME =

Identifies the SCI (System Configuration Inventory) from which the information is to be taken.

SCI-NAME = *STD

The information is taken from the default SCI (see MODIFY-IMON-SCI).

SCI-NAME = <filename 1..54 without-cat-user-gen-vers>

Name of a foreign SCI (catalog ID not the same as the home pubset or not a default name).

OUTPUT =

Identifies the destination for the output.

OUTPUT = *SYSOUT

The information is sent to SYSOUT.

OUTPUT = *SYSLST(...)

The information is sent to SYSLST.

SYSLST-NUMBER =

SYSLST number.

SYSLST-NUMBER = *STD

The information is sent to the standard SYSLST device.

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, version or logical identifier not found.

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Function level on which the installation unit executes	var(*LIST).IU-FU-LEVEL	S	*BOTH *TPR *TU	
Name of the installation unit	var(*LIST).IU-NAME	S	<c-string 1..30>	
Version of the installation unit	var(*LIST).IU-VERSION	S	" <product-version 4..7>	
Lock status of the installation unit (only for privileged users)	var(*LIST).IU-LOCKED	S	*YES *NO	
Dummy installation item present	var(*LIST).IU-II-LIST(*LIST).II-DUMMY	B	FALSE TRUE	
Full or partially-qualified path name was output	var(*LIST).IU-II-LIST(*LIST).II-FILETYPE	S	*FULL *PARTIAL	
Function level on which the installation unit executes	var(*LIST).IU-II-LIST(*LIST).II-FU-LEVEL	S	*BOTH *TPR *TU	
Logical name of the installation item	var(*LIST).IU-II-LIST(*LIST).II-LOGICAL-ID	S	<filename 1..30>	
The path name associated with a logical name must be present at installation	var(*LIST).IU-II-LIST(*LIST).II-MANDATORY	B	FALSE TRUE	
Path name of the installation item	var(*LIST).IU-II-LIST(*LIST).II-PATH-NAME	S	<filename 1..54>	
Hardware variant of the installation item	var(*LIST).IU-II-LIST(*LIST).II-TARGET	S	<text 1..1>	
The file name associated with the logical name may be changed after installation	var(*LIST).IU-II-LIST(*LIST).II-UPDATE	B	FALSE TRUE	

Example*Requesting information on the syntax file of the product LMS*

```

/show-inst-path inst-unit=lms,logic-id=syssdf
INSTALLATION UNIT: LMS                                VERSION : 03.4A82
                                                       FU-LEVEL: TU

LOGICAL-ID: SYSSDF                                    TARGET: A (ANY)
PATH-NAME: :10SH:$TSOS.SYSSDF.LMS.034
MANDATORY: YES UPDATE: NO DUMMY: NO FILENAME: FULL  FU-LEVEL: TU
% IM09001 Command successfully processed

```

Output information on all installation units

```

/show-inst-path inst-unit=*all,logic-id=*none
INSTALLATION UNIT: ACS                                VERSION : 18.0A00
                                                       FU-LEVEL: TU

INSTALLATION UNIT: AID                                VERSION : 03.4A20
                                                       FU-LEVEL: BOTH

.
.
.

INSTALLATION UNIT: WEBTRANS-OSD                       VERSION : 07.5A00
                                                       FU-LEVEL: TU

INSTALLATION UNIT: XHCS-SYS                            VERSION : 02.2A01
                                                       FU-LEVEL: BOTH
% IM09012 Insufficient privilege to show more information
% IM09001 Command successfully processed

```

SHOW-IOCF

Show information on IOCF

Description status:	IOCFCOPY V19.0A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT
Privileges:	TSOS OPERATING
Routing code:	@

Function

With the SHOW-IOCF command, systems support staff can obtain information on the active IOCF (of the active session) and on all IOCFs on the hard disk of the service processor. Information output can be directed to SYSOUT or to SYSLST.

This command can also be entered on an operator terminal. Output is then always takes place asynchronously and in block mode on the operator terminal.

Format

SHOW-IOCF

LEVEL-NAME = *ALL / *ACTIVE / <integer 0..9>
,OUTPUT = *SYSOUT / *SYSLST

Operands

LEVEL = *ALL

Information is output for the active IOCF and for all other existing IOCFs (including the level numbers).

LEVEL = *ACTIVE

Information is output for the active IOCF.

If the level cannot be accessed because only one bus configuration is specified, *** BUS CONFIGURATION WITHOUT IOCF *** is displayed.

LEVEL = <integer 0..9>

The level number of the IOCF on which information is to be output. The value range covers all available levels. If the level number does not exist, the command is rejected.

The maximum number of levels is hardware-dependent.

- If there is no level number, the command is rejected.
- If the level is empty (e.g. when newly created) or if the files cannot be evaluated, *** INVALID DATA OR EMPTY LEVEL *** is displayed.
- If the level cannot be accessed, *** INFORMATION NOT AVAILABLE *** is displayed.

OUTPUT = *SYSOUT

Information output is directed to SYSOUT.

OUTPUT = *SYSLST

Information output is directed to SYSLST. In the case of entry on an operator terminal, this specification is changed to OUTPUT=*SYSOUT (command return code IOF0127).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
2	0	IOF0114	Specified IOCF is empty
2	0	IOF0125	Bus configuration, no IOCF available
2	0	IOF0127	Parameter OUTPUT changed to SYSOUT as SYSLST is not possible on the operator terminal
	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	System 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 has no authorization

Format of the output

LEVEL xxx: hh:mm yy.ddd zzzzz BLOCKS
<comment>

where

xxx Level number 1 to 9 or ACT (active IOCF)
hh:mm Generation time
yy.ddd Generation year and generation day (Julian date)
zzzzz Number of 256-byte blocks in the IOCF
<comment> 64-byte long comment, taken unchanged from the IOCF.
 Contains, among other things, the 8-byte long name of the IOCF.

Example*Information on all levels*

```
/show-iocf
LEVEL ACT: 11:36 08.329 3119 BLOCKS
S2000001S2000001 / STANDARD OSDV3-5 / 26.11.08
LEVEL 0: 14:34 07.134 1896 BLOCKS
S2000001S2000001 / STANDARD OSDV4-6 / 01.04.07
LEVEL 1: 11:17 07.199 2755 BLOCKS
S1800001S1800001 / STANDARD OSDV1-4 / 18.07.07
LEVEL 2: 12:38 08.295 3125 BLOCKS
S2000001S2000001 / STANDARD OSDV3-5 / 22.10.08
LEVEL 3: 11:36 08.329 3119 BLOCKS
S2000001S2000001 / STANDARD OSDV3-5 / 26.11.08
LEVEL 4: 17:09 01.151 98 BLOCKS
TYPE-1)IO@04520 INITIAL PATTERN CH#00=BMC
LEVEL 5: 17:12 01.151 98 BLOCKS
TYPE-1)IO@04521 INITIAL PATTERN CH#00=CVC
LEVEL 6: 11:17 07.199 2755 BLOCKS
S1800001S1800001 / STANDARD OSDV1-4 / 18.07.07
LEVEL 7: 13:49 98.094 2048 BLOCKS
IO@04521 INITIAL PATTERN CH#00=CVC
```

Information on active IOCF

```
/show-iocf level=*active
LEVEL ACT: 11:36 08.329 3119 BLOCKS
S2000001S2000001 / STANDARD OSDV3-5 / 26.11.08
```

SHOW-ISAM-CACHING

Show information on ISAM cache areas in data spaces

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	FILE
Privileges:	TSOS SW-MONITOR-ADMINISTRATION

Function

The SHOW-ISAM-CACHING provides information on the maximum number of data spaces for ISAM cache areas and how they are used. In addition to global information, detailed information on data spaces, the ISAM pool and the ISAM files buffered there can also be requested.

The command supports structured output in S variables (see [“Output in S variables” on page 6-225](#)).

The maximum number of data spaces for ISAM cache areas can be changed dynamically using this command.

Format

SHOW-ISAM-CACHING	Alias: SHISAMC
<pre> SELECT = <u>*ALL</u> ,INFORMATION = <u>*SUMMARY</u> / *ALL ,OUTPUT = <u>*SYSOUT</u> / *SYSLST(...) *SYSLST(...) SYSLST-NUMBER = <u>*STD</u> / <integer 1..99> </pre>	

Operands

SELECT = *ALL

Information for all data spaces which are available for ISAM cache areas is displayed.

INFORMATION = *SUMMARY / *ALL

Specifies the scope of the information which is to be displayed.

INFORMATION = *SUMMARY

General information on ISAM caching is displayed, plus, for each data space, an information block containing global information.

INFORMATION = *ALL

General information on ISAM caching is displayed, plus, for each data space, two information blocks containing global and detailed information.

OUTPUT = *SYSOUT / *SYSLST(...)

Specifies the output medium on which the information is to be displayed. Output to SYSOUT is the default.

OUTPUT = *SYSOUT

The information is output to SYSOUT.

OUTPUT = *SYSLST(...)

The information is output to SYSLST.

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

Number of a SYSLST file from the set SYSLST01 through SYSLST99. Specifying *STD (default value) means system file SYSLST.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
	32	CMD2009	VAS/OPS reports internal error
	32	DMS0A66	Internal error when command is executed
	64	CMD0216	Privileges error
	130	OPS0001	Not enough memory for output in S variables

Output format

The display begins with a general information block:

- Global information on ISAM caching
The display begins with this overview.

The following two information blocks are then displayed for each data space which is currently in use:

- Global information on the data space
- Detailed information on the data space (only when INFORMATION=*ALL)

Global information on ISAM caching

The heading “*ISAM CACHING INFORMATION (SUMMARY)*” is followed by the information below:

Output field	Meaning
MAXIMUM NUMBER OF DATA SPACES	Maximum number of data spaces (1..127)
NUMBER OF DATA SPACES CURRENTLY IN USE	Number of data spaces currently in use (1..127)
TOTAL DATA SPACE AMOUNT	Total amount of available memory space in MB (multiple of 2048)
TOTAL USED SPACE	Total amount of memory space in use in MB
TOTAL FREE SPACE	Total amount of free memory space in MB
TOTAL NUMBER OF ISAM POOLS	Number of ISAM pools created
TOTAL NUMBER OF ISAM FILES	Number of buffered ISAM files
TOTAL NUMBER OF FREE AREAS	Number of free memory areas

Table 125: Global information on ISAM caching

Global information on the data space

The heading “*DATA SPACE GLOBAL INFORMATION*” is followed by the information below:

Output field	Meaning
DS#	Number of the data space (1..127)
USED SPACE	Memory space used in MB
#ISAM POOLS	Number of ISAM pools
#ISAM FILES	Number of buffered files
FREE SPACE	Free memory space in MB
#FREE AREAS	Number of free memory areas

Table 126: Global information on ISAM caching in a data space

Detailed information on the data space

The heading “*DETAILED INFORMATION FOR DATA SPACE*” is followed by a table providing information on the use of the data space. For every ISAM pool created there the table includes an output line containing the following information:

Information column	Meaning
SIZE	Size of the ISAM pool in MB
FILENAME	Path name of a file buffered in the ISAM pool. If, as an exception, the pool is assigned multiple files (see FILE-ASS=SAT), each further path name is displayed in a continuation line.
FILE-ASS	Type of file assignment <ul style="list-style-type: none"> – DEF: assignment took place by means of standard processing by the system when the file was opened. – USER: the user specified the assignment by means of a command (/CREATE-ISAM-POOL, /ADD-ISAM-POOL-LINK). – SAT: assignment as with DEF, but no new cache area could be provided for the file. The ISAM cache area should be enlarged (/MODIFY-ISAM-CACHING).

Table 127: Detailed information on ISAM caching in a data space

Output in S variables

The command's INFORMATION operand identifies the S variables which are to be created. The following entries are possible for:

Notation used in command	Abbreviated form used in table
INFORMATION = *SUMMARY	INF=*SUM
INFORMATION = *ALL	INF=*ALL

Output information	Name of the S variable	T	Contents	Condition
Size of the ISAM pool in MB	var(*LIST).DATA-SPACE(*LIST). POOL(*LIST).SIZE	S	<integer 1..32766>	INF=*ALL only
Number of files buffered in the data space	var(*LIST).DATA-SPACE(*LIST).FILE-NUM	S	<integer 1.. 2147483647>	
Number of free memory areas in the data space	var(*LIST).DATA-SPACE(*LIST). FREE-AREA-NUM	S	<integer 1..2047>	
Free memory space in the data space in MB	var(*LIST).DATA-SPACE(*LIST).FREE- SPACE	S	<integer 1..2048>	
Type of file assignment	var(*LIST).DATA-SPACE(*LIST). POOL(*LIST).FILE(*LIST).FILE-ASS	S	DEF / USER / SAT	INF=*ALL only
Name of the file which is buffered in the ISAM pool	var(*LIST).DATA-SPACE(*LIST). POOL(*LIST).FILE(*LIST).FILE-NAME	S	<filename>	INF=*ALL only
Number of files which are buffered in the ISAM pool	var(*LIST).DATA-SPACE(*LIST). POOL(*LIST).NUM-FILES-IN-POOL	S	<integer 1..32766>	INF=*ALL only
Number of ISAM pools in the data space	var(*LIST).DATA-SPACE(*LIST).POOL-NUM	S	<integer 1..2048>	
Used memory space in the data space in MB	var(*LIST).DATA-SPACE(*LIST). USED-SPACE	S	<integer 1..2048>	
Maximum number of data spaces	var(*LIST).DATA-SPACE-MAX-NUM	S	<integer 1..127>	
Number of data spaces used	var(*LIST).DATA-SPACE-USED-NUM	S	<integer 1..127>	
Total number of buffered files	var(*LIST).TOTAL-FILE-NUM	S	<integer 1..2147483647>	
Total free memory areas in MB	var(*LIST).TOTAL-FREE-AREA-NUM	S	<integer 1..260095>	
Total free memory space in MB	var(*LIST).TOTAL-FREE-SPACE	S	<integer 1..260096>	
Total number of ISAM pools created	var(*LIST).TOTAL-POOL-NUM	S	<integer 1..260096>	
Total memory space available in MB	var(*LIST).TOTAL-SPACE	S	<integer 1..260096>	
Total memory space used in MB	var(*LIST).TOTAL-USED-SPACE	S	<integer 1..260096>	

Examples

/show-isam-caching inf=*all

----- ISAM CACHING INFORMATION (SUMMARY) -----

```

MAXIMUM NUMBER OF DATA SPACES      :      2
NUMBER OF DATA SPACES CURRENTLY IN USE :      1
TOTAL DATA SPACE AMOUNT              :    2048 MB
TOTAL USED SPACE                      :      7 MB
TOTAL FREE SPACE                      :    2041 MB
TOTAL NUMBER OF ISAM POOLS           :      6
TOTAL NUMBER OF ISAM FILES           :      8
TOTAL NUMBER OF FREE AREAS           :      1
    
```

----- DATA SPACE GLOBAL INFORMATION -----

```

DS# : 1      USED SPACE :      7 MB      FREE SPACE :    2041 MB
      #ISAM POOLS :      6      #FREE AREAS :      1
      #ISAM FILES :      8
    
```

----- DETAILED INFORMATION FOR DATA SPACE -----

SIZE	FILENAME	FILE-ASS
1 MB	:SBZ8:\$TSOS.SYS.HEL.2012-06-15.183613	DEF
2 MB	:SBZ8:\$SYSAUDIT.SYSLOG.ESS.SYSTEM	USER
1 MB	:SBZ8:\$TSOS.SYSDAT.BCAM.APPLICATIONS.IS1	USER
	:SBZ8:\$TSOS.SYSDAT.BCAM.ETC.HOSTS.IS1	USER
	:SBZ8:\$TSOS.SYSDAT.BCAM.PROCESSORS.IS1	USER
1 MB	:SBZ8:\$SYSFJAM.SYSFSA	DEF
1 MB	:SBZ8:\$SYSSPOOL.PRFILE	DEF
1 MB	:SBZ8:\$SYSTEMAREN.TEST.MARENCA	DEF

SHOW-ISAM-POOL-ATTRIBUTES

Show attributes and occupancy states of ISAM pools

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SW-MONITOR-ADMINISTRATION TSOS

Function

The SHOW-ISAM-POOL-ATTRIBUTES command returns information on ISAM pools linked to the current job, taking the links to ISAM pools on remote systems into account. The user may request information on a specific ISAM pool or on all ISAM pools and redirect the output to SYSOUT or SYSLST.

The output comprises detailed information on the pool-specific attributes of each ISAM pool (as defined in the CREATE-ISAM-POOL command). If desired, the user may also have the job numbers of all connected jobs for each ISAM pool displayed.

The user may set up a connection to an ISAM pool explicitly by using the CREATE-ISAM-POOL command, but a job may also be implicitly connected to standard pools by NK-ISAM.

The command supports structured output in S variables (see [“Output in S variables” on page 6-231](#)).

Note on ISAM pools

As of BS2000/OSD V6.0B cross-task ISAM pools are automatically created on a file-specific basis when a file is opened in a data space. The CREATE-ISAM-POOL command with SCOPE=*USER-ID/*USER-GROUP is only supported for reasons of compatibility and has the same effect as SCOPE=*HOST-SYSTEM (for details on ISAM pools in data spaces see the “Introductory Guide to DMS” [13]).

Privileged functions

Callers who have the system privileges of TSOS or SW-MONITOR-ADMINISTRATION are not restricted to the pools to which they are connected, but can obtain information about any ISAM pools, even those to which there are no connections.

Format

SHOW-ISAM-POOL-ATTRIBUTES
<pre> POOL-NAME = *ALL / <name 1..8>(…) <name 1..8>(…) CAT-ID = *DEFAULT-PUBSET / <cat-id 1..4> ,SCOPE = *TASK / *HOST-SYSTEM / *USER-ID / *USER-GROUP ,INFORMATION = *ATTRIBUTES / *USERS-AND-ATTRIBUTES ,SELECT = *OWN / *ALL ,OUTPUT = *SYSOUT / *SYSLST(…) *SYSLST(…) SYSLST-NUMBER = 00 / <integer 0..99> </pre>

Operands

POOL-NAME = *ALL / <name 1..8>(…)

Specifies whether information on all ISAM pools or only one ISAM pool is desired. Users may only obtain information on ISAM pools which are currently connected to their own jobs.

POOL-NAME = *ALL

Returns information on all ISAM pools to which the job is currently connected.

Privileged callers (TSOS or SW-MONITOR-ADMINISTRATION privilege) using SELECT=*ALL are supplied with information on all the ISAM pools which currently exist.

POOL-NAME = <name 1..8>(…)

Returns information on the specified ISAM pool. The desired ISAM pool is uniquely identified by the specified name, catalog ID (see the CAT-ID operand) and scope (see the SCOPE operand). Information is output only if the ISAM pool exists and the job is connected to it.

CAT-ID = *DEFAULT-PUBSET / <alphanum-name 1..4>

Catalog ID of the subset to which the ISAM pool is assigned.

CAT-ID = *DEFAULT-PUBSET

The ISAM pool is assigned to the catalog that was set with the ISPLDFC system parameter (ISAM-POOL-DEFAULT-CATID):

X'00': default catalog ID from the user entry (see the SHOW-USER-ATTRIBUTES command, output field *DEFAULT-PUBSET*)

X'01': catalog ID of the home subset

CAT-ID = <alphanum-name 1..4>

Catalog ID of the specified ISAM pool.

SCOPE = *TASK / *HOST-SYSTEM / *USER-ID / *USER-GROUP

Specifies the scope of the ISAM pool for which information is to be output.

SCOPE = *TASK

Returns information on the corresponding task-local ISAM pool.

SCOPE = *HOST-SYSTEM

Returns information on the corresponding cross-task ISAM pool.

SCOPE = *USER-ID / *USER-GROUP

These scopes are only supported for reasons of compatibility (refer to [“Note on ISAM pools” on page 6-227](#)).

INFORMATION = *ATTRIBUTES / *USERS-AND-ATTRIBUTES

Defines the scope of the information to be output.

INFORMATION = *ATTRIBUTES

Displays the static attributes for each ISAM pool defined in the POOL-NAME operand. The table contains the following output columns:

Output column	Values	Meaning
CATID	<cat-id 1..4>	Catalog ID at the local system
	<cat-id 1..4> **	Catalog ID on the remote system
POOLNAME	<name 1..8>	Name of the ISAM pool
SCOPE	TASK	Task-specific ISAM pool
	USERID=<userid>	ISAM pool for jobs of the user ID <userid>
	USERGP=<groupid>	ISAM pool for jobs of the user group <groupid>
	HOST	System-wide ISAM pool
WROUT	YES	ISAM pool created with WRITE-IMMEDIATE=*YES
	NO	ISAM pool created with WRITE-IMMEDIATE=*NO
SIZE	<integer 32..32767>	Size in units of 2 Kbytes; applies to an extent

Table 128: Output format of the SHOW-ISAM-POOL-ATTRIBUTES command (Part 1 of 2)

Output column	Values	Meaning
EXTENTS	--/--	The ISAM pool consists of one extent that has not yet been formatted, since no NK-ISAM file has been processed via the pool as yet.
	2K/--	The ISAM pool consists of one extent to process NK2 files.
	--/4K	The ISAM pool consists of one extent to process NK4 files.
	2K/4K	The ISAM pool consists of two extents: one to process NK2 files, and one to process NK4 files.
RESIDENT	YES	The ISAM pool is memory-resident.
	NO	The ISAM pool is not memory-resident.

Table 128: Output format of the SHOW-ISAM-POOL-ATTRIBUTES command (Part 2 of 2)

INFORMATION = *USERS-AND-ATTRIBUTES

Displays a table with static attributes for each ISAM pool specified in POOL-NAME. These tables have the same structure as the table for INFORMATION=*ATTRIBUTES (see above). In addition, each table is followed by a list of job numbers of all jobs connected to the corresponding ISAM pool.

SELECT = *OWN

Returns information on all ISAM pools connected to the job. The output includes ISAM pools on local and remote systems.

SELECT = *ALL

Accepted only from users with TSOS or SW-MONITOR-ADMINISTRATION privilege:

Specifies that information is to be supplied for the ISAM pool specified by the POOL-NAME operand, regardless of whether there are any existing connections to it. In conjunction with POOL-NAME = *ALL, information is supplied about all the ISAM pools which currently exist, including any which have been created on a remote system using RFA.

OUTPUT = *SYSOUT / *SYSLST(...)

Specifies the output medium to which the information is to be sent. The output is written to SYSOUT by default.

OUTPUT = *SYSOUT

The information is output to SYSOUT.

OUTPUT = *SYSLST(...)

The information is output to SYSLST.

SYSLST-NUMBER = 00 / <integer 0..99>

Number of a SYSLST file from the set SYSLST01 to SYSLST99. The value 00 (the default) corresponds to the system file SYSLST.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	32	DMS0A52	Internal system error
	64	DMS0A50	Specified catalog ID does not exist
	64	DMS0A51	Specified ISAM pool does not exist
	64	CMD0216	Required privileges for call missing
	64	DMS0A22	User group does not exist
	64	DMS0A55	No ISAM pool exists
	130	DMS0A53	Insufficient virtual memory
	130	DMS0A56	Specified catalog ID not available

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Catalog ID of the subset the ISAM pool is assigned to	var(*LIST).CAT-ID	S	<c-string 1..4>	
Extent specifications *2K-4K-FORM = ISAM pool comprises two extents *2K-FORM = ISAM pool comprises one extent *4K-FORM = ISAM pool comprises one extent *NOT-FORM = ISAM pool comprises one unformatted extent	var(*LIST).EXT	S	*2K-4K-FORM *2K-FORM *4K-FORM *NOT-FORM	
Name of the ISAM pool	var(*LIST).POOL-NAME	S	<c-string 1..8>	
ISAM pool is memory-resident	var(*LIST).RESID	S	*NO *YES	
Scope of the ISAM pool	var(*LIST).SCOPE	S	*HOST *TASK *USER-GROUP *USER-ID	
Size of the ISAM pool	var(*LIST).SIZE	I	<integer 32..32767>	
Task sequence number	var(*LIST).TSN(*LIST)	S	<c-string 1..4>	
User group	var(*LIST).USER-GROUP	S	<c-string 1..8>	
User ID	var(*LIST).USER-ID	S	<c-string 1..8>	
Write back the blocks buffered in the ISAM pool	var(*LIST).WRITE	S	*NO *YES	

Examples

See the ADD-ISAM-POOL-LINK and CREATE-ISAM-POOL commands.

SHOW-ISAM-POOL-LINK

Show allocation of ISAM pools to pool link names

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SW-MONITOR-ADMINISTRATION TSOS

Function

The SHOW-ISAM-POOL-LINK command provides the user with information on all the existing pool link names that were assigned to ISAM pools by the user with the ADD-ISAM-POOL-LINK command since the start of the job.

For each pool link name, the name of the associated ISAM pool is shown along with its catalog ID and scope. The user can select the assignments to be displayed by specifying pool link names or ISAM pool names and direct the output to either SYSLST or SYSOUT.

The command supports structured output in S variables (see [“Output in S variables” on page 6-236](#)).

Format

SHOW-ISAM-POOL-LINK

```

POOL-LINK-NAME = *ALL / <name 1..8> / *ALL
, POOL-NAME = *ALL / <name 1..8>(…) / *ALL
  <name 1..8>(…)
    | CAT-ID = *DEFAULT-PUBSET / <cat-id 1..4>
    | SCOPE = *TASK / *HOST-SYSTEM / *USER-ID / *USER-GROUP
, OUTPUT = *SYSOUT / *SYSLST(…)
  *SYSLST(…)
    | SYSLST-NUMBER = 00 / <integer 0..99>

```

Operands

POOL-LINK-NAME = *ALL / <name 1..8>

Specifies the pool link names for which the associated ISAM pools are to be shown.

POOL-LINK-NAME = *ALL

Displays all assignments of pool link names to ISAM pools.

POOL-LINK-NAME = <name 1..8>

Specifies a pool link name for which the associated ISAM pool is to be shown. A pool link name can only be assigned to one ISAM pool.

The specification of a pool link name is given precedence over any pool name that may be specified in the POOL-NAME operand.

POOL-NAME = *ALL / <name 1..8>(…)

Specifies the ISAM pools for which the assigned pool link names are to be output.

POOL-NAME = *ALL

Displays the assigned pool link names for all pool names.

POOL-NAME = <name 1..8>(…)

Shows the pool link names assigned to the specified ISAM pool. More than one pool link name may be assigned to one ISAM pool. The desired ISAM pool is uniquely identified by the specified name, the catalog ID (see the CAT-ID operand) and the scope (see the SCOPE operand).

CAT-ID = *DEFAULT-PUBSET / <alphanum-name 1..4>

Catalog ID of the subset to which the specified ISAM pool is assigned.

CAT-ID = *DEFAULT-PUBSET

The ISAM pool is assigned to the catalog that was set with the system parameter ISPLDEFC (**ISAM-POOL-DEFAULT-CATID**):

X'00': default catalog ID from the user entry (see the SHOW-USER-ATTRIBUTES command, output field *DEFAULT-PUBSET*)

X'01': catalog ID of the home subset

CAT-ID = <alphanum-name 1..4>

Catalog ID of the specified ISAM pool.

SCOPE = *TASK / *HOST-SYSTEM / *USER-ID / *USER-GROUP

Scope of the specified ISAM pool.

SCOPE = *TASK

Returns information on all pool link names assigned to the corresponding task-local ISAM pool.

SCOPE = *HOST-SYSTEM

Returns information on all pool link names assigned to the corresponding cross-task ISAM pool.

SCOPE = *USER-ID / *USER-GROUP

These scopes are only supported for reasons of compatibility (see the CREATE-ISAM-POOL command).

OUTPUT = *SYSOUT / *SYSLST(...)

Specifies the output medium to which the information is to be sent. The output is written to SYSOUT by default.

OUTPUT = *SYSOUT

The information is output to SYSOUT.

OUTPUT = *SYSLST(...)

The information is output to SYSLST.

SYSLST-NUMBER = 00 / <integer 0..99>

Number of a SYSLST file from the set SYSLST01 to SYSLST99. The value 00 (the default) corresponds to the system file SYSLST.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	32	DMS0A62	Internal system error
	64	DMS0A22	User group does not exist
	64	DMS0A60	Pool link name does not exist
	64	DMS0A61	No pool link name exists
	130	DMS0A63	Insufficient virtual memory

Output format

The information returned by the SHOW-ISAM-POOL-LINK command is output in a table with the following output columns:

Output column	Values	Meaning
LINKNAME	<name 1..8>	Pool link name
CATID	<cat-id 1..4>	Catalog ID of the associated ISAM pool
POOLNAME	<name 1..8>	Name of the ISAM pool
SCOPE	TASK	Task-specific ISAM pool
	USERID=<userid>	ISAM pool for jobs of the user ID <userid>
	USERGP=<groupid>	ISAM pool for jobs of the user group <groupid>
	HOST	System-wide global ISAM pool

Table 129: Output format of the SHOW-ISAM-POOL-LINK command

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Catalog ID of the ISAM pool	var(*LIST).CAT-ID	S	<c-string 1..4>	
Pool link name	var(*LIST).LINK-NAME	S	<c-string 1..8>	
ISAM pool name	var(*LIST).POOL-NAME	S	<c-string 1..8>	
Scope of the ISAM pool	var(*LIST).SCOPE	S	*HOST *TASK *USER-GROUP *USER-ID	
User group	var(*LIST).USER-GROUP	S	<c-string 1..8>	
User ID	var(*LIST).USER-ID	S	<c-string 1..8>	

Examples

See the ADD-ISAM-POOL-LINK command.

SHOW-JOB-CLASS

Request job class information

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job processing
Domain:	JOB
Privileges:	STD-PROCESSING SW-MONITOR-ADMINISTRATION

Function

The SHOW-JOB-CLASS command displays descriptions of all job classes to which the user has access.

As a privileged caller, systems support can use the command to request descriptions of all job classes defined with the JMU statement DEFINE-JOB-CLASS. Under the user ID TSOS, the description of each job class includes a list of all user IDs authorized to access that job class.

The command supports structured output in S variables (see [“Output in S variables” on page 6-238](#)).

Note

If the name of a job stream is shown for the interactive job class, this means nothing, since interactive jobs are not subject to job scheduling.

Format

```
SHOW-JOB-CLASS
```

```
CLASS-NAME = *ALL / *ALL-NAMES / list-poss(2000): <name 1..8>  
,OUTPUT = *SYSOUT / *SYSLST
```

Operands

CLASS-NAME = *ALL / *ALL-NAMES / list-poss(2000): <name 1..8>

Determines the job classes and thus the scope of the information to be output.

As a privileged caller, systems support is provided with a description of the job class followed a list of all user IDs authorized to access that job class (except with *ALL-NAMES).

CLASS-NAME = *ALL

Displays the names of all job classes to which the user has access.

CLASS-NAME = *ALL-NAMES

All job classes to which the user has access.

OUTPUT = *SYSOUT / *SYSLST

Specifies where the information is to be listed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
2	0	CMD0002	Command executed with warning; e.g. not all job classes are accessible
	1	CMD0202	Syntax error
	32	CMD2009	Error during generation of presentation variables
	64	JMS0640	No job class can be displayed Privilege infringement or unknown job class, or job classes not accessible

Output in S variables

The command's CLASS-NAME operand defines which variables are to be created.

Possible values for CLASS-NAME are *ALL, *ALL-NAMES and <name 1..7>.

Output information	Name of the S variable	T	Contents	Condition
Task attribute BATCH allowed in the job class	var(*LIST).BATCH-ALLOW	S	" *NO *YES <name 1..7>	CLASS=*ALL/ <name 1..7>
Maximum number of jobs per job class (job class limit)	var(*LIST).CLASS-LIM	I	<integer 0..4095>	CLASS=*ALL/ <name 1..7>
Name of the job class	var(*LIST).CLASS-NAME	S	<name 1..8>	
Optimum number of jobs per job class	var(*LIST).CLASS-OPT	I	<integer 0..4095>	CLASS=*ALL/ <name 1..7>
Job class weighting	var(*LIST).CLASS-WEIGHT	I	<integer 1..9>	CLASS=*ALL/ <name 1..7>
Default CPU time jobs of this class are allowed to use	var(*LIST).CPU-LIM.DEF	S	*NO-LIM 1..32767	CLASS=*ALL/ <name 1..7>
Maximum CPU time for the job class	var(*LIST).CPU-LIM.MAX	S	*NO 1.. 32767	CLASS=*ALL/ <name 1..7>

(Part 1 of 3)

Output information	Name of the S variable	T	Contents	Condition
Task attribute BATCH allowed in the job class	var(*LIST).DIALOG-ALLOW	S	" *NO *YES <name 1..7>	CLASS=*ALL/ <name 1..7>
User IDs which have access to this job class	var(*LIST).JOB-CLASS-ACCESS(*LIST)	S	" *ALL-USER *NO-USER <name 1..8>	CLASS=*ALL/ <name 1..7>
User IDs for which this job class is the default	var(*LIST).JOB-CLASS-DEF(*LIST)	S	" *NO-USER *SYS <name 1..8>	CLASS=*ALL/ <name 1..7>
User IDs for which this job class is the POSIX default	var(*LIST).JOB-CLASS-POS(*LIST)	S	" *NO-USER *SYS <name 1..8>	CLASS=*ALL/ <name 1..7>
Additional job class attributes	var(*LIST).JOB-PAR	S	*NO *YES <c-string 0..127>	CLASS=*ALL/ <name 1..7>
Default job priority	var(*LIST).JOB-PRIO.DEF	S	" 1..9	CLASS=*ALL/ <name 1..7>
Maximum job priority	var(*LIST).JOB-PRIO.MAX	S	" *NO 1..9	CLASS=*ALL/ <name 1..7>
Job class type	var(*LIST).JOB-TYPE	S	*BATCH *DIALOG	CLASS=*ALL/ <name 1..7>
Jobs not subject to time limits	var(*LIST).NO-CPU-LIM	S	*NO *YES	CLASS=*ALL/ <name 1..7>
Job repeat frequency (arguments allowed with ENTER-JOB and LOGON commands)	var(*LIST).REPEAT-JOB.ALLOW(*LIST)	S	" *AT-STREAM- STARTUP *DAILY *NO *PERIOD *WEEKLY	CLASS=*ALL/ <name 1..7>
Job repeat frequency (default)	var(*LIST).REPEAT-JOB.DEF	S	" *AT-STREAM- STARTUP *DAILY *NO *PERIOD *WEEKLY	CLASS=*ALL/ <name 1..7>
Time (in hours) after which the job is repeated	var(*LIST).REPEAT-JOB.HOURS	S	" 0..23	CLASS=*ALL/ <name 1..7>

(Part 2 of 3)

SHOW-JOB-CLASS

Output information	Name of the S variable	T	Contents	Condition
Time (in minutes) after which the job is repeated	var(*LIST).REPEAT-JOB.MINUTES	S	" 0..59	CLASS=*ALL/ <name 1..7>
Default task priority	var(*LIST).RUN-PRIO.DEF	S	30..255	CLASS=*ALL/ <name 1..7>
Maximum task priority	var(*LIST).RUN-PRIO.MAX	S	*NO 30..255	CLASS=*ALL/ <name 1..7>
Task attribute of the job	var(*LIST).START-ATTR	S	*BATCH *DIALOG *TP	CLASS=*ALL/ <name 1..7>
Initial value for the job class (for use in the ENTER-JOB command)	var(*LIST).START.ALLOW(*LIST)	S	" *AT *AT-STREAM- STARTUP *EARLIEST *IMMED *LATEST *SOON *WITHIN	CLASS=*ALL/ <name 1..7>
Initial value for the job class (default for ENTER-JOB)	var(*LIST).START.DEF	S	" *SOON *WITHIN	CLASS=*ALL/ <name 1..7>
Starting time (hour) for job	var(*LIST).START.HOURS	S	" 0..23	CLASS=*ALL/ <name 1..7>
Starting time (minute) for job	var(*LIST).START.MINUTES	S	" 0..59	CLASS=*ALL/ <name 1..7>
Name of the stream	var(*LIST).STREAM-NAME	S	" <name 1..8>	CLASS=*ALL/ <name 1..7>
Default number of lines for the job on output to SYSLST	var(*LIST).SYSLST-LIM.DEF	S	*NO-LIM 0..999999	CLASS=*ALL/ <name 1..7>
Maximum number of lines for the job on output to SYSLST	var(*LIST).SYSLST-LIM.MAX	S	*NO *NO-LIM 0..999999	CLASS=*ALL/ <name 1..7>
Output only supported for reasons of compatibility	var(*LIST).SYSOPT-LIM.DEF	S	*NO-LIM 0..999999	CLASS=*ALL/ <name 1..7>
Output only supported for reasons of compatibility	var(*LIST).SYSOPT-LIM.MAX	S	*NO *NO-LIM 0..999999	CLASS=*ALL/ <name 1..7>
Task attribute TP allowed in the job class	var(*LIST).TP-ALLOW	S	" *NO *YES <name 1..7>	CLASS=*ALL/ <name 1..7>

(Part 3 of 3)

Example

Output into S variable

```

/exec-cmd (show-job-class class-name=*all-names),text-output=*none,structure-
output=var _____ (1)
/show-var var,inf=*par(val=*c-literal,list-index=*yes)
VAR#1.CLASS-NAME = 'JCBDF1CP'
*END-OF-VAR
VAR#2.CLASS-NAME = 'JCBNACHT'
*END-OF-VAR
VAR#3.CLASS-NAME = 'JCBSARAH'
*END-OF-VAR
VAR#4.CLASS-NAME = 'JCBSHUT'
*END-OF-VAR
VAR#5.CLASS-NAME = 'JCB00050'
*END-OF-VAR
VAR#6.CLASS-NAME = 'JCB00200'
*END-OF-VAR
VAR#7.CLASS-NAME = 'JCB02000'
*END-OF-VAR
VAR#8.CLASS-NAME = 'JCB05000'
*END-OF-VAR
VAR#9.CLASS-NAME = 'JCB10000'
*END-OF-VAR
VAR#10.CLASS-NAME = 'JCB32000'
*END-OF-VAR
VAR#11.CLASS-NAME = 'JCDSTD'
*END-OF-VAR
/declare-variable var-name=var(type=*structure),mult-elem=*list
/exec-cmd (show-job-class class-name=jcb00050),text-output=*none,structure-
output=var _____ (2)
/show-var var,inf=*par(value=*c-lit,list-index=*yes)
VAR#1.CLASS-NAME = 'JCB00050'
VAR#1.STREAM-NAME = ''
VAR#1.CLASS-LIM = 20
VAR#1.CLASS-OPT = 0
VAR#1.CLASS-WEIGHT = 6
VAR#1.JOB-PRIO.DEF = '9'
VAR#1.JOB-PRIO.MAX = '9'
VAR#1.JOB-TYPE = '*BATCH'
VAR#1.START-ATTR = '*BATCH'
VAR#1.BATCH-ALLOW = '*YES'
VAR#1.DIALOG-ALLOW = '*NO'
VAR#1.TP-ALLOW = '*YES'
VAR#1.RUN-PRIO.DEF = '210'
VAR#1.RUN-PRIO.MAX = '209'
VAR#1.CPU-LIM.DEF = '50'

```

```
VAR#1.CPU-LIM.MAX = '50'  
VAR#1.SYSLST-LIM.DEF = '*NO-LIM'  
VAR#1.SYSLST-LIM.MAX = '*NO-LIM'  
VAR#1.SYSOPT-LIM.DEF = '*NO-LIM'  
VAR#1.SYSOPT-LIM.MAX = '*NO-LIM'  
VAR#1.START.DEF = '*SOON'  
VAR#1.START.HOURS = ''  
VAR#1.START.MINUTES = ''  
VAR#1.START.ALLOW#1 = '*SOON'  
VAR#1.START.ALLOW#2 = '*EARLIEST'  
VAR#1.START.ALLOW#3 = '*AT'  
VAR#1.START.ALLOW#4 = '*LATEST'  
VAR#1.START.ALLOW#5 = '*WITHIN'  
VAR#1.START.ALLOW#6 = '*AT-STREAM-STARTUP'  
VAR#1.REPEAT-JOB.DEF = '*NO'  
VAR#1.REPEAT-JOB.HOURS = ''  
VAR#1.REPEAT-JOB.MINUTES = ''  
VAR#1.REPEAT-JOB.ALLOW#1 = '*NO'  
VAR#1.REPEAT-JOB.ALLOW#2 = '*AT-STREAM-STARTUP'  
VAR#1.REPEAT-JOB.ALLOW#3 = '*DAILY'  
VAR#1.REPEAT-JOB.ALLOW#4 = '*WEEKLY'  
VAR#1.REPEAT-JOB.ALLOW#5 = '*PERIOD'  
VAR#1.JOB-PAR = '*NO'  
VAR#1.JOB-CLASS-ACCESS#1 = ''  
VAR#1.JOB-CLASS-DEF#1 = ''  
VAR#1.JOB-CLASS-POS#1 = ''  
*END-OF-VAR
```

- (1) Output of all job class names.
- (2) Output of the job class definition for the job class *JCB00050*.

Output to SYSOUT

```
/show-job-class *all-names _____ (1)  
%REQUESTED JOB CLASS NAMES  
%JCBDF1CP  
%JCBNACHT  
%JCBSARAH  
%JCBSHUT  
%JCB00050  
%JCB00200  
%JCB02000  
%JCB05000  
%JCB10000  
%JCB32000  
%JCDSTD
```

```
/show-job-class jcb00050 _____ (2)
%REQUESTED DETAILS OF JOB CLASS: JCB00050
%NAME.....:JCB00050
%CLASS LIMIT...:20
%CLASS OPTIMUM.:0
%WEIGHT.....:6
%JOB PRIORITY...:DEFAULT=9           MAXIMUM= 9
%JOB ATTRIBUTES:JOBTYPE=BATCH       ST-ATTR= BATCH
%BATCH ALLOWED..:YES
%DIALOG ALLOWED:NO
%TP ALLOWED....:YES
%RUN PRIORITY...:DEFAULT=210        MAXIMUM= 209
%NO CPU LIMIT...:NO
%CPU LIMIT.....:DEFAULT=50         MAXIMUM= 50
%SYSLST LIMIT...:DEFAULT=NO-LIMIT   MAXIMUM= NO-LIMIT
%SYSOPT LIMIT...:DEFAULT=NO-LIMIT   MAXIMUM= NO-LIMIT
%START.....:DEFAULT=SOON           ALLOWED= SOON EARLY AT LATE IN STUP
%REPEAT JOB....:DEFAULT=NO         ALLOWED= NO STUP DAILY WEEKLY PERIOD
%JOB PARAMETER.:UNDEFINED
```

- (1) Output of all job class names.
- (2) Output of the job class definition for the job class *JCB00050*.

SHOW-JOB-OPTIONS

Show job logging parameter settings

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job processing
Domain:	JOB
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SHOW-JOB-OPTIONS command supplies information on currently valid settings for job logging. The settings for LOGGING and SYSLST-LIMIT are defined by means of the SET-LOGON-PARAMETERS, ENTER-JOB or ENTER-PROCEDURE command when the job is started. All job logging settings within the job can be updated during the current job by means of the MODIFY-JOB-OPTIONS command.

The command supports structured output in S variables (see [“Output in S variables” on page 6-245](#)).

Format

SHOW-JOB-OPTIONS	Alias: SHJO

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	32	CMD0221	System error
	32	CMD2009	Error during generation of S variables

Meaning of the output fields

The output fields have the same meanings as for the corresponding operands of the SET-LOGON-PARAMETERS, ENTER-JOB, ENTER-PROCEDURE or MODIFY-JOB-OPTIONS command:

Output field	Possible values	Default at beginning of task
INFORMATION-LEVEL	MEDIUM / MINIMUM	MEDIUM
OPERATOR-INTERACTION	NO / YES	NO
SYSLST-LIMIT	<integer 0..999999>	specified when starting the job
SYSOPT-LIMIT		only supported for reasons of compatibility
LOGGING: LISTING HARDCOPY	NO / YES NO / YES	specified when starting the job specified when starting the job

Table 130: Output fields for the SHOW-JOB-OPTIONS command

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Job execution logged on hardcopy printer	var(*LIST).HARDCOPY	S	*NO *YES	
Amount of information included in system messages	var(*LIST).INFO-LEV	S	*MED *MIN	
Job execution logged on SYSLST	var(*LIST).LIST	S	*NO *YES	
Output of console messages and operator responses	var(*LIST).OPER-INTERACT	S	*NO *YES	
Maximum number of records output to SYSLST	var(*LIST).SYSLST-LIM	S	*NO-LIM 0..999999	
Maximum number of records output to SYSOPT	var(*LIST).SYSOPT-LIM	S	*NO-LIM 0..999999	

Example

Output into S variable

```
/exec-cmd (show-job-options),text-output=*none,structure-output=var
/show-var var,inf=*par(val=*c-literal)
VAR(*LIST).INFO-LEV = '*MED'
VAR(*LIST).OPER-INTERACT = '*NO'
VAR(*LIST).SYSLST-LIM = '*NO-LIM'
VAR(*LIST).SYSOPT-LIM = '*NO-LIM'
VAR(*LIST).LIST = '*NO'
VAR(*LIST).HARDCOPY = '*NO'
*END-OF-VAR
```

Output to SYSOUT

```
/show-job-opt
%
% INFORMATION-LEVEL = MEDIUM OPERATOR-INTERACTION = NO
% SYSLST-LIMIT = 10 SYSOPT-LIMIT = NO-LIMIT
% LOGGING : LISTING = NO HARDCOPY = NO
```

SHOW-JOB-STATUS

Request information on a job

Description status:	STATUS V15.2A
Functional area:	Job processing
Domain:	JOB
Privileges:	alle Privilegien
Routing code:	E

Function

The SHOW-JOB-STATUS command displays information on an individual job that was issued under the user's own ID. It can also supply information about a job generated by the user's own ID but running under some other user ID (extended access, not applicable to SPOOL jobs).

If the job or SPOOLOUT name is specified, the information output covers all jobs with this name.

The following information can be requested (INFORMATION operand):

- value *STD: attributes of the job, such as job name, account number, TSN, type (processing state), priority, CPU time used, time limit etc.
- 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 *SYSTEM (output only for jobs of type T2 or T3): job name, TSN, ITN (internal task number), UNPEND-CODE, job queue number, spoolin and LOGON time.
- value *JOB (output only for jobs of types T1 to T3): job name, TSN, type, 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 (output only for repeat jobs): information on job repetition, such as job name, TSN, type, interval, number of repetitions, NTSN, start time.
- value *BY-CALENDAR (output only for jobs of type T1 to T3): information on job name, TSN, type; for calendar jobs, information on symbolic starting date, job count and the next calculated start time.
- value *ALL: all available information is output (default value), including the information mentioned above.

If the command is entered without operands, both privileged and nonprivileged users receive all the information on their own job (under which the command is given).

The command supports structured output in S variables (see [“Output in S variable” on page 6-269](#)).

Privileged functions

The command supplies the systems support staff (privilege TSOS and OPERATING) with all information about a single job started under any user ID. The job can also be selected on the basis of the internal task number (TID).

RSO device administrators and spool and cluster administrators can request information about any print job scheduled for printing on any device that they manage. For more information on these user groups see the manuals “RSO” [32], “Spool & Print Commands” [42] and “Distributed Print Services” [10].

Note

Newer printer types (such as LP65-, LP48-, LP-EMULATED-PRINTER) are not supported by the SHOW-JOB-STATUS command. Detailed information on print jobs (TYPE 4 to 7) can be obtained with commands designed for that purpose (such as SHOW-PRINT-JOB-STATUS or SHOW-PRINT-JOB-ATTRIBUTES).

Format

SHOW-JOB-STATUS	Alias: SHJS
<p>JOB-IDENTIFICATION = <u>*OWN</u> / *TID(...) / *TSN(...) / *JOB-NAME(...) / *SPOOLOUT-NAME(...) / *NAME(...) / *MONJV(...)</p>	
<p>*TID(...)</p> <ul style="list-style-type: none"> TID = <x-string 1..8> ,HOST = <u>*STD</u> / <c-string 1..8> 	
<p>*TSN(...)</p> <ul style="list-style-type: none"> TSN = <alphanum-name 1..4> ,HOST = <u>*STD</u> / <c-string 1..8> 	
<p>*JOB-NAME(...)</p> <ul style="list-style-type: none"> JOB-NAME = *NONE / <name 1..8> 	
<p>*SPOOLOUT-NAME(...)</p> <ul style="list-style-type: none"> SPOOLOUT-NAME = *NONE / <c-string 1..8 with-low> / <alphanum-name 1..8> 	
<p>*NAME(...)</p> <ul style="list-style-type: none"> NAME = *NONE / <name 1..8> 	
<p>*MONJV(...)</p> <ul style="list-style-type: none"> MONJV = <filename 1..54 without-gen-vers> 	
<p>,INFORMATION = <u>*ALL</u> (...) / list-poss(6): *STD / *ENVIRONMENT(...) / *PROGRAM / *SYSTEM / *JOB / *REPEAT / *BY-CALENDAR</p>	
<p>*ALL(...)</p> <ul style="list-style-type: none"> TERMINAL = <u>*NONE</u> / *APPLICATION / *ORIGINAL 	
<p>*ENVIRONMENT(...)</p> <ul style="list-style-type: none"> TERMINAL = <u>*NONE</u> / APPLICATION / *ORIGINAL 	
<p>,OUTPUT-JOB-ID = <u>*STD</u> / *NAME / *USER-IDENTIFICATION / *NONE</p>	

Operands

JOB-IDENTIFICATION =

Specifies how the job is identified.

A job may be identified by job number, job name, spoolout name or monitoring job variable. Multiple jobs may be identified via the job or SPOOLOUT name. Nonprivileged users can only obtain information about jobs started from or running under their own user ID.

An RSO device administrator also receives information about print jobs to be output on a printer managed by him.

JOB-IDENTIFICATION = *OWN

Requests information about the user's own job. JOB-ID=*OWN may not be issued on an console.

JOB-IDENTIFICATION = *TID(...)

This specification is only permissible for systems support (TSOS or operating privilege). Identifies an individual job by means of its internal task identifier (TID).

TID = <x-string 1..8>

Internal task identifier (TID) of the job.

HOST = *STD / <c-string 1..8>

Host system on which the job is running. The default is *STD, which means that the job is running on the local host. The host name of a remote system can only be specified for systems which are on a computer network (see the "HIPLEX MSCF" manual [25]).

JOB-IDENTIFICATION = *TSN(...)

Identifies an individual job via its task sequence number (TSN).

TSN = <alphanum-name 1..4>

Task sequence number of the job.

HOST = *STD / <c-string 1..8>

Host system on which the job is running. The default is *STD, which means that the job is running on the local host. The host name of a remote system can only be specified for systems which are on a computer network (see the "HIPLEX MSCF" manual [25]).

JOB-IDENTIFICATION = *JOB-NAME(...)

Identifies one or several jobs via their job names.

JOB-NAME = <alphanum-name 1..8> / *NONE

Name of the desired job as defined in the SET-LOGON-PARAMETERS or ENTER-JOB command. *NONE designates jobs for which no job name was defined.

JOB-IDENTIFICATION = *SPOOLOUT-NAME(...)

Identifies one or several print jobs via their SPOOLOUT names.

SPOOLOUT-NAME = <alphanum-name 1..8> / <c-string 1..8 with-low> / *NONE

Name of the appropriate spoolout task as defined in the PRINT-JOB-NAME operand of the PRINT-DOCUMENT command. *NONE designates jobs for which no job name was defined.

JOB-IDENTIFICATION = *NAME(...)

Identifies one or several jobs via their job or SPOOLOUT names.

NAME = <name 1..8> / *NONE

Name of the appropriate job or spoolout task.

*NONE designates jobs for which no job name was defined.

JOB-IDENTIFICATION = *MONJV(...)

Identifies an individual job via its monitoring job variable.

MONJV = <filename 1..54 without-gen>

Name of the JV monitoring the desired job.

A monitoring JV can be specified in the SET-LOGON-PARAMETERS, LOGON or ENTER-JOB command, provided the JV software product is available. For a batch job running on a remote host to be accessible via the monitoring JV, the MRSCAT of each host must contain the catalog ID of the pubset of the other host.

INFORMATION = *ALL(...) / list-poss(6): *STD / *ENVIRONMENT(...) / *PROGRAM / *SYSTEM / *JOB / *REPEAT / *BY-CALENDAR

Type of information to be displayed.

All output formats contain the information to identify the job:

Field	Meaning / Contents
NAME	<ul style="list-style-type: none"> – Job name (default value for non-privileged users or with OUTPUT-JOB-ID=*NAME) – User ID (default value for non-privileged users or with OUTPUT-JOB-ID=*USER-ID) – Blank if OUTPUT-JOB-ID=*NONE was specified
TSN	Task sequence number

INFORMATION = *ALL(...)

Displays all the information for the specified job which can be called with the operand values *STD, *ENVIRONMENT, *PROGRAM, *SYSTEM, *JOB, *REPEAT and *BY-CALENDAR, plus the the following information:

Field	Meaning / Contents
PRINCIPAL	Only for T3: Principal name; displayed only if the authorization to access the system by a Kerberos principal has been proved.
PERS-ID	Only for T1 / T2 / T3: Personal identifier (see “Notes on the PERS-ID and PRINCIPAL output information” on page 6-261)
CPU-LONG	Only for T2 / T3: CPU time used, in seconds; also displayed when the maximum possible display value of 999999.999 is reached for CPU-USED

TERMINAL = *NONE / *APPLICATION / *ORIGINAL

Specifies which values are to be output in the fields STATION and PROCESSOR (see INFORMATION=*ENVIRONMENT(...)). The default value *NONE is the same as if *APPLICATION was specified.

TERMINAL = *APPLICATION

The data of the direct connection partner of \$DIALOG is displayed. This can be both a terminal and a utility routine for connection management (e.g. OMNIS).

TERMINAL = *ORIGINAL

The data is always displayed on the console. A utility routine which is possibly switched between the console and \$DIALOG is ignored.

INFORMATION = *STD

Displays the following information for the job specified:

Field	Meaning / Contents		
TYPE	Job type (T1 to T7), additional information, depending on job type:		
	Type	Spec.	Meaning / Contents
	1	DO WT HO HOP HOT HOC	Waiting batch jobs Dormant: The relevant job scheduler is not yet active; or job run J(i), with (i?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
	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

(Part 1 of 3)

Field	Meaning / Contents		
TYPE (cont.)	Type	Spec.	Meaning / Contents
	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		Active spoolout tasks	
	mn	Output device, currently active	
	KP	Suspended; can be started in the same session	
7	PRE	Active PRE-PROCESSING job	
		RSO spoolout tasks	
	WT	Waiting RSO spoolout tasks	
	ACT	Active RSO spoolout tasks	
	TP	Suspended RSO spoolout tasks	
WP	RSO jobs waiting for PRE-PROCESSING		
PRE	Active PRE-PROCESSING for RSO jobs		
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		

(Part 2 of 3)

Field	Meaning / Contents
CPU-MAX	Only for T1 / T2 / T3: <ul style="list-style-type: none"> – Maximum CPU time allowed for the job – NTL (NO TIME LIMIT) – HOLD if the job was suspended with /HOLD-TASK
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"> – File size in PAM pages – Approximate number of lines (printer) or blocks (tape) to be output. – For files created by SYSFILE management, the estimated size is displayed in logical printer pages and marked with "P". – Specifications from the PRINT-DOCUMENT command are not taken into account in calculation.
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 which generated 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(...)**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
STATION	Station name (with local printer; mnemonic device name); name from the application or BCAM name, for T1 and T2 jobs empty
PROCESSOR	Processor name; for T1 job empty, for T2 job constant "BATCH"; for T3 job name from the application or BCAM name (only displayed for T1, T2 and T3 jobs)
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 if the catalog is in the QUIET state or empty (only displayed for T1, T2 and T3 jobs)
FORM	Form name of the form used when printing (only displayed for T4, T5 and T7 jobs)
CLAS	Spoolout class which is assigned to the job (only displayed for T4, T5 and T7 jobs)
DI	Name of the overlay used for the laser printer (only displayed for T4, T5 and T7 jobs)
DEV	Name of the output device as described in INFORMATION=*STD, field TYPE (only displayed for T4, T5 and T7 jobs)
PVS	Catalog ID of the pubset on which the output file is stored (only displayed for T4, T5 and T7 jobs)
OPT	Displays with the '*' character that a FOB overlay, page rotation, or more than four character sets are used for the job (only displayed for T4, T5 and T7 jobs)
ERMSG	Error code for RSO devices. The error message can be queried with the HELP-MSG-INFORMATION command (only displayed for T7 jobs)
ERCOD	Complete return code returned by DCAM, PDN or the device (only displayed for T7 jobs)

INFORMATION = *PROGRAM

Displays the following information for the specified job (only for type T1, T2 or T3):

Field	Meaning / Contents
TYPE	Job type (T2 or T3) plus category name (7 characters)
SIZE	Program size in main memory pages (4 KB)
CURR-CMD	– Command which is currently being executed – HOLD when the job is in the "HOLD" state
PROG	Name of the loaded program, if available (up to 154 characters depending on the type of program file)

INFORMATION = *SYSTEM

Displays the following information for the specified job (only for types T1, T2 or T3):

Field	Meaning / Contents
TID	Task identifier, task number of the task assigned to the job or empty (for T1)
UNP	UNPEND code of the job or empty (for T1)
Q#	Number of the job queue or empty (for T1)
SPOOLIN	SPOOLIN time
LOGON	LOGON time or empty (for T1)

INFORMATION = *JOB

Displays the following information for the specified job (only for types T1 to T3):

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JCLASS	Job class assigned to the user																												
INTYPE	Time span (in minutes) for which the job has already been in the processing status under consideration																												
P	Job scheduling priority																												
START	Specification of the job start time in accordance with the SET-LOGON-PARAM-ETERS (or LOGON), ENTER-JOB or ENTER-PROCEDURE command: "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(...) "SOON" for START=*SOON "IMMED" for START=*IMMEDIATELY																												

(Part 1 of 2)

Field	Meaning / Contents
REP	Specification of the job repetition in accordance with the SET-LOGON-PARAMETERS, LOGON or ENTER-JOB command: "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 2 of 2)

INFORMATION = *REPEAT

Displays the following information for the specified job (only for types T1, T2 and T3):

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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

Displays the following information for the specified job (only for types T1 to T3):

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	HOT	<i>HELD-BY-TSN</i> : job waiting for TSN release																				
	HOC	<i>HELD-BY-CALENDAR</i> : job waiting for import of the pubset that contains the calendar file																				
	2/3		Active batch and interactive jobs; the first 7 characters of the category name are output, e.g.: SYS BATCH DIALOG TP Category for system tasks Category for batch tasks Category for interactive tasks Category for interactive tasks																			
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).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Without errors
2	0	EXC0152	Requested information does not exist
2	0	SPS0171	Local spoolout not available
2	0	SPA0003	Bourse of the ADM task destroyed
2	0	SPS0266	SPOOL subsystem not loaded
2	0	SPS0420	RSO subsystem not loaded
	1	CMD0202	Syntax or semantic error
	1	SCP0973	Inconsistency between operands
	32	CMD0221	The specified MONJV cannot be accessed
	32	CMD2009	Error during generation of S variables
	32	SCP0974	User ID specified for spoolout does not exist
	64	EXC0154	Error on a remote system
	64	EXC0153	No authorization for command
	64	SCP0975	No authorization for command

Notes on the PERS-ID and PRINCIPAL output information

- When the SRPMOPT parameter NET-DIALOG-REJECT-FALLBACK=Y is set, an interactive user whose Kerberos principal has no access authorization for the selected user ID can log in by specifying the password instead. Such an "unauthorized" principal is not displayed as PRINCIPAL, but is included in the evaluation of the PERS-ID.
- When the user ID requires personal identification, the personal user ID specified in the SET-PERSONAL-ATTRIBUTES command is always used as PERS-ID. When there is no personal user ID but a Kerberos principal (also an "unauthorized" one), the PERS-ID contains the first 16 characters of the principal name.
- When a PRINCIPAL is displayed, the PERS-ID is not displayed. Nevertheless it exists and is also inherited. Its value can, for example, be read from the special job variable \$SYSJV.PERS-ID.
- A batch task started by the user (ENTER-JOB command, ENTER macro) inherits the PERS-ID of its calling task.

Output layout for INFORMATION=*ALL

Displays of information on *one* particular job with INFORMATION=*ALL differ, depending on the processing status of the job.

Output for TYPE 1 - waiting jobs:

```

TSN:      @@@@      TYPE:      1 @@@@@@@@  NOW:      YYYY-MM-DD.HHMMSS
JOBNAME:  @@@@@@@@@@ PRI:      # ###      SPOOLIN:  YYYY-MM-DD.HHMM
USERID:   @@@@@@@@@@ JCLASS:  @@@@@@@@@@ INTYPE:   MMMMMM
ACCNB:    @@@@@@@@@@ CPU-MAX:  #####    START:    YYYY-MM-DD.HHMM
COUNT:   #####     RERUN:   @@@      FLUSH:    @@@ _____ (1)
REPEAT:   #####     RERUN:   @@@      FLUSH:    @@@ _____ (2)
NTSN:     @@@@      REPCNT:  #####    NSTART:   YYYY-MM-DD.HHMM _____ (3)
SYMDAT:   @@@@@@@@@@@@@@@@@@@@@@@@@@  LIMIT:    @@@@@@@@@@@@@@@@@@ _____ (1)
CAL-NAME: @@@@@@@@@@@@@@@@@@@@@@@@@@  _____ (1)
ORIGFILE: @@@@@@@@@@@@@@@@@@@@@@@@@@
CMD-FILE: @@@@@@@@@@@@@@@@@@@@@@@@@@  _____ (4)
MONJV:    @@@@@@@@@@@@@@@@@@@@@@@@@@
PERS-ID:  @@@@@@@@@@@@@@@@@@ _____ (5)
    
```

- (1) This line is displayed for calendar jobs only.
- (2) This line is displayed for normal jobs, scheduled jobs and repeat jobs only.
- (3) This line is displayed for repeat jobs only.
- (4) This line is displayed only if the job was started with the ENTER-PROCEDURE command or if a copy of the command file was created when it was started with the ENTER-JOB command, e.g. because this was cataloged under a foreign user ID.
- (5) This line is displayed only if a personal identifier exists (see also [“Notes on the PERS-ID and PRINCIPAL output information” on page 6-261](#)).

TSN	Task sequence number
TYPE	Job type, plus category information
NOW	Date and time
JOBNAME	Job name
PRI	Job and task scheduling priority
SPOOLIN	Spoolin time (date and time)
USERID	User ID under which the job is executing
JCLASS	Job class assigned to the job
INTYPE	Time span for which the job is in the processing status under consideration

ACCNB	Account number
CPU-MAX	Maximum available CPU time for this job or the value HOLD if the job is suspended with /HOLD-TASK
START	Job start time
COUNT	Current number of repetitions of a calendar job
REPEAT	Job repetition
RERUN	Specification whether the job is to be rerun if the job is interrupted by a serious system error or system shutdown
FLUSH	Specification whether the job is to be kept in the queue if it has not been processed by the end of the session
NTSN	Task sequence number that was reserved for the repetition of the job
REPCNT	Counter for job repetitions
NSTART	Start time determined for the repetition of the job
SYMDAT	Symbolic date on which the calendar job is to run
LIMIT	Duration of the calendar job (maximum number of repetitions or limited by date)
CAL-NAME	Name of the calendar file in which the SYMDAT is defined
ORIGFILE	Name of the original file (ENTER or procedure file). If the procedure file is a PLAM element then the library and element names may be displayed in abbreviated form. The presence of "*" in the name indicates truncated characters.
CMD-FILE	Copy of the ENTER file S.IN.<tsn>.<date>.<time> where <date> is specified in the form yymmdd and <time> in the form hhmm or, if processing was initiated with the ENTER-PROCEDURE command, the generated S.E file.
MONJV	The name of the job variable monitoring the job or, if no job variable was specified, *NONE.
PERS-ID	Personal identifier (see also "Notes on the PERS-ID and PRINCIPAL output information" on page 6-261).

Output for TYPE 2 - active batch jobs:

```

TSN:      @@@@      TYPE:      2 @@@@@@@@ NOW:      YYYY-MM-DD.HHMMSS
JOBNAME:  @@@@@@@@  PRI:      # ###      SPOOLIN:  YYYY-MM-DD.HHMM
USERID:   @@@@@@@@  JCLASS:  @@@@@@@@  LOGON:    YYYY-MM-DD.HHMM
ACCNB:    @@@@@@@@  CPU-MAX:  #####      CPU-USED: #####.###
                                           CPU-LONG: #####.### _____ (1)
COUNT:   #####      RERUN:    @@@      FLUSH:    @@@ _____ (2)
REPEAT:   @@@@      RERUN:    @@@      FLUSH:    @@@ _____ (3)
MRSCAT:   @@@@:@@@@  HOLD:     HHMM      START:    YYYY-MM-DD.HHMM
TID:      @@@@@@@@  UNP/Q#:   ###/###
SYMDAT:   @@@@@@@@@@@@@@@@@@@@@@ LIMIT:    @@@@@@@@@@@@@@@@@@ _____ (2)
CAL-NAME: @@@@@@@@@@@@@@@@@@@@@@ _____ (2)
CMD:      @@@@@@@@@@@@@@@@@@@@@@ SIZE:     #####
PROG:     @@@@@@@@@@@@@@@@@@@@@@
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
ORIGFILE: @@@@@@@@@@@@@@@@@@@@@@
CMD-FILE: @@@@@@@@@@@@@@@@@@@@@@ _____ (4)
MONJV:    @@@@@@@@@@@@@@@@@@@@@@
PERS-ID:  @@@@@@@@@@@@@@@@@@ _____ (5)

```

- (1) This line is displayed only if the CPU log used by the task is greater than 999999.999 seconds.
- (2) This line is displayed for calendar jobs only.
- (3) This line is displayed for normal jobs, scheduled jobs and repeat jobs only.
- (4) This line is displayed only if the job was started with the ENTER-PROCEDURE command or if a copy of the command file was created when it was started with the ENTER-JOB command, e.g. because this was cataloged under a foreign user ID.
- (5) This line is displayed only if a personal identifier exists (see also [“Notes on the PERS-ID and PRINCIPAL output information” on page 6-261](#)).

LOGON	LOGON time
CPU-USED	CPU time already consumed by the task (when 999999.999 is reached, the current value is displayed in the CPU-LONG field)
CPU-LONG	CPU time already consumed by the task (longer display if CPU-USED is not sufficient)
MRSCAT	Identification and status of the MRSCAT catalog
HOLD	Time at which the task was suspended with the HOLD-TASK command
TID	Task identifier
UNP/Q#	Pend/unpend code for the task / task queue

CMD Last command processed by the task

LIMIT Maximum duration of a calendar job: unrestricted (*STD), maximum permissible number of repetitions (<integer 1..32766>) or date (YYYY-MM-DD.HHMM) for termination

The following information is displayed only if a program is loaded within the batch task:

SIZE Program size

PROG Name of the file from which the program was loaded or of the relevant library member (1 - 3 lines).
Output format for library members in single-line display:
:catid:\$userid.libname(membername,version,type)

The meaning of the other fields is identical to that described for the TYPE1 output format.

Output for TYPE 3 - interactive jobs:

```

TSN:      @@@@      TYPE:      3 @@@@@@  NOW:      YYYY-MM-DD.HHMMSS
JOBNAME:  @@@@@@@@  PRI:      0 ###
USERID:   @@@@@@@@  JCLASS:  @@@@@@@@  LOGON:    YYYY-MM-DD.HHMM
ACCNB:    @@@@@@@@  CPU-MAX:  #####    CPU-USED: #####.###
STATION:  @@@@@@@@  PROC:     @@@@@@@@
O-STAT:   @@@@@@@@  O-PROC:   @@@@@@@@
TID:      @@@@@@@@  UNP/Q#:   ###/###
CMD:      @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ SIZE:   #####
PROG:     @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
          @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
          @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
          @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
MONJV:    @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
PERS-ID:  @@@@@@@@@@@@@@@@@@ _____ (1)
PRINCIPAL: @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
          @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ _____ (2)

```

- (1) This line is displayed only if a personal identifier exists (see also [“Notes on the PERS-ID and PRINCIPAL output information” on page 6-261](#)).
- (2) This line is displayed only if the authorization to access the system by a Kerberos principal has been proved.

STATION Terminal name from the application, or original name if no application is active

PROC Processor name application, or original name if no application is active

PRINCIPAL The first 128 characters of the Kerberos principal which was accepted as access authorization to the system

If an application is active under the task and TERMINAL=ORIGINAL is specified, the original names are also displayed in addition to the names from the application:

O-STAT Original name of the terminal

O-PROC Original name of the processor via which the terminal is addressed

The meaning of the other fields is identical to that described for the TYPE1/TYPER2 output formats.

Output for TYPE 4 - waiting spoolout jobs:

```

TSN:            @@@            TYPE:     4  @@            NOW:        YYYY-MM-DD.HHMMSS
PNAME:          @@@@@@@@       PRI:     ###            FAMILY:    ####
USERID:        @@@@@@@@       FORM:    @@@@@@@@       SIZE:     #####@
DEVICE:        @@@@@@@@       CLASS:   @@@@           COPIES:   ###/###
RTSN:          @@@            PVS:     @@@            DIA:      @@
DEST:          @@@@@@@@       CONTROL: @@@@
FILENAME:<filename 1..54> oder PLAM-Bibliothekname (Elementname,
                  Versionsnummer und Elementtyp)
MONJV:        @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
CHARS:        @@@@@@@@        FOB:     @@@@@@@@        ROT:     ###/###
CHARS#:       ###            FOBSIZE: ###
  
```

- TSN Task sequence number
- TYPE Job type, plus type of output device
- NOW Date and time (year-month-day.hour-minute-second)
- PNAME Job name from the PRINT-DOCUMENT command
- FAMILY Number of spoolout jobs if a partially qualified file name or more than one file name was specified in the PRINT-DOCUMENT or WRITE-DISKETTE command.
- FORM Form name of the paper used for printing
- SIZE Size of the spoolout file
- DEVICE Output device
- CLASS Spoolout class
- COPIES Copies still to be printed / total number of copies required
- RTSN TSN of the job which generated the spoolout
- DIA Name of the film overlay to be used for spoolout to a laser printer
- DEST Name of the device pool or “*CENTRAL”
- CHARS Name of the character set or character set pool

FOB Name of the specified FORM-OVERLAY-BUFFER
 ROT Page rotation to be used
 CHARS# Number of specified character sets
 FOBSIZE Size of the specified FORM-OVERLAY-BUFFER
 CONTROL Entry in the CONTROL-MODE operand (the only values shown are
 PHYSICAL and NO)
 FILENAME File name of the file to be printed or of the PLAM element (PLAM library
 name, element name, version and type; if necessary, the output may extend
 over a number of lines)
 MONJV Name of the job variable if specified
 PVS Pubset containing the file to be printed.

Local spoolout jobs waiting for PRE-PROCESSING:

```

TSN:      @@@@          TYPE:    4 WP          NOW:      YYYY-MM-DD.HHMMSS   PNAME:
@@@@@@@@@ PRI:        ###          FAMILY:   #####          USERID:
@@@@@@@@@ FORM:      @@@@@@@@@@   SIZE:    #####@          DEVICE:
@@@@@@@@@ CLASS:    @@@@          COPIES:  ###/###          RTSN:    @@@@
PVS:      @@@@          DIA:        @         DEST:    @@@@@@@@@@
CONTROL: @@@@          FILENAME:<filename 1..54> or
PLAM library name (element name,          version and element type)
MONJV:    @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ CHARS:
@@@@@@@@@ FOB:        @@@@@@@@@@   ROT:      ##/#          CHARS#:  ###
FOBSIZE:  ###
  
```

The meanings of the fields are the same as for the description of the TYPE 4 output format.

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 = *ALL (see also below)	*
INFORMATION = *STD	1
INFORMATION = *ENVIRONMENT	2
INFORMATION = *PROGRAM	3
INFORMATION = *SYSTEM	4
INFORMATION = *JOB	5
INFORMATION = *REPEAT	6
INFORMATION = *BY-CALENDAR	7

In earlier versions the S variables were supplied with values for all job types when INFORMATION=*ALL. For reasons of compatibility these outputs are retained and marked with *: T... in the table. There are the following job types for T...:

T1	Waiting jobs
T2	Active batch jobs
T3	Active interactive jobs
T4	Waiting spoolout jobs
T5	Active spoolout jobs
T7	RSO spoolout jobs

With all other values for INFORMATION the variables are only output for jobs of the types T1 to T3 which run on the local system. INF=*ALL must be used for jobs on remote systems. The corresponding SPOOL commands must be used for print jobs.

Output information	Name of the S variable	T	Contents	Condition
Account number the job is charged to	var(*LIST).ACCOUNT	S	" <alphan.-name 1..8>	*: T1/T2/T3, 1
Name of the calendar file in which the symbolic date is defined (see SYMBOLIC-DATE)	var(*LIST).CALENDAR-NAME	S	" <filename 1..54>	*: T1/T2
Name of the last command processing by the task	var(*LIST).CMD	S	" <struc.-name 1..30>	*: T2/T3, 3
Copy of the input file; begins with S.IN (ENTER file) or with S.E (procedure file)	var(*LIST).CMD-FILE	S	" <filename 1..54>	*: T1/T2

(Part 1 of 6)

SHOW-JOB-STATUS

Output information	Name of the S variable	T	Contents	Condition
Maximum permitted CPU time for the job HOLD=job was placed on hold by /HOLD-TASK NTL=no time limit	var(*LIST).CPU-LIM	S	" HOLD NTL <integer>	*: T1/T2/T3 1
Maximum amount of CPU time available for this job	var(*LIST).CPU-LIMIT	I	0 <integer>	*: T1/T2/T3
CPU time the job has used so far	var(*LIST).CPU-USED	S	" <nnnnnn.nnnn>	*: T2/T3 1
CPU time already used by the task in long form	var(*LIST).CPU-USED-LONG	S	" <nnnnnnnnnn.nnnn>	*: T2/T3 1
Name of the output device: PR identifies central printer	var(*LIST).DEVICE-NAME	S	" PR <alphan.-name 1..8>	*: T4/T5/T7
Member name if the program was loaded from a library	var(*LIST).ELEM-NAME	S	" <comp.-name 1..64>	*: T2/T3 3
Member type if the program was loaded from a library	var(*LIST).ELEM-TYPE	S	" <alphan.-name 1..8>	*: T2/T3 3
Member version if the program was loaded from a library	var(*LIST).ELEM-VERSION	S	" <comp.-name 1..24>	*: T2/T3 3
Name of the original ENTER file	var(*LIST).ENT-FILE	S	" <filename 1..54> <library(element)>	*: T1/T2
Name of the file to be printed	var(*LIST).F-NAME	S	" <filename 1..54> <library(element, version,typ)>	*: T4/T5/T7
Number of files specified in the same PRINT-DOCUMENT command (with "normal" printout = 1)	var(*LIST).FAMILY	I	0 <integer>	*: T4/T5/T7
Name of the file containing the load module	var(*LIST).FILE-NAME	S	" <filename 1..54>	*: T2/T3 3
Flush the batch job from the job queue if it has not been processed by the end of the session	var(*LIST).FLUSH-AF-SHUTD	S	" NO YES	*: T1/T2, 5
Name of the form used for printing	var(*LIST).FORM-NAME	S	" <alphan.-name 1..8>	*: T4/T5/T7
Time (hhmm) at which the job is set to the "HOLD" state	var(*LIST).HOLD-TIME	S	" NO <hhmm>	*: T2, 2

(Part 2 of 6)

Output information	Name of the S variable	T	Contents	Condition
Name of the job class the job belongs to	var(*LIST).JOB-CLASS	S	" <name 1..8>	*: T1/T2/T3, 5
Number of job repetitions	var(*LIST).JOB-COUNT	I	0 <integer>	*: T1/T2, 6, 7
Job priority	var(*LIST).JOB-PRIO	I	0 <integer 1..9>	*: T1/T2, 1, 5
Job type (1,2 3,4,5,7)	var(*LIST).JOB-TYPE	I	0 <integer 1..7>	*: alle Typen 1, 3, 5, 6, 7
Maximum life of a calendar job	var(*LIST).LIMIT	S	0 *BY-DATE *STD <integer 1..32766>	*: T1/T2
Date for termination of a calendar job	var(*LIST).LIMIT-DATE	S	" <yyyy-mm-dd>	*: T1/T2
Time for termination of a calendar job	var(*LIST).LIMIT-TIME	S	" <hh:mm:00>	*: T1/T2
Logon date	var(*LIST).LOGON-DATE	S	" <yyyy-mm-dd>	*: T2/T3, 4
Time of logon	var(*LIST).LOGON-TIME	S	" <yyyy-mm-dd.hhmm>	*: T2/T3, 4
Length of time logged on	var(*LIST).LOGON-TIME-NORM	S	" <hh:mm:00>	*: T2/T3, 4
Name of a monitoring job variable	var(*LIST).MONJV-NAME	S	" *NONE <filename 1..54>	*: T1/T2/T3
Job name	var(*LIST).NAME	S	" <name 1..8>	
Original name of the processor via which the station is addressed	var(*LIST).ORIG-PROC-NAME	S	" <name 1..8>	2
Original name of the station	var(*LIST).ORIG-STATION	S	" <alphan.-name 1..8>	2
User ID for personal logon (siehe "Notes on the PERS-ID and PRINCIPAL output information" on page 6-261)	var(*LIST).PERSONAL-ID	S	" <c-string 1..16>	*: T1/T2/T3
Principal name of the Kerberos identification in the case of interactive logon	var(*LIST).PRINCIPAL	S	" <c-string 1..128>	*: T3
Size of the SPOOLOUT job	var(*LIST).PRINT-SIZE	I	0 <integer>	*: T5/T7

(Part 3 of 6)

SHOW-JOB-STATUS

Output information	Name of the S variable	T	Contents	Condition
For dialog jobs (T3) contains the BCAM name of the dialog terminal at which the job was started	var(*LIST).PROC-NAME	S	" <name 1..8>	*:T3, 2
Name of the program file	var(*LIST).PROG-FILE	S	" <filename 1..54>	*: T2/T3, 3
Name of the loaded program	var(*LIST).PROG-NAME	S	" <filename 1..54>	*: T2/T3, 3
Size of the program (in 4K blocks)	var(*LIST).PROG-SIZE	I	0 <integer>	*: T2/T3, 3
Only for PUBSET-STATE=QUIET: pubset concerned	var(*LIST).PUBSET	S	" <cat-id 1..4>	2
Shows whether the task is waiting for access to a pubset in QUIET status to be possible again	var(*LIST).PUBSET-STATE	S	" QUIET	2
Number of the job queue	var(*LIST).QUEUE	S	" <alphan.-name 3..3>	*: T2/T3, 4
Job repeat information	var(*LIST).REP	I	0 <integer>	*: T4/T5/T7
Indicates when job repetition is to start	var(*LIST).REP-JOB	S	" <hhmm> DAIL NO STUP WEEK	*: T1/T2, 5, 6
Job repeat counter	var(*LIST).REP-JOB-COUNT	I	0 <integer>	*: T1/T2, 6
Starting date of job repetition	var(*LIST).REP-JOB-DATE	S	" <yyyy-mm-dd>	*: T1/T2, 6
Starting time for job repetition	var(*LIST).REP-JOB-START	S	" <yyyy-mm-dd.hhmm>	*: T1/T2
Starting time of job repetition	var(*LIST).REP-JOB-TIME	S	" <hh:mm:00>	*: T1/T2, 6
TSN of the repeat job	var(*LIST).REP-JOB-TSN	S	" <alphan.-name 1..4>	*: T1/T2, 6
Rerun the batch job in the next session	var(*LIST).RERUN-AF-CRASH	S	" NO YES	*: T1/T2, 5
Run priority of the job	var(*LIST).RUN-PRIO	I	0 <integer 30..255>	*: alle Typen 1
Scheduling time of the calendar job	var(*LIST).SCHEDULING-TIME	S	" *BY-CALENDAR	*: T1/T2

(Part 4 of 6)

Output information	Name of the S variable	T	Contents	Condition
Name of the spoolout class	var(*LIST).SP-CL	S	" *ANY <alphan.-name 1..4>	*: T4/T5/T7
Number of lines, records or PAM pages already output	var(*LIST).SP-SIZE	I	0 <integer>	*: T4/T5/T7
Starting time of the Spoolin job	var(*LIST).SP-TIME	S	" <yyyy-mm-dd.hhmm>	*: T1/T2 4
TSN of the job which creates the spoolout job (corresponds to the output field RTSN)	var(*LIST).SP-TSN	S	" <alphan.-name 4..4>	*: T4/T5/T7
Spoolin date	var(*LIST).SPOOLIN-DATE	S	" <yyyy-mm-dd>	*: T1/T2, 4
Spoolin time	var(*LIST).SPOOLIN-TIME	S	" <hh:mm:00>	*: T1/T2, 4
Time when the job is to be started: The values AT, EARLIEST, LATEST and WITHIN include time specifications (with day specification, except for WITHIN). These time specifications are then contained in the START-DATE and START-TIME variables. Whether the value AT was specified by the user or set by the system for a calendar job is shown by the SCHEDULING-TIME variable.	var(*LIST).START	S	" AT EARLIEST LATEST WITHIN IMMED SOON STUP	*: T1/T2, 5
Starting date of the job (see START variable)	var(*LIST).START-DATE	S	" <yyyy-mm-dd>	*: T1/T2, 5, 7
Start job immediately	var(*LIST).START-IMMED	S	TRUE FALSE	*: T1/T2, 1
Starting time of the job	var(*LIST).START-TIME	S	" <hh:mm:00>	*: T1/T2, 5, 7
Name of the station (for local printer: device mnemonic); name from the application or BCAM name	var(*LIST).STATION	S	" <alphan.-name 1..8>	*: T3, 2

(Part 5 of 6)

SHOW-JOB-STATUS

Output information	Name of the S variable	T	Contents	Condition
Additional information on job type	var(*LIST).SUB-TYPE	S	" ACT BATCH DIALOG DO FT HO HOC HOP HOT HP HSD KP NHP NHS NSD PR PRE SD SD7 SYS TP T9G T9P WFT WP WT <mn> <kategorie>	*: alle Typen 1, 3, 5, 6, 7
Symbolic date which determines the starting time of the calendar job	var(*LIST).SYMBOLIC-DATE	S	" <name 1..20>	*: T1/T2, 7
Task ID of the task associated with the job	var(*LIST).TID	S	" <alphan.-name 8..8>	*: T2/T3, 4
Current date and time (for command input)	var(*LIST).TIME	S	" <yyyy-mm-dd. hhmmss>	*: alle Typen
Job number	var(*LIST).TSN	S	<alphan.-name 4..4>	
Pend or unpend code of the task/task queue	var(*LIST).UNPEND-CODE	S	" <alphan.-name 1..4>	*: T2/T3, 4
User ID under which the job was started	var(*LIST).USER-ID	S	<name 1..8>	

(Part 6 of 6)

SHOW-JOB-STREAM

Request job stream information

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job processing
Domain:	JOB
Privileges:	TSOS SW-MONITOR-ADMINISTRATION

Function

Systems support can use the SHOW-JOB-STREAM command to request either a description of all job streams in the system or a detailed overview of declarations made with the JMU statement DEFINE-JOB-STREAM for a job stream.

Output is alternatively to SYSOUT or SYSLST.

The command supports structured output in S variables (see [“Output in S variables” on page 6-276](#)).

Format

SHOW-JOB-STREAM

STREAM-NAME = *ALL / *ALL-NAMES / list-poss(2000): <name 1..8>

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

Operands

STREAM-NAME = *ALL / *ALL-NAMES / list-poss(2000): <name 1..8>

Defines the scope of information to be displayed.

STREAM-NAME = *ALL

Displays the descriptions of all job streams.

STREAM-NAME = *ALL-NAMES

Displays the names of all job streams.

STREAM-NAME = list-poss: <name 1..8>

Defines the names of the job streams on which information is desired.

OUTPUT = *SYSOUT / *SYSLST

Specifies whether the information is to be output to SYSOUT or SYSLST.

OUTPUT = *SYSOUT

The information is output to SYSOUT.

OUTPUT = *SYSLST

The information is output to SYSLST. This operand should be specified if the amount of information to be output is extensive.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	CMD0002	Command executed with a warning
	1	CMD0202	Syntax error
	32	CMD2009	Error during generation of presentation variables
	64	JMS0640	Command not executed: Privilege infringement or unknown job class, or no job stream defined

Output in S variables

The STREAM-NAME operand identifies the S variables which are to be created. The values *ALL-NAMES and <name 1..8> can be specified for STREAM-NAME.

Output information	Name of the S variable	T	Contents	Condition
Default stream	var(*LIST).DEF	S	*NO *YES	STREAM = *ALL/ <name 1..8>
Name of the ENTER file	var(*LIST).F-NAME	S	<filename 1..54>	STREAM = *ALL/ <name 1..8>
Initial priority of the stream task	var(*LIST).RUN-PRIO	S	30..255	STREAM = *ALL/ <name 1..8>
Stream starting point (default)	var(*LIST).START-DEF	S	*AT *AT-LOAD *BY-OPER	STREAM = *ALL/ <name 1..8>
Stream starting time (hour)	var(*LIST).START.HOURS	S	" 0..23	STREAM = *ALL/ <name 1..8>

(Part 1 of 2)

Output information	Name of the S variable	T	Contents	Condition
Stream starting time (minute)	var(*LIST).START.MINUTES	S	" 0..59	STREAM = *ALL/ <name 1..8>
Stream stopping point (default)	var(*LIST).STOP-DEF	S	*AFTER *AT *AT-SHUTDOWN *BY-OPER	STREAM = *ALL/ <name 1..8>
Stream stopping time (hour)	var(*LIST).STOP.HOURS	S	" 0..23	STREAM = *ALL/ <name 1..8>
Stream stopping time (minute)	var(*LIST).STOP.MINUTES	S	" 0..59	STREAM = *ALL/ <name 1..8>
Name of the stream definition	var(*LIST).STREAM-NAME	S	<name 1..8>	
Special parameters for the job scheduler	var(*LIST).STREAM-PAR	S	*NO <c-string 1..127>	STREAM = *ALL/ <name 1..8>

(Part 2 of 2)

SHOW-JOB-SWITCHES

Show job switches set to ON

Description status: BS2000 OSD/BC V10.0A
Functional area: Job processing
Domain: JOB
Privileges: STD-PROCESSING
HARDWARE-MAINTENANCE
SAT-FILE-EVALUATION
SAT-FILE-MANAGEMENT
SECURITY-ADMINISTRATION

Function

The SHOW-JOB-SWITCHES command displays the numbers of the job switches that are set to ON. 32 job switches (numbered 0 to 31) are available for each job. They are cleared (set to OFF) at the beginning of the job and can be modified during the course of the job as follows:

- explicitly, by means of the MODIFY-JOB-SWITCHES command
- implicitly, by means of the SET-JOB-STEP command (resets switches 16 to 31) or with utility routines (see [section “Job switches” on page 1-78](#)).

At the end of the job, all job switches are reset.

Format

SHOW-JOB-SWITCHES	Alias: SHJSW

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	32	EXC0041	System error

Example

```
/show-job-sw  
  ALL TASK SWITCHES SET OFF  
/mod-job-sw on=(4,5)  
/show-job-sw  
  TASK SWITCHES ON EQUAL-  
  4, 5
```

SHOW-JV

Show contents of job variable

Description status:	JV V15.1A
Functional area:	Job variables
Domain:	JOB-VARIABLES
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE OPERATING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	J

This function is only available to the user if the chargeable software product JV has been loaded as a subsystem.

Function

The SHOW-JV command displays the contents of a user or special job variable. Special job variables are special JVs managed by the system. They can be queried under the dummy user ID SYSJV. The command SHOW-JV-ATTRIBUTES JV-ID=JV-NAME=\$SYSJV. can be used to output the names of the available special job variables

Format

SHOW-JV	Alias: SHJV
<p>JV-CONTENTS = <filename 1..54 without-gen-vers> / [*SUBSTRING](...) / *LINK(...)</p> <p>[*SUBSTRING](...)</p> <ul style="list-style-type: none"> JV-NAME = <filename 1..54 without-gen-vers> ,POSITION = <u>1</u> / <integer 1..256> ,LENGTH = <u>*REST</u> / <integer 1..256> <p>*LINK(...)</p> <ul style="list-style-type: none"> LINK-NAME = <alphanum-name 1..7> ,POSITION = <u>1</u> / <integer 1..256> ,LENGTH = <u>*REST</u> / <integer 1..256> <p>,OUTPUT-FORMAT = <u>*CHARACTER</u> / <u>*HEXADECIMAL</u></p> <p>,PASSWORD = <u>*NONE</u> / <c-string 1..4> / <x-string 1..8> / <integer -2147483648..2147483647> / *SECRET</p>	

Operands

JV-CONTENTS = <filename 1..54 without-gen-vers> / ***SUBSTRING**(...) / ***LINK**(...)

Specifies the job variable contents that to be to be output.

A JV can be identified by its name or by its link name, and optionally a particular part of the contents can be specified.

JV-CONTENTS = <filename 1..54 without-gen-vers>

Name of the JV. The contents of the entire JV are displayed.

JV-CONTENTS = ***SUBSTRING**(...)

The contents of the area identified by POSITION and LENGTH are displayed. If POSITION and LENGTH are not specified, the contents of the entire JV are displayed.

JV-NAME = <filename 1..54 without-gen>

Name of the JV.

POSITION = 1 / <integer 1..256>

Position within the JV at which output is to begin. The command is rejected if the character at the specified position is undefined.

LENGTH = *REST / <integer 1..256>

Number of characters to be displayed. The sum of the numeric values specified in the POSITION and LENGTH operands must not exceed 257. A warning is output if the substring designated by POSITION and LENGTH is not fully defined.

LENGTH = *REST

The length of the value starting from the position specified in the POSITION operand applies.

JV-CONTENTS = *LINK(...)

The JV is identified by a link name. If POSITION and LENGTH are not specified, the contents of the entire JV are displayed, otherwise the contents of the specified area.

LINK-NAME = <alphanum-name 1..7>

Link name of the JV.

POSITION = 1 / <integer 1..256>

Position within the JV at which output is to begin. The command is rejected if the character at the specified position is undefined.

LENGTH = *REST / <integer 1..256>

Number of characters to be displayed.

The sum of the numeric values specified in the POSITION and LENGTH operands must not exceed 257. A warning is output if the substring designated by POSITION and LENGTH is not fully defined.

LENGTH = *REST

The length of the value starting from the position specified in the POSITION operand applies.

OUTPUT-FORMAT =

Determines the output format.

OUTPUT-FORMAT = *CHARACTER

Output in character format.

OUTPUT-FORMAT = *HEXADECIMAL

Output in hexadecimal format.

PASSWORD = *NONE / <c-string 1..4> / <x-string 1..8> / <integer -2147483648..2147483647> / *SECRET

Read password of the JV. The PASSWORD operand has the following special characteristics:

- The input field is automatically blanked out in the guided dialog.
- In unguided dialog and foreground procedures, the entry *SECRET or ^, SDF provides a blanked out input field for inputting the password .
- The password entered is not logged.

PASSWORD = *NONE

The JV has no password or the password was already specified in the ADD-PASSWORD command.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	No action necessary
2	0	CMD0001	Command executed with a warning
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JVS04E0	Command not executable in the call environment; if possible, remove cause of error (see SYSOUT message JVS04xx)
	130	JVS04E1	Command cannot be executed at this time; for cause see SYSOUT message JVS04xx
	130	CMD2282	Subsystem JV not available for indefinite time

Example

```
/show-jv jv=contents=$sysjv.datum _____ (1)
%24.01.2012
```

```
/show-jv jv=test1,output-format=*char
%Heute ist Dienstag der 24.01.2012 _____ (2)
```

```
/show-jv jv=test1,output-format=*hex
%C885A4A3854089A2A340C4898595A2A381874084859940F2F44BF0F14BF2F0F1F2 ____ (3)
```

```
/show-jv jv=contents=(jv-name=test1,position=24) _____ (4)
%24.01.2012
```

- (1) Display current date (special JV for date in German \$SYSJV.DATUM).
- (2) Display contents of job variable TEST1 in character format (= Today is Tuesday, 24.01.2009).
- (3) Display contents of job variable TEST1 in hexadecimal format.
- (4) Display contents of job variable TEST1 in character form, starting at byte 24.

SHOW-JV-ATTRIBUTES

Show attributes of job variable

Description status:	JV V15.1A
Functional area:	Job variables
Domain:	JOB-VARIABLES
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	\$ (with NBCONOPI=N) or J (with NBCONOPI=Y)

This function is only available to the user if the chargeable software product JV has been loaded as a subsystem.

Function

The SHOW-JV-ATTRIBUTES command displays the following attributes of a JV:

Standard information (INFORMATION=*NAME-AND-SIZE):

- name
- length of the JV value

Standard information, all protection attributes and the creation date are displayed (INFORMATION=*ALL) for each job variable specified:

- display "JV-TYPE IS MONJV", for the duration of the job monitoring
- permitted access mode (standard access control)
- access rights of foreign users (standard access control)
- access rights of the authorized users OWNER, GROUP and OTHERS (if basic ACL was activated)
- names of the guards for read and/or write access (if defined)
- name of the HSMS storage management class (if defined)
- creation date
- creation time (time of day)
- date on which the set retention period elapses
- time relative to the retention period (currently always 00:00:00 hours)
- protection with read password
- protection with write password

Summary line (INFORMATION=*SPACE-SUMMARY) for all specified job variables:

- number of job variables specified
- total length of JV values

Temporary job variables are addressed using the prefixed TEMPFILE character.

Information on special job variables

Special job variables are specified in the form “JV-NAME=\$SYSJV.<jvname>”, where the job variable name can contain wildcards. The names of all available special job variables are displayed with JV-NAME=\$SYSJV.

With INFORMATION=*ALL-ATTRIBUTES, the format and content of the special job variables is described in an additional output line. The description appears in the currently set job language: English or German (this can be set job-specifically with the /MODIFY-MSG-ATTRIBUTES command).

The command supports structured output in S variables (see “Output in S variables” on page 6-309).

Format

(Part 1 of 5)

SHOW-JV-ATTRIBUTES	Alias: SHJVA
<pre> JV-NAME = <u>*ALL</u> / <filename 1..54 without-gen-vers with-wild(80)> / *LINK(...) *LINK(...) LINK-NAME = <alphanum-name 1..7> ,INFORMATION = <u>*NAME-AND-SIZE</u> / *ALL-ATTRIBUTES / *SPACE-SUMMARY ,SELECT = <u>*ALL</u> / [*BY-ATTRIBUTES](...) [*BY-ATTRIBUTES](...) ACCESS = <u>*ANY</u> / *READ / *WRITE ,USER-ACCESS = <u>*ANY</u> / list-poss(2): *OWNER-ONLY / *ALL-USERS ,PASSWORD = <u>*ANY</u> / list-poss(3): *NONE / *READ-PASSWORD / *WRITE-PASSWORD ,CREATION-DATE = <u>*ANY</u> / *TODAY(...) / *YESTERDAY(...) / <integer -99999..991231>(…) / <date>(…) / *INTERVAL(...) *TODAY(...) TIME = <u>*ANY</u> / [*INTERVAL](…) [*INTERVAL](…) FROM = <u>00:00:00</u> / <time> ,TO = <u>23:59:59</u> / <time> </pre>	

```

*YESTERDAY(...)
  |
  | TIME = *ANY / [*INTERVAL](...)
  |
  |   [*INTERVAL](...)
  |   |
  |   | FROM = 00:00:00 / <time>
  |   | ,TO = 23:59:59 / <time>
  |
  | <integer -99999..991231>(…)
  |
  | TIME = *ANY / [*INTERVAL](…)
  |
  |   [*INTERVAL](…)
  |   |
  |   | FROM = 00:00:00 / <time>
  |   | ,TO = 23:59:59 / <time>
  |
  | <date>(…)
  |
  | TIME = *ANY / [*INTERVAL](…)
  |
  |   [*INTERVAL](…)
  |   |
  |   | FROM = 00:00:00 / <time>
  |   | ,TO = 23:59:59 / <time>
  |
  |
  | *INTERVAL(...)
  |
  | FROM = 1950-01-01 / <integer -99999..991231>(…) / <date>(…) / *TODAY(...) /
  |   *YESTERDAY(…)
  |
  |   <integer -99999..991231>(…)
  |   |
  |   | TIME = 00:00:00 / <time>
  |
  |   <date>(…)
  |   |
  |   | TIME = 00:00:00 / <time>
  |
  |   *TODAY(...)
  |   |
  |   | TIME = 00:00:00 / <time>
  |
  |   *YESTERDAY(...)
  |   |
  |   | TIME = 00:00:00 / <time>
  |
  | ,TO = *TODAY (...) / *YESTERDAY(…) / <integer -99999..991231>(…) / <date>(…)
  |
  |   *TODAY(...)
  |   |
  |   | TIME = 23:59:59 / <time>
  |
  |   *YESTERDAY(...)
  |   |
  |   | TIME = 23:59:59 / <time>
  |
  |   <integer -99999..991231>(…)
  |   |
  |   | TIME = 23:59:59 / <time>
  |
  |   <date>(…)
  |   |
  |   | TIME = 23:59:59 / <time>

```

```

,EXPIRATION-DATE = *ANY / *TOMORROW(...) / *TODAY(...) / *YESTERDAY(...) /
                    <integer -99999..991231>(…) / <date>(…) / *INTERVAL(...)

*TOMORROW(...)
  | TIME = *ANY / [*INTERVAL](…)
  |   |
  |   | [*INTERVAL](…)
  |   |   |
  |   |   | FROM = 00:00:00 / <time>
  |   |   | ,TO = 23:59:59 / <time>
  |
  | *TODAY(…)
  |   |
  |   | TIME = *ANY / [*INTERVAL](…)
  |   |   |
  |   |   | [*INTERVAL](…)
  |   |   |   |
  |   |   |   | FROM = 00:00:00 / <time>
  |   |   |   | ,TO = 23:59:59 / <time>
  |
  | *YESTERDAY(…)
  |   |
  |   | TIME = *ANY / [*INTERVAL](…)
  |   |   |
  |   |   | [*INTERVAL](…)
  |   |   |   |
  |   |   |   | FROM = 00:00:00 / <time>
  |   |   |   | ,TO = 23:59:59 / <time>
  |
  | <integer -99999..991231>(…)
  |   |
  |   | TIME = *ANY / [*INTERVAL](…)
  |   |   |
  |   |   | [*INTERVAL](…)
  |   |   |   |
  |   |   |   | FROM = 00:00:00 / <time>
  |   |   |   | ,TO = 23:59:59 / <time>
  |
  | <date>(…)
  |   |
  |   | TIME = *ANY / [*INTERVAL](…)
  |   |   |
  |   |   | [*INTERVAL](…)
  |   |   |   |
  |   |   |   | FROM = 00:00:00 / <time>
  |   |   |   | ,TO = 23:59:59 / <time>
  |
  | *INTERVAL(…)
  |   |
  |   | FROM = 1950-01-01 / <integer -99999..991231>(…) / *TOMORROW(…) / *TODAY(…) /
  |   |   | *YESTERDAY(…) / <date>(…)
  |   |
  |   | <integer -99999..991231>(…)
  |   |   |
  |   |   | TIME = 00:00:00 / <time>
  |   |
  |   | *TOMORROW(…)
  |   |   |
  |   |   | TIME = 00:00:00 / <time>
  |   |
  |   | *TODAY(…)
  |   |   |
  |   |   | TIME = 00:00:00 / <time>

```

```

*YESTERDAY(...)
  |   TIME = 00:00:00 / <time>
<date>(…)
  |   TIME = 00:00:00 / <time>
,TO = *ANY / TODAY(...) / *TOMORROW(...) / *YESTERDAY(...) /
      <integer -99999..991231>(…) / <date>(…) / *ANY

*TODAY(...)
  |   TIME = 23:59:59 / <time>

*TOMORROW(...)
  |   TIME = 23:59:59 / <time>

*YESTERDAY(...)
  |   TIME = 23:59:59 / <time>
<integer -99999..991231>(…)
  |   TIME = 23:59:59 / <time>
<date>(…)
  |   TIME = 23:59:59 / <time>

, BASIC-ACL = *ANY / *NONE / *YES / [*PARAMETERS](…)
[*PARAMETERS](…)
  |   OWNER = *ANY / *NO-ACCESS / [*PARAMETERS](…)
  |   [*PARAMETERS](…)
  |   |   READ = *ANY / *NO / *YES
  |   |   ,WRITE = *ANY / *NO / *YES
, GROUP = *ANY / *NO-ACCESS / [*PARAMETERS](…)
  |   [*PARAMETERS](…)
  |   |   READ = *ANY / *NO / *YES
  |   |   ,WRITE = *ANY / *NO / *YES
, OTHERS = *ANY / *NO-ACCESS / [*PARAMETERS](…)
  |   [*PARAMETERS](…)
  |   |   READ = *ANY / *NO / *YES
  |   |   ,WRITE = *ANY / *NO / *YES

, GUARDS = *ANY / *YES / *NONE / [*PARAMETERS](…)
[*PARAMETERS](…)
  |   READ = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>
  |   ,WRITE = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>

```



```

,MANAGEMENT-CLASS = *ANY / *NONE / <composed-name 1..8>
,MONJV-PROTECTION = *ANY / *NO / *YES
,CJC-PROTECTION = *ANY / *NO / *YES
,PROTECTION-ACTIVE = *ANY / list-poss(3): *LEVEL-0 / *LEVEL-1 / *LEVEL-2
,SIZE = *ANY / <integer 0..256> / [*INTERVAL](...)
    [*INTERVAL](...)
        FROM = 0 / <integer 0..256>
        ,TO = 256 / <integer 0..256>
,OUTPUT-OPTIONS = [*PARAMETERS] (...)
    [*PARAMETERS](...)
        SORT-LIST = *BY-JVNAME / *NO

```

Operands

JV-NAME = *ALL / <filename 1..54 without-gen-vers with-wild(80)> / *LINK(...)

Specifies the job variable whose attributes are to be displayed.

A job variable may be identified by its name or its link name. Information about job variables of other user IDs is only given if the job variables are shareable or if in the event of activated BASIC-ACL there is at least one access right for the user (GROUP).

JV-NAME = *ALL

The attributes of all the user's permanent job variables are to be displayed.

JV-NAME = <filename 1..54 without-gen-vers with-wild(80)>

Name of the job variable. The attributes of this job variable are to be displayed. The wildcard character * (asterisk) at the beginning of a name must be entered twice. Nonprivileged users are not allowed to use wildcards within their user ID. If no catalog ID is specified, the default catalog ID of the user ID concerned is selected.

Special JVs can only be referenced in the form "JV-NAME=\$SYSJV.<jvname>" where the name can be specified using wildcards. Entry of a catalog ID is not possible. Specifying "\$SYSJV." will cause the names of all available special JVs to be displayed.

JV-NAME = *LINK(...)

The job variable whose attributes are to be displayed is identified by a link name.

LINK-NAME = <alphanum-name 1..7>

Link name of the JV.

INFORMATION = *NAME-AND-SIZE / *ALL-ATTRIBUTES / *SPACE-SUMMARY

Attributes to be displayed.

INFORMATION = *NAME-AND-SIZE

Only name and length of the JV value are to be displayed.

INFORMATION = *ALL-ATTRIBUTES

All attributes are to be displayed. In the case of a special JV, however, an output line containing the format and meaning of the variable is output in addition to the name.

INFORMATION = *SPACE-SUMMARY

Only a summary line is required. The summary line contains the number of job variables specified and the total length of their values.

SELECT = *ALL / *BY-ATTRIBUTES(...)

The job variable selection criteria. The following selection criteria are not relevant for displaying special job variables.

SELECT = *ALL

Returns information on all the job variables which the user is authorized to access.

SELECT = *BY-ATTRIBUTES(...)

Restricts the job variables selected from the set specified by JV-NAME to those which satisfy the following specifications. The default value *ANY for an attribute means that the job variable set is not to be restricted to particular values of that attribute.

ACCESS = *ANY / *READ / *WRITE

Returns information on job variables depending on their access type.

ACCESS = *ANY

The ACCESS value is not to be used as a selection criterion.

ACCESS = *READ

Returns information on only those job variables to which writing is prohibited by ACCESS=READ, i.e. to which only read access is permitted.

ACCESS = *WRITE

Returns information on only those job variables to which write access is permitted.

USER-ACCESS = *ANY / list-poss(2): *OWNER-ONLY / *ALL-USERS

Returns information on job variables depending on whether or not they are shareable. If a user ID other than the user's own is specified, then implicitly USER-ACCESS=ALL-USERS.

USER-ACCESS = *ANY

The access authorization is not to be used as a selection criterion.

USER-ACCESS = *OWNER-ONLY

Returns information on job variables which only the job variable owner or co-owner may access.

USER-ACCESS = *ALL-USERS

Returns information on job variables which may be also be accessed under other user IDs.

PASSWORD = *ANY / list-poss(3): *NONE / *READ-PASSWORD / *WRITE-PASSWORD

Returns information on job variables depending on the password protection defined. If several types of password are specified as a list, the system will link them by logical Or, and will return information on all the job variables which satisfy any one of the specified conditions.

PASSWORD = *ANY

Password protection is not to be used as a selection criterion.

PASSWORD = *NONE

Returns information on job variables which have no password protection.

PASSWORD = *READ-PASSWORD

Returns information on job variables which are protected by a read password; the actual passwords will not be output.

PASSWORD = *WRITE-PASSWORD

Returns information on job variables which are protected by a write password; the actual passwords will not be output.

CREATION-DATE = *ANY / *TODAY(...) / *YESTERDAY(...) / <integer -99999..991231>(…) / <date>(…) / *INTERVAL(...)

Returns information on job variables on the basis of their creation date (CREATION-DATE); range specifications are inclusive of the limit values.

CREATION-DATE = *ANY

The creation date is not to be used as a selection criterion.

CREATION-DATE = *TODAY(...)

Returns information for job variables which have today's date entered as the CREATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of job variables to a time interval related to the specified creation date.

TIME = *INTERVAL(...)

Returns information on job variables that were created on the specified day within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects job variables for which the time of creation \geq the specified time.

TO = 23:59:59 / <time>

Selects job variables for which the time of creation \leq the specified time.

CREATION-DATE = *YESTERDAY(...)

Returns information for job variables which have yesterday's date entered as the CREATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of job variables to a time interval related to the specified creation date.

TIME = *INTERVAL(...)

Returns information on job variables that were created on the specified day within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects job variables for which the time of creation \geq the specified time.

TO = 23:59:59 / <time>

Selects job variables for which the time of creation \leq the specified time.

CREATION-DATE = <integer -99999..991231>(…)

Returns information on job variables which were created on the specified date. Here, the user can specify the creation date in either of two ways:

1. as an *absolute date value*: (6 digits), a specific date in the form yymmdd (yy = year, mm = month, dd = day)
2. as a *relative date value*: (6 digits, with preceding sign) the number of days from today's date, in the form -n for dates in the past, and +n for dates in the future; (YESTERDAY $\hat{=}$ -1 or TODAY $\hat{=}$ ± 0)

TIME = *ANY / *INTERVAL(...)

Restricts the selection of job variables to a time interval related to the specified creation date.

TIME = *INTERVAL(...)

Returns information on job variables that were created on the specified day within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects job variables for which the time of creation \geq the specified time.

TO = 23:59:59 / <time>

Selects job variables for which the time of creation \leq the specified time.

CREATION-DATE = <date>(…)

Returns information on job variables which were created on the specified date. The user can specify the creation date in the form [yy]yy-mm-dd.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of job variables to a time interval related to the specified creation date.

TIME = *INTERVAL(...)

Returns information on job variables that were created on the specified day within the specified time interval which follows.

FROM = 00:00:00 / <time>

Selects job variables for which the time of creation \geq the specified time.

TO = 23:59:59 / <time>

Selects job variables for which the time of creation \leq the specified time.

CREATION-DATE = *INTERVAL(...)

Returns information on job variables which were created within the specified time period. The upper and lower limits are both included in the range specified. See also the explanation of how dates are specified in the EXPIRATION-DATE=<integer ...> operand. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). Whichever of the operands is not specified will be replaced by the default value for use as the limit of the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit.

FROM = 1950-01-01 / <integer -99999..991231>(…) /

***TODAY(…) / *YESTERDAY(…) / <date>(…)**

Returns information on job variables which were created after the specified date (i.e. CREATION-DATE \geq specified date).

FROM = <integer -99999..991231>(…)

Returns information on job variables which were created after the specified date (i.e. CREATION-DATE \geq specified date).

TIME = 00:00:00 / <time>

Time on the specified date. All job variables created at or after the specified time are selected.

FROM = *TODAY(…)

Returns information on job variables which were created after the specified date (i.e. CREATION-DATE \geq current date).

TIME = 00:00:00 / <time>

Time on the specified date. All job variables created at or after the specified time are selected.

FROM = *YESTERDAY(…)

Returns information on job variables which were created after the specified date (i.e. CREATION-DATE \geq date of the preceding day).

TIME = 00:00:00 / <time>

Time on the specified date. All job variables created at or after the specified time are selected.

FROM = <date>(…)

Returns information on job variables which were created after the specified date (i.e. CREATION-DATE \geq specified date).

TIME = 00:00:00 / <time>

Time on the specified date. All job variables created at or after the specified time are selected.

TO = *TODAY(...) / *YESTERDAY(...) / <integer -99999..991231>(…) / <date>(…)
Returns information on job variables which were created before the specified date (i.e. CREATION-DATE ≤ specified date).

TO = *TODAY(...)

Returns information on job variables which were created before the specified date (i.e. CREATION-DATE ≤ current date).

TIME = 23:59:59 / <time>

Time on the specified date. All job variables created at or before the specified time are selected.

TO = *YESTERDAY(...)

Returns information on job variables which were created before the specified date (i.e. CREATION-DATE ≤ date of preceding day).

TIME = 23:59:59 / <time>

Time on the specified date. All job variables created at or before the specified time are selected.

TO = <integer -99999..991231>(…)

Returns information on job variables which were created before the specified date (i.e. CREATION-DATE ≤ specified date).

TIME = 23:59:59 / <time>

Time on the specified date. All job variables created at or before the specified time are selected.

TO = <date>(…)

Returns information on job variables which were created before the specified date (i.e. CREATION-DATE ≤ specified date).

TIME = 23:59:59 / <time>

Time on the specified date. All job variables created at or before the specified time are selected.

EXPIRATION-DATE = *ANY / *TOMORROW(...) / *TODAY(...) / *YESTERDAY(...) / <integer -99999..991231>(…) / <date>(…) / *INTERVAL(...)

The EXPIRATION-DATE operand requests information on the job variable as a function of the “expiration date”, i.e. the date from which write accesses to the job variable are allowed. It is meaningful to specify a date in the future if retention periods are being queried.

EXPIRATION-DATE = *ANY

The expiration date (output field *EXPIR-DATE*) is not to be used as a selection criterion.

EXPIRATION-DATE = *TOMORROW(...)

Returns information on job variables which have tomorrow’s date entered as the EXPIRATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of job variables to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(...)

Returns information on job variables for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects job variables for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects job variables for which the time of expiration \leq the specified time.

EXPIRATION-DATE = *TODAY(...)

Returns information on job variables which have today’s date entered as the EXPIRATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of job variables to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(...)

Returns information on job variables for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects job variables for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects job variables for which the time of expiration \leq the specified time.

EXPIRATION-DATE = *YESTERDAY(...)

Returns information on job variables which have yesterday's date entered as the EXPIRATION-DATE in their catalog entry.

TIME = *ANY / *INTERVAL(...)

Restricts the selection of job variables to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(...)

Returns information on job variables for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects job variables for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects job variables for which the time of expiration \leq the specified time.

EXPIRATION-DATE = <integer -99999..991231>(...)

Here, the user can specify the expiration date in either of two ways:

1. as an *absolute date value*: (6 digits), a specific date in the form yymmdd (yy = year, mm = month, dd = day)
2. as a *relative date value*: (6 digits with preceding sign), the number of days from today's date, in the form -n for dates in the past, and +n for dates in the future; (YESTERDAY $\hat{=}$ -1, TODAY $\hat{=}$?00 or TOMORROW $\hat{=}$ +1)

TIME = *ANY / *INTERVAL(...)

Restricts the selection of job variables to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(...)

Returns information on job variables for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects job variables for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects job variables for which the time of expiration \leq the specified time.

EXPIRATION-DATE = <date>(…)

Returns information on job variables for which exactly the specified date is entered as the EXPIRATION-DATE in the catalog entry. The user can specify the expiration date in the form [yy]yy-mm-dd.

TIME = *ANY / *INTERVAL(…)

Restricts the selection of job variables to a time interval related to the specified expiration date. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TIME = *INTERVAL(…)

Returns information on job variables for which the expiration date lies within the specified interval that follows.

FROM = 00:00:00 / <time>

Selects job variables for which the time of expiration \geq the specified time.

TO = 23:59:59 / <time>

Selects job variables for which the time of expiration \leq the specified time.

EXPIRATION-DATE = *INTERVAL(…)

Returns information on only the job variables whose expiration dates lie within the period specified as the operand value, i.e. job variables whose retention period expires during the specified period. The upper and lower limits are both included in the range specified. See also the explanation of how dates are specified in the EXPIRATION-DATE=<integer ...> operand. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). Whichever of the operands is not specified will be replaced by the default value for use as the limit of the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit.

FROM = 1950-01-01 / <integer -99999..991231>(…) / <date>(…) / *TOMORROW(…) / *TODAY(…) / *YESTERDAY(…)

Returns information on job variables for which the EXPIRATION-DATE \geq the specified date.

FROM = <integer -99999..991231>(…)

Returns information on job variables for which the EXPIRATION-DATE \geq the specified date.

TIME = 00:00:00 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

FROM = <date>(…)

Returns information on job variables for which the EXPIRATION-DATE \geq the specified date.

TIME = 00:00:00 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

FROM = TOMORROW(…)

Returns information on job variables for which the EXPIRATION-DATE \geq date of the next day.

TIME = 00:00:00 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

FROM = *TODAY(…)

Returns information on job variables for which the EXPIRATION-DATE \geq date of the current day.

TIME = 00:00:00 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

FROM = *YESTERDAY(…)

Returns information on job variables for which the EXPIRATION-DATE \geq date of the preceding day.

TIME = 00:00:00 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE after the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TO = *ANY / *TODAY(…) / *TOMORROW(…) / *YESTERDAY(…) / <integer -99999..991231>(…) / <date>(…)

Returns information on job variables for which the EXPIRATION-DATE \leq the specified date.

TO = *ANY

Specifies an open interval that starts with the EXPIRATION-DATE but has no upper limit.

TO = *TODAY(...)

Returns information on job variables for which the EXPIRATION-DATE \leq date of the current day.

TIME = 23:59:59 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TO = *TOMORROW(...)

Returns information on job variables for which the EXPIRATION-DATE \leq date of the next day.

TIME = 23:59:59 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TO = *YESTERDAY(...)

Returns information on job variables for which the EXPIRATION-DATE \leq date of the preceding day.

TIME = 23:59:59 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TO = <integer -99999..991231>(...)

Returns information on job variables for which the EXPIRATION-DATE \leq the specified date.

TIME = 23:59:59 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

TO = <date>(...)

Returns information on job variables for which the EXPIRATION-DATE \leq the specified date.

TIME = 23:59:59 / <time>

Time on the specified date. All job variables that have an EXPIRATION-DATE before the specified time are selected. Note that the time stamp for the EXPIRATION-DATE is always set to 00:00:00 at present!

BASIC-ACL = *ANY / *NONE / *YES / *PARAMETERS(...)

Selects all job variables whose BASIC-ACL entry matches the specified values.

BASIC-ACL = *NONE

Returns information on job variables that have no BASIC-ACL entry in the catalog.

BASIC-ACL = *YES

Returns information on job variables that have a BASIC-ACL entry in the catalog.

BASIC-ACL = *PARAMETERS(...)

Selects all job variables for which the specified access rights are defined in the BASIC-ACL entry. NO-ACCESS means that no access rights have been defined.



Access rights specified with the OWNER, GROUP and OTHERS operands within the *PARAMETERS(...) structure are logically ORed.

OWNER = *ANY / *NO-ACCESS / *PARAMETERS(...)

Specifies which access rights must already be defined for the owner.

OWNER = *PARAMETERS(...)

Access rights that must be present for the owner (logically ORed together):

READ = *ANY / *NO / *YES

Specifies whether read access authorization must be present.

WRITE = *ANY / *NO / *YES

Specifies whether write access authorization must be present.

GROUP = *ANY / *NO-ACCESS / *PARAMETERS(...)

Specifies which access rights should already be defined for the owner's user group.

GROUP = *PARAMETERS(...)

Access rights that must be present for the owner's user group (logically ORed together):

READ = *ANY / *NO / *YES

Specifies whether read access authorization must be present.

WRITE = *ANY / *NO / *YES

Specifies whether write access authorization must be present.

OTHERS = *ANY / *NO-ACCESS / *PARAMETERS(...)

Specifies which access rights should already be defined for all other users.

OTHERS = *PARAMETERS(...)

Access rights that must be present for all other users (logically ORed together):

READ = *ANY / *NO / *YES

Specifies whether read access authorization must be present.

WRITE = *ANY / *NO / *YES

Specifies whether write access authorization must be present.

GUARDS = *ANY / *NONE / *YES / *PARAMETERS(...)

Returns information on job variables for which access is controlled using GUARDS (see the CREATE-FILE or MODIFY-FILE-ATTRIBUTES command).

GUARDS = *ANY

Access control with GUARDS is not to be used as a selection criterion.

GUARDS = *NONE

Returns information on job variables that are not protected by GUARDS against unauthorized access.

GUARDS = *YES

Returns information on job variables that are protected by GUARDS against unauthorized access, i.e. job variables for which access is controlled via the GUARDS subsystem.

GUARDS = *PARAMETERS(...)

Returns information on job variables which are protected by GUARDS against unauthorized access as specified, i.e. job variables for which access control is implemented using GUARDS: Access to the job variable is controlled by a guard, i.e. a special object which contains all the conditions under which a user is granted access authorization (e.g. date, time, user ID). The GUARDS function unit of the chargeable software product SECOS (see the "SECOS" manual [35]) must be installed in order to create and maintain a guard.

Each access mode can be controlled by a separate guard. If no guard (*NONE) is defined for a given access mode, no corresponding access is permitted. If a defined guard is not accessible, the mode of access protected by it is not permitted. If the GUARDS subsystem is not available at the time of accessing the job variable, no access of any kind is allowed for the job variable.



The values specified for the following READ and WRITE operands will be linked by logical AND.

READ = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>

Returns information on job variables which are protected against unauthorized read access by the specified "guard". The default value *ANY means that the selection of job variables is not based on read protection with a guard. *NONE selects job variables for which no read guard was defined, i.e. job variables for which no read access is permitted.

WRITE = *ANY / *NONE / <filename 1..18 without-cat-gen-vers>

Returns information on job variables which are protected against unauthorized write access by the specified "guard". The default value *ANY means that the selection of job variables is not based on a guard. *NONE selects job variables for which no guard was defined, i.e. job variables for which no write access is permitted.

MANAGEMENT-CLASS = *ANY / *NONE / <composed-name 1..8>

Returns information on job variables assigned the specified HSMS management class.

MANAGEMENT-CLASS = *ANY

The HSMS management class is not a selection criterion.

MANAGEMENT-CLASS = *NONE

Returns information only on job variables with no HSMS management class assigned to them

MANAGEMENT-CLASS = <composed-name 1..8>

Returns information on job variables assigned the specified HSMS management class.

MONJV-PROTECTION = *ANY / *NO / *YES

Returns information about job variables regarding their use as job monitoring job variables.

MONJV-PROTECTION = *ANY

Use as job monitoring job variables is not a selection criteria.

MONJV-PROTECTION = *NO

Returns information about job variables that are not monitoring jobs.

MONJV-PROTECTION = *YES

Returns information about job variables that are monitoring jobs (see also output field [“JV-TYPE IS MONJV”](#) on page 6-307).

CJC-PROTECTION = *ANY / *NO / *YES

Returns information about job variables regarding their use in CJC functions.

CJC-PROTECTION = *ANY

Use in CJC functions is not a selection criteria.

CJC-PROTECTION = *NO

Returns information about job variables that are not used in CJC functions.

CJC-PROTECTION = *YES

Returns information about job variables that are used in CJC functions

PROTECTION-ACTIVE = *ANY / list-poss(3): *LEVEL-0 / *LEVEL-1 / *LEVEL-2

Returns information on job variables for which the specified protection level is the highest activated access control.

When the job variable is accessed, the highest activated protection level applies. The following table shows the method used for access control, the protection attributes, and the job variable protection hierarchy (protection levels):

Access control method	Protection attribute	Prot. level
Standard access control	ACCESS and USER-ACCESS	0
Basic access control list	BASIC-ACL	1
Access control via guards	PASSWORD	2

Table 131: Hierarchy of access control methods

All other protection attributes of the job variable (e.g. passwords) are evaluated independently, without regard to the implemented protection level.

PROTECTION-ACTIVE = *ANY

The access control method is not to be used as a selection criterion.

PROTECTION-ACTIVE = *LEVEL-0

Returns information on job variables for which access is controlled via standard access control.

PROTECTION-ACTIVE = *LEVEL-1

Returns information on job variables for which access is controlled via a basic access control list (BASIC-ACL protection)

PROTECTION-ACTIVE = *LEVEL-2

Returns information on job variables for which access is controlled via an access control list (ACL) or by GUARDS.

SIZE =* ANY / <integer 0..256> / *INTERVAL(...)

Requests information on job variables depending on the length of their value.

SIZE = *ANY

The length of the value of job variable is not to be used as a selection criterion.

SIZE = <integer 0..256>

Returns information on job variables with the specified length of the value.

SIZE = *INTERVAL(...)

Returns information on job variables for which the length of the value lies within the specified range. The upper and lower limits are both included in the range specified. See also the explanation of the SIZE = <integer> operand. It is also possible to specify limits using only the operand FROM (lower limit) or TO (upper limit). For whichever operand is not specified, the default value will be used as the limit for the range. The use of range limits for information output can only be meaningful if the chosen lower limit \leq the upper limit. Information will only be returned about job variables for which the length of the value is at least equal to the FROM value and at most equal to the TO value ($FROM \leq SIZE \leq TO$).

FROM = 0 / <integer 0..256>

Returns information only about those job variables for which the length of the value is at least the specified number ($SIZE \geq$ specified value).

TO = 256 / <integer 0..256>

Returns information only about those job variables for which the length of the value is at most the specified number ($SIZE \leq$ specified value).

OUTPUT-OPTIONS = *PARAMETERS(...)

Controls the information output.

SORT-LIST = *BY-JVNAME / *NO

Determines how the catalog entries/path names are sorted in the display.

SORT-LIST = *BY-JVNAME

The catalog entries/path names are sorted alphabetically.

SORT-LIST = *NO

The catalog entries/path names are displayed in the order in which they are contained in the catalog.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	No action necessary
2	0	CMD0001	Command executed with a warning
	1	CMD0202	Syntax error
	32	CMD2009	Error during S variable generation
	32	CMD0221	System error
	64	JVS04E0	Command not executable in the call environment; if possible, remove cause of error (see SYSOUT message JVS04xx)
	130	JVS04E1	Command cannot be executed at this time; for cause see SYSOUT message JVS04xx
	130	CMD2282	Subsystem JV not available for indefinite time

Meaning of the output fields

With INFORMATION=*NAME-AND-SIZE set (default value), only the header line containing the length of the JV value and the JV's path name is output. If INFORMATION=*ALL is specified, the JV's attributes are output in addition to the header line. At the end of the output there is a summary line indicating the number of JVs included in the output and the total length of their JV values.

Header line

<jv-length> <pathname>

- n - numeric character
- a - alphanumeric character

Output field	Format	Meaning
<jv-length>	nnnnnnn	7-digit number; indicates how many bytes the JV value occupies (length)
<pathname>	:aaaa:	indicates the catalog ID of the file catalog in which the JV is stored
	\$userid.	max. 8-character user ID for the JV
	jvname	name of the permanent or temporary JV about which information is to be output

Table 132: Output fields in the SHOW-JV-ATTRIBUTES header line

Summary line

Output field	Format	Meaning
SUM	nnnnn	6-digit number; indicates the number of JVs included in the output
JV-VALUE	nnnnnnnn	8-digit number; total length (in bytes) of all JV values included in the output

Table 133: Output fields in the SHOW-JV-ATTRIBUTES summary line

JV attributes (sorted alphabetically)

Output field	Values	Description
ACCESS	WRITE	Read and write access to the JV is allowed
	READ	Only read access is allowed to the JV, write access is not allowed
CRE-DATE	yyyy-mm-dd	yyyy = year; mm = month; dd = day; date JV created or date of last modification
CRE-TIME	hh:mm:ss	hh = hours; mm = minutes; ss = seconds; time JV created or time of last modification of the JV
EXPIR-DATE	yyyy-mm-dd	yyyy = year; mm = month; dd = day; date until which the JV is locked against write accesses; i.e., the JV cannot be modified or deleted
EXPIR-TIME	hh:mm:ss	hh = hours; mm = minutes ; ss = seconds; time relative to EXPIR-DATE, currently always 00:00:00
GROUP		<i>Only if BASIC-ACL protection is defined</i> Access rights assigned for the user class "GROUP"
	R W	Read and write access
	- -	No access rights
	a a	Combination of the characters RW- permitted
GUARD-READ	guardname	<i>Only if GUARDS protection is defined</i> Name of a GUARD that controls read access
	NONE	No read access is allowed
GUARD-WRIT	guardname	<i>Only if GUARDS protection is defined</i> Name of a GUARD that controls write access
	NONE	No write access is allowed
JV-TYPE IS MONJV		Displayed as the first line of the JV attributes if the JV is monitoring a job (write protection during job monitoring)
MAN-CLASS	hsms-class	Name of the HSMS storage management class (only if defined)
OWNER		<i>Only if BASIC-ACL protection is defined</i> The access authorizations specified for the "OWNER" class of users (owner of the JV)
	R W	Read and write access
	- -	No access rights
	a a	Combination of the characters RW- permitted

Table 134: JV attributes output fields of the SHOW-JV-ATTRIBUTES command (Part 1 of 2)

SHOW-JV-ATTRIBUTES

Output field	Values	Description
OTHERS		<i>Only if BASIC-ACL protection is defined</i> The access authorizations specified for the "OTHERS" class of users.
	R W	Read and write access
	- -	No access rights
	a a	Combination of the characters RW- permitted
READ-PASS	NONE	No read password has been defined for the JV
	YES	A read password has been defined for the JV, i.e. read access is possible only by entering the password
USER-ACC	OWNER-ONLY	The JV cannot be accessed by other user IDs
	ALL-USERS	The JV can be accessed by other user IDs
WRITE-PASS	NONE	No write password has been defined for the JV
	YES	A write password has been defined for the JV, i.e. write access is possible only by entering the password

Table 134: JV attributes output fields of the SHOW-JV-ATTRIBUTES command (Part 2 of 2)

Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The possible values for INFORMATION are *NAME-AND-SIZE (in table: INF=NAM) and *ALL-ATTRIBUTES (INF=ALL). No variables are output for special job variables.

Output information	Name of the S variable	T	Contents	Condition
JV access method *READ = read access *WRITE = write access (with implicit read access)	var(*LIST).ACCESS	S	*READ *WRITE	INF=ALL
BASIC-ACL protection active	var(*LIST).B-ACL.ACTIVE	B	FALSE TRUE	INF=ALL
GROUP read permission (BASIC-ACL)	var(*LIST).B-ACL.GROUP.READ	S	" *NO *YES	INF=ALL
GROUP write permission (BASIC-ACL)	var(*LIST).B-ACL.GROUP.WRITE	S	" *NO *YES	INF=ALL
OTHERS read permission (BASIC-ACL)	var(*LIST).B-ACL.OTHERS.READ	S	" *NO *YES	INF=ALL
OTHERS write permission (BASIC-ACL)	var(*LIST).B-ACL.OTHERS.WRITE	S	" *NO *YES	INF=ALL
OWNER read permission (BASIC-ACL)	var(*LIST).B-ACL.OWNER.READ	S	" *NO *YES	INF=ALL
OWNER write permission (BASIC-ACL)	var(*LIST).B-ACL.OWNER.WRITE	S	" *NO *YES	INF=ALL
Catalog ID of the job variable	var(*LIST).CAT-ID	S	<cat-id 1...4>	
Job variable creation date	var(*LIST).CRE-DATE	S	<yyyy-mm-dd>	INF=ALL
Job variable creation time	var(*LIST).CRE-TIME	S	<hh:mm:ss>	INF=ALL
Job variable expiration date	var(*LIST).EXPIR-DATE	S	<yyyy-mm-dd>	INF=ALL
Job variable expiration time	var(*LIST).EXPIR-TIME	S	00:00:00	INF=ALL
Access control by means of guards	var(*LIST).GUARD-ACTIVE	B	FALSE TRUE	INF=ALL
Name of the guard for read protection	var(*LIST).GUARD.READ	S	" <filename 1...18>	INF=ALL
Name of the guard for write protection	var(*LIST).GUARD.WRITE	S	" <filename 1...18>	INF=ALL
Job variable path name	var(*LIST).JV-NAME	S	<filename 1...54>	

(Part 1 of 2)

SHOW-JV-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Length of the job variable value	var(*LIST).JV-SIZE	I	<integer>	
Data type of the job variables; if necessary, displays a particular use *MONJV=job monitoring job variable *BOOLEAN/*INTEGER=reserved for use by the system and do not appear for user job variables	var(*LIST).JV-TYPE	S	" *BOOLEAN *INTEGER *MONJV	INF=ALL
Name of the HSMS storage management class	var(*LIST).MANAGE-CLASS	S	" <name 1...8>	INF=ALL
Job variable read password	var(*LIST).READ-PASS	S	*NONE *YES	INF=ALL
Name of the job variable.	var(*LIST).SHORT-JV-NAME	S	<filename 1...41>	
Users with access permission	var(*LIST).USER-ACCESS	S	*ALL-USER *OWNER-ONLY	INF=ALL
User ID of the job variable	var(*LIST).USER-ID	S	<name 1...8>	
Job variable write password	var(*LIST).WRITE-PASS	S	*NONE *YES	INF=ALL

(Part 2 of 2)

Examples

Output to SYSOUT

```

/show-jv-attr ----- (1)
%0000035 :4V05:$COGNITAS.DAT
%0000009 :4V05:$COGNITAS.MONA
%0000128 :4V05:$COGNITAS.MONB
%0000128 :4V05:$COGNITAS.MONC
%0000000 :4V05:$COGNITAS.PROBE
%SUM 000005 JV'S; JV-VALUE = 00000300 BYTES
/sh-jv-attr jv=mon*,inf=all-attr ----- (2)
%0000009 :4V05:$COGNITAS.MONA
% USER-ACC = OWNER-ONLY ACCESS = WRITE
% CRE-DATE = 2012-02-04 EXPIR-DATE = 2012-02-04
% CRE-TIME = 15:55:41 EXPIR-TIME = 00:00:00
% READ-PASS = NONE
% WRITE-PASS = NONE

```

```
%0000128 :4V05:$COGNITAS.MONB
% USER-ACC = OWNER-ONLY ACCESS = WRITE
% CRE-DATE = 2012-02-04 EXPIR-DATE = 2012-02-04
% CRE-TIME = 15:55:04 EXPIR-TIME = 00:00:00
% READ-PASS = NONE
% WRITE-PASS = NONE
%0000128 :4V05:$COGNITAS.MONC
% JV-TYPE IS MONJV
% USER-ACC = OWNER-ONLY ACCESS = WRITE
% CRE-DATE = 2012-02-04 EXPIR-DATE = 2012-02-04
% CRE-TIME = 15:55:42 EXPIR-TIME = 00:00:00
% READ-PASS = NONE
% WRITE-PASS = NONE
%SUM 000003 JV'S; JV-VALUE = 00000265 BYTES
```

```
/show-jv-attr jv=mon*,select=*by-attr(monjv=*yes),inf=*all-attr----- (3)
```

```
%0000128 :4V05:$COGNITAS.MONC
% JV-TYPE IS MONJV
% USER-ACC = OWNER-ONLY ACCESS = WRITE
% CRE-DATE = 2012-02-04 EXPIR-DATE = 2012-02-04
% CRE-TIME = 15:55:42 EXPIR-TIME = 00:00:00
% READ-PASS = NONE
% WRITE-PASS = NONE
%SUM 000003 JV'S; JV-VALUE = 00000265 BYTES
```

```
/show-jv-attr select=*by-attr(basic-acl=*yes),inf=*all-attr----- (4)
```

```
%0000035 :4V05:$COGNITAS.DAT
% USER-ACC = OWNER-ONLY ACCESS = WRITE
% OWNER = R W GROUP = - - OTHERS = - -
% CRE-DATE = 2012-02-06 EXPIR-DATE = 2012-02-06
% CRE-TIME = 15:58:18 EXPIR-TIME = 00:00:00
% READ-PASS = NONE
% WRITE-PASS = NONE
%SUM 000001 JV'S; JV-VALUE = 00000035 BYTES
```

- (1) Display all job variables of the user ID.
- (2) Display catalog entries of job variables with names beginning with "MON*". The job variable MONJV.JOB1 is currently monitoring a job.
- (3) Display the catalog entry of the job variables which have names beginning with "MON" and which are currently monitoring a job. This is the job variable MONC.
- (4) Display the job variables of the user ID which is protected with a BASIC-ACL. In this case this is only the job variable with the name DAT.

Output in S variables

```
/declare-var var-name=var(type=*structure),multiple-elem=*list  
/exec-cmd (show-jv-attr jv=hugo,inf=*all-attr),text-output=*none,  
structure-output=var  
/show-var var,inf=*par(val=*c-literal,list-index=*yes)  
OUT1#1.JV-NAME = ':20SG:$USER1.HUGO'  
OUT1#1.CAT-ID = '20SG'  
OUT1#1.USER-ID = 'USER1'  
OUT1#1.SHORT-JV-NAME = 'HUGO'  
OUT1#1.JV-SIZE = 27  
OUT1#1.JV-TYPE = ''  
OUT1#1.USER-ACCESS = '*OWNER-ONLY'  
OUT1#1.ACCESS = '*WRITE'  
OUT1#1.READ-PASS = '*NONE'  
OUT1#1.WRITE-PASS = '*NONE'  
OUT1#1.B-ACL.ACTIVE = FALSE  
OUT1#1.B-ACL.OWNER.READ = ''  
OUT1#1.B-ACL.OWNER.WRITE = ''  
OUT1#1.B-ACL.GROUP.READ = ''  
OUT1#1.B-ACL.GROUP.WRITE = ''  
OUT1#1.B-ACL.OTHERS.READ = ''  
OUT1#1.B-ACL.OTHERS.WRITE = ''  
OUT1#1.EXPIR-DATE = '2012-01-07'  
OUT1#1.EXPIR-TIME = '00:00:00'  
OUT1#1.CRE-DATE = '2012-01-07'  
OUT1#1.CRE-TIME = '16:46:33'  
OUT1#1.GUARD-ACTIVE = FALSE  
OUT1#1.GUARD.READ = ''  
OUT1#1.GUARD.WRITE = ''  
OUT1#1.MANAGE-CLASS = ''  
*END-OF-VAR  
*END-OF-CMD  
  
/exec-cmd (show-jv-attr jv=mona,inf=*name-and-size),text-output=*none,  
structure-output=var  
/show-var var,inf=*par(val=*c-literal,list-index=*yes)  
VAR1#1.JV-NAME = ':20SG:$USER1.MONA'  
VAR1#1.CAT-ID = '20SG'  
VAR1#1.USER-ID = 'USER1'  
VAR1#1.SHORT-JV-NAME = 'MONA'  
VAR1#1.JV-SIZE = 9  
*END-OF-VAR  
*END-OF-CMD
```


SHOW-JV-LINK

Display job variable names and associated link names

Description status:	JV V15.1A
Functional area:	Job variables
Domain:	JOB-VARIABLES
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	\$ (with NBCONOPI=N) or J (with NBCONOPI=Y)

This function is only available to the user if the chargeable software product JV has been loaded as a subsystem.

Function

The SHOW-JV-LINK command is used to output job variable names and their associated link names to SYSOUT. The SET-JV-LINK command is used to assign a link name to a job variable. This assignment is entered in the JV-LINK table of the job.

Notes

- “Structure Implicit” notation is guaranteed for the LINK-NAME operand, i.e. SHOW-JV-LINK LINK-NAME=jvlink.
- A JV link name is always linked uniquely with one job variable name, whereas a JV name may be connected to more than one link name. A JV-LINK entry may also exist for a job variable which has been deleted after creation of the JV-LINK entry.

The command supports structured output in S variables (see [“Output in S variables” on page 6-315](#)).

Format

SHOW-JV-LINK	Alias: SHJVL
<p>JV-NAME = *ALL / <filename 1..54 without-gen-vers with-wild(80)> / *LINK(...)</p> <p>*LINK(...)</p> <p> LINK-NAME = <alphanum-name 1..7></p>	

Operands

JV-NAME = *ALL / <filename 1..54 without-gen-vers with-wild(80)> / ***LINK(...)**

Specifies the job variable for which the JV-LINK tables entries are to be displayed. A job variable may be identified by its name or its link name.

JV-NAME = *ALL

The entire JV-LINK table is to be displayed.

JV-NAME = <filename 1..54 without-gen-vers with-wild(80)>

Name of the JV whose JV-LINK entries are to be output. The wildcard character * (asterisk) at the beginning of a name must be entered twice.

JV-NAME = *LINK(...)

The JV for which the JV-LINK entries are to be displayed is identified by its link name.

LINK-NAME = <alphanum-name 1..7>

Link name of the JV.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	No action necessary
2	0	CMD0001	Command executed with a warning
	1	CMD0202	Syntax error
	32	CMD2009	Error during S variable generation
	32	CMD0221	System error
	64	JVS04E0	Command not executable in the call environment; if possible, remove cause of error (see SYSOUT message JVS04xx)
	130	JVS04E1	Command cannot be executed at this time; for cause see SYSOUT message JVS04xx
	130	CMD2282	Subsystem JV not available for indefinite time

Meaning of the output columns

The JV-LINK entry information is output in table form, sorted alphabetically in order of link name.

Output column	Meaning
LINK-NAME	Link name of the JV, preceded by an asterisk
JV-NAME	Path name of the associated JV

Table 135: Output columns of the SHOW-JV-LINK command

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Name of the job variable	var(*LIST).JV-NAME	S	<filename 1...54>	
Link name of the job variable	var(*LIST).LINK-NAME	S	*<alphan.-name 1...7>	

Example

```

/set-jv-link link-name=hilfe,jv-name=mon.abc
/set-jv-link link-name=prog1,jv-name=edi.1
/set-jv-link link-name=prog2,jv-name=edi.2 _____ (1)
/show-jv-link link-name=hilfe _____ (2)
% LINK-NAME JV-NAME
% *HILFE :IOSN:$USER1.MON.ABC
/show-jv-link jv-name=edi. _____ (3)
% LINK-NAME JV-NAME
% *PROG1 :IOSN:$USER1.EDI.1
% *PROG2 :IOSN:$USER1.EDI.2

```

- (1) Allocating various link names to job variables
- (2) Outputting the JV-LINK entry for the link name HELP
- (3) Outputting the JV-LINK entries of job variables with names beginning with "EDI".

SHOW-LINKAGE-AUDIT

Output linkage AUDIT table

Description status:	BS2000 OSD/BC V10.0A
Functional area:	AUDIT-Modus steuern
Domain:	PROGRAM
Privileges:	STD-PROCESSING TSOS

Function

The SHOW-LINKAGE-AUDIT command allows the user to have output the entries in the linkage AUDIT table, which contain the branch destination addresses in the event of subroutine calls.

Output can be directed to SYSOUT or SYSLST.

The branch destination addresses are generally presented in a module-related form, with module name and displacement. If an address cannot be assigned to any module, the string *AVSOLUTE* is output in place of the module name.

The TU linkage AUDIT tables of a foreign task are always issued in the form of absolute addresses because the link information is not available. A nonprivileged user can only request the entries concerning tasks running under his or her own user ID.

A processor-local linkage AUDIT table can only be output via a dump generator (CDUMP, SLED) and not in interactive mode.

Privileged functions

Systems support (TSOS privilege) can request the entries for all tasks (including the TPR processor state).

The table entries are output in reverse chronological order on a first in, last out basis. If a task is active at the time the request is made, the tables may already have changed by the time they are output.

Format

SHOW-LINKAGE-AUDIT
<pre> STATE = *USER (...) / *SYSTEM(...) *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 / *TID(...) / *TSN(...) *TID(...) TID = <alphanum-name 1..8> *TSN(...) TSN = <alphanum-name 1..4> / <c-string 1..4> ,OUTPUT = *SYSOUT / *SYSLST(...) *SYSLST(...) SYSLST-NUMBER = <u>0</u> / <integer 0..99> </pre>

Operands

STATE = ***USER**(...) / ***SYSTEM**(...)

Processor state, for which the linkage AUDIT table is to be output.

STATE = ***USER**(...)

The linkage AUDIT table is to be output for the nonprivileged processor state TU.

A nonprivileged user can only request the entries concerning tasks running under his or her own user ID.

SCOPE = ***OWN-JOB** / ***TID**(...) / ***TSN**(...)

Scope of the linkage AUDIT function.

SCOPE = ***OWN-JOB**

The linkage AUDIT table of the user's own job is to be output.

SCOPE = *TID(...)

Only the entries for a task that is identified by means of an internal task number are requested.

TID = <alphanum-name 1..8>

Task identifier that is assigned to the job whose entries are requested.

SCOPE = *TSN(...)

Only the entries for a task that is identified by means of its task sequence number (TSN) are requested.

TSN = <alphanum-name 1..4> / <c-string 1..4>

TSN that is assigned to the job whose entries are requested.

STATE = *SYSTEM(...)

Only privileged users are allowed to select this operand.

The linkage AUDIT table is to be output for the TPR privileged processor state.

SCOPE = *OWN-JOB / *TID(...) / *TSN(...)

Scope of validity of the linkage AUDIT function.

SCOPE = *OWN-JOB

The linkage AUDIT table for the user's own (TSOS) task is to be output.

SCOPE = *TID(...)

The only entries requested are those for the task which is identified by this internal task number.

TID = <alphanum-name 1..8>

Task identifier which has been assigned to the task for which the entries are being requested.

SCOPE = *TSN(...)

The only entries requested are those for the task which is identified by this task sequence number (TSN).

TSN = <alphanum-name 1..4> / <c-string 1..4>

TSN which has been assigned to the task for which the entries are being requested.

OUTPUT = *SYSOUT / *SYSLST

Specifies where the AUDIT table is to be output to.

OUTPUT = *SYSOUT

The linkage AUDIT table is output to the system file SYSOUT. The entries are output in reverse chronological order, i.e. the most recent entry appears first.

OUTPUT = *SYSLST(...)

The linkage AUDIT table is to be output to SYSLST. The entries are output in reverse chronological order, i.e. the most recent entry appears first.

SYSLST-NUMBER = 0 / <integer 0..99>

When SYSLST-NUMBER = 0 is specified, output is to SYSLST or to a SYSLST file whose name consists of "SYSLST" and a number between 1 and 99 (SYSLST01 through SYSLST99).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
1	0	CMD0001	Linkage AUDIT table empty, so no output
	64	CMD0216	User does not have authorization
	64	IDA0038	Specified task does not exist
	64	IDA0052	Linkage AUDIT not available because user is not authorized
	64	IDA0053	Linkage AUDIT not available due to current test option settings for the active task
	64	IDA0060	The AUDIT functions are unavailable throughout the entire system in this session

SHOW-LIVE-MIGRATION-HISTORY

Show information on past live migrations

Description status:	AIDSYSA V19.0A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT
Privileges:	STD-PROCESSING OPERATING TSOS
Routing code:	@

Function

The SHOW-LIVE-MIGRATION-HISTORY command provides information on previous live migrations and on associated live migration variable data.

The information supplied is live migration-atomic, i.e. if command processing takes place in parallel to a live migration, this live migration is either contained in full or not at all in the information supplied.

Format

SHOW-LIVE-MIGRATION-HISTORY

```

SERVER-UNIT = *ALL / *CURRENT / *PREVIOUS / *INITIAL / *INTERVAL(...) / list-poss(10): <x-text 1..7>
  *INTERVAL(...)
    |
    | FROM = *INITIAL / *PREVIOUS / <x-text 1..7>
    |
    | ,TO = *CURRENT / *PREVIOUS / *SAME / <x-text 1..7>
,INFORMATION= *SUMMARY / *ALL / list-poss(4): *CONFIGURATION / *CPU-ID-LIST /
  *VM2000-IDENTIFICATION / *IOCONF-IDENTIFICATION

```


Operands

SERVER-UNIT = *ALL / *CURRENT / *PREVIOUS / *INITIAL / *INTERVAL(...) /

list-poss(10): <x-text 1..7>

Defines the set of systems which are run through during live migrations and on which the information is to be provided.

SERVER-UNIT = *ALL

Information for all live migrations is requested.

Within the system, only live migrations up to a maximum number are logged in the live migration history. If this number is exceeded, the data of the oldest live migration is lost and is no longer displayed.

SERVER-UNIT = *CURRENT

Information for the current system is requested.

SERVER-UNIT = *PREVIOUS

Information for the previous system is requested.

SERVER-UNIT = *INITIAL

Information for the initial system is requested, the system in which system initialization was performed (IPL host system).

SERVER-UNIT = *INTERVAL(...)

Information for a range of live migrations is requested.

FROM = *INITIAL / *PREVIOUS / <x-text 1..7>

Defines the range limit.

FROM = *INITIAL

Information starting with the initial system is requested.

FROM = *PREVIOUS

Information starting with the previous system is requested.

FROM = <x-text 1..7>

Information starting with the specified count value is requested.

The value 0 (output for LM-COUNT) corresponds to the initial system.

TO = *CURRENT / *PREVIOUS / *SAME / <x-text 1..7>

Defines the upper limit of the range.

TO = *CURRENT

Information up to and including the current system is requested.

TO = *PREVIOUS

Information up to and including the previous system is requested.

TO = *SAME

Information solely on the lower limit of the range is requested.

TO = <x-text 1..7>

Information up to the specified count value is requested.

The value 0 (output for LM-COUNT) corresponds to the initial system.

SERVER-UNIT = <x-text 1..7>

Information for the live migration with this count value is requested.

The value 0 corresponds to the initial system, the system in which system initialization was performed (IPL host system).

INFORMATION = *SUMMARY / *ALL / list-poss(4): *CONFIGURATION / *CPU-ID-LIST / *VM2000-IDENTIFICATION / *IOCONF-IDENTIFICATION

Defines the output volume.

INFORMATION = *SUMMARY

Only summary information is displayed.

INFORMATION = *ALL

All available information is displayed.

INFORMATION = * CONFIGURATION

The system configuration name is displayed.

INFORMATION = *CPU-ID-LIST

A list of all CPUs is displayed.

INFORMATION = *VM2000-IDENTIFICATION

If available, VM2000 information is displayed.

INFORMATION = *IOCONF-IDENTIFICATION

If available, IORSF information is displayed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed successfully
	1	IDA0300	Syntax error
	32	CMD0221	system error
	64	IDA0301	Semantic error

Output formats

Display of the summary

```
/show-live-mig-hist serv-unit=*all,inf=*summ
LM-COUNT      DATE          TIME          CONFIGURATION  VM
00000000     yyyy-mm-dd   hh:mm:ss     ccccccccccccccc dd
00000001     yyyy-mm-dd   hh:mm:ss     ccccccccccccccc dd
00000002     yyyy-mm-dd   hh:mm:ss     ccccccccccccccc dd
:
```

One line is displayed in the summary for each logged live migration.

Display of all available information

```
/show-live-mig-hist serv-unit=*all,inf=*all
LM-COUNT      DATE          TIME
00000000     yyyy-mm-dd   hh:mm:ss
-----
CONFIGURATION = ccccccccccccccc
-----
CPU-ID-LIST   = xxxxxxxx xxxxxxxx
CPU xx
:
CPU xx
-----
VM2000-IDENTIFICATION
VM-INDEX      = dd
VM2000-VERSION = ccccc
VM2000-MONITOR-NAME = ccccccc
VM2000-MONITOR-OSD = ccccccccc
-----
IOCONF-IDENTIFICATION
NAME          = ccccccc
VERSION       = ccccccc
CREATED       = yyyy-mm-dd,hh:mm:ss
FORMAT        = ccccccc
=====
LM-COUNT      DATE          TIME
00000001     yyyy-mm-dd   hh:mm:ss
-----
CONFIGURATION =
=====
:
```

There is a separate section for each system selected with the SERVER-UNIT operand. The section begins with an abbreviated summary format entry. This is followed by the display of further information as specified in the INFORMATION operand. The section ends with a line of double bars. This is followed by the section for the next system, if available.

Info-Spalte	Bedeutung
<i>Summary-Ausgabe</i>	
LM-COUNT	Live-Migration-Zähler (hexadezimal); Der Wert 0 bezeichnet das Ausgangssystem.
DATE	Datum der Live-Migration (bzw. der Systeminitialisierung)
TIME	Uhrzeit der Live-Migration (bzw. der Systeminitialisierung)
CONFIGURATION	Anlagenkonfigurationsname (16 Zeichen); Die letzten 5 Bytes des erweiterten Anlagenkonfigurationsnamens werden abgeschnitten.
VM	VM-Index; Der Wert 0 steht für Native-Betrieb (ohne VM2000).
<i>Verkürzte Summary-Ausgabe</i>	
LM-COUNT	siehe „Summary-Ausgabe“
DATE	
TIME	
<i>Ausgabe CONFIGURATION</i>	
CONFIGURATION	Anlagenkonfigurationsname (16 Zeichen); Die letzten 5 Bytes (Modelleigenschaften) des kompletten Namens werden abgeschnitten.
<i>Ausgabe CPU-ID-LIST</i>	
CPU xx	Interne Darstellung (8 Bytes), wie sie von der Hardware übergeben wird, in abdruckbarer Form (16 Zeichen). Es werden so viele Identifikationen ausgegeben, wie CPUs in diesem System existieren.
: CPU xx	
<i>Ausgabe VM2000-IDENTIFICATION</i>	
VM-INDEX	VM-Index; Der Wert 0 steht für Native-Betrieb (ohne VM2000).
VM2000-Version	Versionsangabe im DOD-Format, z.B. 'V10.0A'
VM2000-MONITOR-NAME	BCAM-Name des Monitorsystems, z.B. 'D027ZE01'
VM2000-MONITOR-OSD	Versionsangabe des Monitorsystems im DOD-Format, z.B. 'V10.0A0000'
<i>Ausgabe IOCONF-IDENTIFICATION</i>	
NAME	Programmname des aktuellen IOCF (8 Byte, linksbündig), z.B. 'BS2V190'
VERSION	Version aus dem aktuellen IOCF, z.B. 'V19.0A00_ _'
CREATED	Datum und Uhrzeit der Generierung der IO-Konfiguration im ISO4- Format
FORMAT	IOCF-Format (7 Byte)

Table 136: Ausgabeinformationen des Kommandos SHOW-LIVE-MIGRATION-HISTORY

SHOW-MASTER-CATALOG-ENTRY

Request information on MRSCAT entries

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

Function

The SHOW-MASTER-CATALOG-ENTRY command lists the MRSCAT entries for SF and SM pubsets and volume sets. Thus it provides the user with information about the status of a pubset and hence about the accessibility of its catalog.

The command supports structured output in S variables (see [“Output in S variable” on page 6-334](#)).

Privileged functions

Privileged users can also request information on volume sets.

Format

SHOW-MASTER-CATALOG-ENTRY	Alias: SHMCE
<p>ENTRY-NAME = <u>*ALL</u> / *HOME / <alphanum-name 1..4 with-wild(255)></p> <p>INFORMATION = <u>*STD</u> / *USER</p> <p>SELECT = <u>*ALL</u> / *ACCESSIBLE / *DEFINED-XCS-CONFIGURATED / *EXCLUSIVE / *HSMS-SUPPORTED / *INACCESSIBLE / *LOCAL / *LOCAL-ACCESSIBLE / *MASTER-CHANGE-ERROR / *PAGING / *QUIET / *REMOTE / *REMOTE-ACCESSIBLE / *SHARED / *SINGLE-FEATURE / *SPEEDCAT / *SYSTEM-MANAGED / *UNUSED-VOLUME-SETS / *VOLUME-SETS(...) / *XCS-CONFIGURATED</p> <p>*VOLUME-SETS(...) PUBSET = <u>*ALL</u> / <alphanum-name 1..4></p>	

Operands

ENTRY-NAME =

Catalog ID on which information is required. If there is an entry in the MRS catalog for this catalog ID, it is output. If not, the command is rejected. If an unknown catalog ID is specified, the following message is issued: CMS0312 MRSCAT ENTRY NOT FOUND.

If you specify more than one catalog ID (using wildcards or *ALL), you can use the SELECT operand to restrict the set of entries to be shown.

ENTRY-NAME = *ALL

All entries in the local MRS catalog are output.

ENTRY-NAME = *HOME

Information is output for the home pubset.

ENTRY-NAME = <alphanum-name 1..4 with-wild(255)>

Information is output for the specified pubset. The catalog can be specified using wildcards (maximum four characters). In this case, information is output for all pubsets whose catalog ID matches the pattern (see also to the information on data types and suffixes in [“SDF syntax representation” on page 1-37](#)).

INFORMATION =

Determines the scope of the information output for the specified pubset.

INFORMATION = *STD

Only default information about SF and SM pubsets and about volume sets is output.

INFORMATION = *USER

All information accessible to nonprivileged users is output for locally accessible SF and SM pubsets. Only default information is output for all other pubsets.

SELECT = *ALL / *ACCESSIBLE / *DEFINED-XCS-CONFIGURATED / *EXCLUSIVE / *HSMS-SUPPORTED / *INACCESSIBLE / *LOCAL / *LOCAL-ACCESSIBLE / *MASTER-CHANGE-ERROR / *PAGING / *QUIET / *REMOTE / *REMOTE-ACCESSIBLE / *SHARED / *SINGLE-FEATURE / *SPEEDCAT / *SYSTEM-MANAGED / *UNUSED-VOLUME-SETS / *VOLUME-SETS(...) / *XCS-CONFIGURATED

Specifies a selection criterion for the MRS catalog entries to be output. It makes sense to specify a selection criterion if the value *ALL (default value) or a pattern was specified in the CATALOG-ID operand. A selection criterion can be used to restrict the scope of the output information:

Value	Meaning
*ALL	Default: The output takes place without restriction for SF pubsets, SM pubsets and volume sets.
*ACCESSIBLE	Display only for pubsets whose catalog can be accessed
*DEFINED-XCS-CONFIGURATED	Display only for pubsets which are defined as XCS pubsets in the MRS catalog
*EXCLUSIVE	Display only for pubsets which are not used or may not be used as shared pubsets
*HSMS-SUPPORTED	Display only for SM pubsets which can be operated from HSMS
*INACCESSIBLE	Display only for unavailable pubsets
*LOCAL	Display only for locally imported pubsets
*LOCAL-ACCESSIBLE	Display only for pubsets which are imported and accessible locally
*MASTER-CHANGE-ERROR	Display only for pubsets in which an error occurred when a master change took place
PAGING	Display only for pubsets with paging areas which are used locally
*QUIET	Display only for pubsets which have been imported in slave mode if the MSCF connection between the master and slave is interrupted
*REMOTE	Display only for pubsets for which the criterion LOCAL does not apply
*REMOTE-ACCESSIBLE	Display only for pubsets which have not been imported locally but whose file catalog can be accessed over an existing MSCF connection
*SHARED	Display only for pubsets which are used as shared pubsets
*SINGLE-FEATURE	Display only for SF pubsets:
*SPEEDCAT	Display only for SF pubsets whose file catalog accesses are handled by the local system using SPEEDCAT
*SYSTEM-MANAGED	Display only for SM pubsets:
*UNUSED-VOLUME-SETS	Display only for defined volume sets which have not been used

(Part 1 of 2)

Value	Meaning
*VOLUME-SETS(...) PUBSET=	Display only for volume sets which belong to the specified SM pubset
*XCS-CONFIGURATED	Display only for pubsets of an XCS configuration

(Part 2 of 2)

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMS0011	Syntax error
	1	CMS0314	Syntax error for <cat-id>
	32	CMD0221	Internal system error
	32	CMS0310	Error during privilege checking
	32	CMS0311	Operand invalid
	32	CMS0313	Error during release of memory space
	32	CMS0316	Internal memory space error
	32	CMS0318	Synchronization error
	32	CMS031F	MRS parameter error
	64	CMS0013	Specified pubset not in the selected state
	64	CMS0312	MRSCAT entry not found
	64	CMS0317	Lock conflict in MRSCAT
	64	CMS031C	Invalid host name
	130	CMS0313	Error in memory space request
	130	CMS031A	MRSCAT not initialized
	130	CMS031B	Transfer error

SHOW-MASTER-CATALOG-ENTRY

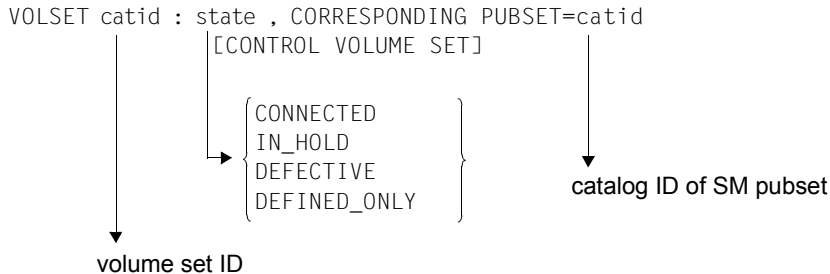
Value	Meaning
HOST= bcamname	BCAM name of the processor – on which the catalog is managed or – on which the catalog was last managed or – which was specified in the PARTNER-NAME operand.
NK4-FORMAT, NK2-FORMAT, K-FORMAT	Only for SF pubsets: Specifies whether a K or NK pubset is involved and how large the minimum transfer unit (TU) is.
[...]	Further values such as EXTRA-LARGE-CATALOG can be displayed.
DEVICE	Display type of the Pubres or "(UNUSED)"
PUBRES-UNIT	MN of the Pubres

(Part 2 of 2)

Note

The status "INACC, QUIET" indicates that a master change could not be initiated or that it terminated abnormally. The pubset can be exported, or IMPORT-PUBSET ... SHARER-TYPE=*MASTER(MASTER-CHANGE=*YES) can be used to attempt a master change again.

Output line for volume sets:



The individual parts of the text have the following meaning:

Value	Meaning
CORRESPONDING PUBSET	Catalog ID of the associated SM pubset
CONTROL_VOLUME_SET	Output for a control volume set only
CONNECTED	The volume set is in operation and accessible
IN_HOLD	The volume set is temporarily not in operation
DEFECTIVE	The volume set is defective
DEFINED_ONLY	The volume set is only defined

In some cases a second line of information is output:

- For SF pubsets only:

If the user is authorized to request individual volumes of an SF pubset, a second line is output:

```
PHYSICAL ALLOCATION BY USER ALLOWED
```

For inaccessible high-availability pubsets, the following additional line is output:

```
DRV PUBSET
```

- For SM pubsets only:

If the SM pubset is in the process of being generated, the following additional line is output:

```
GENERATION-IN-PROCESS
```

- For SF and SM pubsets only:

For inaccessible pubsets for which an import job is in progress, a second line is output:

```
IMPORT-IN-PROCESS
```

For inaccessible pubsets for which an export job is in progress, a second line is output:

```
EXPORT-IN-PROCESS
```

For local shared pubsets for which a master change is in progress, an additional line is output:

```
SHARED, MASTER-CHANGE-IN-PROCESS
```

For local and accessible shared pubsets, an additional line is output:

```
SHARED, MASTER-HOST= OWN-HOST / bcamname
```

In the case of an exclusive pubset, the *nonprivileged* user receives the following additional line:

```
ACCESS CONTROLLED, RESERVED TO OWN USERID
```

or

```
ACCESS CONTROLLED, RESERVED TO OTHER USERID
```

The *privileged* user receives the following additional line:

```
ACCESS CONTROLLED, RESERVED TO <userid>
```

If wildcards are used or *ALL is specified, the output ends with the number of entries found:

```
1 ENTRY FOUND
```

or

```
<integer> ENTRIES FOUND
```

Additional output for INFORMATION=*USER

Extra information is output relating to current pubset operating parameters and, in the case of SF pubsets, to the cache configuration. It is shown only for locally accessible pubsets.

Information on current pubset operating parameters

The information block begins with the following header line:

```
-- CURRENT PUBSET PARAMETERS-----
```

Then the following lines of values are displayed:

- Information on the maximum I/O transfer length (2 KB):

```
MAXIMAL I/O LENGTH          | <n> HP
```

- For SF pubsets this is followed by information on the allocation values of the pubset:

```
ALLOCATION UNIT SIZE         | <n> HP
```

- For SF pubsets this is followed by information as to whether absolute space allocation is allowed for nonprivileged users or only for systems support staff:

```
PHYSICAL ALLOCATION          | BY ADMINISTRATOR  
                             | USER ALLOWED
```

- Information on the Speedcat mode (for SF pubsets only):

```
SPEEDCAT MODE          | NO SCA RUNNING
                       | SCA RUNNING
```

Information on the current PFA cache configuration (for SF pubsets only)

The information block begins with the following header line:

```
--- CURRENT CACHE-CONFIGURATION-----
```

Then the following lines of values are displayed:

- Information on the cache medium:

```
CACHE MEDIUM          | NO CACHE IN USE
                       | NONVOLATILE
                       | VOLATILE
```

The name sections have the following meanings:

NO CACHE IN USE There is currently no cache area active for the pubset.

NONVOLATILE There is a cache area active for the pubset in a nonvolatile cache medium. This may be global storage with its own power supply (battery backup or UPS) or a cache controller. Full data consistency is guaranteed in the event of both power failure and system error.

VOLATILE There is a cache area active for the pubset in a volatile cache medium. This may be main memory (MM), expanded storage (ES) or global storage (GS) without its own power supply. Data storage is volatile. If used as a write cache, data inconsistency may result in the event of a power failure or a system error.

If the cache is currently active, additional information is output relating to cache size and buffering mode:

- Information on cache size (in MB or KB):

```
CACHE SIZE            | <n> MB
                       | <n> KB
```

- Only for the GS cache medium with caching duplicated in two GS units:

```
DOUBLE BUFFERING     | YES
```

Output in S variable

The generation of S variables is dependent on the type of object (value of the S variable ENTRY-TYPE), the specification in the INFORMATION operand and, in some cases, on the accessibility of the pubset (value of the S variable STA):

Additional condition for generating the S variable	Abbreviated form used in table
MRSCAT-Eintrag für SM- bzw. SF-Pubset	1
MRSCAT-Eintrag für SM- bzw. SF-Pubset und INFORMATION=*USER	2
MRSCAT-Eintrag für SM-Pubset	3
MRSCAT-Eintrag für SF-Pubset	4
MRSCAT-Eintrag für SF-Pubset und INFORMATION=*USER	5
MRSCAT-Eintrag für Volume-Set	6
Pubset ist zugreifbar	7

Output information	Name of the S variable	T	Contents	Condition
Access to pubset is checked	var(*LIST).ACCESS-CONTR	B	FALSE TRUE	1
Min. size of a memory space assignment for SF pubset (integers are specified right-justified in an eleven-character string)	var(*LIST).ALLOC-UNIT-SIZE	S	<integer> *UNDEF	5
Cache medium in use *NONE=No cache activated *NOT-VOLATILE=Non-volatile cache activated *VOLATILE=Volatile cache activated	var(*LIST).CACHE-MED	S	*NONE *NOT-VOLATILE *VOLATILE	5
Cache size (integers are specified right-justified in an eleven-character string)	var(*LIST).CACHE-SIZE	S	*GLOBAL-CACHE 1..32767 *UNDEF	5
Unit of measurement for the cache size	var(*LIST).CACHE-SIZE-DIM	S	*KB *MB *UNDEF	5
Configuration status *DEFECTIVE=Volume set defective, not accessible *DEFI-ONLY=Volume set only defined, not accessible *IN-HOLD=Volume set partially not accessible *NORMAL-USE=Normal volume set status	var(*LIST).CONF-STA	S	*DEFECTIVE *DEFI-ONLY *IN-HOLD *NORMAL-USE	6

(Part 1 of 3)

Output information	Name of the S variable	T	Contents	Condition
Volume set is control volume set	var(*LIST).CONTROL-VOLSET	B	FALSE TRUE	6
Pubset of the volume sets	var(*LIST).CORRESP-PUBSET	S	<cat-id>	6
Device type of the Pubres (pubset residence)	var(*LIST).DEV	S	*UNUSED STDDISK <dev-type>	1
Dual data recording in the cache	var(*LIST).DOUBLE-BUF	B	FALSE TRUE	5
High availability through DRV	var(*LIST).DRV-PUBSET	B	FALSE TRUE	4
Name of the MRSCAT entry	var(*LIST).ENTRY-NAME	S	<cat-id>	
Type of pubset/volume set entered in MRSCAT	var(*LIST).ENTRY-TYPE	S	*SINGLE-FEATURE *SYSTEM-MANAGED *VOLUME-SET	
Pubset in process of being exported	var(*LIST).EXP-IN-PROCESS	B	FALSE TRUE	1
Catalog format "extra large"	var(*LIST).EXTRA-LARGE-CATALOG	B	FALSE TRUE	7
Pubset format	var(*LIST).FORM	S	*K *NK2 *NK4 *UNDEF	4
Host name	var(*LIST).HOST	S	*UNDEF <host-name>	1
Pubset in process of being imported	var(*LIST).IMP-IN-PROCESS	B	FALSE TRUE	1
Pubset in process of being generated (SM pubset only)	var(*LIST).IN-GENERATION	B	FALSE TRUE	3
Large files (\geq 32 GB) may be created	var(*LIST).LARGE-FILES-ALLOWED	B	FALSE TRUE	7
Large volumes (> 32 GB) are allowed	var(*LIST).LARGE-OBJECTS	B	FALSE TRUE	7
Change of the master system in the case of local shared pubset	var(*LIST).MASTER-CHA-PROCESS	B	FALSE TRUE	1
Max. size of a transfer unit (integers are specified right-justified in an eleven-character string)	var(*LIST).MAX-IO-LEN	S	<integer> *UNDEF	2
No meaning (displayed only for reasons of compatibility)	var(*LIST).NOWAIT	B	FALSE TRUE	1

(Part 2 of 3)

SHOW-MASTER-CATALOG-ENTRY

Output information	Name of the S variable	T	Contents	Condition
Paging area exists on pubset	var(*LIST).PAGING	B	FALSE TRUE	1
Memory space assignment on disk of pubset by nonprivileged user	var(*LIST).PHYS-ALLOC	B	FALSE TRUE	5
Mnemonic device name of the Pubres (pubset residence)	var(*LIST).PUBRES-MN	S	*UNUSED <x-text 4..4> <alphanum 2..2>	1
Master system of the pubset	var(*LIST).PUBSET-MASTER	S	*OWN-HOST *UNDEF <host-name>	1
Temporary interruption of the MSCF connection	var(*LIST).QUIET	B	FALSE TRUE	1
No meaning (displayed only for reasons of compatibility)	var(*LIST).RAID-PUBSET	B	FALSE TRUE	4
Shared pubset	var(*LIST).SHARE-PUBSET	B	FALSE TRUE	1
Optimizing catalog accesses by means of SPEEDCAT	var(*LIST).SPEEDCAT-MODE	B	FALSE TRUE	5
Status of the entered pubset/volume set *CONN=Volume set is connected to a system-managed pubset *LOC-HOME=Pubset local-home *LOC-IMP=Pubset imported locally *NOT-ACCESS=Pubset cannot be accessed *NOT-CONN=Volume set not connected to SM pubset *REM-HOME=Pubset remote-home *REM-IMP=Pubset imported remotely	var(*LIST).STA	S	*CONN *LOC-HOME *LOC-IMP *NOT-ACCESS *NOT-CONN *REM-HOME *REM-IMP	
User ID which may access the pubset	var(*LIST).USER-ID	S	*OTHER *OWN *UNDEF <user-id>	1

(Part 3 of 3)

Examples

Output in S variables

```

/declare-var var-name=var(type=*structure),multiple-elem=*list
/exec-cmd cmd=(show-master-catalog-entry 2os*,inf=*user),text-output=*none,
structure-output=var
/show-var var,inf=*par(val=*c-literal)
VAR#1.ENTRY-NAME = '2OSC'
VAR#1.ENTRY-TYPE = '*SYSTEM-MANAGED'
VAR#1.STA = '*LOC-IMP'
VAR#1.PAGING = FALSE
VAR#1.QUIET = FALSE
VAR#1.HOST = 'D016ZE07'
VAR#1.DEV = 'STDDISK'
VAR#1.PUBRES-MN = 'BOF4'
VAR#1.NOWAIT = FALSE
VAR#1.LARGE-OBJECTS = FALSE
VAR#1.LARGE-FILES-ALLOWED = FALSE
VAR#1.SHARE-PUBSET = TRUE
VAR#1.MASTER-CHA-PROCESS = FALSE
VAR#1.PUBSET-MASTER = 'D016ZE07'
VAR#1.IMP-IN-PROCESS = FALSE
VAR#1.EXP-IN-PROCESS = FALSE
VAR#1.ACCESS-CONTR = FALSE
VAR#1.USER-ID = '*UNDEF'
VAR#1.IN-GENERATION = FALSE
VAR#1.MAX-IO-LEN = '          36'
*END-OF-VAR
VAR#2.ENTRY-NAME = '2OSD'
.....
.....
.....
VAR#10.ENTRY-NAME = '2OS7'
VAR#10.ENTRY-TYPE = '*SINGLE-FEATURE'
VAR#10.STA = '*LOC-IMP'
VAR#10.PAGING = FALSE
VAR#10.QUIET = FALSE
VAR#10.HOST = 'D016ZE07'
VAR#10.DEV = 'STDDISK'
VAR#10.PUBRES-MN = 'B070'
VAR#10.NOWAIT = FALSE
VAR#10.FORM = '*K'
VAR#10.LARGE-OBJECTS = FALSE
VAR#10.LARGE-FILES-ALLOWED = FALSE
VAR#10.SHARE-PUBSET = TRUE
VAR#10.MASTER-CHA-PROCESS = FALSE
VAR#10.PUBSET-MASTER = 'D016ZE07'

```

```
VAR#10.IMP-IN-PROCESS = FALSE
VAR#10.EXP-IN-PROCESS = FALSE
VAR#10.ACCESS-CONTR = FALSE
VAR#10.USER-ID = '*UNDEF'
VAR#10.DRV-PUBSET = FALSE
VAR#10.RAID-PUBSET = FALSE
VAR#10.MAX-IO-LEN = '          36'
VAR#10.ALLOC-UNIT-SIZE = '          3'
VAR#10.PHYS-ALLOC = FALSE
VAR#10.SPEEDCAT-MODE = FALSE
VAR#10.CACHE-MED = '*NONE'
VAR#10.DOUBLE-BUF = FALSE
VAR#10.CACHE-SIZE = '*UNDEF'
VAR#10.CACHE-SIZE-DIM = '*UNDEF'
*END-OF-VAR
```

Output to SYSOUT

1. Information on the Home pubset:

```
/show-master-cat *home
PUBSET CAM1: SINGLE-FEATURE, PUBRES-UNIT=D000, LOCAL-HOME, NK2-FORMAT
```

2. Information on all SM pubsets:

```
/show-master-cat *all,sel=*sys-managed
PUBSET LISA: SYSTEM-MANAGED, INACC, DEVICE=STDDISK
PUBSET SMPG: SYSTEM-MANAGED, INACC, DEVICE=STDDISK
PUBSET S055: SYSTEM-MANAGED, INACC, DEVICE=STDDISK
3 ENTRIES FOUND
```

3. Information on all paging pubsets:

```
/show-master-cat *all,sel=*paging
PUBSET 10PP: SINGLE-FEATURE, PUBRES-UNIT=D147, LOCAL-IMPORTED (PAGING)
             K-FORMAT
PUBSET 10P1: SINGLE-FEATURE, PUBRES-UNIT=D149, LOCAL-IMPORTED (PAGING)
             K-FORMAT
2 ENTRIES FOUND
```

4. Information on all volume sets:

```
/show-master-cat *all,sel=*vol-set
VOLSET CN55: NOT CONNECTED, CORRESPONDING PUBSET=S055
CONTROL VOLUME SET
VOLSET CN56: NOT CONNECTED, CORRESPONDING PUBSET=S055
VOLSET ELSA: NOT CONNECTED, CORRESPONDING PUBSET=LISA
CONTROL VOLUME SET
VOLSET ELSB: NOT CONNECTED, CORRESPONDING PUBSET=LISA
VOLSET ELSC: NOT CONNECTED, CORRESPONDING PUBSET=LISA
VOLSET ELSD: NOT CONNECTED, CORRESPONDING PUBSET=LISA
VOLSET ELSE: NOT CONNECTED, CORRESPONDING PUBSET=LISA
VOLSET ELSF: NOT CONNECTED, CORRESPONDING PUBSET=LISA
VOLSET 0 : NOT CONNECTED, CORRESPONDING PUBSET=SMPG
CONTROL VOLUME SET
9 ENTRIES FOUND
```

SHOW-MEMORY-CONFIGURATION

Show current main memory configuration

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT SYSTEM-TUNING
Privileges:	STD-PROCESSING TSOS OPERATING SW-MONITOR-ADMINISTRATION
Routing code:	R

Function

The SHOW-MEMORY-CONFIGURATION command provides information on the current configuration of the main memory. The information output is to SYSOUT and includes the sizes of the real main memory management such as total size, minimum size, size of the pageable part, size of the resident main memory currently available and the degree of main memory saturation. On SUs x86 and SQ servers (SQ200 and higher) an additional block is output with the sizes for the big page memory management.

Format

SHOW-MEMORY-CONFIGURATION

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed
	1	CMD2201	Interface error between SDF and command server
	3	CMD2203	SDF version not supported
	32	EMM2800	Internal error; guaranteed message: EMM2828
	64	CMD0216	Privilege error
	130	EMM2807	Operation cannot be executed due to lack of resources Guaranteed message: EMM2829

Output information

The output consists of the following two sections:

1. The sizes for the real memory management are output under the heading *REAL MEMORY MANAGEMENT REPORT*.
2. *This section is only output on SUs x86 and SQ servers (SQ200 and higher):* The sizes for the big page management are output under the heading *BIG PAGE MANAGEMENT REPORT*.

Sample output

```
/show-memory-configuration
```

```
REAL MEMORY MANAGEMENT REPORT :
```

```

MEM-SIZE          MIN-MEM-SIZE      CSL
3072 MB          2048 MB          0

FREE-CORE-SIZE    FREE-MEM-SIZE     PAGE-MEM-SIZE     SEMI-MEM-SIZE
1111.91 MB       1111.91 MB       1722.91 MB       0.00 MB
```

```
BIG PAGE MANAGEMENT REPORT :
```

```

QUOTA  PLANNED #LM   ACTUAL   FREE     SHR   FREE-SHR  REDUCE
40 %   1232 MB  3        1232 MB  996 MB  64 MB  0 MB     CORE
```

Key

Info column	Meaning
<i>REAL MEMORY MANAGEMENT REPORT</i> (sizes for the real memory management)	
MEM-SIZE	Size of the real main memory in Mbytes
MIN-MEM-SIZE	Minimum size of the real main memory in Mbytes (in a VM2000 guest system MIN-MEM-SIZE can be less than MEM-SIZE; in native mode the values are identical)
CSL	Current main memory saturation level; possible values: 0 (no saturation), 1, 2 or 3 (highest alarm level)

Table 137: Output information of the SHOW-MEMORY-CONFIGURATION command (Part 1 of 2)

SHOW-MEMORY-CONFIGURATION

Info column	Meaning
FREE-CORE-SIZE	Proportion of free main memory which is still available for resident class 3 memory requests of the system (is decisive for the main memory saturation level)
FREE-MEM-SIZE	Proportion of free main memory which is available for the remaining resident memory requests such as resident memory pools or data spaces (with a main memory ≤ 2 GB, FREE-CORE- and FREE-MEM-SIZE are identical)
PAGE-MEM-SIZE	Size of the main memory which is available for non-resident, pageable pages (in systems in which MEM-SIZE and MIN-MEM-SIZE are identical, FREE-MEM-SIZE and PAGE-MEM-SIZE are also identical)
SEMI-MEM-SIZE	Size of the main memory which is available for semi-resident pages. Is part of the main memory used on a non-resident basis, which corresponds to PAGE-MEM-SIZE. Semi-resident pages are used mainly by DAB caches with MEMORY=*ABOVE*ANY.
<i>BIG PAGE MANAGEMENT REPORT</i> (sizes for the BIG PAGE memory management)	
QUOTA	Percentage of the main memory which is to be used as big page memory (and which can be set using the BIG-PAGE-QUOTA parameter or MODIFY-MEMORY-PARAMETERS command)
PLANNED	Planned size of the big page memory in Mbytes which is calculated from the main memory size (MEM-SIZE) and the percentage (QUOTA)
#LM	Maximum possible number of logical machines (CPUs) in the system (the larger this value, the smaller the size of the big page memory)
ACTUAL	Current size of the the big page memory (actual size) in MB The value can deviate from the planned size (PLANNED) if, for example, the big page memory was reduced owing to a threat of main memory saturation
FREE	Size of the free (unused) big page memory in Mbytes
SHR	Size of the envisaged shared big page memory for CISC FW compiled codes in class-3 memory in Mbytes
FREE-SHR	Size of the free shared big page memory in Mbytes
REDUCE	Determines when the big page memory may be cleared; possible values: <ul style="list-style-type: none"> – CORE when there is a threat of main memory saturation (ON-CORE-SATURATION) – QUOTA when the BIG-PAGE-QUOTA is exceeded – CORE/QUOTA combination of the two settings

Table 137: Output information of the SHOW-MEMORY-CONFIGURATION command (Part 2 of 2)

Notes

- The following applies for the sizes of the real memory management:
 1. $MEM-SIZE \geq MIN-MEM-SIZE > FREE-MEM-SIZE \geq FREE-CORE-SIZE$
 2. $MEM-SIZE > PAGE-MEM-SIZE \geq FREE-MEM-SIZE \geq FREE-CORE-SIZE$
- DAB buffer is created in the memory designated with FREE-MEM-SIZE. Nevertheless main memory saturation can be eradicated by reducing DAB buffers or terminating programs if FREE-MEM-SIZE minus CORE-SIZE is less than the size of the DAB buffers. If this is not the case, measures for reducing the class 3 memory or address spaces (tasks, data spaces) are required.
- The sizes QUOTA and REDUCE displayed in big page management can be modified using the MODIFY-MEMORY-PARAMETERS command.

For further details, please see “Main memory management” in the manual “Introduction to System Administration” [14].

SHOW-MEMORY-POOL-STATUS

Show memory pools currently connected

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	PROGRAM
Privileges:	STD-PROCESSING SW-MONITOR-ADMINISTRATION TSOS

Function

The SHOW-MEMORY-POOL-STATUS provides information on common memory pools which currently exist in the system. Local memory pools are not displayed. Output is directed to SYSOUT. The name, scope and number of connected tasks are displayed. The TSNs of the connected tasks can also be requested.

Nonprivileged users are only ever shown the nonprivileged memory pools to which a task of their user ID is connected. Only tasks of the home user ID are listed in the list of sharer tasks.

The following options are provided to restrict the volume of information:

- Display for a particular name or name space
- Display for a particular scope
- Display for memory pools with particular attributes

The maximum number of TSNs to be included in the display of the connected tasks can also be defined (the default value is 45).

Privileged functions

Privileged users (TSOS or SW-MONITOR-ADMINISTRATION privilege) can also obtain information on memory pools to which their own task has no connection. All sharer tasks are displayed, irrespective of the user ID. The PRIVILEGED-POOL operand is available to select privileged memory pools.

Callers with the STD-PROCESSING privilege can only obtain information on all the memory pools to which they are connected.

Format

SHOW-MEMORY-POOL-STATUS
<pre> POOL-NAME = <u>*ALL</u> / <name 1..54 with-wild> ,SCOPE = <u>*ANY</u> / <u>*GROUP(...)</u> / <u>*USER-GROUP(...)</u> / <u>*GLOBAL</u> <u>*GROUP(...)</u> USER-IDENTIFICATION = <u>*ANY</u> / <u>*OWN</u> / <name 1..8> <u>*USER-GROUP(...)</u> GROUP-IDENTIFICATION = <u>*ANY</u> / <u>*OWN</u> / <name 1..8> ,SELECT = <u>*ALL</u> / <u>*PARAMETERS(...)</u> <u>*PARAMETERS(...)</u> CONNECTION = <u>*ANY</u> / <u>*BY-USER(...)</u> / <u>*BY-TASK(...)</u> <u>*BY-USER(...)</u> USER-IDENTIFICATION = <u>*OWN</u> / <name 1..8> <u>*BY-TASK(...)</u> TSN = <u>*OWN</u> / <alphanum-name 1..4> ,PRIVILEGED-POOL = <u>*ANY</u> / <u>*YES</u> / <u>*NO</u> ,INFORMATION = <u>*STD</u> / <u>*ALL(...)</u> <u>*ALL(...)</u> NUMBER-OF-SHARERS = <u>45</u> / <integer 1..4096> </pre>

Operands

POOL-NAME = *ALL / <name 1..54 with-wild>

Specifies the name of the memory pool which is to be displayed.

POOL-NAME = *ALL

All memory pools are displayed.

POOL-NAME = <name 1..54 with-wild>

Only the specified memory pool is displayed. When wildcards are specified, all memory pools are displayed whose name matches the wildcard string.

SCOPE = *ANY / *GROUP(...) / *USER-GROUP(...) / *GLOBAL

Specifies whether only memory pools with a particular scope are to be displayed.

SCOPE = *ANY

The memory pools are displayed irrespective of their scope.

SCOPE = *GROUP(...)

Only memory pools with SCOPE=GROUP are displayed.

USER-IDENTIFICATION = *ANY / *OWN / <name 1..8>

Only memory pools which were created by the specified user ID are displayed. Here *OWN identifies the user ID of the calling task.

*ANY specifies that memory pools are displayed irrespective of the user ID.

SCOPE = *USER-GROUP(...)

Only memory pools with SCOPE=USER-GROUP are displayed.

GROUP-IDENTIFICATION = *ANY / *OWN / <name 1..8>

Only memory pools which were created by the specified user ID are displayed. Here *OWN identifies the user ID to which the calling task belongs.

*ANY specifies that memory pools are displayed irrespective of the user ID.

SCOPE = *GLOBAL

Only memory pools with SCOPE=GLOBAL are displayed.

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

Specifies whether the set of memory pools defined by the POOL-NAME and SCOPE operands are to be restricted by selection criteria.

SELECT = *ALL

The display takes place irrespective of other selection criteria.

SELECT = *PARAMETERS(...)

Restricts the set of memory pools specified by the POOL-NAME and SCOPE operands by means of selection criteria. Only memory pools which satisfy all the subsequent criteria are to be output.

The default value ANY means that the corresponding attribute is not a selection criterion.

CONNECTION = *ANY / *BY-USER(...) / *BY-TASK(...)

Specifies whether the memory pools are to be displayed in accordance with the connected tasks.

CONNECTION = *BY-USER(...)

Only memory pools to which a task of the subsequently specified user ID is connected are displayed.

USER-IDENTIFICATION = *OWN / <name 1..8>

User ID of the connected task. The default *OWN specifies the caller's user ID. Only privileged users can have memory pools displayed to which the tasks of a different user ID are connected.

CONNECTION = *BY-TASK(...)

Only memory pools to which the specified task is connected are displayed.

TSN = *OWN / <alphanum-name 1..4>

TSN of the connected task. The default *OWN specifies the caller's tasks.

PRIVILEGED-POOL = *ANY / *YES / *NO

This operand is only available to privileged users.

Specifies whether privileged memory pools are also to be displayed.

INFORMATION = *STD / *ALL(...)

Specifies the scope of the information to be displayed. The default *STD displays the attributes of the memory pool and the number of connected tasks.

INFORMATION = *ALL(...)

The attributes of the memory pool and the number of connected tasks are displayed. In addition, all connected tasks are listed with their TSNs.

NUMBER-OF-SHARERS = 45 / <integer 1..4096>

Specifies the maximum number of tasks which may be listed.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
1	0	EMM3310	No matching memory pool in the system
2	0	EMM3311	Specified memory pool exists but is not connected
	32	EMM3312	Internal system error
	64	CMD0216	Privileges error
	64	EMM3313	Specified task not contained in the system
	64	EMM3314	Specified user ID/group ID not contained in the system
	130	EMM3318	Insufficient virtual memory

Output format

The following attributes are displayed in one output line (if necessary with a continuation line) for each selected memory pool:

Output field	Meaning
POOL-NAME	Name of the memory pool
SCOPE	Scope of the memory pool, displayed with GLOBAL, GROUP or USER-GROUP
USER-ID	<i>Only when SCOPE=GROUP:</i> User ID under which the memory pool was created
GROUP-ID	<i>Only when SCOPE=USER-GROUP:</i> Group name under which the memory pool was created
NUMBER-OF-SHARERS	Number of connected tasks
LIST-OF-SHARERS	<i>Output only when INFORMATION=*ALL:</i> List of the TSNs of the connected tasks. One line can contain up to 9 TSNs. Continuation lines are displayed if necessary. A nonprivileged user is only shown the tasks under his/her user ID.

Table 138: Information on memory pools

Example

```

/sh-mem-pool inf=*all
POOL-NAME          DISK10#SIMVOL#MP
SCOPE              GROUP
USER-ID           K60
NUMBER-OF-SHARERS 3
                  4WCZ 4WCY 4WCX
POOL-NAME          PASCALXT#MEMORYPOOL#V21A00
SCOPE              GLOBAL
NUMBER-OF-SHARERS 15
                  0S4N 0S39 0S38 0S37 0S4F 0S4H 0S5I 0S5M 0S5N
                  0S4C 0S4K 0S4L 0S5H 0S6I 0S7K
    
```

SHOW-MIP-PARAMETERS

Show entries in MIP parameter file

Description status:	MIP V19.0A
Functional area:	Message processing
Domain:	MESSAGE-PROCESSING
Privileges:	TSOS

Function

The SHOW-MIP-PARAMETERS command provides information about the system's currently applicable message file allocation table or about the entries in a specified MIP parameter file.

The command supports structured output in S variables (see [“Output in S variables” on page 6-350](#)).

Format

SHOW-MIP-PARAMETERS

SCOPE = *TEMPORARY / *NEXT-SESSION(...)

*NEXT-SESSION(...)

| **PARAMETER-FILE** = *CURRENT / <filename 1..54 without-gen>

Operands

SCOPE = *TEMPORARY / *NEXT-SESSION(...)

Determines whether the information that is required is the system's currently applicable message file allocation table or the entries in an MIP parameter file.

SCOPE = *TEMPORARY

Indicates which message file allocation table is applicable to the current system session. The information covers all the message files which are active on system level.

SCOPE = *NEXT-SESSION(...)

Specifies the MIP parameter file from which information is to be displayed.

The message file names contained in the file are shown in the order in which they appear in the MIP parameter file.

PARAMETER-FILE = *CURRENT / <filename 1..54 without-gen>

Specifies the MIP parameter file from which information is to be displayed.

PARAMETER-FILE = *CURRENT

The entries for the default MIP parameter file SYSSSI.MIP.vvv (vvv = current BS2000 version, e.g. SYSPAR.MIP.190 in BS2000 OSD/BC V10.0) are displayed.

PARAMETER-FILE = <filename 1..54 without-gen>

Name of the MIP parameter file from which information is to be taken.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
32	0	NMH1122	Warning
32	0	NMH1129	Warning
	32	CMD2009	Internal error
	32	NMH1121	Internal error
	64	CMD0216	Semantic error
	64	OPS0001	Correct retry error

Output in S variables

The SCOPE operand identifies the file on which information is to be output. The values *TEMPORARY/*NEXT-SESSION (given in the table in abbreviated form as *TEMP/*NEXT) are possible for SCOPE.

Output information	Name of the S variable	T	Contents	Condition
DLAM access to message file	var(*LIST).F(*LIST).DLAM	B	FALSE TRUE	SCOPE= *TEMP
		B	FALSE	SCOPE= *NEXT
Name of the message file	var(*LIST).F(*LIST).F-NAME	S	<filename>	
ISAM access to the message file	var(*LIST).F(*LIST).ISAM	B	FALSE TRUE	SCOPE= *TEMP
		B	FALSE	SCOPE= *NEXT
Scope of the message file	var(*LIST).F(*LIST).SCOPE	S	*SYS	
Language to be used throughout the system for message output	var(*LIST).SYS-LANG(*LIST)	S	<name 1..1>	

Example

```
/show-mip-par
```

```
NUMBER OF
```

```
SYSTEM MESSAGES-FILES : 137
```

```
SYSTEM
```

```
LANGUAGES : ED
```

MESSAGES-FILES NAMES	OPEN
:4V08:\$TSOS.SYSMES.SHC-OSD.100	S I+L
:4V08:\$TSOS.SYSMES.EDT.170	S I
:4V08:\$TSOS.SYSMES.ASE.010	S I+L
:4V08:\$TSOS.SYSMES.TCP-IP-AP.052	S I
:4V08:\$TSOS.SYSMES.PRNGD.011	S I
:4V08:\$TSOS.SYSMES.OSS.041	S I
:4V08:\$TSOS.SYSMES.MAIL.033.MAILCLNT	S I
:4V08:\$TSOS.SYSMES.CAPRI.020	S I
:4V08:\$TSOS.SYSMES.HIPLEX-AF.033	S D+I
:4V08:\$TSOS.SYSMES.JITSYS.060	S I
:4V08:\$TSOS.SYSMES.IOCFCOPY.180	S I
:4V08:\$TSOS.SYSMES.DCAM.133	S I
:4V08:\$TSOS.SYSMES.DAB.093	S D+I+L
:4V08:\$TSOS.SYSMES.CRYPT.013	S I
:4V08:\$TSOS.SYSMES.ASTI.020	S I
:4V08:\$TSOS.SYSMES.ACS.180	S I
.	
.	
.	
:4V08:\$TSOS.SYSMES.GCF.018	S I
:4V08:\$TSOS.SYSMES.SRPMOPT.053	S I
:4V08:\$TSOS.SYSMES.SECOS-KRB.053	S I
:4V08:\$TSOS.SYSMES.BCAM.220	S I
:4V08:\$TSOS.SYSMES.BS2CP.180	S D+I+L
:4V08:\$TSOS.SYSMES.EKP.01	S D+I

SHOW-MOUNT-PARAMETER

Request mount presettings for disks and tapes

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE OPERATING
Routing code:	E

Function

The following specifications may be made in regard to the mounting and dismounting of private volumes.

- Handling of mount requests for private disks (DISK-MOUNT)
The following values can be specified for DISK-MOUNT:
 - YES: Default value; mount requests are displayed on the console
 - NO: Mount requests are rejected by the system. REMOUNT and INOP messages are displayed as before.
- Handling of mount requests for tapes (TAPE-MOUNT)
The following values can be specified for TAPE-MOUNT:
 - YES: Default value; mount requests are displayed on the console
 - NO: Mount requests are rejected by the system. REMOUNT and INOP messages are displayed as before.
- Automatic allocation of tapes already mounted (ALLOCATE-TAPE)
The following values can be specified for ALLOCATE-TAPE:
 - YES: Default value; tapes already mounted are allocated by the system (without MOUNT, PREMOUNT or REMOUNT request).
 - NO: Tapes already mounted are allocated by the operator (MOUNT, PREMOUNT or REMOUNT message on console).
- Handling of released tapes (UNLOAD-RELEASED-TAPE)
The following values can be specified for UNLOAD-RELEASED-TAPE:
 - ACCORDING-TO-USER-REQ:
 - Default value; tape and MTC devices are only unloaded on being released if this is requested by the user.

REGARDLESS-OF-USER-REQ(ALL):

Tape and MTC devices are unloaded automatically on being released, regardless of any user requests.

REGARDLESS-OF-USER-REQ(MBK):

MTC devices are unloaded automatically on being released, regardless of any user requests. Tape devices are only unloaded if this is requested by the user.

IGNORE-USER-REQ:

The user request for unloading is ignored for tape devices. For MTC devices, the request for unloading is ignored if the device is being operated in *MANUAL* mode, otherwise the device is unloaded on request by the user.

- Selection of suitable free tape devices or MTCs (TAPE-SELECT)
The following values can be specified for TAPE-SELECT:

BEST-GENERATED:

Default value; selects the first suitable free device from the list of generated devices.

LEAST-RECENTLY:

Selection from the set of all suitable free devices, where the device with the least period of use is selected (balanced device loading).

BY-CONTROLLER:

Selection from the set of all suitable free devices, where the device connected to the controller which has the lowest utilization is selected.

- Control of PREMOUNT message output (PREMOUNT-MSG)
The following values can be specified for PREMOUNT-MSG:

ACCORDING-TO-USER-REQ

Default value; output compatible with BS2000/OSD-BC V2.0.

IGNORE-USER-REQ

No PREMOUNT messages are output.

PROCESS-USER-REQ-ASYNCH

Output of PREMOUNT messages which do not require a response.

The command supports structured output in S variables (see [“Output in S variables” on page 6-355](#)).

Format

SHOW-MOUNT-PARAMETER

Return codes

(SC2)	SC1	Maincode	Meaning
2	0	CMD0001	No error
	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in the input, correction of the command parameters recovers 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
	130	NKD0010	Disk or tape monitor is temporarily not available; the command was not executed
	130	OPS0001	SDF-P reporting space problems (possible response: FREE-VARIABLE and repeat command)

Output format

The following two header lines are displayed, each accompanied by a values line.

Header line 1:

```
% DISK-MOUNT TAPE-MOUNT ALLOCATE-TAPE UNLOAD-RELEASED-TAPE
```

Header line 2:

```
% TAPE-SELECT          PREMOUNT-MSG
```

If settings which differ from the global settings exist for a location, 2 header lines, each accompanied by a values line, are also displayed for this location:

Header line 1:

```
% LOCATION    TAPE-MOUNT ALLOCATE-TAPE UNLOAD-RELEASED-TAPE
```

Header line 2:

```
% TAPE-SELECT          PREMOUNT-MSG
```

See also [section "Information services of device management: Meanings of the output values of SHOW commands"](#) on page 1-86.

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Allocation of tapes which are already mounted	var(*LIST).ALLOC-TAPE	S	*NO *YES	
Show mount requests for private disks	var(*LIST).DISK-MOUNT	S	*NO *YES	
Name of the location for which the settings apply	var(*LIST).LOCATION	S	<location>	
Output PREMOUNT messages for tapes	var(*LIST).PREMOUNT	S	*ACCORDING-TO-USER-REQ *IGNORE-USER-REQ *PROCESS-USER-REQ-ASYNCH	
Show mount requests for tapes	var(*LIST).TAPE-MOUNT	S	*NO *YES	
Free tape selection	var(*LIST).TAPE-SEL	S	*BEST-GENERATED *LEAST-RECENTLY-USED *BY-CONTROLLER	
Handling of released tapes	var(*LIST).UNLOAD	S	*ACCORDING-TO-USER-REQ *IGNORE-USER-REQ *REGARDLESS-OF-USER-REQ(MBK) *REGARDLESS-OF-USER-REQ	

Example

```

/show-mount-par
% DISK-MOUNT TAPE-MOUNT ALLOCATE-TAPE UNLOAD-RELEASED-TAPE
%   YES           YES           YES           ACCORDING-TO-USER-REQ
% TAPE-SELECT           PREMOUNT-MSG
% BEST-GENERATED           ACCORDING-TO-USER-REQ
%
% LOCATION TAPE-MOUNT ALLOCATE-TAPE UNLOAD-RELEASED-TAPE
% ROBOT1           YES           YES           ACCORDING-TO-USER-REQ
% TAPE-SELECT           PREMOUNT-MSG
% BY-CONTROLLER           ACCORDING-TO-USER-REQ

```

SHOW-MSG-FILE-ASSIGNMENT

Display message files currently in use

Description status:	MIP V19.0A
Functional area:	Message processing
Domain:	MESSAGE-PROCESSING
Privileges:	STD-PROCESSING TSOS SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SHOW-MSG-FILE-ASSIGNMENT command outputs the following information to SYSOUT:

- number of active message files
- language used for message output
- names of the active message files with scope and access method.

The information output can also be limited according to the scope of the active message files (system-wide, or for one task only).

The command supports structured output in S variables (see [“Output in S variables” on page 6-357](#)).

Format

SHOW-MSG-FILE-ASSIGNMENT

INFORMATION = <u>*ALL</u> / *SYSTEM / *TASK
--

Operands

INFORMATION =

Specifies the scope of information output.

INFORMATION = *ALL

Provides information on all message files activated in the system and on those activated for the task.

The system message files are followed by the message files activated for the task.

INFORMATION = *SYSTEM

Provides information on all the message files activated at the system level.

INFORMATION = *TASK

Provides information on all the message files activated for the task.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No error
	1	NMH1174	Syntax error
	32	NMH1121	Internal error
			Guaranteed message: NMH1154
	32	CMD2009	Internal error during S variable generation
	64	CMD0216	Semantic error
	64	OPS0001	SDF-P reporting space problems

Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The possible values for INFORMATION are *ALL/*SYSTEM/*TASK.

Output information	Name of the S variable	T	Contents	Condition
DLAM access to the message file	var(*LIST).F(*LIST).DLAM	B	FALSE TRUE	INF=*ALL/ *SYSTEM/* TASK
Name of the message file	var(*LIST).F(*LIST).F-NAME	S	<filename>	INF=*ALL/ *SYSTEM/* TASK
ISAM access to the message file	var(*LIST).F(*LIST).ISAM	B	FALSE TRUE	INF=*ALL/ *SYSTEM/ *TASK
Scope of the message file	var(*LIST).F(*LIST).SCOPE	S	*SYS	INF=*ALL/ *SYSTEM
		S	*TASK	INF=*ALL/ *TASK
System-wide language used for message output	var(*LIST).SYS-LANG(*LIST)	S	<name 1..1>	INF=*ALL/ *SYSTEM
Task-specific language used for message output	var(*LIST).TASK-LANG	S	" <name 1..1>	INF=*ALL/ *TASK

Examples

Output in S variable

```
/declare-variable var-name=var(type=*structure),multiple-elem=*list
/exec-cmd (show-msg-file-assign inf=*task),text-output=*none,structure-
output=var
```

```
/show-var var,inf=*par(val=*c-literal)
```

```
VAR(*LIST).TASK-LANG = ' '
VAR(*LIST).F(*LIST).F-NAME = ':20SG:$USER1.USER.MELDUNGSDATEI.1 '
VAR(*LIST).F(*LIST).ISAM = TRUE
VAR(*LIST).F(*LIST).DLAM = FALSE
VAR(*LIST).F(*LIST).LOCAL-DLAM = FALSE
VAR(*LIST).F(*LIST).SCOPE = '*TASK'
*END-OF-VAR
```

```
/exec-cmd (show-msg-file-assign inf=*sys),text-output=*none,structure-
output=var
```

```
/show-var var,inf=*par(val=*c-literal,list-index=*yes)
```

```
VAR#1.SYS-LANG#1 = 'E'
VAR#1.SYS-LANG#2 = 'D'
VAR#1.F#2.F-NAME = ':10SH:$TSOS.SYSMES.TASKDATE.180 '
VAR#1.F#2.ISAM = TRUE
VAR#1.F#2.DLAM = FALSE
VAR#1.F#2.LOCAL-DLAM = FALSE
VAR#1.F#2.SCOPE = '*SYS'
*END-OF-VAR
.....
.....
.....
*END-OF-VAR
VAR#1.F#154.F-NAME = ':10SH:$TSOS.SYSMES.SDF-P-BASYS.025 '
VAR#1.F#154.ISAM = TRUE
VAR#1.F#154.DLAM = FALSE
VAR#1.F#154.LOCAL-DLAM = FALSE
VAR#1.F#154.SCOPE = '*SYS'
*END-OF-VAR
VAR#1.F#155.F-NAME = ':10SH:$TSOS.SYSMES.BS2CP.180 '
VAR#1.F#155.ISAM = TRUE
VAR#1.F#155.DLAM = TRUE
VAR#1.F#155.LOCAL-DLAM = TRUE
VAR#1.F#155.SCOPE = '*SYS'
*END-OF-VAR
VAR#1.F#156.F-NAME = ':10SH:$TSOS.SYSMES.EKP.01 '
VAR#1.F#156.ISAM = TRUE
VAR#1.F#156.DLAM = FALSE
VAR#1.F#156.LOCAL-DLAM = FALSE
VAR#1.F#156.SCOPE = '*SYS'
```

*END-OF-VAR
*END-OF-VAR

Output to SYSOUT

```
/mod-msg-file-assign add-file=user.messagefile.1 _____ (1)
% NMH1102 MESSAGE OUTPUT FILE ':20SG:$USER1.USER.MESSAGEFILE.1', ACCESS=ISAM
  ACTION=ADD
% NMH1180 FILE ':20SG:$USER1.USER.MESSAGEFILE.1' HAS BEEN ADDED
/show-msg-file-assign _____ (2)
```

```
NUMBER OF SYSTEM MESSAGES-FILES : 157
NUMBER OF TASK MESSAGES-FILES : 1
```

```
SYSTEM LANGUAGES : ED
TASK LANGUAGE : TASK SEARCH : *ALL
```

```
MESSAGES-FILES NAMES OPEN
NUMBER OF SYSTEM MESSAGES-FILES : 164
NUMBER OF TASK MESSAGES-FILES : 0
```

```
SYSTEM LANGUAGES : ED
TASK LANGUAGE : TASK SEARCH : *ALL
```

```
MESSAGES-FILES NAMES OPEN
:10WI:$ROBARBS2.SYSMES.ROBAR-CL.060 S I
:10WI:$SERVICE.SYSMES.ELSA.017 S I
:10SH:$TSOS.SYSMES.ACS.180 S I
:10SH:$TSOS.SYSMES.ADILOS.064 S I
:10SH:$TSOS.SYSMES.AID.034 S I
:10SH:$TSOS.SYSMES.AIDSYSA.180 S I
:10SH:$TSOS.SYSMES.ARCHIVE.090 S I
:
:
:10SH:$TSOS.SYSMES.SDF.047 S I
:10SH:$TSOS.SYSMES.SDF-A.041 S I
:10SH:$TSOS.SYSMES.SDF-CONV.030 S I
:10SH:$TSOS.SYSMES.SDF-I.041 S I
:10SH:$TSOS.SYSMES.SDF-P-BASYS.025 S I
:10SH:$TSOS.SYSMES.ASEMBH-GEN.013 S I
:10SH:$TSOS.SYSMES.ASEMBH.013 S I
:10SH:$TSOS.SYSMES.BS2CP.180 S D+I+L
:10SH:$TSOS.SYSMES.EKP.01 S I
:20SG:$USER1.USER.MELDUNGSDATEI.1 T I
```

- (1) Adds the task message file *USER.MESSAGEFILE.1*.
- (2) Displays all system and task message files assigned to the task (only part of the system message file output is shown here).

Note

The meanings of the codes in the output column headed "OPEN" are as follows:

- The first code refers to the scope of the message file (S for system, T for task)
- The second code refers to the file access method (I for ISAM, D for DLAM)

SHOW-MSG-OPTIONS

Show unsolicited message logging options

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job processing
Domain:	JOB
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SHOW-MSG-OPTIONS command lists the parameter settings defined with the MODIFY-MSG-OPTIONS options command which govern the output of unsolicited messages. The values shown apply only to the task issuing the command.

The user can configure message reception requirements separately for three types of message:

- job-related messages sent to that user by systems support using the INFORM-JOB command
- messages sent to all users by systems support using the INFORM-ALL-JOBS command (broadcasts)
- messages from system tasks (e.g. on completion of a file transfer)

The command supports structured output in S variables (see [“Output in S variables” on page 6-361](#)).

Format

SHOW-MSG-OPTIONS

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	32	NBR0034	Error during command execution
	32	CMD2009	Error on structured output in S variables
	64	CMD0216	User does not have required privilege

Output information

In an interactive task, the information begins with the following header line:

```
% OP-BROADCAST I OP-MSG I SYSTEM-MSG I INFO-OUTPUT
```

The values shown in the output line which follows correspond to the operand values set in the MODIFY-MSG-OPTIONS command.

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Operator broadcast is output	var(*LIST).OPER-BROAD	S	*NO *YES	
Operator message output is desired	var(*LIST).OPER-MSG	S	*NO *YES	
Standard output desired	var(*LIST).STD-OUT	S	*NO *YES	
Output in system line desired	var(*LIST).SYS-LINE-OUT	S	*NO *YES	
Output of asynchronous system messages desired	var(*LIST).SYSTEM-MSG	S	*NO *YES	

Example

```
/show-msg-opt _____ (1)
% I OP-BROADCAST I OP-MSG I SYSTEM-MSG I INFO-OUTPUT
%      YES      I YES I YES I STD
/mod-msg-opt operator-broadcast=*no,info-output>(*std,*systemline) _____ (2)
/show-msg-opt _____ (3)
% I OP-BROADCAST I OP-MSG I SYSTEM-MSG I INFO-OUTPUT
%      NO      I YES I YES I STD + SYS.LINE
```

SHOW-MSG-OPTIONS

- (1) Listing the current settings.
- (2) Modifying the settings:
Messages that are not job-related are to be suppressed. The other messages are to appear both on the current screen line and on the interactive terminal's display line.
- (3) Listing the new settings.

SHOW-MSG-SUBSCRIPTION

Show message subscriptions and suppression of non-subscription messages

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control Message processing
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING
Routing code:	@

Function

This command supplies information on all the message subscriptions set up for the operator terminal (console) using the MODIFY-MSG-SUBSCRIPTION command. It also indicates whether suppression of non-subscription messages has been activated for the operator terminal.

The operator terminal may be either a physical or logical operator terminal or an interactive task with the OPERATING privilege.

The command supports structured output in S variables (see [“Output in S variables” on page 6-364](#)).

Format

SHOW-MSG-SUBSCRIPTION

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
1	0	NBR0094	There are no subscribed messages for this operator terminal
	1	CMD0202	Syntax error
	32	CMD2009	Error on output in S variables (e.g. subsystem not available)
	32	NBR0034	Error in command execution
	64	CMD0216	Required authorization not available

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Message codes of the relevant messages (padded with blanks to 7 characters)	var(*LIST).MSG-ID(*LIST)	S	<name 7..7>	If messages have been requested
Delivery of not requested messages	var(*LIST).DELIVER-OTHER-MSG	B	TRUE FALSE	

Example

The device management messages in message class NKD are added to the message subscription for the operator terminal; the RSO and SPOOL messages in message classes SRO, SPC and SPM are removed from the subscription:

```
/mod-msg-subscript add=nkd,rem=(sro,spc,spm)
% NBR0091 SOME MESSAGES SUBSCRIPTIONS IGNORED
```

```
/show-msg-subscript
% NBR0093 THE FOLLOWING MESSAGE KEYS ARE SUBSCRIBED BY THIS CONSOLE:
%           NKD
% NBR0096 UNSUBSCRIBED MESSAGES WILL ALSO BE DELIVERED TO THIS CONSOLE
```

SHOW-MSG-SUPPRESSION

Request information on message suppression

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control Message processing
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING
Routing code:	@

Function

This command gives the operator an overview of the provisions made with the SET and RESET-MSG-SUPPRESSION commands for suppressing certain messages on operator terminals (consoles).

The command is also permitted in user tasks with the OPERATING privilege. It then applies only when reading from the event stream of user tasks. If the command is issued from a user task, only the message numbers suppressed by that task can be displayed.

In a user task the command also supports structured output in S variables (see [“Output in S variables” on page 6-367](#)).

Format

SHOW-MSG-SUPPRESSION

INFORMATION = ***STD** / ***SUMMARY** / ***DESTINATION(...)** / ***MSG-ID(...)**

***DESTINATION(...)**

 | **DEST** = ***OWN** / <alphanum-name 4..4> / <alphanum-name 2..2>

***MSG-ID(...)**

 | **MSG-ID** = list-poss(20): <alphanum-name 7..7>

Operands

INFORMATION =

Specifies the scope of the information to be output.

INFORMATION = *STD

If the command is issued at an operator terminal, the output information is the same as for INFORMATION=*SUMMARY.

When issued from a user task, the output information is the same as for INFORMATION=*DESTINATION(DEST=*OWN).

INFORMATION = *SUMMARY

All the messages which are suppressed for operator terminals and authorized user programs are listed.

INFORMATION = *DESTINATION(...)

Specifies the operator terminal or the authorized user program for which information about message suppression is required.

DEST= *OWN

Lists all the messages which are suppressed for the console or authorized user program from which the command was issued.

DEST= <alphanum-name 4..4>

Name of the authorized user program for which suppressed messages are listed (4 alphanumeric characters).

DEST= <alphanum-name 2..2>

Device mnemonic of the console for which suppressed messages are listed (2 alphanumeric characters).

INFORMATION = *MSG=ID(...)

Specifies the numbers of the messages whose specifications are to be displayed with reference to the message suppression.

MSG-ID = list-poss(20): <alphanum-name 7..7>

Seven-digit message number or list of seven-digit message numbers.

The output lists all output units at which these messages are suppressed.

Notes on the output format on operator terminals

The message numbers are prefixed by a character which indicates the scope of message suppression:

- '*': The message is suppressed for the console or authorized user program from which the command was issued.
- '+': The message is suppressed for other consoles or authorized user programs.
- '*+': The message is suppressed both at the input device and for other consoles or authorized user programs.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	0	NBR0870	Message not suppressed
	1	CMD0202	Syntax error
	32	CMD2009	Error on structured output in S variables
	64	NBR0200	Command not available
	64	NBR0865	Authorized application not found
	64	NBR0866	Console not found
	130	NBR0876	Memory shortage
	130	NBR0877	Message table locked

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Message codes of the suppressed messages	var(*LIST).MSG-ID(*LIST)	S	<name 7..7>	

Example

Messages CMD0001 and OPS0001 are to be suppressed. Then RESET-MSG-SUPPRESSION is issued to reinstate message OPS0001:

```

/set-msg-suppress msg-id=(cmd0001,ops0001)
/
/show-msg-suppress
% NBR0872 MESSAGE 'CMD0001' SUPPRESSED
% NBR0872 MESSAGE 'OPS0001' SUPPRESSED

/reset-msg-suppress msg-id=ops0001

/show-msg-suppress
% NBR0872 MESSAGE 'CMD0001' SUPPRESSED

```

SHOW-NET-CLIENT-ALTERNATE

Show net clients for high availability

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Net-Storage administration
Domain:	DEVICE STORAGE-MANAGEMENT
Privileges:	TSOS OPERATING
Routing code:	G

Function

The SHOW-NET-CLIENT-ALTERNATE provides information on the high availability of net clients on redundant HNCs. A net client is highly available when a second net client is assigned to it which takes over the existing Net-Storage connections if a failure occurs.

The assignment of net clients is set and canceled again with the SET-NET-CLIENT-ALTERNATE command.

Information is displayed only if an assignment exists. If no assignment exists, the message NKAN006 is issued.

The command supports structured output in S variables (see [“Output in S variable” on page 6-371](#)).

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

SHOW-NET-CLIENT-ALTERNATE
<pre> ,CLIENT = *<u>ALL</u> / <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> </pre>

Operands

CLIENT =

Specifies the net client about which information on high availability is to be displayed.

CLIENT = *ALL

Information on all net clients is displayed.

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.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
	1	NKAN003	Syntax error in the input
	32	NKAN004	Error in command execution
	32	NKAN008	Error in S variable format
	64	NKAN006	No assignment exists

CLIENT =

Specifies the net client to which an alternative net client is to be assigned.

CLIENT = <composed-name 1..8 with-underscore> / <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.

Output format

`/show-net-client-alternate`

```
*****
- NET-CLIENT: CLIENT_1
- ALTERNATE : CLIENT_2
*****
```

Meanings of the output fields

Output field	Possible values	Meaning
NET-CLIENT	See CLIENT operand	Name of the net client
ALTERNATE	See CLIENT operand	Name of the assigned net client

Table 139: Output fields of the SHOW-NET-CLIENT-ALTERNATE command

Output in S variable

The output to S variable takes place only if an assignment exists. If no assignment exists, the message NKAN006 is issued. Only the S variables for the known names of the net client or of the assigned net client are supplied with values. In the case of an unknown name, the S variable contains an empty string

Output information	Name of the S variable	T	Contents	Condition
Name of the net client	var(*LIST).ACL(*LIST).CLIENT.NAME	S	" <name 1..8>	
DNS name of the net client	var(*LIST).ACL(*LIST).CLIENT.DNS	S	" <name 1..256>	
IPv4 address of the net client.	var(*LIST).ACL(*LIST).CLIENT.IPV4	S	" <name 7..15>	
IPv6 address of the net client.	var(*LIST).ACL(*LIST).CLIENT.IPV6	S	" <name 15..39>	
Name of the assigned net client	var(*LIST).ACL(*LIST).ALTCLI.NAME	S	" <name 1..8>	
DNS name of the assigned net client	var(*LIST).ACL(*LIST).ALTCLI.DNS	S	" <name 1..256>	
IPv4 address of the assigned net client	var(*LIST).ACL(*LIST).ALTCLI.IPV4	S	" <name 7..15>	
IPv6 address of the assigned net client	var(*LIST).ACL(*LIST).ALTCLI.IPV6	S	" <name 15..39>	

SHOW-NET-STORAGE

Show Net-Storage of BS2000

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Net-Storage administration
Domain:	DEVICE STORAGE-MANAGEMENT
Privileges:	TSOS OPERATING
Routing code:	G

Function

The SHOW-NET-STORAGE command provides information on Net-Storage systems which are connected with BS2000. The net server and net client and the associated Net-Storage volumes are displayed for each connected directory. The status from the NDM viewpoint and the pubset allocation are displayed for each Net-Storage volume.

The command supports structured output in S variables (see [“Output in S variable” on page 6-376](#)).

Information on the Net-Storage available in a pubset can be requested with the SHOW-PUBSET-NET-STORAGE command.

Information on the tasks occupying the Net-Storage can be requested using the SHOW-NET-STORAGE-OCCUPATION 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

SHOW-NET-STORAGE
<pre> DIRECTORY = <u>*ALL</u> / <c-string 1..64 with-low> , SERVER = <u>*ALL</u> / <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> , CLIENT = <u>*ALL</u> / <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> , UPDATE-VOLUMES = <u>*NO</u> / *YES </pre>

Operands

DIRECTORY =

Specifies the directory name of the Net-Storage released on the net server.

DIRECTORY = *ALL

Information on all the directories available in BS2000 (mounted directories) is displayed.

DIRECTORY = <c-string 1..64 with-low>

Only information on the specified directory is displayed.

SERVER =

Specifies the net server which makes the Net-Storage available.

SERVER = *ALL

Information on all net servers is displayed.

SERVER = <composed-name 1..256 with-under> / <c-string 1..256 with-low>

Host name or fully qualified domain name of a 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.

CLIENT = *ALL

Information on all net clients is displayed.

CLIENT = <composed-name 1..8 with-underscore> / <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.

UPDATE-VOLUMES = *NO / *YES

Specifies whether the Net-Storage volumes of the specified directories should be determined again and the NDM tables should be updated before the display takes place.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
	1	NKAN003	Syntax error in the input
	32	CMD0221	system error
	32	NKAN004	Error in command execution
	32	NKAN008	Error in S variable format
	64	NKAN006	No information available
	64	NKAN009	Leading slash in directory name missing

Meanings of the output fields

Output field	Possible values	Meaning
NET-DIRECTORY (<status>)	<name 1..64> MOUNT-ID: <integer>	Directory name of the directory released on the net server Mount ID of the connected Net-Storage
NET-SERVER	See SERVER operand	Name of the net server
NET-CLIENT	See CLIENT operand	Name of the net client
NET-VOLUMES (<status> [PUBSET=catid])	<vsn 6..6> IN USE ONLINE MULT DEF CANCELLED <catid 1..4>	VSN of the Net-Storage volume (corresponds to the directory name in the Net-Storage) Status of the Net-Storage volume: – Files accessible (pubset has been imported) – Net-Storage is connected, but the volume cannot be accessed (e.g. pubset not imported). The volume can be switched to the IN USE status using /IMPORT-PUBSET or, in the case of a pubset which has already been imported, using /ADD-NET-STORAGE-VOLUME. – The VSN of the Net-Storage volume already exists in another net directory. – Access to the volume is locked (e.g. after /UMOUNT-NET-STORAGE with FORCE=*YES). /ADD-NET-STORAGE-VOLUME can be used to switch the status back to IN USE. – Pubset to which the Net-Storage volume is allocated

Table 140: Output fields for the SHOW-NET-STORAGE command

Output in S variable

Only the S variables for the known names of the net server and net client are supplied with values. In the case of an unknown name, the S variable contains an empty string.

Output information	Name of the S variable	T	Contents	Condition
Directory name of the directory released on the net server	var(*LIST).DIR(*LIST).NAME	S	<name 1..64>	
Mount ID of the Net-Storage volume (0: volume not connected)	var(*LIST).DIR(*LIST).MOUNT-ID	I	<integer>	
Host or DNS name of the net server	var(*LIST).DIR(*LIST).SERVER.NAME	S	" <name 1..256>	
IPv4 address of the net server	var(*LIST).DIR(*LIST).SERVER.IPV4	S	" <name 7..15>	
IPv6 address of the net server	var(*LIST).DIR(*LIST).SERVER.IPV6	S	" <name 15..39>	
BCAM name of the net client	var(*LIST).DIR(*LIST).CLIENT.NAME	S	" <name 1..8>	
DNS name of the net client	var(*LIST).DIR(*LIST).CLIENT.DNS	S	" <name 1..256>	
IPv4 address of the net client	var(*LIST).DIR(*LIST).CLIENT.IPV4	S	" <name 7..15>	
IPv6 address of the net client	var(*LIST).DIR(*LIST).CLIENT.IPV6	S	" <name 15..39>	
Name of a Net-Storage volume	var(*LIST).DIR(*LIST).NET-VOL(*LIST).VSN	S	<vsn 6..6>	
Status of the Net-Storage volume	var(*LIST).DIR(*LIST).NET-VOL(*LIST).STA	S	*IN-USE *ONLINE *MULT-DEF *CANCELLED	
Catalog ID of the pubset to which the Net-Storage volume is assigned.	var(*LIST).DIR(*LIST).NET-VOL(*LIST).CAT-ID	S	" <catid 1..4>	

Example

```
/show-net-storage
```

```
*****
- NET-DIRECTORY: /TEST      (MOUNT-ID = 2)
-----
- NET-SERVER:   IPV4: 1.2.3.4
- NET-CLIENT:  CLIENT_C
-----
- NET-VOLUMES: TEST00      (ONLINE)
*****
- NET-DIRECTORY: /BS2000-1  (MOUNT-ID = 1)
-----
- NET-SERVER:   IPV4: 1.2.3.4
- NET-CLIENT:  CLIENT_C
-----
- NET-VOLUMES: P@BX00      (IN USE, PUBSET = X   )
-               MONI01     (IN USE, PUBSET = MONI)
*****
- NET-DIRECTORY: /BS2000-1  (MOUNT-ID = 3)
-----
- NET-SERVER:   IPV4: 1.2.3.5
- NET-CLIENT:  CLIENT_C
-----
- NO NET-VOLUMES
*****
```

SHOW-NET-STORAGE-OCCUPATION

Display occupancy of the BS2000 Net-Storage

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Net-Storage administration
Domain:	STORAGE-MANAGEMENT
Privileges:	TSOS

Function

The SHOW-NET-STORAGE-OCCUPATION command provides information on the BS2000 tasks of the local system which occupy a Net-Storage. For shared pubsets, too, only the occupying tasks of the local system are displayed. The connection to the Net-Storage is specified unambiguously by entering the mount ID. The mount ID is displayed by the SHOW-NET-STORAGE command.

The command supports structured output in S variables (see [“Output in S variable” on page 6-380](#)).

Information on the Net-Storage available in a pubset can be requested with the SHOW-PUBSET-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

SHOW-NET-STORAGE-OCCUPATION
DIRECTORY = <u>*BY-MOUNT-ID(...)</u> <u>*BY-MOUNT-ID(...)</u> MOUNT-ID = <integer 1..16777215>

Operands

DIRECTORY = *BY-MOUNT-ID(...)

Specifies the directory name of the Net-Storage released on the net server. The mount ID which unambiguously specifies the connection to the Net-Storage can be determined using the SHOW-NET-STORAGE command.

MOUNT-ID = <integer 1..16777215>

Mount ID of the connection to the Net-Storage.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
	32	CMD0221	system error
	32	CMD2009	Error on output in S variables (e.g. subsystem not available)
	32	DMS1CFF	System error (see SERSLOG entry)
	64	DMS1C04	Error when calling ONETSTOR
	64	DMS1C30	The specified mount ID is not assigned
	64	DMS1C31	Invalid mount ID

Meanings of the output fields

Output field	Possible values	Meaning
MOUNT-ID	<integer>	Mount ID which was specified in the command; displayed in the format nnnnnnnn with leading zeros
NUMBER OF OCCUPYING TASKS	<integer>	Number of tasks which are occupying the Net-Storage
OCCUPATIONS BY LOCAL TASKS	<tsn> <userid>	Lists each occupying task with the TSN and the user ID

Table 141: Output fields for the SHOW-NET-STORAGE-OCCUPATION command

SHOW-NET-STORAGE-OCCUPATION

Output in S variable

Output information	Name of the S variable	T	Contents	Condition
Mount ID of the connection to the Net-Storage	var(*LIST).MOUNT-ID	I	<integer>	
Name of the net server	var(*LIST).NUM-OF-TASK	I	<integer>	
TSN of the occupying task	var(*LIST).TASK(*LIST).TSN	S	<name 1..4>	
User ID of the occupying task	var(*LIST).TASK(*LIST).USER-ID	S	<name 1..8>	

Example

```
/show-net-storage-occupation mount-id=1
```

```
-----  
COMMAND: SHOW-NET-STORAGE-OCCUPATION  
-----
```

```
MOUNT-ID: 00000001
```

```
---- REFERENCE
```

```
NUMBER OF OCCUPYING TASKS          | 14
```

```
---- DETAILS OF OCCUPATION
```

```
OCCUPATIONS BY LOCAL TASKS
```

```
FTCP TSOS      OFDX TSOS      OFDY TSOS      OFDZ TSOS  
OFD1 TSOS      OFD2 TSOS      OFD5 TSOS      OFD6 TSOS  
OFEA TSOS      OFFR TSOS      OFFS TSOS      OFFT TSOS  
OFFU TSOS      OFFV TSOS
```

```
-----
```

SHOW-OPERATOR-ATTRIBUTES

Display assignment of operator roles to user IDs

Description status:	SRPMNUC V19.0A
Functional area:	Operator function control
Domain:	CONSOLE-MANAGEMENT SECURITY-ADMINISTRATION USER-ADMINISTRATION
Privileges:	STD-PROCESSING OPERATING SECURITY-ADMINISTRATION
Routing code:	@

Function

The SHOW-OPERATOR-ATTRIBUTES command allows the user to obtain information about which operator roles are assigned to his user ID.

Systems support can assign one or more operator roles to a user ID. Through the assignment of an operator role, an operator terminal (console) or a user task with OPERATING privilege which uses this user ID can take on the assigned role with the REQUEST-OPERATOR-ROLE command and perform the operator functions associated with the role. The scope of permitted functions, i.e. the sphere of operating responsibility granted, is defined by systems support through the allocation of routing codes.

The granting and assumption of operator roles is described in the "Introduction to System Administration" [14].

The command supports structured output in S variables (see ["Output in S variables" on page 6-383](#)).

Privileged functions

A privileged caller is given information about all the user IDs on all the pubsets, but other callers can only obtain information about the assignment of operator roles to their own user IDs.

Format

SHOW-OPERATOR-ATTRIBUTES

USER-IDENTIFICATION = *OWN / ALL / list-poss(20): *OWN / <name 1..8>

, **PUBSET** = *HOME / *ALL / list-poss(20): *HOME / <cat-id 1..4>

, **OUTPUT** = *SYSOUT / list-poss(2): *SYSOUT / *SYSLST

Operands

USER-IDENTIFICATION = *OWN / *ALL / list-poss(20): *OWN / <name 1..8>

Selects the user IDs whose assignment to operator roles is to be displayed. Up to 20 user IDs (including *OWN) can be specified in a list. The nonprivileged user only receives information about his own user ID, however.

USER-IDENTIFICATION = *OWN

Default value: Information about the user's own user IDs is to be output.

USER-IDENTIFICATION = *ALL

Information about all user IDs is to be output. The nonprivileged user only receives information about his own user ID (*ALL then has the effect of *OWN).

PUBSET = *HOME / *ALL / list-poss(20): *HOME / <cat-id 1..4>

Specifies the pubset to which the operator roles and the user IDs belong. Up to 20 catalog IDs (including *HOME) can be specified in a list.

PUBSET = *HOME

Default value: Information about the assignments for the home pubset are to be output.

PUBSET = *ALL

Information about the assignments for all the connected pubsets is to be output.

OUTPUT = *SYSOUT / list-poss(2): *SYSOUT / *SYSLST

Specifies where the information is to be output to. The information can be output to SYSOUT (default), to SYSLST or to SYSOUT and SYSLST.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SRM6001	Command executed with warning
	32	SRM6020	System error during command processing
	64	SRM6040	Semantic error
	130	SRM6030	Command temporarily cannot be executed

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Operator role associated with the user ID	var(*LIST).OPER-ROLE(*LIST)	S	<name 1..8>	
Pubset catalog ID	var(*LIST).PUBSET	S	<cat-id 1..4>	
User ID	var(*LIST).USER-ID	S	<name 1..8>	

SHOW-OPERATOR-ROLE

Request information on operator roles

Description status:	SRPMNUC V19.0A
Functional area:	Operator function control
Domain:	CONSOLE-MANAGEMENT SECURITY-ADMINISTRATION
Privileges:	STD-PROCESSING OPERATING SECURITY-ADMINISTRATION
Routing code:	@

Function

The SHOW-OPERATOR-ROLE command enables users to find out which operator roles have been defined and which routing (authorization) codes are associated with the assumption of these roles. Nonprivileged users are only shown information about operator roles which are assigned to their own user ID.

Output can be directed to SYSOUT (default) or to SYSLST.

User tasks are sent the information as formatted output; operator terminals (consoles) and \$CONSOLE applications are sent it in the form of messages (SRM3522, SRM3523, etc.).

In compatible mode (NBCONOPI=N), the command is rejected if issued at operator terminals or in \$CONSOLE applications with generated authorization names. From \$CONSOLE applications with dynamic authorization names the command is accepted only with INFORMATION=*STD or *ASSIGNMENT.

In user tasks the command supports structured output in S variables (see [“Output in S variables” on page 6-387](#)).

Privileged functions

As the operator role administrator, a caller with the SECURITY-ADMINISTRATION privilege is shown information on the following subjects:

- all operator roles for the specified pubsets
- the routing codes assigned to the operator roles
- the user IDs which can assume the operator roles

Callers with OPERATING privilege are shown information about:

- the routing codes assigned to an operator role
- the routing codes currently assigned to their own task as a result of assuming operator roles

Format

SHOW-OPERATOR-ROLE

```

OPERATOR-ROLE = *STD / *OWN / *ALL / list-poss(20): <name 1..8>
, PUBSET = *HOME / *ALL / list-poss(20): *HOME / <cat-id 1..4>
, INFORMATION = *STD / list-poss(2): *ROUTING-CODES / *USER-LIST / *ASSIGNMENT
, OUTPUT = *SYSOUT / list-poss(2): *SYSOUT / *SYSLST

```

Operands

OPERATOR-ROLE =

Specifies the set of operator roles that are to be shown.

OPERATOR-ROLE = *STD

The set of operator roles that will be shown depends on the caller's privileges:

- Users with STD-PROCESSING privilege are shown information about all the operator roles authorized for their own user ID in the user catalog of the specified pubset.
- Users with OPERATING privilege are shown information about the operator roles currently assigned to the task (INFORMATION=*ASSIGNMENT) or about all operator roles authorized for their own user ID in the user catalog of the specified pubset (INFORMATION=*ROUTING-CODES).
- Users with SECURITY-ADMINISTRATION privilege are shown information about all the operator roles from the user catalog of the specified pubset (equivalent to *ALL).

OPERATOR-ROLE = *OWN

Only users with SECURITY-ADMINISTRATION privilege are allowed to select this value.

Provides information about all operator roles authorized for the user's own ID in the user catalog of the specified pubset.

OPERATOR-ROLE = *ALL

The maximum possible amount of information is shown as appropriate to the caller's privileges:

- Users with STD-PROCESSING or OPERATING privilege are shown information about all the operator roles authorized for their own user ID in the user catalog of the specified pubset
- Users with SECURITY-ADMINISTRATION privilege are shown information about all the operator roles from the user catalog of the specified pubset.

OPERATOR-ROLE = list-poss(20): <name 1..8>

A list of up to 20 operator roles, about which information is to be supplied.

PUBSET =

Specifies the pubset in respect of whose operator roles information is to be output.

PUBSET = *HOME

Default value: information is to be output about the operator roles of the home pubset.

PUBSET = *ALL

Information is to be output about the operator roles of all the connected pubsets.

PUBSET = list-poss(20): *HOME / <cat-id 1..4>

Specifies a list of pubsets in respect of whose operator roles information is being requested. *HOME identifies the home pubset for the current session.

INFORMATION =

Defines the nature and scope of the information that is to be shown.

INFORMATION = *STD

The information that will be shown depends on the caller's privileges:

- Users with STD-PROCESSING privilege are shown a list of the routing codes which are assigned to the specified operator role (equivalent to specifying INFORMATION=*ROUTING-CODES).
- Users with OPERATING privilege are shown information about the operator roles currently assigned to the task (equivalent to specifying INFORMATION=*ASSIGNMENT).
- Users with SECURITY-ADMINISTRATION privilege are shown a list of the routing codes which are assigned to the specified operator role and a list of the user IDs to which the specified operator role is assigned (equivalent to specifying INFORMATION=(*ROUTING-CODES,*USER-LIST)).

INFORMATION = *ROUTING-CODES

Outputs a list of the routing codes which are currently assigned to the specified operator role.

INFORMATION = *USER-LIST

Only users with SECURITY-ADMINISTRATION privilege are allowed to select this value

Outputs a list of the user IDs to which the specified operator role is assigned.

INFORMATION = *ASSIGNMENT

Only users with OPERATING privilege are allowed to select this value.

Outputs a list of the operator roles which are assigned to the calling task.

OUTPUT = *SYSOUT / list-poss(2): *SYSOUT / *SYSLST

Specifies where the information is to be output. Output may be routed optionally to the system file SYSOUT (default) or to the system file SYSLST. Output can also be sent to both system files.

If *SYSLST is selected at logical or physical operator terminals, it is ignored and the output is sent to SYSOUT.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	NBR0986	Operator role not assigned
1	0	NBR0987	No operator role assigned
1	0	NBR0990	Not all specified operator roles found
2	0	SRM6001	Command executed with a warning
	32	NBR0983	Internal error on command server
	32	SRM6020	System error during command processing
	64	NBR0979	Command functionality not supported in user task
	64	NBR0981	Command not allowed at console
	64	NBR0982	Command caller does not have an operator ID
	64	SRM6040	Semantic error
	130	SRM6030	Command cannot temporarily be executed

Output in S variables

The scope of the output depends on the value of the INFORMATION operand and, if INF=*ALL is specified, on whether the user ID has SECURITY-ADMINISTRATION privilege. The following combinations are of relevance:

Notation used in command	Abbreviated form used in table
INFORMATION = *ALL, SECURITY-ADMINISTRATION not assigned	1
INFORMATION = *ALL, SECURITY-ADMINISTRATION assigned	2
INFORMATION = *PAR(RCODE-LIST=*YES)	3
INFORMATION = *PAR(USER-LIST=*YES) - can be specified only if the SECURITY-ADMINISTRATION privilege has been assigned	4

Output information	Name of the S variable	T	Contents	Condition
Operator role associated with the user ID	var(*LIST).OPER-ROLE	S	<name 1..8>	1, 2, 3, 4
Pubset catalog ID	var(*LIST).PUBSET	S	<cat-id 1..4>	1, 2, 3, 4
Assigned routing codes	var(*LIST).ROUT-ASS(*LIST)	S	<routing-code>	1, 2, 3
Routing codes which are not assigned	var(*LIST).ROUT-NOT-ASS(*LIST)	S	<routing-code>	1, 2, 3
User ID	var(*LIST).USER-ID(*LIST)	S	<name 1..8>	2, 4

Example

The routing codes and the operator roles currently assigned to the task (here the TSOS user ID) are to be output for the operator roles defined in pubset T051:

```
/show-oper-role pubset=t051
SHOW-OPERATOR-ROLE INFORMATION = RCODE-LIST 2012-03-14 12:25:34
-----
OPERATOR-ROLE   SYSADM                PUBSET   T051
ROUTING-CODES
  ASSIGNED:     *ALL
-----
OPERATOR-ROLE   XAFOPR                PUBSET   T051
ROUTING-CODES
  ASSIGNED:     *ALL
-----
SHOW-OPERATOR-ROLE INFORMATION = RCODE-LIST END OF DISPLAY
/show-oper-role oper=*all,pubset=t051,inf=*assignment
% NBR0986 OPERATOR ROLE 'SYSADM' NOT ASSIGNED TO OPERATOR ID 'TSOS'
% NBR0986 OPERATOR ROLE 'XAFOPR' NOT ASSIGNED TO OPERATOR ID 'TSOS'
```

SHOW-PAGING-CONFIGURATION

Display paging files

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT SYSTEM-TUNING
Privileges:	STD-PROCESSING TSOS OPERATING SW-MONITOR-ADMINISTRATION
Routing code:	R

Function

The SHOW-PAGING-CONFIGURATION command supplies information about paging files. It writes the information to SYSOUT. An unused paging file cannot be displayed unless the pubset it belongs to has been imported.

Privileged functions

Only users with the TSOS, OPERATING or SW-MONITOR-ADMINISTRATION privilege can request to display all available information (INFORMATION =*ALL/*SUMMARY).

When command processing is complete, privileged users are sent message EMM2850, indicating how much virtual address space is available and the minimum amount required.

Format

SHOW-PAGING-CONFIGURATION

VOLUME = *USED / *ALL / *NONE / *UNUSED / list-poss(256): <vsn 1..6>

,**INFORMATION** = *STD / *ALL / *SUMMARY

Operands

VOLUME = *USED / *ALL / *NONE / *UNUSED / list-poss(256): <vsn 1..6>

Specifies the paging files about which information is to be output.

VOLUME = *USED

Supplies information for paging files which are currently being used.

VOLUME = *ALL

Supplies information for both used and unused paging files.

VOLUME = *NONE

Supplies no information about any paging files, neither used nor unused.

Note

If INFORMATION=*SUMMARY is specified, the privileged user receives the message EMM2850 which outputs the size of the virtual address space and the minimum required virtual address space.

VOLUME = *UNUSED

Supplies information for paging files which are currently not being used.

Note

Unused paging files cannot be displayed unless the associated pubset has been imported. When VOLUME=*ALL or *UNUSED is used to obtain information, message EMM2314 therefore informs the user that unused paging files cannot always be displayed.

VOLUME = list-poss(256): <vsn 1..6>

Identifies the disk to search for paging files by its volume serial number (VSN). Up to 256 disks can be listed.

INFORMATION = *STD / *ALL / *SUMMARY

Selects the range of information to write to SYSOUT.

INFORMATION = *STD

For paging files, the volume, pubset and size values are displayed.

For paging partitions, privileged users are shown the GS unit and its size.

INFORMATION = *ALL

This operand value is reserved for privileged users.

All available information is displayed.

INFORMATION = *SUMMARY

This operand value is reserved for privileged users.

Displays only an overview (SUMMARY data) for the specified objects. When VOLUME=*NONE is specified, the information output is restricted to message EMM2850 being output which contains the size of the virtual address space or the minimum required address space.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
	32	EMM2800	Internal error Guaranteed messages: EMM2818, EMM2828
	64	EMM2804	There are no used or unused paging file Guaranteed messages: EMM2863, EMM2864
	64	EMM2805	The existence of a paging file on the specified disk cannot be detected. Guaranteed messages: EMM2867
	128	EMM2807	Operation cannot be performed owing to lack of resources Guaranteed messages: EMM2819, EMM2829



If a list is specified and an error with a return code of EMM2800 or EM2807 occurs, command processing is aborted. In all other cases processing continues.

Note

If disks of type D3435 are being used for pubsets with PAMKEY usage (Format=K in the DECLARE-PUBSET statement), the actually usable disk area is 25% greater than the value specified in the SIZE operand of the CREATE-PAGING-FILE command. For an unused paging file, the size specified in the CREATE-PAGING-FILE command is displayed; for a used paging file on disks of this type, the actually used extended size is displayed. In the output the paging files used which have this extended size are marked with a "*" after the VSN. The message EMM2317 is output to provide further information.

Key to output data

The output data is in four parts:

1. List of used paging files (VOLUME=*USED) under the following header:

```
LIST OF THE USED PAGING-FILES:
```

2. List of unused paging files (VOLUME=*UNUSED) under the following header:

```
LIST OF THE FOUND AND UNUSED PAGING-FILES
```

Parts which are not requested are not displayed.

If a part for which no data is available is requested, an appropriate return code and a message are supplied in response to the request.

If disks are specified explicitly and there are no paging files or partitions on them or the paging files on them cannot be read, an appropriate return code and a message are supplied in response to the request.

Example of a list of found and used paging files

```
/show-paging-conf inf=*all
LIST OF THE USED PAGING-FILES :
```

VOLUME	CAT-ID	SIZE	FREESIZE	UTILIZATION	REDUCTION	R
SBZ7.1	SBZ7	600.00 MB	559.62 MB	*LOW	*NOT-REQ	N
SBZ7.2	SBZ7	600.00 MB	570.17 MB	*LOW	*NOT-REQ	N
SBZ7.3	SBZ7	600.00 MB	574.80 MB	*LOW	*NOT-REQ	N

SUMMARY		1800.00 MB	1704.60 MB			

Key

Field name	Meaning
VOLUME	Volume serial number (VSN) of the disk containing the paging file
CAT-ID	Catalog ID of the pubset containing the paging file
SIZE	Size of the paging file in MB
FREESIZE	Size of the unused space in the paging file in MB. This value provides some indication of how long a reduction of the paging file in the volume will take (the more unused space there is, the faster the reduction process). This information is shown only with INFORMATION=*ALL.
UTILIZATION	Supplies information about the parameter settings defined with the UTILIZATION operand of the EXTEND-PAGING-AREA or MODIFY-PAGING-AREA-ATTRIBUTES command. UTILIZATION=*LOW is set for the paging files on the home pubset which were added to the paging area on system startup. This information is shown only with INFORMATION=*ALL.
REDUCTION	Supplies information about the parameter settings defined with the LATER-REDUCTION operand of the EXTEND-PAGING-AREA command. REDUCTION=*NOT-REQ is set for the paging files on the home pubset which were added to the paging area on system startup. This information is shown only with INFORMATION=*ALL.
R	Indicates whether the used paging file is currently being reduced (Y: file is being reduced; N: file is not being reduced). This information is shown only with INFORMATION=*ALL.
SUMMARY	This line displays the size of the available paging area and of the unused paging area. If the command is issued with the *SUMMARY operand, the output consists simply of this line plus a header line.

Table 142: Output of found and used paging files

With INFORMATION=*ALL, this list is followed by information about any asynchronous reduction jobs currently in progress for paging files on disk.

Example of a list of found and unused paging files

```
/show-paging-conf vol=*unused,inf=*all
```

```
LIST OF THE FOUND AND UNUSED PAGING-FILES :
```

VOLUME	CAT-ID	SIZE	RESTRICTION
A1N.00	A1N	180.00 MB	NONE
A1N.01	A1N	180.00 MB	NONE
A1K.01	A1K	350.00 MB	NONE
A1K.03	A1K	350.00 MB	NONE
A2N.00	A2N	180.00 MB	NONE
A2N.01	A2N	180.00 MB	NONE
CK36.0	CK36	100.00 MB	NONE

```
-----
SUMMARY                1520.00 MB
```

```
% EMM2314 UNUSED PAGING-FILES CANNOT BE FOUND AT ANY TIME
% EMM2850 THE SIZE OF THE PAGING AREA IS: 0001800.00 MB; THE RESERVED SIZE
OF THE PAGING AREA IS: 0000608.67 MB
```

Key

Field name	Meaning
VOLUME	Volume serial number (VSN) of the disk containing the paging file.
CAT-ID	Catalog ID of the pubset containing the paging file.
RESTRICTION	<p>Only with INFORMATION=*ALL:</p> <p>Usage restrictions on the associated paging files:</p> <p>NONE: no restrictions</p> <p>UNUSEABLE: This paging file cannot be used as a paging subarea. The cause of this restriction is that the paging file was not created with the CREATE-PAGING-FILE command. It is actually possible to create a paging file (name: SYS.PAGING.vsn 1..6) with the CREATE-FILE command; but one or more of the following reasons may make such a file unsuitable for use a paging area:</p> <ul style="list-style-type: none"> - The file is on an unacceptable medium, such as a shared or system-managed pubset. - The file does not have all the attributes required for a paging file. Therefore it is essential for it to be created with the CREATE-PAGING-FILE command.
SUMMARY	<p>This line displays the total size of the found and unused paging files.</p> <p>If the command is issued with the *SUMMARY operand, the output consists simply of this line plus a header line.</p>

Table 143: Output of found and unused paging files

SHOW-PAGING-CONFIGURATION

With INFORMATION=*ALL, this list is followed by information about any asynchronous deletion jobs currently in progress for paging files on disk.

SHOW-PENDING-MSG

Request information on unanswered messages

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING TSOS
Routing code:	@

Function

The SHOW-PENDING-MSG command allows operators to list unanswered console messages (response messages). The command can be issued both at consoles and at terminals on which a user task with the OPERATING privilege is active.

The command lets messages be selected on the basis of the following criteria:

Criterion	Meaning
Destination	Only display messages addressed to specific consoles or applications or with a specific routing code
Sender	Only display messages sent for specific consoles, applications or tasks
Message reference name	Only display messages assigned a specific message reference name by the sender
Message type	Only display messages of a specific type (ordinary question, command-related questions, etc.)
Message identifier	Only display messages containing a specific 7-character message ID; only applies to messages created with the MSG7 / MSG7X macro
Time	Only display messages created within a specific period

Emergency response messages are always displayed, regardless of the message selection operand used.

The command supports structured output in S variables (see [“Output in S variables” on page 6-401](#)).

Format

SHOW-PENDING-MSG	Alias: SHMSG
<p>DESTINATION = <u>*STD</u> / *OWN / *ANY / *ROUTING-CODE(...) / *CONSOLE(...) / *TSN(...)</p> <p>*ROUTING-CODE(...)</p> <p> ROUTING-CODE = list-poss(40): <alphanum-name 1..1> / *</p> <p>*CONSOLE(...)</p> <p> CONSOLE = list-poss(10): <alphanum-name 2..2> / <name 4..4></p> <p>*TSN(...)</p> <p> TSN = list-poss(10): <alphanum-name 1..4></p> <p>,SENDER = <u>*ANY</u> / *CONSOLE(...) / *TSN(...)</p> <p>*CONSOLE(...)</p> <p> CONSOLE = list-poss(10): <alphanum-name 2..2> / <name 4..4></p> <p>*TSN(...)</p> <p> TSN = list-poss(10): <alphanum-name 1..4></p> <p>,MSG-REFERENCE-NAME = <u>*ANY</u> / list-poss(10): <alphanum-name 3..3></p> <p>,MSG-TYPE = <u>*ANY</u> / *QUESTION / *ADDITIONAL-INFORMATION-REQUEST / *ACTION-MSG</p> <p>,MSG-IDENTIFICATION = <u>*ANY</u> / list-poss(10): <name 7..7></p> <p>,TIME = <u>*ANY</u> / *INTERVAL(...)</p> <p>*INTERVAL(...)</p> <p> FROM = <u>*EARLIEST</u> / <time></p> <p> TO = <u>*LATEST</u> / <time></p>	

Operands

DESTINATION = *STD / *OWN / *ANY / *ROUTING-CODE(...) / *CONSOLE(...) / *TSN(...)
 Selects unanswered response messages by destination.

DESTINATION = *STD

If the command is entered at a physical or logical operator console, *STD has the same effect as DESTINATION=*OWN.

If it is entered at a data display terminal, *STD has the same effect as DESTINATION=*ANY (*OWN would display an empty set; see [“Notes” on page 6-400](#)).

DESTINATION = *OWN

Displays unanswered messages directly addressed to the command caller or directed to the command caller by means of a routing code or the standby console mechanism (i.e., questions that the command caller is authorized to answer).

If this operand is used when the command is entered at an ordinary terminal, open response messages are not displayed (see Notes).

DESTINATION = *ANY

Displays all unanswered response messages; the message destination is irrelevant.

DESTINATION = *ROUTING-CODE(...)

Displays all unanswered response messages which are allocated to a specific routing code.

ROUTING-CODE = list-poss(40): <alphanum-name 1..1> / *

Up to 40 routing codes can be specified.

Operand values: *, A...Z, 0...9, \$, #, @

The functions of the various routing codes are described in the "Introduction to System Administration" [14].

DESTINATION = *CONSOLE(...)

Displays all response messages sent to a specific console (physical or logical).

CONSOLE = list-poss(10): <alphanum-name 2..2> / <name 4..4>

Up to 10 console mnemonics (2-character) or names of authorized applications (4-character) can be specified.

DESTINATION = *TSN

Displays all response messages sent to a user task. The user task is identified by its TSN (task sequence number).

TSN = list-poss(10): <alphanum-name 1..4>

Up to 10 user tasks can be identified by their TSNs.

TSN can be between 1 and 4 characters long (leading zeros can be omitted).

SENDER = *ANY / *CONSOLE(...) / *TSN(...)

Selects unanswered response messages by sender.

SENDER = *ANY

Displays all unanswered response messages; the identity of the message sender is irrelevant.

SENDER = *CONSOLE(...)

Displays all response messages sent from a specific console (physical or logical).

CONSOLE = list-poss(10): <alphanum-name 2..2> / <name 4..4>

Up to 10 console mnemonics (2-character) or names of authorized applications (4-character) can be specified.

SENDER = *TSN(...)

Displays all response messages sent by a specific user or system task. The task is identified by its TSN (task sequence number).

TSN = list-poss(10): <alphanum-name 1..4>

Up to 10 user tasks can be identified by their TSNs.

TSN can be between 1 and 4 characters long (leading zeros can be omitted).

MSG-REFERENCE-NAME = *ANY / list-poss(10): <alphanum-name 3..3>

Selects unanswered response messages by message reference name.

MSG-REFERENCE-NAME = *ANY

Displays all unanswered response messages; the message reference name assigned by the sender is irrelevant.

MSG-REFERENCE-NAME = list-poss(10): <alphanum-name 3..3>

Displays all unanswered response messages to which the sender has assigned one of the specified message reference names.

Up to 10 names can be specified.

Note

The message reference name uniquely identifies messages with the same sender or recipient. In the case of command-related messages it is formed from the job name prefixed to the command (default: '000').

MSG-TYPE = *ANY / *QUESTION / *ADDITIONAL-INFORMATION-REQUEST / *ACTION-MSG

Selects unanswered response messages by message type.

MSG-TYPE = *ANY

Displays all unanswered response messages; the message type is irrelevant.

MSG-TYPE = *QUESTION

Displays all unanswered response messages which are assigned a message type of 'Question'. Messages of this type have '?' as their message flag.

MSG-TYPE = *ADDITIONAL-INFORMATION-REQUEST

Displays all unanswered response messages which are assigned a message type of 'Additional information request'. Messages of this type have '&' as their message flag.

MSG-TYPE = *ACTION-MSG

Displays all unanswered response messages which can only be answered by a task, not by an operator. However, the response is usually initiated indirectly by an operator action. Messages of this type have ';' as their message flag.

MSG-IDENTIFICATION = *ANY / list-poss(10): <name 7..7>

Selects unanswered response messages by message identifier.

MSG-IDENTIFICATION = *ANY

Displays all unanswered response messages, regardless of message type or of whether or not they were created with an MSG7/MSG7X macro.

MSG-IDENTIFICATION = list-poss(10): <name 7..7>

Displays all unanswered response messages which are assigned one of the specified message identifiers and were created with an MSG7 / MSG7X macro.

Up to 10 message identifiers can be specified.

Note

Messages created using TYPIO / \$TYPIO are disregarded, even if their output format matches that of the MSG7 / \$MSG7X macro.

TIME = *ANY / *INTERVAL(...)

Selects unanswered response messages by time of creation.

TIME = *ANY

Displays all unanswered response messages; the time when they were created is irrelevant.

TIME = *INTERVAL(...)

Displays all unanswered response messages created within the specified period.

Note

A period specification only makes sense if the FROM value is earlier than the TO value. If the system session extends over a number of days, a period specification may result in messages being displayed which were created within the specified period but on different days. The messages contain no information as to the date when they were created.

Messages are displayed in reverse order of creation (most recent message first).

FROM = *EARLIEST / <time>

Time of creation of the earliest response messages to display.

FROM = *EARLIEST

Earliest specifiable time (00:00:00).

FROM = <time>

The creation time of the earliest unanswered response messages to display must be specified in hh:mm:ss form (hour:minute:second).

TO = *LATEST / <time>

Time of creation of the most recent response messages to display.

TO = *LATEST

Latest specifiable time (23:59:59).

TO = <time>

The creation time of the most recent unanswered response messages to display must be specified in hh:mm:ss form (hour:minute:second).

Return codes

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	Command successfully executed
	0	CMD0001	There were no unanswered response messages to display
	1	CMD0202	Syntax error in command
	32	NBR0034	Error executing command (&00); Reason: (&01)
	32	CMD2009	Error during generation of presentation variables
	64	CMD0216	User does not have required privilege

The "internal error" return code NBR0034 is supplied in the event of bourse, DMS, memory or other system problems.

Notes

Messages are displayed in reverse order of appearance (most recent message first).

If the command is issued at a console before SYSTEM READY or during SHUTDOWN processing, unanswered messages for all consoles are listed.

If the operand DESTINATION=*OWN is used when the command is issued from an ordinary terminal, open response messages cannot be displayed. The reason for this is that terminals will no accept command input while there are response messages outstanding.

The main console is authorized to answer all response messages.

The SHOW-PENDING-MSG is one of the INSTANT commands and as such cannot be used in RUN files, or can only be used subject to certain restrictions, because it may be processed ahead of other commands which precede it in the file.

Results

A vertical bar separates the message header from the message text proper. The bar is followed by the message destination (4 characters, see the DESTINATION operand) and then the original response message.

The command is issued at a terminal. Result:

```
% |(K3) &XAAA-000.130820 % EXC0432 PROCESSING...
```

The command is issued at a console. Result:

```
+XAAB |(K3) &XAAA-000.130820 % EXC0432 PROCESSING...
```

The command is issued by an authorized application. Result:

```
+XAAB-000.131350 |(K3) &XAAA-000.130820 % EXC0432 PROCESSING...
```

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Response message destination; <destination> always consists of 4 characters and may take the following forms: '(mn)': mn is a two-character mnemonic '<r ': r is a routing code (padded to the right with two blanks) 'name': 4-character name of the user program 'tsn': 4-character TSN of the user task	var(*LIST).DEST	S	<destination>	
Destination type	var(*LIST).DEST-TYPE	S	*APPL *CONS *ROUT-CODE *TSN	
Number of inserts	var(*LIST).HIGH-INS-NUM	I	<integer 0..15>	
Insert	var(*LIST).INS(*LIST)	S	<insert-name>	
Message identifier	var(*LIST).MSG-ID	S	" <msg-id>	
Message reference name	var(*LIST).MSG-REF-NAME	S	<alphan.-name 3..3>	

(Part 1 of 2)

SHOW-PENDING-MSG

Output information	Name of the S variable	T	Contents	Condition
Message type	var(*LIST).MSG-TYPE	S	*ACTION-MSG *ADD-INFO-REQ *EMERG *QUEST	
Sender of the response message; <sender-name> always consists of 4 characters and may take the following forms: '(mn)': mn is a two-character mnemonic 'name': 4-character name of the user program	var(*LIST).SENDER	S	<sender-name>	
Type of sender	var(*LIST).SENDER-TYPE	S	*APPL *CONS *TSN	
Time of message generation	var(*LIST).TIME	S	<hh:mm:ss>	

(Part 2 of 2)

SHOW-POSIX-STATUS

Show POSIX status

Description status:	POSIX-BC V10.0A
Functional area:	POSIX administration and application
Domain:	SYSTEM-MANAGEMENT
Privileges:	SUBSYSTEM-MANAGEMENT

For the command to be executed successfully the chargeable subsystem “SDF-P” must be loaded.

Function

The SHOW-POSIX-STATUS command displays the status of the POSIX subsystem.

Format

SHOW-POSIX-STATUS

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	65	CMD2241	the chargeable subsystem SDF-P is not available.



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).

Output values

One of the following states will be displayed:

POSIX status	Meaning
*AVAILABLE	POSIX has been released for applications.
*IN-CREATE	The POSIX subsystem is starting up.
*IN-DELETE	The POSIX subsystem is shutting down.
*NOT-ACCESSIBLE	The POSIX subsystem has been started up but has not yet been released for applications.
*NOT-AVAILABLE	The POSIX subsystem has not been loaded.
*UNKNOWN	The status cannot be identified.

Table 144: Output of the SHOW-POSIX-STATUS command

Example

```
/show-posix-status
```

```
%  POSSTAT POSIX-STATUS = *AVAILABLE
```

SHOW-POSIX-USER-ATTRIBUTES

Show POSIX user attributes

Description status:	SRPMNUC V19.0A
Functional area:	User management POSIX administration and application
Domain:	USER-ADMINISTRATION
Privileges:	STD-PROCESSING POSIX-ADMINISTRATION USER-ADMINISTRATION

Function

The SHOW-POSIX-USER-ATTRIBUTES command shows the POSIX user attributes of a BS2000 user ID, as recorded in the user catalog of the specified pubset. It is available to the following users:

- holders of the POSIX-ADMINISTRATION or USER-ADMINISTRATION privilege, for all BS2000 user IDs on all pubsets.
- group administrators, for all the group and subgroup members they are in charge of on the pubset they manage.
- each user for his or her own BS2000 user ID.

The command supports structured output in S variables (see [“Output in S variables” on page 6-411](#)).

Format

SHOW-POSIX-USER-ATTRIBUTES
<pre> USER-IDENTIFICATION = <u>*OWN</u> / *ALL / list-poss(20): <name 1..8> , PUBSET = *HOME / *ALL / list-poss(20): <cat-id 1..4> , SELECT = *ALL / *BY-ATTRIBUTES(...) *BY-ATTRIBUTES(...) USER-NUMBER = *ANY / *BY-POSIX-USER-DEFAULTS / *OWN / <integer 0..60002> , GROUP-NUMBER = *ANY / *BY-POSIX-USER-DEFAULTS / *OWN / <integer 0..60002> , COMMENT = *ANY / *BY-POSIX-USER-DEFAULTS / *NONE / <c-string 1..255 with-low> , DIRECTORY = *ANY / *BY-POSIX-USER-DEFAULTS / *ROOT / <posix-pathname 1..1023 without-wild> , PROGRAM = *ANY / *BY-POSIX-USER-DEFAULTS / *SHELL / <posix-pathname 1..1023 without-wild> , INFORMATION = *ALL / *USER-LIST , OUTPUT = list-poss(2): *SYSOUT / *SYSLST(...) *SYSLST(...) SYSLST-NUMBER = *STD / <integer 1..99> , LINES-PER-PAGE = 64 / <integer 20..255> </pre>

Operands

USER-IDENTIFICATION =

Identifies the BS2000 user IDs for which the POSIX user attributes are to be shown.

USER-IDENTIFICATION = *OWN

Shows the POSIX user attributes of the user's own BS2000 user ID, as recorded in the user catalog of the specified pubset.

USER-IDENTIFICATION = *ALL

Shows the POSIX user attributes of all the BS2000 user IDs that the caller is authorized to examine.

USER-IDENTIFICATION = list-poss(20): <name 1..8>

Shows the POSIX user attributes of the specified user ID.

PUBSET =

Identifies the pubset for which the POSIX user attributes in the user catalog are to be shown.

PUBSET = *HOME

Shows the POSIX user attributes of the home pubset.

PUBSET = *ALL

Shows the POSIX user attributes of all the pubsets available at command runtime.

PUBSET = list-poss(20): <cat-id 1..4>

Shows the POSIX user attributes of the specified pubset.

SELECT =

Selects BS2000 user IDs on the basis of the specified selection criteria.

SELECT = *ALL

POSIX user attributes are not used as selection criteria.

SELECT = *BY-ATTRIBUTES(...)

Selects BS2000 user IDs on the basis of their POSIX user attributes. If more than one POSIX user attribute is specified, the criteria are logically ANDed.

USER-NUMBER =

The user number is used as a selection criterion.

USER-NUMBER = *ANY

The user number is not used as a selection criterion.

USER-NUMBER = *BY-POSIX-USER-DEFAULTS

Restricts the selection to BS2000 user IDs with a user number matching the value of the corresponding POSIX default attribute.

USER-NUMBER = *OWN

Restricts the selection to BS2000 user IDs which have the same user number as the caller in the user catalog of the specified pubset.

USER-NUMBER = <integer 0..60002>

Restricts the selection to BS2000 user IDs which have the specified user number in the user catalog of the specified pubset.

GROUP-NUMBER =

The group number is used as a selection criterion.

GROUP-NUMBER = *ANY

The group number is not used as a selection criterion.

GROUP-NUMBER = *BY-POSIX-USER-DEFAULTS

Restricts the selection to BS2000 user IDs with a group number matching the value of the corresponding POSIX default attribute.

GROUP-NUMBER = *OWN

Restricts the selection to BS2000 user IDs which have the same group number as the caller in the user catalog of the specified pubset.

GROUP-NUMBER = <integer 0..60002>

Restricts the selection to BS2000 user IDs which have the specified group number in the user catalog of the specified pubset.

COMMENT =

The comment associated with an BS2000 user ID is used as a selection criterion.

COMMENT = *ANY

The comment associated with an BS2000 user ID is not used as a selection criterion.

COMMENT = *BY-POSIX-USER-DEFAULTS

Restricts the selection to BS2000 user IDs with a comment matching the value of the corresponding POSIX default attribute.

COMMENT = *NONE

Restricts the selection to BS2000 user IDs with no comment.

COMMENT = <c-string 1..255 with-low>

Restricts the selection to BS2000 user IDs with the specified comment.

DIRECTORY =

The login directory is used as a selection criterion.

DIRECTORY = *ANY

The login directory is not used as a selection criterion.

DIRECTORY = *BY-POSIX-USER-DEFAULTS

Restricts the selection to BS2000 user IDs with a login directory matching the value of the corresponding POSIX default attribute.

DIRECTORY = *ROOT

Restricts the selection to BS2000 user IDs with the root directory “/” as their login directory.

DIRECTORY = <posix-pathname 1..1023 without-wild>

Restricts the selection to BS2000 user IDs with the specified login directory.

PROGRAM =

The program started up after login is used as a selection criterion.

PROGRAM = *ANY

The startup program is not used as a selection criterion.

PROGRAM = *BY-POSIX-USER-DEFAULTS

Restricts the selection to BS2000 user IDs with a startup program matching the value of the corresponding POSIX default attribute.

PROGRAM = *SHELL

Restricts the selection to BS2000 user IDs with *SHELL as their startup program.

PROGRAM = <posix-pathname 1..1023 without-wild>

Restricts the selection to BS2000 user IDs with the specified startup program.

INFORMATION =

Specifies the scope of the information to be output.

INFORMATION = *ALL

Shows all the POSIX user attributes of a BS2000 user ID.

INFORMATION = *USER-LIST

Shows a list of BS2000 user IDs but no POSIX user attributes.

OUTPUT = list-poss(2): *SYSOUT / *SYSLST(...)

Specifies the system file to which the output is to be sent.

OUTPUT = *SYSOUT

The information is sent to the SYSOUT system file.

OUTPUT = *SYSLST(...)

The information is sent to the SYSLST system file.

SYSLST-NUMBER =

Selects a SYSLST number.

SYSLST-NUMBER = *STD

Selects the default SYSLST output.

SYSLST-NUMBER = <integer 1..99>

Selects the specified SYSLST number.

LINES-PER-PAGE =

Specifies the number of lines per page.

LINES-PER-PAGE = 64

By default, 64 lines are printed per page.

LINES-PER-PAGE = <integer 20..255>

The specified number of lines are printed per page.

Notes

As a rule, users with no administration duties are supplied with information about their own BS2000 user IDs only. The exceptions to this rule are:

- `INFORMATION=*USER-LIST, SELECT=*BY-ATTRIBUTES(USER-NUMBER=*OWN)`
In this case you will also be shown the identity of users who have the same user number as you, unless your user number is the default user number.
- `INFORMATION=*USER-LIST, SELECT=*BY-ATTRIBUTES(GROUP-NUMBER=*OWN)`
In this case you will also be shown the identity of members of your POSIX group, unless your POSIX group is the default group.

If `INFORMATION=*ALL` is selected, the user number and the group number will be marked if assigned the corresponding value of the POSIX default attributes (SHOW output will include "(DEFAULT)"; S variables will include the suffix "-DEF").

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
2	0	SRM6001	Command executed with warning
	32	CMD2009	Error during generation of output variables
	32	SRM6020	Command rejected owing to system error
	64	OPS0002	K2 interrupt on output to S variables
	64	SRM6040	Command rejected with error message
	130	OPS0001	Insufficient resources for output to S variables
	130	SRM6030	Command rejected owing to insufficient resources

Example

```

/show-posix-user-attr user1
%POSIX-USER-ATTRIBUTES --- PUBSET 20SH                               2006-03-14 17:18:06
%-----
%USER-ID                USER1                PUBSET    20SH
%USER-NUMBER            100 (DEFAULT)
%GROUP-NUMBER           100 (DEFAULT)
%COMMENT                POSIX guest account
%DIRECTORY              /home/guest
%PROGRAM                *SHELL
%-----

```

Output in S variables

The INFORMATION identifies the S variables which are to be created. The possible values for INFORMATION are *ALL and *USER-LIST.

Note that S variables are generated only if the related conditions (see “Condition” column) apply.

Output information	Name of the S variable	T	Contents	Condition
Comment	var(*LIST).COMMENT	S	*NONE <c-string 1..255>	INF=*ALL
Login directory	var(*LIST).DIR	S	<posix-pathname 1..1023>	INF=*ALL
POSIX group ID	var(*LIST).GROUP-NUM	I	<integer 0..60002>	INF=*ALL
Default POSIX group ID	var(*LIST).GROUP-NUM-DEF	B	FALSE TRUE	INF=*ALL
Name of the program	var(*LIST).PROG	S	*SHELL <posix-pathname 1..1023>	INF=*ALL
Pubset catalog ID	var(*LIST).PUBSET	S	<cat-id 1..4>	INF=*ALL/ *USER-LIST
BS2000 user ID with the displayed POSIX user attributes	var(*LIST).USER-ID	S	<name 1..8>	INF=*ALL
	var(*LIST).USER-ID(*LIST)	S	<name 1..8>	INF= *USER-LIST
POSIX user ID	var(*LIST).USER-NUM	I	<integer 0..60002>	INF=*ALL
Default POSIX user ID	var(*LIST).USER-NUM-DEF	B	FALSE TRUE	INF=*ALL

Examples

Output in S variable

```
/declare-var var-name=var(type=*structure),multiple-elem=*list

/exec-cmd (show-posix-user-attr inf=*all),text-output=*none,struct-output=var
/show-var var,inf=*par(value=*c-literal)
VAR(*LIST).PUBSET = '2OSH'
VAR(*LIST).USER-ID = 'USER1'
VAR(*LIST).USER-NUM = 100
VAR(*LIST).USER-NUM-DEF = TRUE
VAR(*LIST).GROUP-NUM = 100
VAR(*LIST).GROUP-NUM-DEF = TRUE
VAR(*LIST).COMMENT = 'POSIX guest account'
VAR(*LIST).DIR = '/home/guest'
VAR(*LIST).PROG = '*SHELL'
*END-OF-VAR
```

```
/exec-cmd (show-posix-user-attr inf=*user-list),text-output=*none,
          struct-output=var
/show-var var,inf=*par(value=*c-literal)
VAR(*LIST).PUBSET = '2OSH'
VAR(*LIST).USER-ID(*LIST) = 'USER1'
*END-OF-VAR
```

Output to SYSOUT

```
/show-posix-user-attr user1
%POSIX-USER-ATTRIBUTES --- PUBSET 2OSH                                2012-03-14 17:18:06
%-----
%USER-ID                USER1                PUBSET    2OSH
%USER-NUMBER            100 (DEFAULT)
%GROUP-NUMBER           100 (DEFAULT)
%COMMENT                POSIX guest account
%DIRECTORY               /home/guest
%PROGRAM                *SHELL
%-----
```

SHOW-POSIX-USER-DEFAULTS

Show POSIX default attributes

Description status:	SRPMNUC V19.0A
Functional area:	User management POSIX administration and application
Domain:	USER-ADMINISTRATION
Privileges:	STD-PROCESSING POSIX-ADMINISTRATION USER-ADMINISTRATION

Function

This command shows the POSIX default attributes as recorded in the user catalog of the specified pubset. It is available to the following users:

- holders of the POSIX-ADMINISTRATION or USER-ADMINISTRATION privilege, for all pubsets.
- group administrators of the *UNIVERSAL group on the pubset they manage.

The command supports structured output in S variables (see [“Output in S variables” on page 6-415](#)).

Format

```
SHOW-POSIX-USER-DEFAULTS

PUBSET = *HOME / *ALL / list-poss(20): <cat-id 1..4>
, OUTPUT = list-poss(2): *SYSOT / *SYSLST(...)
  *SYSLST(...)
    | SYSLST-NUMBER = *STD / <integer 1..99>
    | , LINES-PER-PAGE = 64 / <integer 20..255>
```

Operands

PUBSET =

Pubset for which the POSIX default attributes in the user catalog are to be shown.

PUBSET = *HOME

Shows the POSIX default attributes in the user catalog of the home pubset.

PUBSET = *ALL

Shows the POSIX default attributes in the user catalogs of all the pubsets available at command runtime.

PUBSET = list-poss(20): <cat-id 1..4>

Shows the POSIX default attributes in the user catalog of the specified pubset.

OUTPUT = list-poss(2): *SYSOUT / *SYSLST(...)

Specifies the system file to which the output is to be sent.

OUTPUT = *SYSOUT

The information is sent to the SYSOUT system file.

OUTPUT = *SYSLST(...)

The information is sent to the SYSLST system file.

SYSLST-NUMBER =

Selects a SYSLST number.

SYSLST-NUMBER = *STD

Selects the default SYSLST output.

SYSLST-NUMBER = <integer 1..99>

Selects the specified SYSLST number.

LINES-PER-PAGE =

Specifies the number of lines per page.

LINES-PER-PAGE = 64

By default, 64 lines are printed per page.

LINES-PER-PAGE = <integer 20..255>

The specified number of lines are printed per page.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
2	0	SRM6001	Command executed with warning
	32	CMD2009	Error during generation of output variables
	32	SRM6020	Command rejected owing to system error
	64	OPS0002	K2 interrupt on output to S variables
	64	SRM6040	Command rejected with error message
	130	OPS0001	Insufficient resources for output to S variables
	130	SRM6030	Command rejected owing to insufficient resources

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Comment	var(*LIST).COMMENT	S	*NONE <c-string 1..255>	
Login directory	var(*LIST).DIR	S	<posix-pathname 1..1023>	
POSIX group ID	var(*LIST).GROUP-NUM	I	<integer 0..60002>	
Name of the program	var(*LIST).PROG	S	*SHELL <posix-pathname 1..1023>	
Pubset catalog ID	var(*LIST).PUBSET	S	<cat-id 1..4>	
POSIX user ID	var(*LIST).USER-NUM	I	<integer 0..60002>	

Example

```
/show-posix-user-defaults
```

```
%POSIX-USER-DEFAULTS --- PUBSET 20SH
```

```
2012-03-14 17:18:06
```

```
-----
USER-NUMBER          100
GROUP-NUMBER         25
COMMENT              *NONE
DIRECTORY            /
PROGRAM              *SHELL
```

```
-----
POSIX-USER-DEFAULTS
```

```
END OF DISPLAY
```

SHOW-PRINT-JOB-ATTRIBUTES

Request information on print job operands

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

Function

The SHOW-PRINT-JOB-ATTRIBUTES command requests information on the print job operands specified in the PRINT-DOCUMENT command. The command should be used in conjunction with the MODIFY-PRINT-JOB-ATTRIBUTES command, since SHOW-PRINT-JOB-ATTRIBUTES only displays the attributes of those operands that can be modified using MODIFY (except for entries such as the file name or MONJV, which cannot be changed).

The command supports structured output in S variables (see [“Output in S variables” on page 6-422](#)).

Privileged functions

RSO device administrators and spool and cluster administrators can request information about any print job scheduled for printing on any device that they manage.

For more information on these user groups see the manuals “RSO” [32], “Spool & Print Commands” [42] and “Distributed Print Services” [10].

Format

SHOW-PRINT-JOB-ATTRIBUTES
<p>JOB-IDENTIFICATION = *TSN (...) / *SERVER-TSN(...) / *MONJV(...) / *FOREIGN(...)</p> <p>*TSN(...)</p> <p> TSN = <alphanum-name 1..4></p> <p> ,CLUSTER-NAME = *LOCAL-CLUSTER / <alphanum-name 1..8></p> <p>*SERVER-TSN(...)</p> <p> TSN = <alphanum-name 1..4></p> <p> ,SERVER-NAME = <alphanum-name 1..8></p> <p>*MONJV(...)</p> <p> MONJV = <filename 1..54 without-gen-vers></p> <p>*FOREIGN(...)</p> <p> IDENTIFICATION = <integer 1..2147483647></p> <p> ,CLUSTER-NAME = <alphanum-name 1..8></p> <p>,INFORMATION = *ALL / list-poss(5): *DOCUMENT-PART / *DOCUMENT-FORMAT / *PRINT-JOB-CONTROL / *LAYOUT-CONTROL / *RESOURCES-DESCRIPTION / *TO-PRINTER</p>

Operands

JOB-IDENTIFICATION = ***TSN**(...) / ***SERVER-TSN**(...) / ***MONJV**(...) / ***FOREIGN**(...)
Specifies how the job is identified.

JOB-IDENTIFICATION = ***TSN**(...)
The print job is identified by its local TSN.

TSN = <alphanum-name 1..4>
TSN of the job to be displayed.

CLUSTER-NAME = ***LOCAL-CLUSTER** / <name 1..8>
Specifies the cluster in which the print job is processed. Only BS2000 clusters can be specified. The TSN is the local TSN at the gateway of the addressed BS2000 cluster.

JOB-IDENTIFICATION = *SERVER-TSN(...)

The print job is identified by its TSN on the server.

TSN = <alphanum-name 1..4>

TSN of the job to be displayed on the server.

SERVER-NAME = <name 1..8>

Name of the server on which the print job can be addressed by its TSN.

JOB-IDENTIFICATION = *MONJV(...)

The print job is identified by its monitoring job variable.

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

This operand allows a print job to be addressed by its monitoring job variable, provided the specified MONJV is accessible on the host at which the command is issued.

JOB-IDENTIFICATION = *FOREIGN(...)

This operand allows a print job in a Xprint domain to be addressed.

IDENTIFICATION = <integer 1..2147483647>

The print job is specified by means of a foreign identifier.

CLUSTER-NAME = <name 1..8>

Specifies the Xprint domain in which the print job is processed. You will find information on the operands permitted when addressing a Xprint domain in the "Distributed Print Services" manual [10].

INFORMATION = *ALL / list-poss(5): *DOCUMENT-PART / *DOCUMENT-FORMAT / *PRINT-JOB-CONTROL / *LAYOUT-CONTROL / *RESOURCES-DESCRIPTION / *TO-PRINTER

This operand allows you to select which information is to be output.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SCP0892	TSN not found or command processing not permitted
2	0	SCP1005	Output canceled
	32	SCP0974	System error. Command rejected
4	64	SCP0976	Invalid operand value
6	128	CMD2241	DPRINTCL subsystem not loaded
1	128	SPS0266	SPOOL subsystem/SPOOL administrator task not available
8	128	CMD2241	DPRINTSV subsystem not loaded

Notes

- If a field does not contain any relevant information, it is filled with blanks.
- In the case of print requests with FAMILY=*YES, only the file name or MONJV of the first member of the family is output.
- A special type of output is supported for print jobs processed in a Xprint domain. You will find more information in the “Distributed Print Services” manual [10].
- POSIX path names are restricted to 54 characters.
- The server name is shortened to 8 positions (for print jobs on UNIX-based systems).

Output

Within BS2000

The output format of the SHOW-PRINT-JOB-ATTRIBUTES command is represented below. However, only the lines or output fields that refer to the operand specified with the PRINT-DOCUMENT command are output, not the complete format. See the explanation below for details. The output fields correspond to the operands of the PRINT-DOCUMENT command. See the relevant section for a description.

```

      TSN          : @@@@ (@@@@) SERVER-NAME : @@@@@@@@ STATE          : @@@
(1) FILE-NAME    : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1) FILE-NAME    : ( LIB : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)              ELEM : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)              ( VERS : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ )
(1)              TYP  : @@@@@@@@
      ADD-COPIES  : ###          LOCK-FILE   : @@@@
(1) DEL-AFTER-PR: @@@@
(1) DEL-AFTER-PR: @@@@@@@@ (LINE-TRUNC : @@@@@@@)
----- DOCUMENT-PART -----
(1) INPUT-SECT   : *WHOLE-FILE
(1) INPUT-SEC    : (SECTION-ID : (@)@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)              @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)              @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)              SECTION-POS: ####)
(1) INPUT-PART   : *ALL
(1) INPUT-PART   : FIRST-RECORD : *BEGIN-OF-FILE
(1) INPUT-PART   : FIRST-RECORD : @@@@@@@@@@@@@@@@
(1)              (STRING : (@)@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)              @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)              @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)              POSITION: #### OCCURRENCE : #####)
(1)              LAST-RECORD : *END-OF-FILE
(1)              LAST-RECORD : @@@@@@@@@@@@@@@@
(1)              (STRING : (@)@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@

```

SHOW-PRINT-JOB-ATTRIBUTES

```
(1)                                     @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)                                     @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1)                                POSITION ##### OCCURRENCE : #####)
(1) RECORD-PART : *ALL
(1) RECORD-PART : (FIRST-CHAR : @@@@ LAST-CHAR : @@@@ )
(1) OUTPUT-PART : *ALL
(1) OUTPUT-PART : (FROM : @@@@@@@@@@@@@@ TO : @@@@@@@@@@@@@@ DIMENSION : @@@@@ )
(1) OUTPUT-PART : LAST (LAST : @@@@@@@@@@@@@@ DIMENSION : @@@@@ )
----- DOCUMENT-FORMAT -----
(2) DOC-FORMAT : *TEXT
(2) LINE-P-PAGE : ##### HEADER-LINE : @@@@,@@@@,@@@@
(1) LINE-SPACING: #
(1) LINE-SPACING: @@@@@@@@@@@@@@@@@@ (CONTROL-CHAR-POS : #####)
(2) OUTPUT-FORM : @@@@@@@@@@@@@@
(2) DOC-FORMAT : *PAGE-FORMAT
(2) CONTROL-MODE: *PAGE-MODE (PAGE-CONT-CHAR : @@@@ CONTROL-TYPE : @@@@@@@@@@@@@@)
(2) CONTROL-MODE: @@@@@@@@@@@@@@
(2) LINE-P-PAGE : #####
(1) LINE-SPACING: @@@@@@@@@@@@@@@@@@
(1) LINE-SPACING: @@@@@@@@@@@@@@@@@@ (CONTROL-CHAR-POS : #####)
(2) DOC-FORMAT : *SPECIAL-FORMAT
(1) LINE-SPACING: @@@@@@@@@@@@@@@@@@
(2) FORMAT-NAME : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
----- PRINT-JOB-CONTROL -----
PR-JOB-NAME : @@@@@@@@ PR-JOB-PRIO : @@@@@@@@ CHECKPOINT : @@@@@@@@@@@@
(2) MONJV : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(2) FAILURE-PROC: (MSG-PAGE : @@@@)
PR-JOB-CLASS: ###
(4) SCHEDULING-TIME: (DATE: ####-##-## TIME ##-##@)
----- LAYOUT-CONTROL -----
PAGE-COPIES : ### LEFT-MARGIN : ## ROTATION : @@@@@@@@
(2) TWO-SIDED : @@@@@@@@
(2) INPUT-TRAY : @@@@@@@@
(2) OUTPUT-TRAY : @@@@@@@@
(2) COVER-PAGES : (HEADER-PAGE-TEXT: @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
HEADER-EXIT-NUM : @@@@@@@@@@@ TRAILER-EXIT-NUM : @@@@@@@@@@@)
TAB-REF-CHAR: @@@@
(2) LANGUAGE-EXT: (LANGUAGE-NAME : @@@@@@@@ LANGUAGE-MODE : @@@@@@@@@@@@@@ )
----- RESOURCES-DESCRIPTION -----
FORM-NAME : @@@@@@
(2) LOOP-NAME : @@@@ ROT-LOOP-NAME : @@@@
(1) CHAR-SETS : @@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@
(1) CHAR-SETS : *POOL (POOL-NAME : @@@@ POOL-INDEX : @@)
(1) CHAR-SETS : @@@@@@@@@@ @@@@@@@@@@ @@@@@@@@@@ @@@@@@@@@@
(1) ELECTR-OVER : @@@@@@ FORMS-OVER-BUF : @@@@
(1) OVERLAYS : (FACE-SIDE : @@@@@@ REV-SIDE : @@@@@@)
(1) PAGE-DEF : @@@@@@@@@@ FORM-DEF : @@@@@@@@@@
(1) PAGE-DEF : #
(2) USER-RES-FIL: @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(2) TRANS-TAB : ( NAME : @@@@@@@@@@
```

```

(2) FILE : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ )
RES-LOC : @@@@@@@
CHAR-SET-A : @@@@
----- TO-PRINTER -----
PRINTER-NAME: @@@@@@@@
(8) PRINTER-TYPE: @@@@@@@@@@@@@@@@@@
(5) TARGET-PRINTER-NAME: @@@@@@@@
REDIRECTION : @@@@
(6) VIRTUAL-PRINTER: @@@@@@@@@@@@@@
(6) VIRTUAL-PRINTER: *MUST (NAME: @@@@@@@@
(6) STRING: @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(7) PRINTER-URI: @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@.....@@@
(7) @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@.....@@@
(7) .....@@@@@@@@@@@@@@@@@@@@@@@@
(8) PRINTER-TYPE: @@@@@@@@@@

```

Access to print jobs on a UNIX-based system

```

IDENTIFICATION : #####
(1) FILE-NAME : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1) FILE-NAME : ( LIB : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1) ELEM : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
(1) ( VERS : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ )
(1) TYP : @@@@@@@@
(3) SERVER-NAME : @@@@@@@@ STATE : @@@
ADD-COPIES : ###
----- DOCUMENT-PART -----
(1) OUTPUT-PART : *ALL
(1) OUTPUT-PART : ( FR : @@@@@@@@@@@@@@ TO : @@@@@@@@@@@@@@ DIMENSION : PAGES )
----- DOCUMENT-FORMAT -----
DOC-FORMAT : *SPECIAL-FORMAT
FORMAT-NAME : @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
----- PRINT-JOB-CONTROL -----
PR-JOB-NAME : @@@@@@@@ PR-JOB-PRIO : @@@@@@@@
----- LAYOUT-CONTROL -----
PAGE-COPIES : ### LEFT-MARGIN : ## ROTATION : @@@@@@@@
----- RESOURCES-DESCRIPTION -----
FORM-NAME : @@@@@@@
(2) CHAR-SETS : @@@
----- DESTINATION -----
PRINTER-NAME: @@@@@@@@

```

Key to output

- (1) Only one line is output according to the PRINT-DOCUMENT command, or no line at all.
- (2) The line is only output, if the relevant operand was specified in the PRINT-DOCUMENT command.
- (3) The server name issued is the name of the cluster.

- (4) The SCHEDULING-TIME operand is only shown if it was specified in the PRINT-DOCUMENT command. It is indicated in the form yyyy-mm-dd hh:mmx, where x can have the value S for summer time or W for winter time (e.g. 2011-12-31 23:15W). If the default value *TODAY was specified in the operand, the current date is shown. The date and time are printed in accordance with the time zone of the system on which the command was entered. The displayed values could therefore differ if the client of server is located in another time zone. Consequently, to avoid such inconsistencies, it is advisable to synchronize all system clocks in a distributed environment to the same time zone.
- (5) This line is only output if the print job has been filtered.
- (6) Either only the first line or the last two lines marked with (6) are output.
- (7) Either no line is output or several lines with the Web address of the IPP printer (the URL value specified in the PRINT-DOCUMENT command; up to 1023 characters).
- (8) This line is only output if the associated operand was specified in the PRINT-DOCUMENT command, either for a local print job or for a print job which was issued with a variable URL.

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 = *DOCUMENT-PART	2
INFORMATION = *LAYOUT-CONTROL	3
INFORMATION = *PRINT-JOB-CONTROL	4
INFORMATION = *TO-PRINTER	5
INFORMATION = *RESOURCE-DESCRIPTION	6
INFORMATION = *DOCUMENT-FORMAT	7

Note

S variables marked S/X in the “Name of the S variable” column are generated both for SPOOL and for Xprint jobs. S variables marked X are generated for Xprint jobs only. All other (unmarked) S variables are generated for SPOOL jobs only.

Output information	Name of the S variable	T	Contents	Condition
Number of additional copies	var(*LIST).ADD-COP S/X	S	0..255	1,2,3,4,5,6,7
Scope of character set attributes	var(*LIST).CHAR-SET-ATTR	S	*ALL *RESTRICT	1,6
Name of the character set	var(*LIST).CHAR-SET.NAME(*LIST) S/X	S	<char-set-name>	1,6
Number of the character set in the character set pool	var(*LIST).CHAR-SET.POOL-INDEX	S	0..64	1,6
Name of the character set pool	var(*LIST).CHAR-SET.POOL-NAME	S	' <pool-name>	1,6
Checkpoint processing based on pages (*ON-PAGE) or sections (*ON-SECT-REC)	var(*LIST).CHECK	S	*ON-PAGE *ON-SECT-REC	1,4
Number of the data byte containing the character SPOOL interprets as EBCDIC, ASA or IBM formfeed character	var(*LIST).CONTR-CHAR-POS	S	0..2040	1,7
Control characters for HP and HP90 printers *COMPATIBLE: control characters must be converted for HP and HP90 printers *HP: appropriate control characters available	var(*LIST).CONTR-MODE.CONTR-TYPE	S	' *COMPATIBLE *HP	1,7
Control character bar must appear at the head of each page	var(*LIST).CONTR-MODE.PAGE-CONTR-CHAR	S	' *NO *YES	1,7
Control character interpretation	var(*LIST).CONTR-MODE.TYPE	S	' *APA *LINE-MODE *LOGIC *NO *PAGE-MODE *PHYS *TRANSPARENT	1,7
Number of the required cover page (parameter for the system exit routine)	var(*LIST).COV-PAGE.HEAD-EXIT	S	0..2147483639	1,3
Text (first 8 characters) which appears in large print under the mailing box on the cover page	var(*LIST).COV-PAGE.HEAD-PAGE	S	' <c-string 1..32>	1,3
Number of the required trailer page (parameter for the system exit routine)	var(*LIST).COV-PAGE.TRAIL-EXIT	S	0..2147483639	1,3

(Part 1 of 8)

SHOW-PRINT-JOB-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Delete file after printing *DESTROY: the data are overwritten	var(*LIST).DEL-F	S	*DESTROY *NO *YES	1,2,3,4,5,6,7
Document format	var(*LIST).DOC-FORM	S/X	*PAGE-FORMAT *SPECIAL-FORMAT *TEXT	1,2
Encryption of the generated print file (as of RSO V3.5B)	var(*LIST).ENCRYPTION	S	*YES *NO	1,4
Name of the file to be printed	var(*LIST).F-NAME	S/X	' ' <file-name>	1,2,3,4,5,6,7
Print an APA message page in the event of failure	var(*LIST).FAIL-PROCESS.MSG	S	*YES *NO	1,4
Fully-qualified name of a network domain (with output to IPP printer)	var(*LIST).FQDN	S	' ' <ipp-printer-domain>	1,5
Format definition	var(*LIST).FORM-DEF	S	' ' <form-def>	1,6
Name of the form	var(*LIST).FORM-NAME	S/X	' ' <form-name>	1,6
Document content type (Dprint)	var(*LIST).FORMAT-NAME	S/X	' ' <format-name>	1,7
Header line format	var(*LIST).HEAD-LINE(*LIST)	S	' ' *DATE *FIRST *NO *PAGE	1,7
Xprint job identification	var(*LIST).IDENTIFICATION	X	S <identification>	1,2,3,4,5,6,7
Number of the record containing the FIRST-RECORD string	var(*LIST).INPUT-PART.FIRST-REC.OCCUR	S	0..32767	1,2
Position of the specified string within the first record	var(*LIST).INPUT-PART.FIRST-REC.POS	S	0..2047	1,2
String; printing begins at the record containing this string	var(*LIST).INPUT-PART.FIRST-REC.STRING	S	' ' <string-id>	1,2
Specified string comprises printable characters (C) or hexadecimal characters (X); printing begins at the record containing this string	var(*LIST).INPUT-PART.FIRST-REC.STRING.TYPE	S	C X	1,2
How printing begins within the first record	var(*LIST).INPUT-PART.FIRST-REC.TYPE	S	*BEGIN-OF-FILE *BY-STRING-ID 0..2147483647	1,2

(Part 2 of 8)

Output information	Name of the S variable	T	Contents	Condition
Number of the record containing the LAST-RECORD string	var(*LIST).INPUT-PART.LAST-REC.OCCUR	S	0..32767	1,2
Position of the specified string within the last record	var(*LIST).INPUT-PART.LAST-REC.POS	S	0..2047	1,2
String; printing ends at the record containing this string	var(*LIST).INPUT-PART.LAST-REC.STRING	S	' '<string-id>	1,2
Specified string comprises printable characters (C) or hexadecimal characters (X); printing ends at the record containing this string	var(*LIST).INPUT-PART.LAST-REC.STRING.TYPE	S	C X	
How printing ends within the last record	var(*LIST).INPUT-PART.LAST-REC.TYPE	S	*BY-STRING-ID *END-OF-FILE 0..21474893647	1,2
Selection of records from the input file which is to be processed	var(*LIST).INPUT-PART.SEL	S	' '*ALL	1,2
Section ID used to structure the input file	var(*LIST).INPUT-SECT.SECT-ID	S	' '<section id>	1,2
Specified section ID comprises printable characters (C) or hexadecimal characters (X); this section ID is used to structure the input file	var(*LIST).INPUT-SECT.SECT-ID.TYPE	S	C X	
Position of the section ID	var(*LIST).INPUT-SECT.SECT-POS	S	0..2047	1,2
The input file is unstructured (the whole file is selected)	var(*LIST).INPUT-SECT.SEL	S	' '*WHOLE-FILE	1,2

(Part 3 of 8)

SHOW-PRINT-JOB-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Format of the input paper tray	var(*LIST).INPUT-TRAY-FORM	S	' *A3 *A4 *A5 *B4 *B5 *C5 *COM-10 *DL *DOUBLE-LETTER *EXEC *FOLIO *INVOICE *LEGAL *LETTER *MANUAL *MONARCH* *A3-UNCUT *A4-UNCUT *LEDGER	1,3
Input paper tray number	var(*LIST).INPUT-TRAY-NUM	S	' *BY-FORMAT *IGNORE 1..9	1,3
Direction in which characters are printed in Arabic and Farsi	var(*LIST).LANGUAGE-MODE	S	' *LEFT-TO-RIGHT *RIGHT-TO-LEFT	1,3
The document contains language extensions for Arabic (*ARABIC) or Farsi (*FARSI)	var(*LIST).LANGUAGE-NAME	S	' *ARABIC *FARSI	1,3
Number of columns by which output is indented	var(*LIST).LEFT-MARGIN	S/X	S 0..31	1,3
Setting for the left-hand margin	var(*LIST).LEFT-OFFSET	S	' *IGNORE <left-offset>	1,3
Name of the PLAM library member	var(*LIST).LIB.ELEM	S/X	S ' <element-name>	1,2,3,4,5,6,7
Name of the PLAM library	var(*LIST).LIB.LIB	S/X	S ' <lib-name>	1,2,3,4,5,6,7
Type of PLAM library member	var(*LIST).LIB.TYPE	S/X	S ' <element-type>	1,2,3,4,5,6,7
Version of the PLAM library member	var(*LIST).LIB.VERSION	S/X	S ' <element-version>	1,2,3,4,5,6,7
Number of lines per printed page	var(*LIST).LPP	S	0..32767	1,7

(Part 4 of 8)

Output information	Name of the S variable	T	Contents	Condition
Printer control character type	var(*LIST).LINE-SPACING	S	' 1 2 3 *BY-ASA-CONTR *BY-EBCDIC-CONTR *BY-IBM-CONTR	1,7
Behavior in the event of line truncation *IGNORE: the spoolout job continues, the file is deleted *KEEP-FILE: the spoolout job continues, the file is not deleted	var(*LIST).LINE-TRUNC	S	' *IGNORE *KEEP-FILE	1,2,3,4,5,6,7
Protection on the file while the spoolout job is on hold	var(*LIST).LOCK-F	S	*NO *YES	1,2,3,4,5,6,7
Name of the loop controlling form feed	var(*LIST).LOOP	S	*STD <loop-name>	1,6
Name of the job variable in which job processing information is stored	var(*LIST).MONJV	S	' <monjv>	1,4
Record output format *CHAR: in character format *HEX: in character format and hexadecimal	var(*LIST).OUT-FORM	S	' *CHARACTER *HEXADECIMAL'	1,7
Output paper tray number	var(*LIST).OUT-TRAY-NUM	S	' 1..99 *IGNORE *SORTER	1,3
Select the part of the file to print by logical lines or pages	var(*LIST).OUTPUT-PART.DIM	S/X	' *LINES *PAGES	1,2
Number of the logical line or page at which printing is to start	var(*LIST).OUTPUT-PART.FROM	S/X	S *BEGIN-OF-FILE 0..2147483647	1,2
Number of the last logical line or page	var(*LIST).OUTPUT-PART.LAST	S	0..2147483647	1,2
Amount to print on the basis of logical lines or pages	var(*LIST).OUTPUT-PART.SEL	S/X	S *ALL *LAST *RANGE	1,2

(Part 5 of 8)

SHOW-PRINT-JOB-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Number of the logical line or page at which printing ends	var(*LIST).OUTPUT-PART.TO S/X	S	*END-OF-FILE 0..2147483647	1,2
Name of the EFO overlay resource used for output	var(*LIST).OVERLAY-RESOURCE.ELECT-O	S	*NONE <overlay-name>	1,6
Name of the FOB overlay resource used for output	var(*LIST).OVERLAY-RESOURCE.FOB	S	' ' <fob-name>	1,6
Identification number of the overlay or the name of the APA overlay used on the face page	var(*LIST).OVERLAY-RESOURCE.OVERLAY.FACE	S	*NONE 0..127 <apa-overlay-name>	1,6
Identification number of the overlay or the name of the APA overlay used on the reverse page	var(*LIST).OVERLAY-RESOURCE.OVERLAY.REV	S	*NONE 0..127 <apa-overlay-name>	1,6
Number of page copies, i.e. how often each page is repeated in succession	var(*LIST).PAGE-COP S/X	S	0..255	1,3
Print page definition	var(*LIST).PAGE-DEF	S	' ' <page-def>	1,6
TSN of the spoolout job	var(*LIST).PARTNER--TSN	S	<tsn>	1,2,3,4,5,6,7
Spoolout job name	var(*LIST).PRINT-JOB-NAME S/X	S	' ' <spool-name>	1,4
Spoolout job priority	var(*LIST).PRINT-JOB-PRIO S/X	S	30..255	1,4
Printer type	var(*LIST).PRINT-TYPE	S	' ' <printer-type>	1,5
Printer name	var(*LIST).PRINTER-NAME S/X	S	*CENTRAL <printer-name>	1,5
Uniform Resource Identifier (web address) of the IPP printer	var(*LIST).PRINTER-URI	S	' ' <ipp-printer-url>	1,5
Byte number (record column) at which printing of each file record starts	var(*LIST).REC-PART.FIRST-CHAR	S	0..32767	1,2
Byte number (record column) at which printing of each file record ends	var(*LIST).REC-PART.LAST-CHAR	S	0..32767	1,2
Method of limiting the output records to part of the input records *ALL: each input record is printed from column 1 to the end of the record or print line	var(*LIST).REC-PART.SEL	S	' ' *ALL	1,2
Redirection of the spoolout job to another printer allowed	var(*LIST).REDIRECT	S	*YES *NO	1,5

(Part 6 of 8)

Output information	Name of the S variable	T	Contents	Condition
Origin of the print resources for the spoolout job	var(*LIST).RESOURCE-LOC	S	*HOME *SERVER	1,6
Rotation of the printed pages *BY-CONTR-CODE: page rotation control characters are interpreted *NO: no page rotation 0 through 270: the print page is rotated clockwise by the specified number of degrees	var(*LIST).ROT	S/X	' *BY-CONTR-CODE *NO 0 90 180 270	1,3
Name of the loop controlling form feed for rotated pages; only for HP and HP90 printers with a page rotation module	var(*LIST).ROT-LOOP	S	*STD <rot-loop-name>	1,6
Date when the print job will be started	var(*LIST).SCHEDULING.DATE	S	*NONE <yyyy-mm-dd>	1,4
Time when the print job will be started	var(*LIST).SCHEDULING.TIME	S	*NONE <hh.mm>	1,4
Season information relating to the time of printing	var(*LIST).SCHEDULING.SEASON	S	*NONE *SUMMER *WINTER	1,4
Name of the server	var(*LIST).SERVER-NAME	S/X	' <server-name>	1,2,3,4,5,6,7
Sort mode	var(*LIST).SORT-MODE	S	' *AUTOMATIC *COLLATE *GROUP *NO *STACKER	1,3
Printer status	var(*LIST).STA	S/X	*ACTIVE *DIR *FT *KEEP *PRE *TRD *TRT *WAIT *WFT *WP	1,2,3,4,5,6,7
Printer page layout fonts selected by control characters in the text	var(*LIST).TAB-REF-CHAR	S	' *NO *YES	1,3
Name of the target printer	var(*LIST).TARGET-PRINTER-NAME	S	<printer-name> *NONE *YES	1,5

(Part 7 of 8)

SHOW-PRINT-JOB-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Setting for the top margin	var(*LIST).TOP-OFFSET	S	' *IGNORE <top-offset>	1,3
Name of the file containing the code translation table	var(*LIST).TRANSL-TAB.F	S	' <filename>	1,6
Name of the code translation table	var(*LIST).TRANSL-TAB.NAME	S	' <transl-tab-name>	1,6
TSN of the SPOOLOUT job	var(*LIST).TSN	S	<tsn>	1,2,3,4,5,6,7
Also print the reverse of the printed page *NO: single-sided *YES: double-sided *TUMBLE: double-sided, with the page being flipped from top to bottom	var(*LIST).TWO-SIDED	S	' *NO *TUMBLE *YES	1,3
Name of the user file containing the user-generated loops, character sets, overlays etc.	var(*LIST).USER-RESOURCE-F	S	' <filename>	1,6
Assignment of this job to a virtual printer	var(*LIST).VIRTUAL-PRINTER	S	*ALLOWED *NOT-ALLOWED *MUST	1,5
Unique name of the virtual printer	var(*LIST).VIRTUAL-PRINTER-NAME	S	' <name>	1,5
Content of the string which is also to be passed to the virtual printer	var(*LIST).VIRTUAL-PRINTER-STRING	S	' *NONE <string>	1,5

(Part 8 of 8)

Example

```

/print-doc sysrme.spool.048.d, line-spacing=*by-ebcdic-contr,
          scheduling=*earliest(time=23:00)
% SCP0810 SPOOLOUT FOR FILE ':20SG:$USER1.SYSRME.SPOOL.048.D' ACCEPTED. TSN
: '3PIU', SPOOLOUT-NAME: 'ALT', MONJV: '*NONE'
% SCP1025 PRINT JOB ACCEPTED BY SERVER 'GH5090Y0' WITH TSN '40VG'

/show-print-job-attr job-id=*tsn(3piu)
TSN          : 3PIU (40VG)  SERVER-NAME : GH5090Y0    STATE : WT
FILE-NAME   : :20SG:$USER1.SYSRME.SPOOL.048.D
ADD-COPIES  : 0           LOCK-FILE  : *YES
DEL-AFTER-PR: *NO
----- DOCUMENT-PART -----
INPUT-SECT  : *WHOLE-FILE
INPUT-PART  : *ALL
RECORD-PART : *ALL

```

OUTPUT-PART : *ALL

----- DOCUMENT-FORMAT -----

DOC-FORMAT : *TEXT

LINE-P-PAGE : *STD HEADER-LINE : *NO

LINE-SPACING: *BY-EBCDIC

OUTPUT-FORM : *CHARACTER

----- PRINT-JOB-CONTROL -----

PR-JOB-NAME : ALT PR-JOB-PRIO : 240 CHECKPOINT : *ON-PAGES

FAILURE-PROC: (MSG-PAGE : *YES)

PR-JOB-CLASS: 1

SCHEDULING-TIME: (DATE: 2012-03-14 TIME: 23:00W)

----- LAYOUT-CONTROL -----

PAGE-COPIES : 0 LEFT-MARGIN : 0 ROTATION : *NO

TAB-REF-CHAR: *NO

TOP-OFFSET : *IGNORE LEFT-OFFSET : *IGNORE

----- RESOURCES-DESCRIPTION -----

FORM-NAME : STD

RES-LOC : *HOME

----- TO-PRINTER -----

PRINTER-NAME: *CENTRAL

PRINTER-TYPE: *ANY

VIRTUAL-PRINTER : *NOT-ALLOWED

SHOW-PRINT-JOB-STATUS

Request information on print jobs

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

Function

The SHOW-PRINT-JOB-STATUS command requests information on print jobs. The print jobs can be selected by specifying the server involved and the cluster in which they are processed. The operand INFORMATION=*DISTRIBUTED allows you to request client and server information for the specified print job.

The command supports structured output in S variables (see [“Output in S variables” on page 6-452](#)).

Note

The SHOW-PRINT-JOB-STATUS command corresponds to the SHOW-SPOOL-JOB-STATUS command; the command name SHOW-SPOOL-JOB-STATUS is still accepted as an alias.

Privileged functions

RSO device administrators and spool and cluster administrators can request information about any print job scheduled for printing on any device that they manage. For more information on these user groups see the manuals “RSO” [32], “SPOOL” [43] and “Distributed Print Services” [10].

Format

(Part 1 of 4)

SHOW-PRINT-JOB-STATUS

```

INFORMATION = *ORIGIN / *DESTINATION / *TRAITS / *DEVICE-TYPE / *SUMMARY / *DISTRIBUTED /
*SPOOL-FILTER / *RSO-FILTER

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

,OUTPUT = *SYSOUT / *SYSLST

,SELECT = *PARAMETERS (...) / *STD
  *PARAMETERS(...)
    SPOOLOUT-NAME = *ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16):
      <alphanum-name 1..8> / <c-string 1..8 with-low> / *NONE

    ,USER-IDENTIFICATION = *STD / *ALL / *OWN / <alphanum-name 1..8 with-wild(24)> /
      list-poss(16): <name 1..8> / <c-string 1..8 with-low>

    ,HOST-NAME = *HOME / *ALL / <alphanum-name 1..8 with-wild(24)> /
      list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>

    ,SERVER-NAME = *HOME / *ALL / <alphanum-name 1..8 with-wild(24)> /
      list-poss(16): <alphanum-name 1..8>

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

    ,TSN = *ALL / list-poss(16): <alphanum-name 1..4>

    ,IDENTIFICATION = *ALL / <c-string 1..255 with-low>

    ,SERVER-TSN = *ALL / list-poss(16): <alphanum-name 1..4>

    ,FORMS-OVERLAY = *ALL / list-poss(16): <alphanum-name 2..2>

    ,SPOOLOUT-CLASS = *ALL / list-poss(16): <integer 1..255>

    ,ACCOUNT = *ALL / list-poss(16): <alphanum-name 1..8>

    ,VIRTUAL-PRINTER-NAME = *ALL / list-poss(16): <alphanum-name 1..8>

    ,DESTINATION = *ALL / *LOCAL(...) / *REMOTE(...) / *CENTRAL(...) / *MANAGED-DEVICES(...) /
      *DEVICE(...) / <alphanum-name 1..8 with-wild(24)> / list-poss(16): <alphanum-name 1..8>

    *LOCAL(...)
      SELECTION-TYPE = *MAY / *MUST

      ,DEVICE-TYPE = *ALL / list-poss(16): *HP-PRINTER / *HP90-PRINTER / *LP-PRINTER /
        *TAPE / *LP-EMULATED-PRINTER / *LP48-PRINTER /
        *LP65-PRINTER / *2050-APA-PRINTER / *2090-APA-PRINTER /
        *2090-TWIN-PRINTER / *VIRTUAL-PRINTER / *PCL-PRINTER

```

REMOTE(...)*SELECTION-TYPE = *MAY / *MUST**

,DEVICE-TYPE = *ALL / list-poss(16): *DJET-REMOTE-PRINTER /
*2030-PCL-REMOTE-PRINTER / *4011-PCL-REMOTE-PRINTER /
*4812-REMOTE-PRINTER /*4013-REMOTE-PRINTER /
*4814-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-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 /
*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

CENTRAL(...)*SELECTION-TYPE = *MAY / *MUST**

,DEVICE-TYPE = *ALL / list-poss(16): *HP-PRINTER / *HP90-PRINTER / *LP-PRINTER /
*TAPE / *LP-EMULATED-PRINTER / *LP48-PRINTER /
*LP65-PRINTER / *2050-APA-PRINTER / *2090-APA-PRINTER /
*2090-TWIN-PRINTER / *VIRTUAL-PRINTER / *PCL-PRINTER

MANAGED-DEVICES(...)*SELECTION-TYPE = *MAY / *MUST**

,DEVICE-TYPE = *ALL / list-poss(16): *DJET-REMOTE-PRINTER /
*2030-PCL-REMOTE-PRINTER / *4011-PCL-REMOTE-PRINTER /
*4812-REMOTE-PRINTER /*4013-REMOTE-PRINTER /
*4814-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-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 /
*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

```

*DEVICE(...)

```

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

```

,FORMS-OVERLAY-BUFFER = *ANY / *ONLY / *NO / *RANGE(...)

*RANGE(...)

```

  LOW = 0 / <integer 0..32767>
  ,HIGH = 32767 / <integer 0..32767>

```

,CHARACTER-SET-NUMBER = *ALL / *ONE / *RANGE(...)

*RANGE(...)

```

  LOW = 1 / <integer 1..32767>
  ,HIGH = 32767 / <integer 1..32767>

```

,PRIORITY = *ALL / *RANGE(...)

*RANGE(...)

```

  LOW = 30 / <integer 30..255>
  ,HIGH = 255 / <integer 30..255>

```

,ROTATION = *ANY / *YES / *NO

,JOB-TYPE = *ALL / list-poss(10): *WAIT / *ACTIVE / *KEEP / *REPLAY /

```

  *WAIT-PREPROCESSING / *PREPROCESSING / *BEFORE-APA-PRINT /
  *AFTER-APA-PRINT / *WAIT-FILE-TRANSFER / *FILE-TRANSFER

```

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

(Part 4 of 4)

```

,EXCEPT = *NONE / *PARAMETERS(...)
  *PARAMETERS(...)
    |
    | SPOOLOUT-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> /
    | list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
    |
    | ,USER-IDENTIFICATION = *NONE / <alphanum-name 1..8 with-wild(24)> /
    | list-poss(16): <name 1..8> / <c-string 1..8 with-low>
    |
    | ,HOST-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> /
    | list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
    |
    | ,SERVER-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> /
    | list-poss(16): <alphanum-name 1..8>
    |
    | ,FORM-NAME = *NONE / <alphanum-name 1..6 with-wild(24)> /
    | list-poss(16): <alphanum-name 1..6>
    |
    | ,TSN = *NONE / list-poss(16): <alphanum-name 1..4>
    |
    | ,SERVER-TSN = *NONE / list-poss(16): <alphanum-name 1..4>
    |
    | ,FORMS-OVERLAY = *NONE / list-poss(16): <alphanum-name 2..2>
    |
    | ,SPOOLOUT-CLASS = *NONE / list-poss(16): <integer 1..255>
    |
    | ,ACCOUNT = *NONE / list-poss(16): <alphanum-name 1..8>
    |
    | ,VIRTUAL-PRINTER-NAME = *NONE / list-poss(16): <alphanum-name 1..8>
    |
    | ,DESTINATION = *NONE / *DEVICE(...) / *CENTRAL / <alphanum-name 1..8 with-wild(24)> /
    | list-poss(16): <alphanum-name 1..8>
    |
    | *DEVICE(...)
    | |
    | | NAME = *NONE / <alphanum-name 1..8 with-wild(24)> /
    | | list-poss(16): <alphanum-name 1..8>
    | |
    | | ,FORMAT-NAME = *ALL / list-poss(16): *HP / *SPDS / *TEXT / *PCL / *PLAIN-TEXT /
    | | <c-string 1..63 with-low>

```

Operands

INFORMATION =

Types of information on spoolout jobs to be output to SYSOUT or SYSLST (OUTPUT operand). Although all available information on all spoolout jobs can be requested simultaneously, you should use this operand (INFORMATION) to select a subset of the available information to avoid cluttering up the screen.

INFORMATION = *ORIGIN

Outputs the following information on the origin of the spoolout jobs:

- TSN
- name of the server on which the job is processed
- user ID
- account number of the user who generated the spoolout job
- number of specified page copies
- number of specified file copies
- spoolout name of the job
- type and size of the file
- name of the client host
- TSN of the job issuing the job

This information is primarily of interest to the nonprivileged user.

INFORMATION = *DESTINATION

Outputs information on the output medium of the spoolout job:

- TSN
- name of the server on which the job is processed
- job type (RSO or local SPOOL)
- name of the device
- name of the device pool
- device types
- status and type of job (WAIT,ACTIVE,KEEP, etc.)
- Error code and error message (RSO, Dprint)

This information is primarily of interest to the device administrator.

INFORMATION = *TRAITS

Outputs information on the following attributes of the spoolout jobs:

- priority
- form name
- spoolout class
- number of character sets required
- size of the FOB data overlay required
- name of the film overlay required
- use of the page rotation module
- output control (CONTROL)
- name of the server on which the job is processed
- location of the resources

This information is primarily of interest to system administration, since it relates to the attributes (traits) of the local SPOOL devices.

INFORMATION = *SUMMARY

Outputs the number of spoolout jobs selected and the number of PAM pages provided for these jobs.

INFORMATION = *DISTRIBUTED

Global information on print jobs is output:

- TSN on the local and remote host (client and server TSN)
- Name of the client host
- Name of the server on which the job is processed
- Job type (local, distributed, between clusters)
- Information on the requesting user ID

INFORMATION = *SPOOL-FILTER / *RSO-FILTER

These values can be used to display selective information on the destination and status of a print job. The list of device types corresponds to those on which the print job can be executed after applying the filter.

Depending on the filter, the print jobs can be executed by SPOOL (if INFORMATION = *SPOOL-FILTER is specified) or by RSO (if INFORMATION = *RSO-FILTER is specified). Both values can be specified in coordination with INFORMATION=*DESTINATION if the field ERMSG (error message) contains 'FILTER' or 'DEL/FLT'.

Output information:

- TSN
- name of the server on which the job is processed
- job type (RSO or local SPOOL)
- name of the device
- name of the device pool
- device types
- status and type of job (WAIT,ACTIVE,KEEP,...)
- error code
- error message

Note

These details are primarily only of interest to the device manager and to systems support (PRINT-SERVICE-ADMINISTRATION).

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

Name of the cluster in which the command is executed. If a cluster of UNIX-based systems is specified, only a subset of operands and values is permitted for selecting the print job. You will find detailed information on this in the "Distributed Print Services" manual [10].

OUTPUT = *SYSOUT / *SYSLST

Specifies whether the information is to be output to SYSOUT (screen) or SYSLST.

SELECT = *PARAMETERS(...) / *STD

Specifies the print jobs on which the information is to be issued. With SELECT=*STD, information is output for all print jobs that fulfill the criteria specified with SELECT = *PARAMETERS(...).

SELECT = *PARAMETERS(...)

Selection criteria for spoolout jobs on which information is to be output.

SPOOLOUT-NAME = *ALL / <alphanum-name 1..8 with-wild(24)> / list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low> / *NONE

Spoolout names of the spoolout jobs on which information is to be output.

USER-IDENTIFICATION = *STD / *OWN / <alphanum-name 1..8 with-wild(24)> / *ALL / list-poss(16): <name 1..8> / <c-string 1..8 with-low>

User IDs of the print jobs on which information is to be output. *STD means *ALL for operator tasks and *OWN for all other tasks.

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

list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>

Information is output on print jobs started from the specified hosts.

HOST-NAME = *HOME

Only print jobs started from the local host are selected.

HOST-NAME = *ALL

Information is output on all print jobs of all hosts. Nonprivileged users who specify this value only receive information on their own print jobs.

HOST-NAME = <alphanum-name 1..8 with-wild(24)> /

list-poss(16): <alphanum-name 1..8>

Information is output on print jobs started from the specified hosts. Nonprivileged users do not receive any information if they specify a remote host; they can only obtain information on their own print jobs.

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

list-poss(16): <alphanum-name 1..8>

Information is output on print jobs processed on the specified server.

SERVER-NAME = *HOME

Only print jobs on the local server are selected.

SERVER-NAME = *ALL

All print jobs on all available servers are selected.

SERVER-NAME = <alphanum-name 1..8 with-wild(24)> /

list-poss(16): <alphanum-name 1..8>

Only the specified servers are selected, provided they belong to the local cluster.

FORM-NAME = *ALL / <alphanum-name 1..6 with-wild(24)> /

list-poss(16): <alphanum-name 1..6>

Form names of the spoolout jobs on which information is to be output.

TSN = *ALL / list-poss(16): <alphanum-name 1..4>

Task sequence numbers of the spoolout jobs on which information is to be output.

SERVER-TSN = *ALL / list-poss(16): <alphanumeric 1..4>

Server TSN of the print jobs on which information is to be output.

IDENTIFICATION = *ALL / <c-string 1..255 with-low>

Print jobs on a UNIX-based system can be addressed by means of their identification. A cluster of UNIX-based systems must be selected in this case. To find out which operands and values are permitted, see the “Distributed Print Services” manual [10].

FORMS-OVERLAY = *ALL / list-poss(16): <alphanumeric 2..2>

Information is to be output on spoolout jobs for which the named physical forms overlays have been specified.

SPOOLOUT-CLASS = *ALL / list-poss(16): <integer 1..255>

Spoolout classes of the spoolout jobs on which information is to be output.

ACCOUNT = *ALL / list-poss(16): <alphanumeric 1..8>

Account numbers of the spoolout jobs on which information is to be output.

VIRTUAL-PRINTER-NAME = *ALL / list-poss(16): <alphanumeric 1..8>

If the name of a virtual printer is specified, information will be output for all print jobs that were allocated to that virtual printer.

DESTINATION = *ALL / *LOCAL(...) / *REMOTE(...) / *CENTRAL / *MANAGED-DEVICES(...) / *DEVICE(...) / <alphanumeric 1..8 with-wild(24)> / list-poss(16): <alphanumeric 1..8>

Information is to be output on the print jobs processed on the specified output media. Information can be requested on:

- all jobs (*ALL)
- jobs for local SPOOL devices (*LOCAL)
- jobs for RSO devices (*REMOTE)
- jobs whose destination is the central printer pool (*CENTRAL)
- jobs for devices managed by the user (*MANAGED-DEVICES)
- jobs for specific devices (*DEVICE)

DESTINATION = *LOCAL(...)

Information is requested on spoolout jobs to be processed on local SPOOL devices.

SELECTION-TYPE = *MAY / *MUST

Selection of local spoolout jobs is restricted to those that may be output on at least one of the specified device types (*MAY) or to those that must be output on one of the specified device types and must not be output on any device type other than the ones specified (*MUST).

DEVICE-TYPE = *ALL / list-poss(16): *HP-PRINTER / *HP90-PRINTER / *LP-PRINTER / *LP48-PRINTER / *LP-EMULATED-PRINTER / *LP65-PRINTER / *TAPE / *2050-APA-PRINTER / *2090-APA-PRINTER / *2090-TWIN-PRINTER / *VIRTUAL-PRINTER / *PCL-PRINTER

Device types for local spoolout jobs on which information is requested.

DESTINATION = *REMOTE(...)

Information is requested on spoolout jobs to be processed on RSO devices.

SELECTION-TYPE = *MAY / *MUST

Selection of RSO spoolout jobs is restricted to those that may be output on at least one of the specified device types (*MAY) or to those that must be output on one of the specified device types and may not be output on any device type other than the ones specified (*MUST).

DEVICE-TYPE = *ALL / list-poss(16): *DJET-REMOTE-PRINTER / ...

Device types for RSO jobs on which information is requested. For possible values see the syntax chart.

DESTINATION = *CENTRAL(...)

Information is requested on spoolout jobs to be processed on SPOOL devices belonging to the central printer pool.

SELECTION-TYPE = *MAY / *MUST

Selection of local spoolout jobs is restricted to those that may be output on at least one of the specified device types (*MAY) or to those that must be output on one of the specified device types and may not be output on any device type other than the ones specified (*MUST).

DEVICE-TYPE = *ALL / list-poss(16): *HP-PRINTER / *HP90-PRINTER / *LP-PRINTER / *LP48-PRINTER / *LP-EMULATED-PRINTER / *LP65-PRINTER / *TAPE / *2050-APA-PRINTER / *2090-APA-PRINTER / *2090-TWIN-PRINTER / *VIRTUAL-PRINTER / *PCL-PRINTER

Device types for local spoolout jobs on which information is requested.

DESTINATION = *MANAGED-DEVICES(...)

Requests information on jobs for devices that you yourself manage.

SELECTION-TYPE = *MAY / *MUST

Selection of self-managed spoolout jobs is restricted to those that may be output on at least one of the specified device types (MAY) or to those that must be output on one of the specified device types and must not be output on any device type other than the ones specified (MUST).

DEVICE-TYPE = *ALL / list-poss(16): *DJET-REMOTE-PRINTER / ...

Device types for self-managed jobs on which information is requested. For possible values see the syntax chart.

DESTINATION = *DEVICE(...)

Information is requested on spoolout jobs for the devices specified in the substructure.

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

list-poss(16): <alphanum-name 1..8>

Names of the devices on which information is requested.

FORMS-OVERLAY-BUFFER = *ANY / *ONLY / *NO / *RANGE(...)

Information is to be output on spoolout jobs for which

- a particular FOB data overlay has been specified (*ONLY)
- no FOB data overlay has been specified (*NO)
- FOB data overlays in the specified range have been specified (*RANGE)

If you specify *ANY, the operand does not act as a selection criterion.

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

Specifies a range of values.

LOW = 0 / <integer 0..32767>

Bottom of range.

HIGH = 32767 / <integer 1..32767>

Top of range.

CHARACTER-SET-NUMBER = *ALL / *ONE / *RANGE(...)

Information is to be output on spoolout jobs that

- require only one character set (*ONE)
- require a number of character sets within the specified range (*RANGE)

CHARACTER-SET-NUMBER = *RANGE(...)

Specifies a range of values.

LOW = 1 / <integer 0..32767>

Bottom of range.

HIGH = 32767 / <integer 1..32767>

Top of range.

PRIORITY = *ALL / *RANGE(...)

Information is to be output on spoolout jobs with priorities within the specified range (*RANGE). If you specify *ALL, the operand does not act as a selection criterion.

PRIORITY = *RANGE(...)

Specifies a range of values.

LOW = 30 / <integer 30..255>

Bottom of range.

HIGH = 255 / <integer 30..255>

Top of range.

ROTATION = *ANY / *YES / *NO

The following information is to be output on spoolout jobs for which

- page rotation has been requested in PRINT-DOCUMENT (*YES)
 - page rotation has not been requested in PRINT-DOCUMENT (*NO)
- If you specify *ANY, the operand does not act as a selection criterion.

JOB-TYPE = *ALL / list-poss(10): *WAIT / *ACTIVE / *KEEP / *REPLAY / *WAIT-PREPROCESSING / *PREPROCESSING / *BEFORE-APA-PRINT / *AFTER-APA-PRINT / *WAIT-FILE-TRANSFER / *FILE-TRANSFER

Information is to be output on the following types of spoolout job:

- waiting spoolout jobs: *WAIT
- active spoolout jobs: *ACTIVE
- suspended spoolout jobs: *KEEP
- spoolout jobs to be output to replay tape: *REPLAY
- waiting SECTION-SPOOLOUT jobs (output section by section): *WAIT-PREPROCESSING
- active SECTION-SPOOLOUT jobs (output section by section): *PREPROCESSING
- *BEFORE-APA (APA printers: job status = “TRANSFERRED” (see also the “Spool & Print Commands” manual [42])
- *AFTER-APA (APA printers: job status = “TRANSIT” (see also the “Spool & Print Commands” manual [42])
- jobs waiting for file transfer: *WAIT-FILE-TRANSFER
- jobs currently undergoing file transfer: *FILE-TRANSFER

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

Allows print jobs to be included in the selection on the basis of their document format name.

FORMAT-NAME = *ALL

Information is output on all print jobs.

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

Print jobs whose document format name is contained in the list are included in the selection.

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

Specifies whether information is to be output on all print jobs or whether jobs with certain attributes (EXCEPT = *PARAMETERS) are to be excluded from output.

EXCEPT = *PARAMETERS(...)

Criteria for print jobs to be excluded from the information output.

SPOOLOUT-NAME = *NONE / <alphanum-name 1..8 with-wild(24)> /**list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>**

Spoolout names of the spoolout jobs to be excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

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

User IDs of the spoolout jobs to be excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

HOST-NAME = *NONE / *ALL / <alphanum-name 1..8 with-wild(24)> /**list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>**

Print jobs started from the specified hosts are excluded from the information output. The specified hosts must belong to the local cluster. If you specify *NONE, the operand does not act as a selection criterion.

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

Print jobs to be processed on the specified server are excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

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

Form names of the spoolout jobs to be excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

TSN = *NONE / list-poss(16): <alphanum-name 1..4>

Task sequence numbers of the spoolout jobs to be excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

SERVER-TSN = *NONE / list-poss(16): <alphanum-name 1..4>

Print jobs with the specified server TSN are excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

FORMS-OVERLAY = *NONE / list-poss(16): <alphanum-name 2..2>

Spoolout jobs for which these physical forms overlays have been specified are to be excluded from the information output.

SPOOLOUT-CLASS = *NONE / list-poss(16): <integer 1..255>

Spoolout classes of the spoolout jobs to be excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

VIRTUAL-PRINTER-NAME = *NONE / list-poss(16): <alphanum-name 1..8>

Print jobs allocated to the specified virtual printer are removed from the selection.

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

Account numbers of the spoolout jobs to be excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

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

Print jobs to be processed on the specified output media (pool or devices) are excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

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

Names of the devices to be excluded from the information output. If you specify *NONE, the operand does not act as a selection criterion.

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

Allows print jobs to be excluded from the selection on the basis of their document format name.

FORMAT-NAME = *ALL

Information is output on all print jobs.

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

Print jobs whose document format name is contained in the list are excluded from the selection.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No error guaranteed message: SCP0947
2	0	SCP0932	No corresponding job exists
2	0	SCP1052	One or more servers unavailable
	1	CMD0202	Syntax error
	32	SCP0974	System error. Command rejected
2	64	SCP0975	No authorization for command
4	64	SCP0976	Invalid operand value guaranteed messages: SCP1028, SCP1029
6	128	SPC1063	DPRINTCL subsystem not loaded guaranteed message: SCP1062
1	128	SPS0266	SPOOL subsystem or SPOOL administrator task not available

Notes

- When INFO=*ORIGIN / *DESTINATION / *TRAITS is specified, the local TSN is displayed in the TSN field, i.e. the TSN assigned to the print job locally. This is either the server TSN (for a print job issued on a remote client and processed on the local server) or the client TSN (for a print job issued on the local client and processed locally or on a remote server).
For nonprivileged users and the SPOOL administrator, this has no effect on subsequent processing; i.e. the TSN displayed is the TSN that must be specified in order to cancel, display and modify the print job.
- For the cluster administrator, this command always displays the TSN at the server end. For other users (nonprivileged users and the SPOOL administrator), if *HOME is displayed in the SERVER field, this means that the print job is processed on the local server and the server TSN is displayed in the TSN field. If not, the client TSN is displayed. In the case of global output, if the fields TSN and P-TSN are identical, this means that the print job is processed by the client's local server.
- If the DPRINTCL subsystem is not loaded, distributed print jobs issued on a remote server are not displayed. The next time DPRINTCL is loaded, a check establishes whether the print job has been processed by the remote server.
- If values other than the defaults are specified for the CLUSTER-NAME and IDENTIFICATION operands when DPRINTCL is not loaded, the command is rejected.
- If the DPRINTSV subsystem is not loaded, distributed print jobs issued by a remote client to the local server are not displayed. They are restarted the next time DPRINTSV is loaded. For the cluster administrator, the selected jobs are searched for on the server. If SERVER-NAME=*ALL is specified, the jobs of unavailable servers are not displayed.
For nonprivileged users, however, jobs issued to a server are displayed even when this server is not available.
- If the specified cluster name is not the local cluster, the value DESTINATION=*ALL has the same effect as DESTINATION=*LOCAL.
- Only for the cluster administrator:
If the server of the cluster whose jobs are to be displayed is not accessible, the information is obtained from all the cluster's accessible clients (if the jobs have not already been returned to the server).
- If the server's name is defined in the UNIX-based system with a maximum of 8 characters, it may be assumed that the job ID (global ID) is a maximum 14 characters long (<server-name>: integer 1..30000).
The server's name is shortened to 8 characters in every output format.

Output

There are various output formats depending on what is specified for the INFO operand. The meanings of the output fields are listed alphabetically in a table after the output formats.

Output when INFO=*ORIGIN is specified

In BS2000

```
TSN  SERVER  SP-NAME  RTSN  HOST      USER-ID  ACCOUNT  F-C  P-C  F-T  FCB-T  F-SIZE
#### @@@@@@@@@ @@@@@@@@@ @#### @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @## @## @## @### @@@@@
```

Access to print jobs on a UNIX-based system

```
IDENTIFICATION SERVER  SP-NAME  HOST      USER-ID  F-C  P-C
##### @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @## @##
```

Output when INFO=*DESTINATION is specified

In BS2000

```
TSN  SERVER  M STA R  DEVICE  DESTIN  ER COD  ERMSG  DEVICE TYPE
#### @@@@@@@@@ @ ## @ @ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @###, @###, @###
#### @@@@@@@@@ @ ## @ @ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @###, @###-##, @###, @###, .
                                     @###, @###
#### @@@@@@@@@ @ ## @ @ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @#, @#, @###
#### @@@@@@@@@ @ ## @ @ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @###, @###, @###, @###
```

Access to print jobs on a UNIX-based system

```
IDENTIFICATION SERVER  STA  DEVICE
##### @@@@@@@@@ @## @@@@@@@@@
```

Output when INFO=*TRAITS is specified

In BS2000

```
TSN  SERVER  PRI  FORM-N  CLAS  C-S-N  F-O-B  F-O  ROT      CONT  RES-LOC
#### @@@@@@@@@ @## @@@@@@ @### @## @### @# @##/@## @### @@@@@
```

Access to print jobs on a UNIX-based system

```
IDENTIFICATION SERVER  PRI  FORM-N  ROT
##### @@@@@@@@@ @## @@@@@@ @##
```

Output when INFO=*DISTRIBUTED is specified

```
TSN  SERVER  P-TSN J-TYPE HOST      USER-ID  ACCOUNT  ERCOD   ERMSG
@@@@ @@@@@@@@ @@@@  @@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@
```

Output when INFO=*SPOOL-FILTER

```
TSN  SERVER  M STA R DEVICE  DESTIN  ERCOD   ERMSG   DEVICE TYPE
@@@@ @@@@@@@@ @ @@@ @ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@,@@@,@@@
@@@@ @@@@@@@@ @ @@@ @ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@,@@@-
@@,@@@,@@@, .
                                           @@@@,@@@
@@@@ @@@@@@@@ @ @@@ @ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@,@@,@@@
@@@@ @@@@@@@@ @ @@@ @ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@,@@@,@@@,@@@
```

Output when INFO=*RSO-FILTER

```
TSN  SERVER  M STA R DEVICE  DESTIN  ERCOD   ERMSG   DEVICE TYPE
@@@@ @@@@@@@@ @ @@@ @ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@,@@@,@@@
@@@@ @@@@@@@@ @ @@@ @ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@,@@@-
@@,@@@,@@@, .
                                           @@@@,@@@
@@@@ @@@@@@@@ @ @@@ @ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@,@@,@@@
@@@@ @@@@@@@@ @ @@@ @ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@,@@@,@@@,@@@
```

Meanings of the output fields

Output field	Meaning / Contents
ACCOUNT	Account number of the user who issued the command; output only under TSOS and the user's own user ID
C-S-N	In the case of SPOOL jobs for HP printers: Number of character sets specified for this SPOOL job; in the case of SPOOL jobs for other printer types and RSO jobs, the value in this field is 1.
CLAS	Spoolout class as defined in the JOIN entry (blank if no spoolout class has been defined)
CONT	Control character interpretation specified in PRINT-DOCUMENT for this SPOOL job: PHYS: CONTROL-MODE = *PHYSICAL LOG: CONTROL-MODE = *LOGICAL TRAN: DOCUMENT-FORMAT = *SPECIAL-FORMAT LINE: CONTROL-MODE = *LINE-MODE NO: DOCUMENT-FORMAT = *TEXT
DESTIN	Name of the device pool

Table 145: Meaning of the output fields of SHOW-PRINT-JOB-STATUS (Part 1 of 4)

Output field	Meaning / Contents
DEVICE	Device name of the local or RSO printer
DEVICE TYPE	List of device types (separated by commas) on which the specified job can be processed. Possible values for RSO jobs: 4011,4812, 4813, 4821, 4824, 8121, 9000, 9001, 9001-31, 9002, 9003, 9004, 9011, 9012, 9013, 9014, 9021, 9022, 9022-200, 9025, 9026-LJ, 9026-RN, 9097, 9645, DJET, LJII Possible values for SPOOL jobs: DISK, HP, HP90, LP, LP-EM, LP48, LP65, TAPE, VIRT, 2050-APA, 2090-APA, 2090-TWIN, PCL
ERCOD	FT error code, POSIX error code or RSO error code
ERMSG	FT error message, POSIX error message or RSO error message. The string 'DELAYED' appears in this field if the execution of a print job is delayed with the SCHEDULING-TIME operand of the PRINT-DOCUMENT or MODIFY-PRINT-JOB-ATTRIBUTES commands, but only for jobs in the WAIT, WAIT PRE-PROCESSING and WAIT FILE TRANSFER states. If 'DELAYED' does not appear here, this means that the scheduling time has passed. If the job is being filtered, the value 'FILTER' appears here. If a print job for which a scheduling time was defined is to be filtered, the value 'DEL/FLT' appears in the error message field.
F-C	Number of copies (FILE COPIES) requested (in the ADDITIONAL-COPIES operand of the PRINT-DOCUMENT command)
FCB-T	FCB type (access method) PAM: PAM file SAM: SAM file ISAM: ISAM file EAM: EAM file TAPE: replay tape file BTAM: BTAM file
FORM-N	Form with which the SPOOL job must be processed
F-O	EFO data overlay (HP90) specified for the SPOOL job or physical overlay specified for the RSO job
F-O-B	Size of the FOB data overlay to be processed for this SPOOL job
F-SIZE	File size in PAM pages (FILE-SIZE)

Table 145: Meaning of the output fields of SHOW-PRINT-JOB-STATUS (Part 2 of 4)

Output field	Meaning / Contents
F-T	File type (FILE TYPE): EAM: EAM file OPT: displayed only for reasons of compatibility DMS: (permanent) user file TMP: temporary user file LST: SYSLST file OUT: SYSOUT file OMF: temporary object module file in EAM area PLM: PLAM library element
HOST	BCAM name of the host on which the command was issued
J-TYPE	Type of print job: *LOC: Job is processed by SPOOL *DIST: Job is processed by DPRINT *INTER: Job comes from a remote cluster and is processed by DPRINT
M	Job type (MODE): L - local job R - RSO job I - job to virtual printer
P-C	Number of page copies requested (in the PAGE-COPIES operand of the PRINT-DOCUMENT command)
PRI	Priority of the print job
P-TSN	Task sequence number of the print job (only for Distributed Print Services; see the manual "Distributed Print Services" [10])
R	* - Job from replay tape in COPY mode (the job can have the status WAIT, KEEP or ACTIVE)
RES-LOC	Specifies whether the resources for processing the print job are used by the client or by the server: *HOME: the resources where checked on the client system *SERVER: the resources where checked on the server
ROT	Only for local SPOOL (page rotation module)
RTSN	TSN of the task issuing the command
SERVER	Logical name of the server that processes the print job (only for Distributed Print Services; see the manual "Distributed Print Services" [10])
SP-NAME	Job name of the print job

Table 145: Meaning of the output fields of SHOW-PRINT-JOB-STATUS (Part 3 of 4)

Output field	Meaning / Contents
STA	Job status: WT - WAIT KP - KEEP ACT - ACTIVE DIR - DIRECT (job from replay tape in DIRECT mode, waiting for an output device) WP - WAITING FOR PRE-PROCESSING (print job waits until a pseudo controller is free in order to position on the SECTION record from which a file section is to be output) PRE - IN PRE-PROCESSING (active PRE-PROCESSING job) TRD - TRANSFER (APA printer: job status = "TRANSFERRED") TRT - TRANSIT (APA printer: job status = "TRANSIT") FT - FILE TRANSFER (active file transfer) WFT - WAIT FILE TRANSFER (job waiting for file transfer)
TSN	Task sequence number of the print job
USER-ID	User ID of the user who issued the command; output only under TSOS and the user's own user ID

Table 145: Meaning of the output fields of SHOW-PRINT-JOB-STATUS (Part 4 of 4)

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 = *ORIGIN	INF=ORIG
INFORMATION = *DESTINATION	INF=DEST
INFORMATION = *TRAITS	INF=TRAITS
INFORMATION = *SUMMARY	INF=SUM
INFORMATION = *DISTRIBUTED	INF=DISTR
INFORMATION = *SPOOL-FILTER	INF=SP
INFORMATION = *RSO-FILTER	INF=RSO

Note

S variables marked S/X in the "Name of the S variable" column are generated both for SPOOL and for Xprint jobs. S variables marked X are generated for Xprint jobs only. All other (unmarked) S variables are generated for SPOOL jobs only.

Output information	Name of the S variable	T	Contents	Condition
Access method (FCB type)	var(*LIST).ACCESS-METHOD	S	*BTAM *EAM *ISAM *PAM *SAM *TAPE	INF=ORIG
Account number of the user issuing the command	var(*LIST).ACCOUNT	S	' ' <account>	INF=DISTR/ ORIG
Number of copies requested	var(*LIST).ADD-COP	S/X	S 0..255	INF=ORIG
Number of character sets specified for this SPOOL job	var(*LIST).CHAR-SET-NUM	S	S 1..32767	INF=TRAITS
Control character interpretation	var(*LIST).CONTR-CHAR	S	' ' *APA *LINE *LOG *NO *PHYS *TRAN	INF=TRAITS
Print job destination	var(*LIST).DEST	S	' ' *CENTRAL <destination>	INF=DEST/ SP/RSO
Device name of the local or RSO printer	var(*LIST).DEV-NAME	S/X	S ' ' <dev-name>	INF=DEST/ SP/RSO

Output information	Name of the S variable	T	Contents	Condition
Type of device on which the current job is being processed	var(*LIST).DEV-TYPE(*LIST)	T	<pre>' ' <dev-type> *2030-PCL-R-P *2050-APA-PRINT *2090-APA-PRINT *2090-TWIN-PRINT *4011-REM-PRINT *4812-REM-PRINT *4813-REM-PRINT *4818-PCL-PRINT *4821-PCL-PRINT *4822-PCL-PRINT *4824-PCL-PRINT *4825-PCL-PRINT *8121-REM-PRINT *9000-EPFX-R-P *9000-EPLQ-R-P *9000-EP SQ-R-P *9000-PCL-R-P *9000-PRO-R-P *9000-PS-PRINT *9000-REM-PRINT *9001-31-REM-PR *9001-REM-PRINT *9002-REM-PRINT *9003-REM-PRINT *9004-REM-PRINT *9011-REM-PRINT *9012-REM-PRINT *9013-REM-PRINT *9014-REM-PRINT *9015-REM-PRINT *9021-REM-PRINT *9022-200-REM-PR *9022-REM-PRINT *9025-REM-PRINT *9026-PCL-R-P *9026-RN-REM-PR *9097-REM-PRINT *9043-ANSI-R-P *9044-ANSI-R-P *9046-REM-PRINT *9645-REM-PRINT *DJET-REM-PRINT *HP-PRINTER *HP90-PRINTER</pre>	INF=DEST/ SP/RSO

SHOW-PRINT-JOB-STATUS

Output information	Name of the S variable	T	Contents	Condition
Type of device on which the current job is being processed (continued)	var(*LIST).DEV-TYPE(*LIST) (continued)	S	*LP-EMUL-PRINTER *LP-PRINTER *LP48-PRINTER *LP65-PRINTER *TAPE *VIRTUAL *PCL-PRINTER	INF=DEST/ SP/RSO
RSO error code	var(*LIST).ERROR-CODE	S	' ' <error-code>	INF=DEST/ DISTR/SP/ RSO
RSO error message	var(*LIST).ERROR-MSG	S	' ' <msg-id> DELAYED FILTER DEL/FLT	INF=DEST/ DISTR/SP/ RSO
File size (in PAM pages)	var(*LIST).F-SIZE	S	0..32767	INF=ORIG
File type	var(*LIST).FILE-TYPE	S	*DMS *EAM *OMF *PLM *LST *OPT *OUT *TMP *UFS	INF=ORIG
Size of the FOB overlay resource	var(*LIST).FOB	S	<integer>	INF=TRAITS
Name of the form handling the SPOOL job	var(*LIST).FORM-NAME	S/X	' ' <form-name>	INF=TRAITS
EFO overlay resource	var(*LIST).FORM-OVERLAY	S	' ' <forms-overlay>	INF=TRAITS
Host name	var(*LIST).HOST-NAME	S/X	' ' <host-name>	INF=DISTR/ ORIG
Xprint job identification	var(*LIST).IDENTIFICATION	X	S <identification>	INF=DEST/ ORIG/ TRAITS/ SP/RSO
Number of jobs	var(*LIST).JOB-COUNT	S/X	S <integer>	INF=SUM
Method of job processing	var(*LIST).JOB-TYPE	S	*LOC *REM *IDOM	INF=DEST
		S	*DIST *INTER *LOC	INF=DISTR
Number of requested page copies	var(*LIST).PAGE-COP	S/X	S 0..255	INF=ORIG
Number of PAM pages	var(*LIST).PAM-PAGE-COUNT	S	S <integer>	INF=SUM

Output information	Name of the S variable	T	Contents	Condition
TSN of the partner print job	var(*LIST).PARTNER-TSN	S	<tsn>	INF=DISTR
Spoolout class	var(*LIST).PRINT-JOB-CLASS	S	0..255	INF=TRAITS
SPOOL job priority	var(*LIST).PRINT-JOB-PRIO	S/X	30..255	INF=TRAITS
Replay tape	var(*LIST).REPLAY-TAPE	S	*NO *YES	INF=DEST/ SP/RSO
Use client or server resources to print the file	var(*LIST).RESOURCE-LOC	S	*HOME *SERVER	INF=TRAITS
Pages are rotated by a defined number of degrees for printing	var(*LIST).ROT	S/X	0 90 180 270 0/180 90/270 180/0 270/90 *NO *YES	INF=TRAITS
TSN of the job issuing the command	var(*LIST).RTSN	S	<tsn>	INF=ORIG
Name of the server	var(*LIST).SERVER-NAME	S/X	'' <server-name>	INF=DEST/ DEV-TYPE/ DISTR/ ORIG/ TRAITS
SPOOL job name	var(*LIST).SPOOL-NAME	S/X	'' <spool-name>	INF=ORIG
Current status of the job	var(*LIST).STA	S/X	*ACT *DIR *FT *KP *PRE *TRD *TRT *WFT *WP *WT	INF=DEST/ SP/RSO
SPOOL job number	var(*LIST).TSN	S	<tsn>	INF=DEST/ DEV-TYPE/ DISTR/ ORIG/ TRAITS/ SP/RSO
ID of the user who issued the command	var(*LIST).USER-ID	S/X	'' <user-id>	INF=DISTR/ ORIG

Examples*Output in S variable*

```
/declare-var var-name=var(type=*structure),multiple-elem=*list  
/exec-cmd (show-print-job-status  
select=*par(host=*all,server=*all),inf=*origin),  
text-output=*none,structure-output=var  
/show-var var,inf=*par(val=*c-literal,list-index=*yes)  
VAR#1.IDENTIFICATION = ' '  
VAR#1.TSN = '3DNB'  
VAR#1.SERVER-NAME = 'GH5090Y0'  
VAR#1.SPOOL-NAME = ' '  
VAR#1.RTSN = '3DHC'  
VAR#1.HOST-NAME = 'D016ZE04'  
VAR#1.USER-ID = 'USER1'  
VAR#1.ACCOUNT = '89001'  
VAR#1.ADD-COP = '0'  
VAR#1.PAGE-COP = '0'  
VAR#1.FILE-TYPE = '*DMS'  
VAR#1.ACCESS-METHOD = '*SAM'  
VAR#1.F-SIZE = '13'  
*END-OF-VAR  
VAR#2.IDENTIFICATION = ' '  
VAR#2.TSN = '3DND'  
VAR#2.SERVER-NAME = 'GH5090Y0'  
VAR#2.SPOOL-NAME = ' '  
VAR#2.RTSN = '3DHC'  
VAR#2.HOST-NAME = 'D016ZE04'  
VAR#2.USER-ID = 'USER1'  
VAR#2.ACCOUNT = '89001'  
VAR#2.ADD-COP = '0'  
VAR#2.PAGE-COP = '0'  
VAR#2.FILE-TYPE = '*DMS'  
VAR#2.ACCESS-METHOD = '*SAM'  
VAR#2.F-SIZE = '12'  
*END-OF-VAR  
  
/exec-cmd cmd=(show-print-job-status  
select=*par(host=*all,server=*all),inf=*traits),  
text-output=*none,structure-output=var  
/show-var var,inf=*par(val=*c-literal)  
VAR#1.IDENTIFICATION = ' '  
VAR#1.TSN = '3DNB'  
VAR#1.SERVER-NAME = 'GH5090Y0'  
VAR#1.PRINT-JOB-PRIO = '240'  
VAR#1.FORM-NAME = 'STD'  
VAR#1.PRINT-JOB-CLASS = '1'
```



```

VAR#1.CHAR-SET-NUM = '1'
VAR#1.FOB = '0'
VAR#1.FORM-OVERLAY = ' '
VAR#1.ROT = '*NO'
VAR#1.CONTR-CHAR = '*NO'
VAR#1.RESOURCE-LOC = '*HOME'
*END-OF-VAR
VAR#2.IDENTIFICATION = ' '
VAR#2.TSN = '3DND'
VAR#2.SERVER-NAME = 'GH5090Y0'
VAR#2.PRINT-JOB-PRIO = '240'
VAR#2.FORM-NAME = 'STD'
VAR#2.PRINT-JOB-CLASS = '1'VAR#2.CHAR-SET-NUM = '1'
VAR#2.FOB = '0'
VAR#2.FORM-OVERLAY = ' '
VAR#2.ROT = '*NO'
VAR#2.CONTR-CHAR = '*NO'
VAR#2.RESOURCE-LOC = '*HOME'
*END-OF-VAR

```

Output to SYSOUT

```

/print-doc $tsos.sysrme.archive.090.d,line-spacing=*by-ebcdic,
          scheduling=*earliest(time=23:00)
% SCP0810 SPOOLOUT FOR FILE ':20SH:$TSOS.SYSRME.ARCHIVE.090.D' ACCEPTED.
TSN: '3QY4', SPOOLOUT-NAME: '*NONE', MONJV: '*NONE'
% SCP1025 PRINT JOB ACCEPTED BY SERVER 'GH5090Y0' WITH TSN '41IH'
/print-doc $tsos.sysrme.archive.090.e,line-spacing=*by-ebcdic,
          scheduling=*earliest(time=23:00)
% SCP0810 SPOOLOUT FOR FILE ':20SH:$TSOS.SYSRME.ARCHIVE.090.E' ACCEPTED.
TSN: '3QY5', SPOOLOUT-NAME: '*NONE', MONJV: '*NONE'
% SCP1025 PRINT JOB ACCEPTED BY SERVER 'GH5090Y0' WITH TSN '41II'
/show-print-job-status select=*par(host-name=*all,server-name=*all)
TSN  SERVER  SP-NAME  RTSN  HOST      USER-ID  ACCOUNT  F-C  P-C  F-T  FCB-T  F-SIZE
3PIU  GH5090Y0  ALT        3PBR  D016ZE04  USER1    89001    0   0  DMS  SAM    13
3QY4  GH5090Y0          3QY3  D016ZE04  USER1    89001    0   0  DMS  SAM    44
3QY5  GH5090Y0          3QY3  D016ZE04  USER1    89001    0   0  DMS  SAM    44
% SCP0947 3 JOBS FOUND WITH 101 PAM PAGES. COMMAND TERMINATED

```

SHOW-PRINTER-POOLS

Request information on printer pool names

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

Function

Requests information on printer pools (output to SYSOUT).

Information can be requested for the following:

- Device pools (BY-POOL operand); the RSO devices or local printers associated with the specified pools are listed.
- RSO devices or local printers (BY-DEVICE operand); the names of the device pools to which the specified RSO devices or local printers belong are listed.

A device pool may contain either local spool devices or RSO devices, but not both at the same time. The wildcard format can also be used to specify a pool or device name.

The command supports structured output in S variables (see [“Output in S variables” on page 6-461](#)).

Format

SHOW-PRINTER-POOLS
<pre> SELECT = *<u>BY-POOL</u> (...) / *<u>BY-DEVICE</u>(...) *<u>BY-POOL</u>(...) POOL-NAME = *<u>ALL</u> / <name 1..8> / <alphanum-name 1..8 with-wild(24)> *<u>BY-DEVICE</u>(...) DEVICE-NAME = *<u>ALL</u> / <alphanum-name 1..8 with-wild(24)> ,SERVER-NAME = *<u>HOME</u> / <alphanum-name 1..8> </pre>

Operands

SELECT =

Determines whether to output the devices belonging to a pool or a list of pools (BY-POOLS) or the pools to which a device belongs or a list of devices (BY-DEVICE).

SELECT = BY-POOL(...)

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

All devices (RSO or local) belonging to the specified pool (RSO or local), or to a list of pools, are to be output on SYSOUT.

SELECT = BY-DEVICE(...)

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

All pools to which the specified device (RSO or local) or the list of devices (RSO or local) belong are to be output on SYSOUT.

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

Identifies the server for which information is required.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SPM0455	No pool found
	32	SCP0974	System error. Command rejected
	128	SPS0266	SPOOL administrator task not available

Output formats

Output for a single RSO device pool

```
POOL-NAME: @@@@@@@@ POOL-TYPE: @@@@@@  
DEVICE-NAME(S):  
@@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@  
...
```

Output for a single RSO device

```
DEVICE-NAME: @@@@@@@@  
POOL-NAME(S):  
@@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@  
...
```

Output for a pool list

```
POOL-NAME(S) :  
@@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@  
...
```

Output for a device list

```
DEVICE-NAME(S) :  
@@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@ @@@@@@@@  
...
```

Output in S variables

The command's SELECT operand identifies the S variables which are to be created. The following specifications are possible for SELECT:

Notation used in command	Abbreviated form used in table
SELECT = *BY-DEVICE(DEVICE-NAME=<name with-wild>)	1
SELECT = *BY-DEVICE(DEVICE-NAME=<name>)	2
SELECT = *BY-POOL(POOL-NAME=<name with-wild>)	3
SELECT = *BY-POOL(POOL-NAME=<name>)	4

Output information	Name of the S variable	T	Contents	Condition
Device names	var(*LIST).DEV-NAME(*LIST)	S	<device-name>	1,4
	var(*LIST).DEV-NAME	S	<device-name>	2
Time stamp	var(*LIST).LAST-ACCESS	S	*NONE <yyyy-mm-dd>	INF=*ALL
Pool name	var(*LIST).POOL-NAME(*LIST)	S	<pool-name>	2,3
	var(*LIST).POOL-NAME	S	<pool-name>	4
Pool type	var(*LIST).POOL-TYPE	S	*LOC *REM	4

SHOW-PUBSET-ATTRIBUTES

Request overview of pubset attributes

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS OPERATING
Routing code:	E

Function

With this command systems support can display the values and characteristics which have been defined for a pubset using the SET-PUBSET-ATTRIBUTES command.

Only the PUBRES of the relevant SF pubset or the control volume set of the SM pubset needs to be available for executing the command. If PUBSET=*BY-VOLUME-SET is specified, the VOLRES of the specified volume set must also be available.

The command supports structured output in S variables (see [“Output in S variables” on page 6-465](#)).

Format

SHOW-PUBSET-ATTRIBUTES

```

PUBSET = <cat-id 1..4>(…) / *BY-VOLUME-SET(…)
  <cat-id 1..4>(…)
    |
    | PUBSET-TYPE = *ANY / *SINGLE-FEATURE / *SYSTEM-MANAGED(…)
    |   *SYSTEM-MANAGED(…)
    |   |
    |   | CONTROL-VOLUME-SET = *ANY / <cat-id 1..4>
    |
    | *BY-VOLUME-SET(…)
    |   |
    |   | VOLUME-SET = <cat-id 1..4>
    |
    | ,DEVICE-TYPE = *STD / <device>
  
```

Operands**PUBSET = <cat-id 1..4>(…)**

Catalog ID of the pubset (alphanumeric) for which information is required.

PUBSET-TYPE = *ANY / *SINGLE-FEATURE / *SYSTEM-MANAGED(…)

Specifies the type of pubset involved. The default applies if an MRSCAT entry exists or if the pubset identifier refers to a single-feature pubset.

PUBSET-TYPE = *ANY

Default: A valid MRSCAT entry exists (the pubset type is irrelevant), or the pubset is a single-feature pubset.

PUBSET-TYPE = *SINGLE-FEATURE

The pubset in question is a single-feature pubset.

PUBSET-TYPE = *SYSTEM-MANAGED(…)

The pubset in question is a system-managed pubset.

CONTROL-VOLUME-SET = *ANY

The pubset in question is an SM pubset with a valid MRSCAT entry.

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

The pubset in question is an SM pubset for which there is no MRSCAT entry.

PUBSET = *BY-VOLUME-SET(…)

If the catalog ID of an SM pubset is not known, the pubset attributes can also be requested by specifying one of the volume sets which belong to the SM pubset.

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

Identifies the volume set.

DEVICE-TYPE = *STD / <device>

Device type of the PUBRES for the SF pubset or for the control volume set of the SM pubset. If a device type is specified explicitly, only disk device types known on the system will be accepted. Entering DEVICE-TYPE=? in interactive mode calls up a list of available device types.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning
	32	DMS03BE	Error in command processing: <ul style="list-style-type: none"> – during MRSCAT read access – during time stamp read access – during SVL access – when calling SYSID conversion – during output to SYSOUT – during pubset allocation
	64	DMS03BE	No authorization for command
	64	DMS03BE	Missing device type in MRSCAT
	130	DMS03BE	Disk request rejected
	130	DMS03BE	Pubset currently being exported

(Part 2 of 2)

Note on output

Column	Meaning	Value
PVSID	Pubset identifier of pubset	1-4 characters
SYSID	Identifier for the system which uses this pubset as home pubset	1-3 characters / ?
SHARABILITY	Shared pubset is mode possible	YES/NO
CURRENT MASTER	System ID of the current master processor	1-3 characters / NONE / ?
DESIGNATED MASTER	System ID of the master processor designated via the SET-PUBSET-ATTRIBUTES command	1-3 characters / NONE / ?
BACKUP MASTER	System ID of the processor to take over from master processor if master processor crashes	1-3 characters / NONE / ?
ALTERNATE BACKUP	Response when automatic master is not possible	*NONE / *BY-SHARER / *BY-OPERATOR
DEFAULT-STORAGE-TYPE	Default storage type for creating files	*PUBLIC-SPACE
LARGE VOLUMES	Large volumes (\geq 32 GB) permitted	*FORBIDDEN / *ALLOWED
LARGE FILES	Files \geq 32 GB permitted	*FORBIDDEN / *ALLOWED
SNAPSET-LIMIT	Maximum permitted number of Snapsets	Number from 0 through 52

Table 146: Output columns of the SHOW-PUBSET-ATTRIBUTES command

Please note: The “?” character means that there is no correct entry for this value.

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Alternate backup master processor	var(*LIST).ALT-BACKUP	S	*BY-OPER *BY-SHARER *NONE	
System ID of the backup master processor (takes over as master if the pubset owner fails)	var(*LIST).BACKUP-MASTER	S	*NONE <sys-id>	
ID of the control volume set (SM pubsets only)	var(*LIST).CONTROL-VOLSET	S	FALSE=none	
System ID of the current master processor (owner of the pubset)	var(*LIST).CURR-MASTER	S	*NONE <sys-id>	
Default storage type for creating files	var(*LIST).DEFAULT-STORAGE-TYPE	S	*PUBLIC-SPACE	
System ID of the designated master processor	var(*LIST).DESIGNATED-MASTER	S	*NONE <sys-id>	
Large volumes (> 32 GB) allowed in pubset	var(*LIST).LARGE-VOL	S	*NOT-ALLOW *ALLOW	
Creating large files (> 32 GB) allowed	var(*LIST).LARGE-FILE	S	*NOT-ALLOW *ALLOW	
Pubset catalog ID	var(*LIST).PUBSET	S	FALSE=none	
Type of pubset *STANDARD=single-feature pubset *SM-PUBSET=system-managed pubset	var(*LIST).PUBSET-TYPE	S	*STANDARD *SM-PUBSET	
Pubset is shareable	var(*LIST).SHARE	S	*NO *YES	
System ID of the processor which uses the pubset as its home pubset	var(*LIST).SYS-ID	S	*NONE <sys-id>	
Snapset limit for the pubset	var(*LIST).SNAPSET-LIMIT	S	<integer 0..52>	

Example

```
/set-pubset-attr pubset=3g2,snapset-limit=2  
/show-pubset-attributes pubset=3g2
```

```
=====
```

PVSID	SYSID	SHARABILITY	CURRENT MASTER	DESIGNATED MASTER	BACKUP MASTER	ALTERNATE BACKUP
3G2	250	*YES	*NONE	*NONE	*NONE	*NONE

```
=====
```

DEFAULT-STORAGE-TYPE	LARGE VOLUMES	LARGE FILES	SNAPSET LIMIT
*PUBLIC-SPACE	*FORBIDDEN	*FORBIDDEN	2

```
=====
```

SHOW-PUBSET-CACHE-ATTRIBUTES

Display PFA cache configuration of a pubset

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

Function

The SHOW-PUBSET-CACHE-ATTRIBUTES command provides system support with information on the PFA cache configuration of a pubset. 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 default causes information on all pubsets to be output. The SELECT-PUBSET can be used to restrict the output volume to pubsets with particular attributes. The PUBSET or VOLUME-SET operands can also be used to request information output explicitly for a specific pubset or volume set.

The PFA cache configuration of a pubset or volume set can be modified using the MODIFY-PUBSET-CACHE-ATTRIBUTES command.

The command supports structured output in S variables (see [“Output in S variables” on page 6-476](#)).



The information on cache configuration is 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-PUBSET-CACHE-ATTRIBUTES
```

```

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 cache attributes are to be displayed.

PUBSET = *ALL

The cache attributes of all volume sets are to be 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 pubset whose cache attributes are to be displayed. For an SM pubset the display of the cache attributes can be restricted to a specific volume set using the VOLUME-SET operand.

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 cache attributes of all the pubsets specified in the PUBSET operand are displayed.

SELECT-PUBSET = *EXCLUSIVE

The cache attributes of all pubsets imported exclusively are displayed.

SELECT-PUBSET = *SHARED

The cache attributes of all pubsets imported as shared are displayed.

SELECT-PUBSET = *LOCAL

The cache attributes of all locally imported pubsets are displayed. The cache attributes of the pubsets which cannot be accessed are also displayed.

SELECT-PUBSET = *REMOTE

The cache attributes of all pubsets for which the *LOCAL attribute does not apply are displayed.

SELECT-PUBSET = *ACCESSIBLE

The cache attributes of all pubsets which can be accessed are displayed.

SELECT-PUBSET = *LOCAL-ACCESSIBLE

The cache attributes of all locally accessible, i.e. imported, pubsets are displayed.

SELECT-PUBSET = *REMOTE-ACCESSIBLE

The cache attributes of 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 cache attributes of all pubsets which are supported by the HSMS subsystem are displayed.

SELECT-PUBSET = *SPEEDCAT

The cache attributes of all SF pubsets whose file catalog can be accessed in the local system via SPEEDCAT are displayed.

SELECT-PUBSET = *PAGING

The cache attributes of all pubsets with paging areas which are used locally are displayed.

SELECT-PUBSET = *SINGLE-FEATURE

The cache attributes of all SF pubsets are displayed.

SELECT-PUBSET = *SYSTEM-MANAGED

The cache attributes of the volume set selected in the VOLUME-SET operand are displayed.

SELECT-PUBSET = *INACCESSIBLE

The cache attributes of all pubsets which are not available are displayed.

SELECT-PUBSET = *QUIET

The cache attributes of all pubsets whose MSCF connections no longer exist are displayed.

SELECT-PUBSET = *DEFINED-XCS-CONFIGURATED

The cache attributes of all pubsets which are defined as XCS pubsets in the MRS catalog are displayed.

SELECT-PUBSET = *XCS-CONFIGURATED

The cache attributes of all XCS pubsets are displayed.

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

Identifies the volume sets whose cache attributes are to be displayed.

VOLUME-SET = *ALL

The cache attributes of all volume sets are displayed.

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

Catalog ID of the volume set whose cache attributes are 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
	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>
```

Meaning of 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

Only for SF pubsets is the cache configuration displayed for all pubsets (for SM pubsets see [“Volume set-specific information” on page 6-474](#)).

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:

```
--- CACHE CONFIGURATION ----- + --- DEFINED --- + --- CURRENT ---
```

Then the following rows of values are displayed:

- Information on the cache medium:

CACHE MEDIUM	NONE	NONE
	MAIN MEMORY	MAIN MEMORY
	GLOBAL STORAGE	GLOBAL STORAGE

The following extra row is displayed if the cache is currently not active:

	NOT ACTIVE
--	------------

The following extra row is displayed if the cache has been disabled for reconfiguration:

	IN HOLD
--	---------

- Information on the size of the cache (in MB or KB):

CACHE SIZE	NONE	
	<n> MB	<n> MB
	<n> KB	<n> KB

- Information on whether caching must be granted by the user, applies to all files or whether the files are selected automatically by the system (AutoDAB for MM and GS):

CACHED FILES	BY USER	
	ALL	
	BY SYSTEM	

The status of the following additional information depends on the type of cache medium. The defined value is always shown, but it applies only if the associated medium is defined (value in parentheses). The currently set value is shown only if the currently associated medium is currently being used.

- Information on whether the consistency of the cached write data is ensured in the event of a power failure in the global storage system:

VOLATILITY (GLOBAL STORAGE)	YES	YES
	NO	NO

- For global storage, extra information on the GS unit is displayed:

GS-UNIT (GLOBAL STORAGE)	BY DEFAULT	DUAL
	DUAL	
	MONO (1)	MONO (1)
	MONO (2)	MONO (2)

- Information on the segment size:

SEGMENT SIZE (NOT CONTROLLER)	4	KB 4	KB
	8	KB 8	KB
	16	KB 16	KB
	32	KB 32	KB

- Information on the time at which the cache contents are asynchronously written out to disk by the main memory or global storage of the DAB cache handler (threshold-controlled save):

FORCE OUT (NOT CONTROLLER)	NO FORCE OUT	NO FORCE OUT
	AT LOW FILLING	AT LOW FILLING
	AT HIGH FILLING	AT HIGH FILLING

Volume set-specific information

In the case of an SM pubset configuration information is displayed for each volume set (for all volume sets or for an explicitly specified volume set). The information on a volume set is preceded by 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.

Subsequently the cache configuration of the volume set is displayed.

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:

```
--- CACHE CONFIGURATION    ---- + --- DEFINED --- + --- CURRENT ---
```

Then the following rows of values are displayed:

– Information on the cache medium:

```
CACHE MEDIUM                    | NONE                    | NONE
                                  | MAIN MEMORY            | MAIN MEMORY
                                  | GLOBAL STORAGE        | GLOBAL STORAGE
```

The following extra row is displayed if the cache is currently not active:

```
                                  |                         | NOT ACTIVE
```

The following extra row is displayed if the cache has been disabled for reconfiguration:

```
                                  |                         | IN HOLD
```

- Information on the size of the cache (in MB or KB):

CACHE SIZE	NONE	
	<n> MB	<n> MB
	<n> KB	<n> KB

- Information on whether caching must be granted by the user or applies to all files:

CACHED FILES	BY USER	
	ALL	

The status of the following additional information depends on the type of cache medium. The defined value is always shown, but it applies only if the associated medium is defined (value in parentheses). The currently set value is shown only if the currently associated medium is currently being used.

- Information on whether the consistency of the cached write data is ensured in the event of a power failure in the global storage system:

VOLATILITY (GLOBAL STORAGE)	YES	YES
	NO	NO

- For global storage, extra information on the GS unit is displayed:

GS-UNIT (GLOBAL STORAGE)	BY DEFAULT	DUAL
	DUAL	
	MONO (1)	MONO (1)
	MONO (2)	MONO (2)

- Information on the segment size:

SEGMENT SIZE (NOT CONTROLLER)	4	KB 4	KB
	8	KB 8	KB
	16	KB 16	KB
	32	KB 32	KB

- Information on the time at which the cache contents are asynchronously written out to disk by the main memory or global storage of the DAB cache handler (threshold-controlled save):

FORCE OUT (NOT CONTROLLER)	NO FORCE OUT	NO FORCE OUT
	AT LOW FILLING	AT LOW FILLING
	AT HIGH FILLING	AT HIGH FILLING

Example

```

/show-pubset-cache-attributes pubset=nets
%-----
%COMMAND: SHOW-PUBSET-CACHE-ATTRIBUTES
%-----
%PUBSET NETS: SINGLE-FEATURE, ACC
%---- CACHE CONFIGURATION ----- + ---- DEFINED ---- + ---- CURRENT ----
% CACHE MEDIUM                      | NONE                      | NONE
% CACHE SIZE                          | NONE                      |
% CACHED FILES                        | BY USER                  |
% VOLATILITY (GLOBAL STORAGE)        | YES                       |
% GS-UNIT (GLOBAL STORAGE)           | BY DEFAULT               |
% SEGMENT SIZE (NOT CONTROLLER)      | 32                        | KB
% FORCE OUT (NOT CONTROLLER)          | AT LOW FILLING          |
%-----
    
```

Output in S variables

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

Output information	Name of the S variable	T	Contents	Condition
Current FORCE-OUT value *NO=no forced removal *AT-HIGH-FILL=removal with high filling level *AT-LOW-FILL=removal with low filling level *UNDEF=no definition (for SM pubset)	var(*LIST).CACHE-CURR.FORCE-OUT	S	*AT-HIGH-FILL *AT-LOW-FILL *NO *UNDEF	
GS unit set *MONO=in one of the two units *DUAL=dual operation via both units *UNDEF=no definition (for SM pubset)	var(*LIST).CACHE-CURR.GS-UNIT	S	*DUAL *MONO *UNDEF	
GS unit number set for MONO (0 for SM pubset)	var(*LIST).CACHE-CURR.GS-UNIT-NUM	I	0 <integer 1..2>	
Current cache medium *GLOBAL-STOR=global storage *MAIN-MEM=main memory *NONE=no cache defined (*UNDEF for SM pubset only)	var(*LIST).CACHE-CURR.MED	S	*GLOBAL-STOR *MAIN-MEM *NONE *UNDEF	

(Part 1 of 6)

Output information	Name of the S variable	T	Contents	Condition
Current status of the cache medium *ACTIVE=cache active *NOT-ACTIVE=cache not active *IN-HOLD=cache temporarily deactivated (*UNDEF for SM pubset only)	var(*LIST).CACHE-CURR.MED-STAT	S	*ACTIVE *IN-HOLD *NOT-ACTIVE *UNDEF	
No meaning (displayed only for reasons of compatibility)	var(*LIST).CACHE-CURR.PREFETCH	S	*HIGH *LOW *NO *UNDEF	
Current segment size of the cache medium (0 for SM pubset)	var(*LIST).CACHE-CURR.SEG-SIZE	I	0 4 8 16 32	
Current cache size (0 for SM pubset)	var(*LIST).CACHE-CURR.SIZE	I	0 <integer 1..32767>	
Current unit of measurement for the cache size *KB=size in kilobytes *MB=size in megabytes *UNDEF=no definition (for SM pubset)	var(*LIST).CACHE-CURR.SIZE-DIM	S	*KB *MB *UNDEF	
Current value for data consistency *NO=full data consistency after crash *YES=no data consistency after crash *UNDEF=no definition (for SM pubset)	var(*LIST).CACHE-CURR.VOLATILITY	S	*NO *YES *UNDEF	
Defined caching setting *ALL=caching for all files *BY-USER=activation by the user *BY-SYSTEM=activation by the system (AutoDAB) (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.CACH-FILE	S	*ALL *BY-USER *BY-SYSTEM *UNDEF	
Defined FORCE-OUT value *AT-HIGH-FILL=removal with high filling level *AT-LOW-FILL=removal with low filling level *NO=no forced removal (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.FORCE-OUT	S	*AT-HIGH-FILL *AT-LOW-FILL *NO *UNDEF	

(Part 2 of 6)

SHOW-PUBSET-CACHE-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Defined GS unit *BY-DEFAULT=dependent on the availability of the GS *DUAL=dual operation via both units *MONO=in one of the two units (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.GS-UNIT	S	*BY-DEFAULT *DUAL *MONO *UNDEF	
Defined GS unit number for MONO (0 for SM pubset)	var(*LIST).CACHE-DEFI.GS-UNIT-NUM	I	0 <integer 1..2>	
Defined cache medium *GLOBAL-STOR=global storage *MAIN-MEM=main memory *NONE=no cache defined (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.MED	S	*GLOBAL-STOR *MAIN-MEM *NONE *UNDEF	
No meaning (displayed only for reasons of compatibility)	var(*LIST).CACHE-DEFI.PREFETCH	S	*HIGH *LOW *NO *UNDEF	
Defined segment size of the cache medium (0 for SM pubset)	var(*LIST).CACHE-DEFI.SEG-SIZE	I	0 4 8 16 32	
Defined cache size (0 for SM pubset)	var(*LIST).CACHE-DEFI.SIZE	I	<integer 1..32767> 0	
Defined unit of measurement for the cache size *KB=size in kilobytes *MB=size in megabytes (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.SIZE-DIM	S	*KB *MB *UNDEF	
Defined guarantee of data consistency *NO=full data consistency after crash *YES=no data consistency after crash (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.VOLATILITY	S	*NO *YES *UNDEF	
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>	
ID of the control volume set; *NO for SF pubsets	var(*LIST).CONTR-VOLSET	S	*NO <cat-id>	

(Part 3 of 6)

Output information	Name of the S variable	T	Contents	Condition
HSMS support for the pubset *NO=pubset is not supported *STD=for SF pubsets *YES=pubset is supported	var(*LIST).HSMS-SUP	S	*NO *STD *YES	
Pubset ID	var(*LIST).PUBSET-ID	S	<cat-id>	
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	
Current FORCE-OUT value *AT-HIGH-FILL=removal with high filling level *AT-LOW-FILL=removal with low filling level *NO=no forced removal *UNDEFINED=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR.FORCE-OUT	S	*AT-HIGH-FILL *AT-LOW-FILL *NO *UNDEF	1
GS unit set *DUAL=dual operation via both units *MONO=in one of the two units *UNDEFINED=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR.GS-UNIT	S	*DUAL *MONO *UNDEF	1
GS unit number set for MONO	var(*LIST).VOLSET(*LIST).CACHE-CURR.GS-UNIT-NUM	I	0 <integer 1..2>	1
Current cache medium *GLOBAL-STOR=global storage *MAIN-MEM=main memory *NONE=no cache defined	var(*LIST).VOLSET(*LIST).CACHE-CURR.MED	S	*GLOBAL-STOR *MAIN-MEM *NONE	1
Current status of the cache medium *ACTIVE=cache active *IN-HOLD=cache temporarily deactivated *NOT-ACTIVE=cache not active	var(*LIST).VOLSET(*LIST).CACHE-CURR.MED-STAT	S	*ACTIVE *IN-HOLD *NOT-ACTIVE	1
Current prefetching value *HIGH=prefetching for a maximum number of blocks *LOW=prefetching for a minimum number of blocks *NO=no prefetching *UNDEFINED=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR.PREFETCH	S	*HIGH *LOW *NO *UNDEF	1

(Part 4 of 6)

SHOW-PUBSET-CACHE-ATTRIBUTES

Output information	Name of the S variable	T	Contents	Condition
Current segment size of the cache medium	var(*LIST).VOLSET(*LIST).CACHE-CURR.SEG-SIZE	I	0 4 8 16 32	1
Current cache size	var(*LIST).VOLSET(*LIST).CACHE-CURR.SIZE	I	0 <integer 1..32767>	1
Current unit of measurement for the cache size *KB=size in kilobytes *MB=size in megabytes *UNDEFINED=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR.SIZE-DIM	S	*KB *MB *UNDEFINED	1
Current value for data consistency *NO=full data consistency after crash *YES=no data consistency after crash *UNDEF=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR.VOLATILITY	S	*NO *YES *UNDEF	1
Defined cache value *ALL=caching for all files *BY-USER=activation by the user	var(*LIST).VOLSET(*LIST).CACHE-DEFI.CACH-FILE	S	*ALL *BY-USER	1
Defined FORCE-OUT value *AT-HIGH-FILL=removal with high filling level *AT-LOW-FILL=removal with low filling level *NO=no forced removal	var(*LIST).VOLSET(*LIST).CACHE-DEFI.FORCE-OUT	S	*AT-HIGH-FILL *AT-LOW-FILL *NO	1
Defined GS unit *BY-DEFAULT=dependend on the pubset attribute *DUAL=dual operation via both units *MONO=in one of the two units	var(*LIST).VOLSET(*LIST).CACHE-DEFI.GS-UNIT	S	*BY-DEFAULT *DUAL *MONO	1
Defined GS unit number for MONO	var(*LIST).VOLSET(*LIST).CACHE-DEFI.GS-UNIT-NUM	I	0 <integer 1..2>	1
Defined cache medium *GLOBAL-STOR=global storage *MAIN-MEM=main memory *NONE=no cache defined	var(*LIST).VOLSET(*LIST).CACHE-DEFI.MED	S	*GLOBAL-STOR *MAIN-MEM *NONE	1
Defined prefetching value *HIGH=prefetching for a maximum number of blocks *LOW=prefetching for a minimum number of blocks *NO=no prefetching	var(*LIST).VOLSET(*LIST).CACHE-DEFI.PREFETCH	S	*HIGH *LOW *NO	1

(Part 5 of 6)

Output information	Name of the S variable	T	Contents	Condition
Defined segment size of the cache medium	var(*LIST).VOLSET(*LIST).CACHE-DEFI.SEG-SIZE	I	0 4 8 16 32	1
Defined cache size	var(*LIST).VOLSET(*LIST).CACHE-DEFI.SIZE	I	<integer 1..32767>	1
Defined unit of measurement for the cache size *KB=size in kilobytes *MB=size in megabytes	var(*LIST).VOLSET(*LIST).CACHE-DEFI.SIZE-DIM	S	*KB *MB	1
Defined guarantee of data consistency *NO=full data consistency after crash *YES=no data consistency after crash	var(*LIST).VOLSET(*LIST).CACHE-DEFI.VOLATILITY	S	*NO *YES	1
Device type of the system disk of the volume set	var(*LIST).VOLSET(*LIST).DEV-TYPE	S	*UNKNOWN <device>	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 6 of 6)

SHOW-PUBSET-CATALOG-ALLOCATION

Display information on catalogs of a pubset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS

Function

The SHOW-PUBSET-CATALOG-ALLOCATION command enables systems support to display information on the format of a pubset, its catalogs, the utilization level of these catalogs and how these catalogs can be extended.

Information on shared pubsets is only output on the master system.

The command supports structured output in S variables (see [“Output in S variables” on page 6-485](#)).

Format

SHOW-PUBSET-CATALOG-ALLOCATION

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

Operands

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

Designates the pubset for which a information is to be output. The default *ALL causes information to be output for all the pubsets which the local computer has imported exclusively or as master.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
	32	CMD0221	Internal error
	32	CMD2009	Error when generating S variables
	64	DMS0301	Catalog not available
	64	DMS0312	Catalog not known in system
	64	DMS134C	MRSCAT cannot be determined
	64	DMS13BF	Pubset is not master
	130	DMS0594	Not enough virtual memory available
	130	OPS0001	Lack of memory when outputting in S variables

Format of the output

Output for an SM pubset:

```
=====
PUBSET-ID:  XXXX          TYPE: SM-PUBSET          CATALOG-FORMAT:  XXXX
=====
CATALOG      | USED |  EXTENSION          |  REMARK
-----
INDEX        | nn % | <text>              | <remark-text>
NAME-LIST    | nn % | <text>              | <remark-text>
NL-COPY      | nn % | <text>              | <remark-text>
JV           | nn % | <text>              | <remark-text>
MIGRATED     | nn % | <text>              | <remark-text>
PRIVATE      | nn % | <text>              | <remark-text>
Volset-ID 1  | nn % | <text>              | <remark-text>
...          |     |                     |
Volset-ID n  | nn % | <text>              | <remark-text>
```

Output for an SF pubset:

```
=====
PUBSET-ID:  XXXX          TYPE: SF-PUBSET          CATALOG-FORMAT:  XXXX
=====
CATALOG      | USED |  EXTENSION          |  REMARK
-----
XXXX        | nn % | <text>              | <remark-text>
```

Explanation of the output

Field/column and possible values	Meaning
PUBSET-ID	Pubset identification (catalog ID)
TYPE SM-PUBSET SF-PUBSET	Pubset type
CATALOG-FORMAT NORMAL LARGE EXTRA LARGE	Catalog format
CATALOG INDEX NAME-LIST NL-COPY JV MIGRATED PRIVATE <Volset-ID i> <catid>	Name of the catalog to which the information line belongs: Information on the catalog index file TSOSCAT.\$PFI Information on the name list file TSOSCAT.\$NLO Information on the name list copy file TSOSCAT.\$NLC Information on the catalog for the job variables. With the "extra large" format the catalog consists of several files and the information is combined for these files. Information on the catalog for the migrated and no-space files. With the "extra large" format the catalog consists of several files and the information is combined for these files. Information on the catalog for the private disk and tape files. With the "extra large" format the catalog consists of several files and the information is combined for these files. Information on the catalog of volume set i. SF pubset only: Information on the TSOSCAT catalog
USED	Specification of the utilization level in percent. In the case of a volume set in the IN-HOLD status this field is empty.
EXTENSION	Proposal for extending the catalog if it has reached the maximum value. In the case of a volume set in the IN-HOLD status this field is empty.
REMARK IN HOLD Catalog-ID	Field for general comments. Usually empty: This volume set is in the IN-HOLD status. As in the "extra large" format certain catalogs (JV, MIGRATE, PRIVATE) consist of multiple catalog files, and in this case precisely that catalog file is described to which the file extension proposal refers.

Table 147: Information on pubset catalogs

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Pubset ID	var(*list).PUBSET-ID	S	<cat-id>	
Pubset type	var(*list).TYPE	S	*SM-PUBSET *SF-PUBSET	
Catalog format	var(*list).FORMAT	S	*NORMAL *LARGE *EXTRA-LARGE	
Catalog name INDEX: Catalog index file NAME-LIST: Name list file NL-COPY: Name list copy file JV: Catalog for the job variables MIGRATED: Catalog for the migrated and no-space files. PRIVATE: Catalog for the private disk and tape files volset-id: Catalog of a volume set	var(*list).CATALOG(*list).NAME	S	INDEX NAME-LIST NL-COPY JV MIGRATED PRIVATE <volset-id> FALSE=none	
Utilization level in percent	var(*list).CATALOG(*list).USED	S	" <integer 1..100>	
Information on the options for extending the catalog	var(*list).CATALOG(*list).EXTENSION	S	" * FILE-EXTENSION-(AUTOMATIC) *CHANGE-TO-LARGE-CATALOG *CHANGE-TO-LARGE-CATALOG-OR-ADD-VOLSET *CHANGE-TO-EXTRA-LARGE-CATALOG *CHANGE-TO-EXTRA-LARGE-CATALOG-ADD-VOLSET *ADD-CATALOG-FILE-(AUTOMATIC) *ADD-VOLSET *CHANGE-TO-SM-PUBSET *LIMIT-REACHED	

SHOW-PUBSET-CONFIGURATION

Show current pubset configuration

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS OPERATING STD-PROCESSING
Routing code:	@

Function

The SHOW-PUBSET-CONFIGURATION command supplies information relating to the physical composition of pubsets which are available locally (imported). The information possible depends on the pubset type:

- In the case of SM pubsets both cross-pubset and volume-set-specific configuration parameters are displayed (see also the MODIFY-PUBSET-DEFINITION-FILE command).
- With regard to SF pubsets, the output is restricted to the summary information and information on the physical pubset configuration. The SHOW-MASTER-CATALOG-ENTRY command must be used to request any other information.

The command supports structured output in S variables (see [“Output in S variables” on page 6-495](#)).



You also obtain some of the information of the SHOW-PUBSET-CONFIGURATION command with the following SHOW commands which exist as a counterpart to the corresponding MODIFY command:

Command	Corresponding operands in SHOW-PUBSET-CONFIGURATION
SHOW-PUBSET-DEFINITION-FILE	INFORMATION=*VOLUME-SET-PARAMETERS(SELECT-VOLUME-SET=*ALL, VOLUME-SET-INFO=*ALL)
SHOW-PUBSET-PROCESSING	INFORMATION=*PHYSICAL-CONFIGURATION
SHOW-PUBSET-RESTRICTION	INFORMATION=*PHYSICAL-CONFIGURATION

Format

```

SHOW-PUBSET-CONFIGURATION

PUBSET = *ALL / <cat-id 1..4>
,SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *HSMS-SUPPORTED
,INFORMATION = *SUMMARY / *VOLUME-SET-PARAMETERS(...) /
               list-poss(2): *PHYSICAL-CONFIGURATION / *PUBSET-FEATURES
*VOLUME-SET-PARAMETERS(...)
  |
  | VOLUME-SET = *ALL / <cat-id 1..4>
  | ,SELECT-VOLUME-SET = *ALL / *NORMAL-USE / *IN-HOLD / *DEFECT / *DEFINED-ONLY
  | ,VOLUME-SET-INFO = *SUMMARY / *ALL / list-poss(2): *GLOBAL-ATTRIBUTES /
  |                  *PERFORMANCE-ATTRIBUTES

```

Operands

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

Identifies the locally available pubsets for which the configuration parameters are to be displayed.

PUBSET = *ALL

The configuration parameters of all locally available pubsets are to be displayed. The SELECT-PUBSET operand can be used to restrict the selection to specific pubsets.

PUBSET = <cat-id 1..4>

Catalog ID of the pubset for which the configuration parameters are to be displayed.

SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *HSMS-SUPPORTED

Defines criteria for selecting specific pubsets from the set of all locally available pubsets (see PUBSET=*ALL). The default is *ALL, i.e. the configuration parameters of all pubsets are displayed.

SELECT-PUBSET = *EXCLUSIVE

The configuration parameters of all exclusive imported pubsets are displayed.

SELECT-PUBSET = *SHARED

The configuration parameters of all shared imported pubsets are displayed.

SELECT-PUBSET = *HSMS-SUPPORTED

The configuration parameters of all SM pubsets which are supported by the HSMS subsystem are displayed.

INFORMATION = *SUMMARY / *VOLUME-SET-PARAMETERS(...) / list-poss(2): *PHYSICAL-CONFIGURATION / *PUBSET-FEATURES

Specifies the configuration parameters which are to be displayed and the scope of the information.

INFORMATION = *SUMMARY

Only summary information relating to the pubset configuration is displayed. This comprises the pubset type and the number of volumes (in SF pubsets) or the number of volume sets and the default file format (in SM pubsets).

INFORMATION = *VOLUME-SET-PARAMETERS(...)

In the case of SM pubsets, the configuration parameters are shown relative to volume sets. The following operands select the volume sets and the scope of the information.

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

Identifies the volume sets for which the configuration parameters are to be displayed.

VOLUME-SET = *ALL

The configuration parameters of all volume sets are to be shown. The SELECT-VOLUME-SET operand can be used to restrict the selection to specific volume sets.

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

Catalog ID of the volume set for which the configuration parameters are to be displayed.

SELECT-VOLUME-SET = *ALL / *NORMAL-USE / *IN-HOLD / *DEFECT / *DEFINED-ONLY

Defines criteria for selecting specific volume sets from the set of all volume sets (see VOLUME-SET=*ALL). The default is *ALL, i.e. the configuration parameters of all volume sets are displayed.

SELECT-VOLUME-SET = *NORMAL-USE

The configuration parameters of all accessible volume sets are displayed.

SELECT-VOLUME-SET = *IN-HOLD

The configuration parameters of all temporarily inoperable volume sets are displayed.

SELECT-VOLUME-SET = *DEFECT

The configuration parameters of all defective volume sets are displayed.

SELECT-VOLUME-SET = *DEFINED-ONLY

The configuration parameters of all defined but inaccessible volume sets are displayed.

VOLUME-SET-INFO = *SUMMARY / *ALL / list-poss(2): *GLOBAL-ATTRIBUTES / *PERFORMANCE-ATTRIBUTES

Specifies the configuration parameters which are to be displayed and the scope of the information.

VOLUME-SET-INFO = *SUMMARY

Only summary information relating to the volume set-specific configuration parameters is displayed. This comprises the volume set ID and the operating status of the volume set. The summary information is also included with all the other operand values.

*SUMMARY in addition shows the format, the usage mode if it differs from the default, and the availability.

VOLUME-SET-INFO = *ALL

The output consists of the summary information, the global attributes and the performance attributes of the volume set.

VOLUME-SET-INFO = *GLOBAL-ATTRIBUTES

In addition to the summary, information on the following configuration parameters is supplied:

- availability of the volume set
- usage mode of the volume set
- format of the volume set
- maximum I/O length
- allocation unit
- DRV attributes
- restrictions on file creation and volume set access

VOLUME-SET-INFO = *PERFORMANCE-ATTRIBUTES

In addition to the summary, information on the volume set-specific profile of the performance attributes is supplied.

INFORMATION = *PHYSICAL-CONFIGURATION

In addition to the summary (see INFORMATION=*SUMMARY), detailed information on the physical pubset configuration is supplied. This comprises the name, device type and allocation capabilities of the volumes (in SF pubsets) or of the volume sets and their volumes (in SM pubsets).

INFORMATION = *PUBSET-FEATURES

In addition to the summary (see INFORMATION=*SUMMARY), the following pubset attributes are shown for SF pubsets:

- format attributes
- maximum I/O length
- allocation unit
- DRV attributes

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	32	CMD0221	Internal system error
	32	CMD2009	Error on output to S variables (e.g. subsystem not available)
	32	DMS138A	Internal parameter error
	64	DMS1381	Volume set conflict
	64	DMS138B	Pubset does not exist or not with specified attribute
	64	DMS138C	Pubset not accessible
	64	DMS138E	Volume set does not exist
	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 four groups of output blocks:

1. output block giving pubset-global summary information (INFORMATION=*SUMMARY)
2. output block giving information on the physical pubset configuration (INFORMATION=*PHYSICAL-CONFIGURATION)
3. output block giving information on the pubset-global configuration parameters (INFORMATION=*PUBSET-FEATURES); output for SF pubsets only
4. output block giving information on the volume set-specific configuration parameters (INFORMATION=*VOLUME-SET-PARAMETERS)

If information is supplied for a number of pubsets, SF pubsets are listed before SM pubsets.

Pubset-global summary information

The output block comprises one line showing the catalog ID, the pubset type (SF or SM) and the number of volumes or volume sets which belong to the pubset. With SM pubsets the default file format is shown as well. In more detailed information output, this line is also displayed as a header before each pubset information block

Output for an SF pubset:

```
PUBSET <catid>: TYPE = SINGLE-FEATURE, VOLUMES = <n>
```

Output for an SM pubset:

```
PUBSET <catid>: TYPE = SYSTEM-MANAGED, VOLUME-SETS = <m>, DEFAULT-FILE-FORMAT = <f>
```

Information on the physical pubset configuration

The output block is introduced by the following header line:

```
--- PHYSICAL CONFIGURATION -----
```

For an SF pubset, the information about the volumes is displayed on one or more lines of values beneath the following header:

```
VOLUME-CONFIGURATION:
VOLUME  DEVICE  ALLOCATION  VOLUME  DEVICE  ALLOCATION
<vsn>   <type>   <alloc>   <vsn>   <type>   <alloc>
```

For each volume set of an SM pubset, the volume set ID and the number of volumes in the set are displayed. This is followed by information about the volumes one or more lines of values beneath the following header:

```
--- VOLUME SET INFORMATION -----
VOLUME-SET <catid>: VOLUMES = <n>
VOLUME CONFIGURATION:
VOLUME  DEVICE  ALLOCATION  VOLUME  DEVICE  ALLOCATION
<vsn>   <type>   <alloc>   <vsn>   <type>   <alloc>
```

Meaning of the output values:

- <catid> pubset or volume set ID
- <n> number of volumes in the pubset/volume set
- <vsn> volume serial number of the volume
- <type> device type assigned to the volume
- <alloc> allocation capability of the volume
 - NOT RESTR allocation possible
 - NOT ALLOWED allocation not possible
 - PHYSICAL volume can only be physically allocated

Information on the subset-global configuration parameters

This information is output for SF subsets only. The output block is introduced by the following header line:

```
--- PUBSET FEATURES          ---- + -----
```

This is followed by the information in table form. The left-hand column identifies the parameter, the right-hand its possible values.

- Information on subset format:

```
PUBSET-FORMAT                | K-FORMAT  
                             | NK2-FORMAT  
                             | NK4-FORMAT
```

- Information on maximum I/O length (in PAM pages)

```
MAXIMAL I/O LENGTH          | <n> HP
```

- Information on the smallest allocation unit (in PAM pages)

```
ALLOCATION UNIT SIZE         | <n> HP
```

- Information on disk attributes with regard to RAID and DRV:

```
RAID-PUBSET                 | NO  
DRV-PUBSET                   | NO  
                             | YES
```

Information on volume set-specific configuration parameters

The output block is introduced by the following header line:

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

The volume set-specific summary information is output for each volume set:

```
VOLUME-SET <catid>: [CONTROL-VOLSET] <status>,<usage>,<format>,<avail>
```

Meaning of the output values:

<catid> Volume set ID

CONTROL-VOLSET Output for the control volume set only. This volume set contains the SM subset control data.

<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.

<usage>	Usage mode (output only if the default does not apply)
	WORK Storage location for work files
	HSMS Supported by the HSMS subsystem
<format>	file format
	K-FORMAT Storage location for K files
	NK2-FORMAT Storage location for NK2 files
	NK4-FORMAT Storage location for NK4 files
<avail>	Availability (output only if the default does not apply)
	HIGH-AVAIL High availability

The VOLUME-SET-INFO operand enables two other information blocks to be requested in addition to the summary information. These items of information are each preceded by a header line and are then displayed in table form. The left-hand column identifies the parameter, the right-hand its possible values. A value of *list-poss(n)*: means that up to *n* values can be displayed, each on a separate line).

1. Output with VOLUME-SET-INFO = *GLOBAL-ATTRIBUTES

The output begins with the following header line:

```
--- GLOBAL ATTRIBUTES        ---- + -----
```

Then come the individual items of information:

- Information on the availability attributes of the volume set:

AVAILABILITY	STANDARD
	HIGH

- Information on the usage modes of the volume set:

USAGE	STANDARD
	WORK
	HSMS-CONTROLLED

- Information on the volume set format:

FORMAT	UNDEFINED
	K-FORMAT
	NK2-FORMAT
	NK4-FORMAT

- Information on the maximum I/O length (in PAM pages).

MAXIMAL I/O LENGTH	<n> HP
--------------------	--------

- Information on the smallest allocation unit (in PAM pages).

ALLOCATION UNIT SIZE	<n> HP
----------------------	--------

- Information on disk attributes with regard to RAID and DRV:

RAID-VOLSET	NO
DRV-VOLSET	NO
	YES

- Information on restrictions on new file allocation:

NEW FILE ALLOCATION	NOT RESTRICTED
	PHYSICAL ONLY
	NOT ALLOWED

- Information on volume set access:

VOLUME SET ACCESS	NOT RESTRICTED
	ADMIN ONLY

2. Output with VOLUME-SET-INFO = *PERFORMANCE-ATTRIBUTES

The output begins with the following header line:

```
PERFORMANCE-ATTRIBUTES |
```

Then come the individual items of information:

- Information on the performance attribute profile:

PERFORMANCE:	NO VALUES
	or list-poss(3):
	STANDARD
	HIGH
	VERY-HIGH

- Information on the time at which data consistency is required:

WRITE-CONSISTENCY:	IMMEDIATE
	BY-CLOSE

The output for VOLUME-SET-INFO=*ALL includes both these additional information blocks.

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 = *PHYSICAL-CONFIGURATION	1
INFORMATION = *PUBSET-FEATURES (SF-Pubsets only)	2
INFORMATION = *SUMMARY	3
INFORMATION = *VOLUME-SET-PARAMETERS(VOLUME-SET-INFO= *GLOBAL-ATTRIBUTES)	4
INFORMATION = *VOLUME-SET-PARAMETERS(VOLUME-SET-INFO= *PERFORMANCE-ATTRIBUTES)	5
INFORMATION = *VOLUME-SET-PARAMETERS(VOLUME-SET-INFO= *SUMMARY)	6

Output information	Name of the S variable	T	Contents	Condition
Number of volume sets for single-feature pubsets Number of volume sets for SM pubsets	var(*LIST).COUNT	I	<integer 1..255>	1,2,3,4,5,6
Maximum I/O transfer length (HP) of the SM pubset	var(*LIST).MAX-IO-LEN	I	<integer>	1,2,3,4,5,6
allocation unit	var(*LIST).PUBSET.ALLOC-UNIT-SIZE	I	<integer>	2
DRV attribute of the pubset	var(*LIST).PUBSET.DRV	S	*NO *YES	2
Format of the SF pubset	var(*LIST).PUBSET.FORM	S	*K *NK2 *NK4	2
Maximum I/O transfer length (HP)	var(*LIST).PUBSET.MAX-IO-LEN	I	<integer>	2
No meaning (displayed only for reasons of compatibility)	var(*LIST).PUBSET.RAID	S	*NO	2
Pubset catalog ID	var(*LIST).PUBSET-ID	S	FALSE=none	1,2,3,4,5,6
Pubset type	var(*LIST).PUBSET-TYPE	S	*SINGLE-FEATURE *SYS-MANAGE	1,2,3,4,5,6
Allocation lock for the SF pubset *ALLOW=no lock *NOT-ALLOW=locked against allocation *PHYS-ONLY=can only be allocated physically	var(*LIST).VOL(*LIST).ALLOC	S	*ALLOW *NOT-ALLOW *PHYS-ONLY	1
Device types of the SF pubset volumes	var(*LIST).VOL(*LIST).DEV	S	<device>	1

(Part 1 of 3)

SHOW-PUBSET-CONFIGURATION

Output information	Name of the S variable	T	Contents	Condition
VSNs of the SF pubset volumes	var(*LIST).VOL(*LIST).VOL	S	<vsn>	1
Current allocation unit	var(*LIST).VOLSET(*LIST).ALLOC-UNIT-SIZE	I	<integer>	4
Access to volume set *ADM-ONLY=for system support only *NOT-RESTRICT=not restricted	var(*LIST).VOLSET(*LIST).ACCESS	S	*ADM-ONLY *NOT-RESTRICT	4
Current availability status *STD=no increased data availability *HIGH=increased data availability	var(*LIST).VOLSET(*LIST).AVAIL	S	*STD *HIGH	4
Volume set contains the pubset management data	var(*LIST).VOLSET(*LIST).CONTR	S	*NO *YES	4,5,6
DRV attribute of the volume set	var(*LIST).VOLSET(*LIST).DRV	S	*NO *YES	4
Format of the volume set	var(*LIST).VOLSET(*LIST).FORM	S	*K *NK2 *NK4 *UNDEF	4
Current maximum I/O transfer length	var(*LIST).VOLSET(*LIST).MAX-IO-LEN	I	<integer>	4
Current allocation restrictions *NOT-RESTRICT=no restrictions *PHYS-ONLY=can only be allocated physically *NOT-ALLOW=allocation not permitted	var(*LIST).VOLSET(*LIST).NEW-FILE-ALLOC	S	*NOT-RESTRICT *PHYS-ONLY *NOT-ALLOW	4
I/O performance *STD=not increased *HIGH=high *VERY-HIGH=highest	var(*LIST).VOLSET(*LIST).PERF. PERF(*LIST)	S	*STD *HIGH *VERY-HIGH	5
Data consistency in conjunction with increased I/O performance *BY-CLOSE=no data consistency *IMMED=data consistency	var(*LIST).VOLSET(*LIST).PERF.WRITE-CONSIST	S	*BY-CLOSE *IMMED	5
No meaning (displayed only for reasons of compatibility)	var(*LIST).VOLSET(*LIST).RAID	S	*NO	4

(Part 2 of 3)

Output information	Name of the S variable	T	Contents	Condition
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	4,5,6
Files belonging to the volume set *HSMS-CONTR=HSMS files only *STD=standard files only *WORK=work files only	var(*LIST).VOLSET(*LIST).USAGE	S	*HSMS-CONTR *STD *WORK	4
Volume set ID	var(*LIST).VOLSET(*LIST).VOLSET	S	<vsid>	1,4,5,6
Number of volumes per volume set	var(*LIST).VOLSET(*LIST).VOL-COUNT	I	<integer 1..255>	1
Allocation lock for the volume set *ALLOW=no lock *NOT-ALLOW=locked against allocation *PHYS-ONLY=can only be allocated physically	var(*LIST).VOLSET(*LIST).VOL(*LIST).ALLOC	S	*ALLOC *NOT-ALLOW *PHYS-ONLY	1
Device types of the volumes per volume set	var(*LIST).VOLSET(*LIST).VOL(*LIST).DEV	S	<device>	1
VSNs of the volumes per volume set	var(*LIST).VOLSET(*LIST).VOL(*LIST).VOL		<vsn>	1

(Part 3 of 3)

SHOW-PUBSET-DEFINITION-FILE

Display SM pubset definitions

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS OPERATING STD-PROCESSING
Routing code:	@

Function

The SHOW-PUBSET-DEFINITION-FILE command provides information on the volume-set-specific configuration parameters of system-managed pubsets (SM pubsets). Information is supplied only for locally available (imported) pubsets.

The configuration parameters can be modified with the MODIFY-PUBSET-DEFINITION-FILE command.

The command supports structured output in S variables (see [“Output in S variables” on page 6-502](#)).



The volume-set-specific configuration parameters are also contained in the output of the SHOW-PUBSET-PARAMETERS command.

Format

SHOW-PUBSET-DEFINITION-FILE

```
PUBSET = *ALL / <cat-id 1..4>
,SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *HSMS-SUPPORTED
,VOLUME-SET = *ALL / <cat-id 1..4>
```

Operands

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

Identifies the locally available pubsets for which the configuration parameters are to be displayed.

PUBSET = *ALL

The configuration parameters of all locally available pubsets are to be displayed. The SELECT-PUBSET operand can be used to restrict the selection to specific pubsets.

PUBSET = <cat-id 1..4>

Catalog ID of the pubset for which the configuration parameters are to be displayed.

SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *HSMS-SUPPORTED

Defines criteria for selecting specific pubsets from the set of all locally available pubsets (see PUBSET=*ALL). The default is *ALL, i.e. the configuration parameters of all pubsets are displayed.

SELECT-PUBSET = *EXCLUSIVE

The configuration parameters of all pubsets imported exclusively are displayed.

SELECT-PUBSET = *SHARED

The configuration parameters of all pubsets imported as shared are displayed.

SELECT-PUBSET = *HSMS-SUPPORTED

The configuration parameters of all SM pubsets which are supported by the HSMS subsystem are displayed.

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

Identifies the volume sets for which the configuration parameters are to be displayed.

VOLUME-SET = *ALL

The configuration parameters of all volume sets are to be shown.

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

Catalog ID of the volume set for which the configuration parameters 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)
	32	DMS138A	Internal parameter error
	64	DMS1381	Volume set conflict
	64	DMS138B	Pubset does not exist or not with specified attribute
	64	DMS138C	Pubset not accessible
	64	DMS138E	Volume set does not exist
	128	DMS1386	Not enough class 4/5 memory

Output format

The output starts with a header line consisting of the command name. This is then followed for each pubset by:

1. the output block with cross-pubset summary information
2. the output block with information on the volume-set-specific configuration parameters

Pubset-global summary information

The output block comprises one line showing the catalog ID, the pubset type (SM pubset), the number of associated volumes or volume sets and the default file format.

```
PUBSET <catid>: TYPE = SYSTEM-MANAGED, VOLUMESETS = <m>, DEFAULT-FILE-FORMAT = <f>
```

Information on volume set-specific configuration parameters

The output block is introduced by the following header line:

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

The volume set-specific summary information is output for each volume set:

```
VOLUME-SET <catid>: [CONTROL-VOLSET] <status>,<usage>,<format>,<avail>
```

Key to the output values

<catid> volume set ID

CONTROL-VOLSET Output for the control volume set only. This volume set contains the SM pubset control data.

<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.

<usage> Usage mode (output only if the default does not apply)

WORK Storage location for work files

HSMS Supported by the HSMS subsystem

<format> file format

K-FORMAT Storage location for K files

NK2-FORMAT Storage location for NK2 files

NK4-FORMAT Storage location for NK4 files

- Information on volume set access:

```
VOLUME SET ACCESS          | NOT RESTRICTED
                           | ADMIN ONLY
```

2. Performance requirements

The output begins with the following header line:

```
PERFORMANCE-ATTRIBUTES    |
```

Then come the individual items of information:

- Information on the performance attribute profile:

```
PERFORMANCE:              | NO VALUES
                           | or list-poss(3):
                           | STANDARD
                           | HIGH
                           | VERY-HIGH
```

- Information on the time at which data consistency is required:

```
WRITE-CONSISTENCY:        | IMMEDIATE
                           | BY-CLOSE
```

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Number of volume sets for system-managed pubsets	var(*LIST).COUNT	I	<integer 1..255>	
Maximum I/O transfer length (HP) of the system-managed pubset	var(*LIST).MAX-IO-LEN	I	<integer>	
Pubset catalog ID	var(*LIST).PUBSET-ID	S	FALSE=none	
No meaning (displayed only for reasons of compatibility)	var(*LIST).PUBSET.RAID	S	*NO	
Pubset type	var(*LIST).PUBSET-TYPE	S	*SINGLE-FEATURE *SYS-MANAGE	
Current allocation unit	var(*LIST).VOLSET(*LIST).ALLOC-UNIT-SIZE	I	<integer>	
Access to volume set *ADM-ONLY=for system support only *NOT-RESTRICT=not restricted	var(*LIST).VOLSET(*LIST).ACCESS	S	*ADM-ONLY *NOT-RESTRICT	
Current availability status *STD=no increased data availability *HIGH=increased data availability	var(*LIST).VOLSET(*LIST).AVAIL	S	*STD *HIGH	

(Part 1 of 2)

Output information	Name of the S variable	T	Contents	Condition
Volume set contains the pubset management data	var(*LIST).VOLSET(*LIST).CONTR	S	*NO *YES	
DRV attribute of the volume set	var(*LIST).VOLSET(*LIST).DRV	S	*NO *YES	
format of the volume set	var(*LIST).VOLSET(*LIST).FORM	S	*K *NK2 *NK4 *UNDEF	
Current maximum I/O transfer length	var(*LIST).VOLSET(*LIST).MAX-IO-LEN	I	<integer>	
Current allocation restrictions *NOT-RESTRICT=no restrictions *PHYS-ONLY=can only be allocated physically *NOT-ALLOW=allocation not permitted	var(*LIST).VOLSET(*LIST).NEW-FILE-ALLOC	S	*NOT-RESTRICT *PHYS-ONLY *NOT-ALLOW	
I/O performance *STD=not increased *HIGH=high *VERY-HIGH=highest	var(*LIST).VOLSET(*LIST).PERF. PERF(*LIST)	S	*STD *HIGH *VERY-HIGH	
Data consistency in conjunction with increased I/O performance *BY-CLOSE=no data consistency *IMMED=data consistency	var(*LIST).VOLSET(*LIST).PERF.WRITE-CONSIST	S	*BY-CLOSE *IMMED	
No meaning (displayed only for reasons of compatibility)	var(*LIST).VOLSET(*LIST).RAID	S	*NO	
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	
Files belonging to the volume set *HSMS-CONTR=HSMS files only *STD=standard files only *WORK=work files only	var(*LIST).VOLSET(*LIST).USAGE	S	*HSMS-CONTR *STD *WORK	
Volume set ID	var(*LIST).VOLSET(*LIST).VOLSET	S	<vsid>	

(Part 2 of 2)

Example

`/show-pubset-definition-file pubset=2os6,volume-set=6vs5`

 COMMAND: SHOW-PUBSET-DEFINITION-FILE

PUBSET 2OS6: TYPE = SYSTEM-MANAGED, VOLUMESETS = 6, DEFAULT FILE FORMAT = K

----- VOLUME-SET INFORMATION ----- + -----

VOLUME-SET 6VS5: NORMAL-USE, WORK, K-FORMAT

----- GLOBAL ATTRIBUTES ----- + -----

AVAILABILITY		STANDARD	
USAGE		WORK	
FORMAT		K-FORMAT	
MAXIMAL I/O LENGTH		80	HP
ALLOCATION UNIT SIZE		3	HP
RAID-VOLSET		NO	
DRV-VOLSET		NO	
GS-VOLSET		NO	
NEW FILE ALLOCATION		NOT RESTRICTED	
VOLUME SET ACCESS		NOT RESTRICTED	

----- PERFORMANCE ATTRIBUTES ----- + -----

PERFORMANCE		STANDARD
WRITE-CONSISTENCY		BY-CLOSE

SHOW-PUBSET-FILE-SERVICES

Show available services for SM pubset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	STD-PROCESSING TSOS

Function

The SHOW-PUBSET-FILE-SERVICES command shows which services are provided by a locally available SM pubset. This allows the user to establish what requirements can be met on a given SM pubset in terms of storage-related file attributes. The user can formulate file service requirements when creating files with the CREATE-FILE command, when modifying file attributes with the MODIFY-FILE-ATTRIBUTES command, and to some extent at the time of file generation (using OPEN).

The range of services that an SM pubset can offer is determined by the attribute profiles of the volume sets which form the pubset. The system uses these profiles when automatically selecting a volume set as the storage location for a file. The range of services can be described in terms of the various combinations of values for the file attributes which govern the storage location (WORK-FILE, AVAILABILITY, FILE-FORMAT, PERFORMANCE, USAGE, DISK-WRITE) and are supported on the SM pubset. The SHOW-PUBSET-FILE-SERVICES command shows how well each selected attribute value combination is supported (SUPPORT-QUALITY).

The file attribute combinations which are to be shown are selected by the SUPPORT-QUALITY and FILE-ATTRIBUTES operands:

- **SUPPORT-QUALITY:**
shows the combinations of file attributes which can be supported at the specified level of quality.
Default: support at optimum quality (SUPPORT-QUALITY=*OPTIMAL)
If no quality restrictions are required, SUPPORT-QUALITY should be set to *ANY. In this case, though, it is advisable to use the FILE-ATTRIBUTES operand to restrict the volume of output information.
- **FILE-ATTRIBUTES:**
shows the file attribute combinations which match the specified attribute values.
Default: no restriction on the selection on the basis of attribute values (FILE-ATTRIBUTES=*ANY).

The command offers nonprivileged users support primarily in making use of the services provided by an SM pubset by explicitly specifying file attributes.

The SHOW-STORAGE-CLASS command can be used to find out about SM pubset services for which storage classes have been defined and to make use of them by selecting a suitable storage class (in the CREATE-FILE command).

The command supports structured output in S variables (see [“Output in S variables” on page 6-514](#)).

Privileged functions

The command offers systems support personnel (TSOS privilege) the following additional features as support for the creation and maintenance of storage classes and volume set lists (see the CREATE-STORAGE-CLASS, MODIFY-STORAGE-CLASS, CREATE-VOLUME-SET-LIST and MODIFY-VOLUME-SET-LIST commands):

- The name of a volume set list can be specified in the VOLUME-SET-LIST operand. The list must have been defined in the specified SM pubset. If a volume set list is named, the output information regarding support quality for file attribute combinations relates to the volume sets which are on the list.
If no volume set list is named (equivalent to VOLUME-SET-LIST=*NONE), support quality is evaluated with regard to the volume sets which are not on any volume set list (as for nonprivileged users).
- The file attribute combinations which are to be displayed can be specified in the form of a storage class (see FILE-ATTRIBUTES=*BY-STORAGE-CLASS(...)). In this case the file attributes are taken from the storage class definition.

Format

SHOW-PUBSET-FILE-SERVICES
<p>PUBSET = <cat-id 1..4></p> <p>,VOLUME-SET-LIST = <u>*NONE</u> / <composed-name 1..8></p> <p>,SELECT = <u>*BY-ATTRIBUTES</u> (...)</p> <p> *BY-ATTRIBUTES(...)</p> <p> SUPPORT-QUALITY = <u>*OPTIMAL</u> / *ANY / list-poss(5): *OPTIMAL / *NEARLY-OPTIMAL / *BETTER-THAN-REQUESTED / *WORSE-THAN-REQUESTED / *CONFLICT-WITH-VOLUME-SET-LIST</p> <p> ,FILE-ATTRIBUTES = <u>*ANY</u> / *PARAMETERS(...) / *BY-STORAGE-CLASS(...)</p> <p> *PARAMETERS(...)</p> <p> WORK-FILE = <u>*ANY</u> / list-poss(2): *NO / *YES</p> <p> ,AVAILABILITY = <u>*ANY</u> / list-poss(2): *STD / *HIGH</p> <p> ,FILE-FORMAT = <u>*ANY</u> / *BY-PUBSET-DEFAULT / list-poss(3): *K / *NK2 / *NK4</p> <p> ,IO-ATTRIBUTES = <u>*ANY</u> / *PARAMETERS(...)</p> <p> *PARAMETERS(...)</p> <p> PERFORMANCE = <u>*ANY</u> / list-poss(3): *STD / *HIGH / *VERY-HIGH</p> <p> ,USAGE = <u>*ANY</u> / list-poss(3): *READ-WRITE / *WRITE / *READ</p> <p> ,DISK-WRITE = <u>*ANY</u> / list-poss(2): *IMMEDIATE / *BY-CLOSE</p> <p> *BY-STORAGE-CLASS(...)</p> <p> STORAGE-CLASS-NAME = <composed-name 1..8></p>

Operands

PUBSET = <cat-id 1..4>

SM pubset identifier. The pubset must have been imported to the local system (in exclusive or shared mode).

VOLUME-SET-LIST = *NONE / <composed-name 1..8>

Specifies the volume set list to which the quality of service subsequently described applies.

VOLUME-SET-LIST = *NONE

The quality of service described next applies to volume sets which are not assigned to any volume set list.

When a volume set is selected as the storage location for a file, these volume sets will be given precedence if no storage class at all or a storage not assigned to any volume set list is specified in the CREATE-FILE command.

VOLUME-SET-LIST = <composed-name 1..8>

Only allowed for users with TSOS privilege.

Name of a volume set list. A volume set list with this name must have been defined in the specified SM pubset (see the CREATE-VOLUME-SET-LIST command). The quality of service applies to volume sets which are assigned to this volume set list.

SELECT = *BY-ATTRIBUTES(...)

Defines the criteria for selecting which combinations of file attribute values are to be displayed (FILE-ATTRIBUTES operand), taking into account the quality of support offered for the specified file attributes (SUPPORT-QUALITY operand).

The values specified for the various selection criteria are logically ANDed. The default (*ANY) means that the associated attribute is not a selection criterion.

SUPPORT-QUALITY = *OPTIMAL / *ANY / list-poss(5): *OPTIMAL / *NEARLY-OPTIMAL / *BETTER-THAN-REQUESTED / *WORSE-THAN-REQUESTED / *CONFLICT-WITH-VOLUME-SET-LIST

Governs the selection of displayed value combinations for file attributes affecting storage location, based on the quality of service support that can be offered. The quality is expressed in terms of the match between the file attributes and the corresponding volume set attributes of the volume set which, on the basis of the selection strategy, appears to be the most suitable storage location for a file with these attributes (irrespective of the current allocation situation).

A list of several quality criteria can be specified.

SUPPORT-QUALITY = *OPTIMAL

Only attribute value combinations for which optimum support is provided are displayed. Optimum support for a request means that there is a volume set available for selection in the SM pubset which has attributes that exactly match the requested attributes and which is not on any volume set list or is on the specified volume set list, as appropriate.

SUPPORT-QUALITY = *ANY

Output selection is not based on the supported quality.

SUPPORT-QUALITY = *NEARLY-OPTIMAL

Only attribute value combinations for which “nearly optimum” support is provided are displayed.

Support for a request is considered to be nearly optimum if the attributes of the volume which most closely matches the requirements differ only marginally from the specified requirements (e.g. a file in NK4 format on a volume set in NK2 format).

SUPPORT-QUALITY = *BETTER-THAN-REQUESTED

Only “better-than-requested” file attribute combinations are displayed. This means that the attributes of the volume set which most closely matches the request are of higher quality than the requested attributes (e.g. a file with standard availability on a high-availability volume set).

SUPPORT-QUALITY = *WORSE-THAN-REQUESTED

Only “worse-than-requested” file attribute combinations are displayed. This means that the specified requirements cannot be met in full, but that the mismatch is not great enough to cause the associated command to abort (e.g. a file with enhanced performance requirements on a volume set offering only standard performance).

SUPPORT-QUALITY = *CONFLICT-WITH-VOLUME-SET-LIST

The only file attribute combinations displayed are those which can only be matched on volume sets which do not belong to the specified volume set list (see the VOLUME-SET-LIST operand; the default is those which do not belong to any volume set list).

Ordinary users are advised not to specify such file attribute combinations explicitly, as these volume sets should be reserved for requests which use the storage class mechanism.

Systems support can use this operand value in conjunction with an explicit volume set list specification as a means of finding out which file attribute combinations a storage class should definitely not have if it is to be assigned this volume set list (in a CREATE-STORAGE-CLASS or MODIFY-STORAGE-CLASS command).

FILE-ATTRIBUTES = *ANY / *PARAMETERS(...) / *BY-STORAGE-CLASS(...)

Governs the selection of the displayed attribute combinations on the basis of the values of the requested file attributes.

FILE-ATTRIBUTES = *ANY

Displays any file attribute combinations for which the support quality defined in the SUPPORT-QUALITY operand is offered.

FILE-ATTRIBUTES = *PARAMETERS(...)

The only file attribute combinations that are to be displayed are those which match the file attributes specified next and for which the support quality defined in the SUPPORT-QUALITY operand is offered.

The selection is restricted by values specified for individual file attributes. The default (*ANY) in each case means that there is no restriction based on the associated attribute. A list of values for a single file attribute selects combinations for which the associated attribute has one of the specified values (logical ORing).

WORK-FILE = *ANY / list-poss(2): *NO / *YES

Selects file attribute combinations in which the work file attribute has the specified value. Values in a list are logically ORed.

WORK-FILE = *ANY

The work file attribute is not to be used as a selection criterion.

WORK-FILE = *NO

Selects file attribute combinations in which the value of the work file attribute is *NO (ordinary files).

WORK-FILE = *YES

Selects file attribute combinations in which the value of the work file attribute is *YES (work files).

AVAILABILITY = *ANY / list-poss(2): *STD / *HIGH

Selects file attribute combinations in which the availability attribute matches the specified value. Values in a list are logically ORed.

AVAILABILITY = *ANY

The availability attribute is not to be used as a selection criterion.

AVAILABILITY = *STD

Only selects combinations in which no special availability requirements are defined.

AVAILABILITY = *HIGH

Only selects combinations in which high availability is required.

FILE-FORMAT = *ANY / *BY-PUBSET-DEFAULT / list-poss(3): *K / *NK2 / *NK4

Selects file attribute combinations in which the file format attribute has the specified value. This can be either the preferred file format (see the FILE-PREFORMAT operand in the CREATE-FILE command) or the “true” file format as defined when the file is generated (at OPEN time). Values in a list are logically ORed.

FILE-FORMAT = *ANY

The file format is not to be used as a selection criterion.

FILE-FORMAT = *BY-PUBSET-DEFAULT

Selects only those combinations in which the file format matches the value defined by systems support as the pubset-global default for the SM pubset.

FILE-FORMAT = *K

Only selects combinations in which the value of the file format is *K (K files).

FILE-FORMAT = *NK2

Only selects combinations in which the value of the file format is *NK2 (NK2 files).

FILE-FORMAT = *NK4

Only selects combinations in which the value of the file format is *NK4 (NK4 files).

IO-ATTRIBUTES = *ANY / *PARAMETERS(...)

Specifies whether the performance attributes are to be used as a selection criterion.

IO-ATTRIBUTES = *PARAMETERS(...)

Selects only those file attribute combinations in which the performance attributes have the PERFORMANCE and USAGE values specified next.

PERFORMANCE = *ANY / list-poss(3): *STD / *HIGH / *VERY-HIGH

Selects all combinations which have one of the specified performance attributes. Values in a list are logically ORed.

PERFORMANCE = *ANY

The performance attribute is not a selection criterion.

PERFORMANCE = *STD

Only selects combinations in which the value of the performance attribute is *STD (no special performance requirements).

PERFORMANCE = *HIGH

Only selects combinations in which the value of the performance attribute is *HIGH (enhanced performance requirements).

PERFORMANCE = *VERY-HIGH

Only selects combinations in which the value of the performance attribute is *VERY-HIGH (very high performance requirements).

USAGE = *ANY / list-poss(3): *READ-WRITE / *WRITE / *READ

Selects all combinations which match the performance attribute for one of the specified I/O operations. Values in a list are logically ORed.

USAGE = *ANY

The I/O operation mode is not a selection criterion.

USAGE = *READ-WRITE

Only selects combinations with a performance attribute which applies to read/write operations.

USAGE = *WRITE

Only selects combinations with a performance attribute which applies to write operations.

USAGE = *READ

Only selects combinations with a performance attribute which applies to read operations.

DISK-WRITE = *ANY / list-poss(2): *IMMEDIATE / *BY-CLOSE

Selects file attribute combinations in which the attribute governing the time of data consistency after write operations matches the specified value. Values in a list are logically ORed.

DISK-WRITE = *ANY

The point at which data consistency is required is not a selection criterion.

DISK-WRITE = *IMMEDIATE

Only selects combinations in which data consistency is required immediately on completion of the write operation (relevant only for enhanced performance for write access).

DISK-WRITE = *BY-CLOSE

Only selects combinations in which data consistency is not required until after CLOSE processing.

FILE-ATTRIBUTES = *BY-STORAGE-CLASS(...)

Only users with the TSOS privilege are allowed to select this value.

The individual file attributes are to be taken from the specified storage class.

STORAGE-CLASS-NAME = <composed-name 1..8>

Name of the storage class.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	1	CMD0202	Syntax error
	32	CMD0221	Internal system error
	32	CMD2009	Error on structured output in S variables
	64	CMD0216	User does not have necessary authorization
	64	DMS140B	Pubset not available
	64	DMS141B	Pubset is not an SM pubset
	64	DMS1406	No combination selected
	64	DMS1407	Storage class management problem
	64	DMS1408	Volume set list not defined
	64	DMS1409	Storage class not defined
	130	DMS140F	Not enough class 4/5 memory

Output format

The information is shown in the form of a table. The output is divided into seven columns. The first six columns each refer to a file attribute, the seventh shows the quality of support offered for the given combination of file attributes.

The table begins with a header line labeling the output columns. This is followed by rows of values for the selected combinations:

```

WORK-F   AVAIL F-FORM   IO(PERF) IO(USAGE) DISK-WRITE   SUPPORT-QUALITY
-----+-----+-----+-----+-----+-----
<work> <av>  <format> <perf>  <usage>  <diskw>  <supqu>
    
```


Output column	Possible values	Meaning
WORK-F	NO YES	Work file flag: ordinary file work file
AVAIL	STD HIGH	Availability: no special availability requirements high availability
F-FORM	K NK2 NK4	File format (FILE-FORMAT): K file NK2 file NK4 file
IO(PERF)	STD HIGH VERY-HIGH	Performance attribute: no special performance requirements enhanced performance priority highest performance priority
IO(USAGE)	READ-WRITE WRITE READ	I/O operation mode in conjunction with performance requirement (USAGE); no value for IO(PERF)=STD: read and write operations write operations only read operations only
DISK-WRITE	IMMEDIATE BY-CLOSE	Time when data consistency is required; no value for IO(PERF)=STD or IO(USAGE)=WRITE immediately after write operations not until after CLOSE processing
SUPPORT-QUALITY	OPTIMAL NEARLY-OPTIMAL BETTER-THAN-REQUEST WORSE-THAN-REQUEST CONFL-W-VOL-SET-LST	Quality of support for shown file attribute combination Optimum support Nearly optimum support “Better-than-requested” support “Worse-than-requested” support Support possible only on volume sets which conflict with the volume set list specification

Table 148: Output columns of the SHOW-PUBSET-FILE-SERVICES command

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Requirements concerning failsafe capability *STD=no particular requirements *HIGH=increased reliability required	var(*LIST).AVAIL	S	*STD *HIGH	
File consistency time *IMMED=immediately after termination of the write operation *BY-CLOSE=after CLOSE processing	var(*LIST).DISK-WRITE	S	" *BY-CLOSE *IMMED	
File format *K=K format *NK2=NK2 format *NK4=NK4 format	var(*LIST).F-FORM	S	*K *NK2 *NK4	
Performance requirements *STD=no particular requirements *HIGH=high performance requirements *VERY-HIGH=very high performance requirements	var(*LIST).IO-ATTR.PERF	S	*STD *HIGH *VERY-HIGH	
Type of file access covered by the performance requirement *HIGH or *VERY-HIGH *READ=for read operations only *READ-WRITE= for read and write operations *WRITE=for write operations only	var(*LIST).IO-ATTR.USAGE	S	" *READ *READ-WRITE *WRITE	

(Part 1 of 2)

Output information	Name of the S variable	T	Contents	Condition
Quality of service support for the combination of file attributes resulting from the values of the other S variables of the relevant list member *BETTER-THAN-REQUEST= combination of file attributes better than requested *CONFL-W-VOL-SET-LST= combination of file attributes that can only be satisfied on volume sets not belonging to the prescribed volume set list *NEARLY-OPTIMAL=almost ideal support for combinations of file attributes *OPTIMAL=ideally supported combinations of file attributes *WORSE-THAN-REQUEST= combination of file attributes worse than requested	var(*LIST).SUP-QUALITY	S	*BETTER-THAN-REQUEST *CONFL-W-VOL-SET-LST *NEARLY-OPTIMAL *OPTIMAL *WORSE-THAN-REQUEST	
Work file *NO=normal file *YES=work file	var(*LIST).WORK-F	S	*NO *YES	

(Part 2 of 2)

SHOW-PUBSET-IMPORT-EXPORT

Show pubset processing status

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

Function

The SHOW-PUBSET-IMPORT-EXPORT command informs the systems support staff of the processing status of all pubsets that are currently being imported or exported. If one or more pubsets are named explicitly, the processing status of the volume sets belonging to them may also be output for SM pubsets.

The command supports structured output in S variables (see [“Output in S variables” on page 6-519](#)).

Format

SHOW-PUBSET-IMPORT-EXPORT
<pre> PUBSET = <u>*ALL</u> / list-poss(256): <cat-id 1..4>(…) <cat-id 1..4>(…) VOLUME-SET = <u>*NONE</u> / *ALL / <cat-id 1..4> </pre>

Operands

PUBSET = *ALL / list-poss(256): <cat-id 1..4>(…)

Specifies the pubsets for which the processing status is to be displayed.

PUBSET = *ALL

The processing status of all pubsets that are currently being imported or exported is displayed (i.e. the status of all import/export jobs that are currently underway).

PUBSET = list-poss(256): <cat-id 1..4>(…)

The ID of the pubset whose processing status is to be displayed. As many as 256 pubsets can be specified in a list.

In the case of SM pubsets, the processing status of the volume sets belonging to them may also be requested. Note that in that case the processing status of the control volume set is not displayed explicitly and is represented by the processing state of the SM pubset.

VOLUME-SET = *NONE / *ALL / list-poss(255): <cat-id 1..4>

This operand is ignored in the case of SF pubsets.

Specifies whether the processing statuses of the volume sets belonging to an SM pubset are to be displayed as well.

VOLUME-SET = *NONE

On information is issued for the volume sets.

VOLUME-SET = *ALL

The processing status is displayed for all volume sets belonging to an SM pubset.

VOLUME-SET = list-poss(255): <cat-id 1..4>

The processing status of the specified volume set is displayed for SM pubsets. As many as 255 volume sets can be specified in a list.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	32	CMD0221	Internal error
	32	DMS13D0	Internal processing error
	64	CMD0216	User is not authorized
	64	DMS13D0	MRSCAT not found, wrong MRSCAT type

Output format

The output begins with a heading line followed by value lines. One value line is output for each pubset. If information concerning the volume sets was also requested, the value line of the pubset is followed by an additional value line for each volume set belonging to the pubset. No separate value line is output for the control volume set since it is represented by the value line of the SM pubset.

1. Heading line:

```
ID          TYPE          PROCESS          STATE          PROGRESS  TSN
```

2. Value line for a pubset:

```
<catid> <pubset-type> <process-type> <process-state> <progress> <tsn>
```

3. Value line for a volume set:

<catid> VOLSET <process-type> <process-state> <progress> <tsn>

This information is only issues if VOLUME-SET= *ALL / <cat-id> was specified for an SM pubset.

Meaning of the output columns

Output column	Meaning and possible values
ID	ID of the pubset or volume set
TYPE	Pubset types: SF-PUBSET, SM-PUBSET, VOLSET
PROCESS	Pubset or volume set processing type: IMPORTING Pubset/volume set being imported EXPORTING Pubset/volume set being exported IMPORTED Pubset/volume set already imported EXPORTED Pubset/volume set already exported
STATE	Details on the processing status if the pubset/volume set is currently being imported or exported.
PROGRESS	Progress of processing *RUNNING the current processing status was just reached IN WAIT: nnnn sec the current processing status was reached nnnn seconds ago
TSN	TSN of the import/export task of the pubset or volume set

Table 149: Output columns of the SHOW-PUBSET-IMPORT-EXPORT command

Output in S variables

The VOLUME-SET operand determines whether additional information about the volume sets associated with an SM pubset are output.

Notation used in command	Abbreviated form used in table
SM-Pubset, VOLUME-SET=*ALL / <cat-id> and number of volume sets (NUM-OF-VOLSETS) is non-zero	1

Output information	Name of the S variable	T	Contents	Condition
Number of volume sets	var(*LIST).PUBSET.NUM-OF-VOLSETS	I	<integer 0..255>	
Pubset type	var(*LIST).PUBSET.TYPE	S	SF-PUBSET SM-PUBSET	
Pubset processing mode	var(*LIST).PUBSET.PROCESS	S	IMPORTING IMPORTED EXPORTING EXPORTED	
Progress of current processing	var(*LIST).PUBSET.PROGRESS	S	<c-string 20..20> *RUNNING IN WAIT: nnn SEC	
Pubset ID	var(*LIST).PUBSET.PUBSET	S	<cat-id>	
Current processing state	var(*LIST).PUBSET.STATE	S	<c-string 20..20>	
Current TSN of pubset import/export task	var(*LIST).PUBSET.TSN	S	<c-string 4..4>	
Processing mode of volume set	var(*LIST).PUBSET. VOLSET(*LIST).PROCESS	S	IMPORTING EXPORTING IMPORTED EXPORTED	1
Progress of current processing	var(*LIST).PUBSET. VOLSET(*LIST).PROGRESS	S	<c-string 18..18> *RUNNING IN WAIT: nnn SEC	1
Current processing state	var(*LIST).PUBSET. VOLSET(*LIST).STATE	S	<c-string 20..20>	1
Volume set ID	var(*LIST).PUBSET. VOLSET(*LIST).VOLSET	S	<cat-id>	1
Current TSN of volume-set import/export task	var(*LIST).PUBSET. VOLSET(*LIST).TSN	S	<c-string 4..4>	1

SHOW-PUBSET-LOCKS

Show pubset locks

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS

Function

The SHOW-PUBSET-LOCKS function provides information on the locks which have been set for a pubset by pubset management. All locks are displayed which are set for the pubset in the shared pubset network on systems with BS2000/OSD \geq V8.0. The following information is output for each pubset lock:

- Host name of the lock location and the associated sysid
- Type of pubset sharer (master or slave) on which the lock is stored
- Type of lock set
- Task identifier (TID) of the lock holder
- Sysid of the lock holder and BS2000 OSD/BC version of the associated system

If no information can be supplied for a system, the message DMS13CF is issued.

The command supports structured output in S variables (see also [“Output in S variables” on page 6-522](#)).

An existing lock can be reset using the REMOVE-PUBSET-LOCK command.

Format

SHOW-PUBSET-LOCKS
PUBSET = <cat-id 1..4>

Operands

PUBSET = <cat-id 1..4>

Catalog ID of the pubset for which all existing locks in the shared pubset network are to be displayed.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
	32	DMS138A	Internal error with Serslog entry
	64	CMD0216	Privileges error
	64	DMS138B	Pubset not found
	64	DMS138C	Pubset not accessible
	64	DMS1397	Partner host with illegal version
	64	DMS13CB	Specified lock does not exist
	64	DMS13CC	Lock holder task is still active
	128	DMS1386	Error in the memory request
	128	DMS1389	Error in MSCF communication

Output fields and meaning

The information on the specified pubset's locks is output in a table. A separate line containing the following information is displayed for each lock which is set on a host in the associated shared pubset network:

Output column	Meaning and possible values
LOCK-TYPE	Type of lock set *PUBSET-RECONF / *SHARED-EXCAT / *SHARED-IMCAT / *SHARED-MASTER-EXCAT)
LOCK-LOCATION	<i>Lists the information on the lock location:</i>
HOSTNAME	Host name of the system in which the lock is set (<alphanum-name 1..8>)
SYSID	Sysid of the system in which the lock is set (<alphanum-name 1..3>)
SHARER-TYPE	Sharer type of the system in which the lock is set (*MASTER / *SLAVE)
LOCK-HOLDER-INFORMATION	<i>Lists the information on the lock holder:</i>
TID	Task identifier (TID) of the lock holder (<x-text 8..8>)
SYSID	Sysid of the lock holder (<alphanum-name 1..3>)
BS2000 Version	BS2000 OSD/BC version of the lock holder (Vmm.n)

Table 150: Output columns of the SHOW-PUBSET-LOCKS command

Message DMS13CF is also issued for each slave about which no information can be obtained. The precise reason is provided in an insert in the message.

Notes

- Only one single lock (irrespective of the type) can be set on each slave of the pubset.
- The following locks can be set on the master of the pubset:
 - either just one lock of the type PUBSET-RECONFIGURATION
 - or up to 16 locks of the types SHARED-EXCAT, SHARED-MASTER-EXCAT and SHARED-IMCAT; type SHARED-MASTER-EXCAT can only be set once.
- If a lock of the type SHARED-EXCAT is set on the master and the lock is held by a slave with BS2000/OSD < V8.0, this lock is only displayed on the master although a lock of this type is as a rule also set on the slave.

Output in S variables

The following variables are output for a pubset lock. All of a system's locks are displayed in a list.

Output information	Name of the S variable	T	Contents	Condition
Type of pubset lock	var(*LIST).LIST(*LIST).LOCK-TYPE	S	*PUBSET- RECONFIGURATIO N *SHARED-EXCAT *SHARED-IMCAT *SHARED-MASTER- EXCAT	
Host name of the system	var(*LIST).LIST(*LIST).HOST-NAME	S	<alphanum-name 1..8>	
Sysid of the system with the lock entry	var(*LIST).LIST(*LIST).SYS-ID	S	<alphanum-name 1..3>	
Type of pubset sharer	var(*LIST).LIST(*LIST).SHARER-TYPE	S	*MASTER *SLAVE	
TID of the lock holder	var(*LIST).LIST(*LIST).HOLDER-TID	S	<alphanum-name 1..8>	
Sysid of the lock holder	var(*LIST).LIST(*LIST).HOLDER-SYS-ID	S	<alphanum-name 1..3>	
BS2000/OSD version	var(*LIST).LIST(*LIST).SYS-VERSION	S	<version>	

Example*Output in S variable*

```

/declare-var var-name=var(type=*structure),multiple-elem=*list
/exec-cmd cmd=(show-pubset-locks pubset=xyz),
    text-output=*none,structure-output=var
/show-var var,inf=*par(val=*c-literal,list-index=*yes)
VAR#1.LIST#1.LOCK-TYPE = '*SHARED-MASTER-EXCAT '
VAR#1.LIST#1.HOST-NAME = 'D017ZE15'
VAR#1.LIST#1.SYS-ID = '183'
VAR#1.LIST#1.SHARER-TYPE = '*MASTER'
VAR#1.LIST#1.HOLDER-TID = '1000004F'
VAR#1.LIST#1.HOLDER-SYS-ID = '183'
VAR#1.LIST#1.SYS-VERSION = 'V18.0'
*END-OF-VAR
VAR#1.LIST#2.LOCK-TYPE = '*SHARED-EXCAT'
VAR#1.LIST#2.HOST-NAME = 'D017ZE15'
VAR#1.LIST#2.SYS-ID = '183'
VAR#1.LIST#2.SHARER-TYPE = '*MASTER'
VAR#1.LIST#2.HOLDER-TID = '2000009F'
VAR#1.LIST#2.HOLDER-SYS-ID = '184'
VAR#1.LIST#2.SYS-VERSION = 'V18.0'
*END-OF-VAR
VAR#1.LIST#3.LOCK-TYPE = '*SHARED-EXCAT'
VAR#1.LIST#3.HOST-NAME = 'D017ZE15'
VAR#1.LIST#3.SYS-ID = '183'
VAR#1.LIST#3.SHARER-TYPE = '*MASTER'
VAR#1.LIST#3.HOLDER-TID = '20000038'
VAR#1.LIST#3.HOLDER-SYS-ID = '185'
VAR#1.LIST#3.SYS-VERSION = 'V18.0'
*END-OF-VAR
*END-OF-VAR
VAR#2.LIST#1.LOCK-TYPE = '*SHARED-EXCAT'
VAR#2.LIST#1.HOST-NAME = 'D017ZE16'
VAR#2.LIST#1.SYS-ID = '184'
VAR#2.LIST#1.SHARER-TYPE = '*SLAVE'
VAR#2.LIST#1.HOLDER-TID = '2000009F'
VAR#2.LIST#1.HOLDER-SYS-ID = '184'
VAR#2.LIST#1.SYS-VERSION = 'V18.0'
*END-OF-VAR
*END-OF-VAR

```

SHOW-PUBSET-NET-STORAGE

Display Net-Storage of a pubset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Net-Storage administration
Domain:	STORAGE-MANAGEMENT
Privileges:	STD-PROCESSING TSOS

Function

The SHOW-PUBSET-NET-STORAGE command provides information on the Net-Storage which is assigned to an imported pubset in the form of Net-Storage volume(s). For each Net-Storage volume the display shows the VSN, the current status and the net server providing it.

The command supports structured output in S variables (see [“Output in S variables” on page 6-526](#)).

Information on the tasks occupying the Net-Storage can be requested using the SHOW-NET-STORAGE-OCCUPATION 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

SHOW-PUBSET-NET-STORAGE
PUBSET = <cat-id 1..4>

Operands

PUBSET = <cat-id 1..4>

Specifies the pubset about whose Net-Storage volumes information is to be provided.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
	32	CMD0221	System error
	32	CMD2009	Error during output in S variables (e.g. subsystem not available)
	32	DMS1CFF	System error (see SERSLOG entry)
	64	DMS1C02	Net-Storage volume not found
	64	DMS1C05	Pubset not found
	64	DMS1C06	Pubset not accessible

Meaning of the output fields

Output field	Possible values	Meaning
NET-VOLUME	<vsn 6..6>	VSN of the Net-Storage volume
STATUS	IN USE ONLINE PERMISSION DENIED NOT MOUNTED NO CONNECTION NOT VALID	Status of the Net-Storage volume – Being used, pubset has been imported – Known in the BS2000 system, but pubset has not been imported – No authorization to access the Net-Storage volume – Net-Storage not connected – No connection to the net server – Invalid, does not exist
NET-DIRECTORY ¹	<name 1..64>	Directory name of the Net-Storage released on the net server
SERVER-NAME ¹	<name 1..255>	Name of the net server
IPV4-ADDRESS ¹	<name 7..15>	IP address of the net client in IPv4 format
IPV6-ADDRESS ¹	<name 15..39>	IP address of the net client in IPv6 format

Table 151: Output fields for the SHOW-NET-STORAGE command

¹ Status-dependent output Output only when the information is available. Output values which are longer than 60 bytes begin in a new line. The line is also wrapped from a length of 77 bytes.

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Pubset catalog ID	var(*LIST).PUBSET	S	<cat-id 1..4>	
Number of the Net-Storage volumes	var(*LIST).NUM-OF-NET-VOL	I	<integer 1..4096>	
VSN of the Net-Storage volumes	var(*LIST).NET-VOL(*LIST).VSN	S	<vsn 6..6>	
Status of the Net-Storage volumes	var(*LIST).NET-VOL(*LIST).STATUS	S	*IN USE *ONLINE *PERMISSION-DENIED *NOT MOUNTED *NO CONNECTION *NOT VALID	
Directory name of the Net-Storage released on the net server	var(*LIST).NET-VOL(*LIST).DIR ¹	S	<name 1..64> "	
Name of the net server	var(*LIST).NET-VOL(*LIST).SERVER ¹	S	<name 1..256> "	
IP address of the net client in IPv4 format	var(*LIST).NET-VOL(*LIST).IPV4 ¹	S	<name 7..15> "	
IP address of the net client in IPv6 format	var(*LIST).NET-VOL(*LIST).IPV6 ¹	S	<name 15..39> "	

¹ Status-dependent output: Null string, only when the information is available.

Example

```

/show-pubset-net-storage bigf
%NET-VOLUMES FOR PUBSET : BIGF
%-----
%NET-VOLUME      :   BIGF@00
%STATUS          :           IN USE
%NET-DIRECTORY   :   /nas/200/bs2-cs1
%IPV4-ADDRESS    :   10.20.30.40
%-----
%NET-VOLUME      :   MONI00
%STATUS          :           NOT MOUNTED
%-----
%NET-VOLUME      :   NET001
%STATUS          :           PERMISSION DENIED
%NET-DIRECTORY   :   /nas/200/bs2data
%IPV4-ADDRESS    :   10.20.50.60
%-----

```

SHOW-PUBSET-OCCUPATION

Display tasks which are occupying pubsets

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

Function

The SHOW-PUBSET-OCCUPATION command provides system support with information on the tasks which are occupying pubsets. The command supplies information both for single-feature (SF) pubsets and for system-managed (SM) pubsets.

The command supports structured output in S variables (see [“Output in S variables” on page 6-532](#)).



The information on pubset occupancy is 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-PUBSET-OCCUPATION

```
PUBSET = *ALL / <cat-id 1..4>
,SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *ACCESSIBLE / *LOCAL-ACCESSIBLE /
                 *REMOTE-ACCESSIBLE / *HSMS-SUPPORTED / *SPEEDCAT / *PAGING /
                 *SINGLE-FEATURE / *SYSTEM-MANAGED / *DEFINED-XCS-CONFIGURATED /
                 *XCS-CONFIGURATED
,HOST = *LOCAL / *ALL / <alphanum-name 1..8>
```

Operands

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

Specifies the pubsets for which the occupying jobs are to be displayed.

PUBSET = *ALL

The occupying jobs of 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>

Identifies the pubset for which the the occupying jobs are to be displayed.

**SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *ACCESSIBLE /
*LOCAL-ACCESSIBLE / *REMOTE-ACCESSIBLE / *HSMS-SUPPORTED /
*SPEEDCAT / *PAGING / *SINGLE-FEATURE / *SYSTEM-MANAGED /
*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 occupying jobs of all the pubsets specified in the PUBSET operand are displayed.

SELECT-PUBSET = *EXCLUSIVE

The occupying jobs of all pubsets imported exclusively are displayed.

SELECT-PUBSET = *SHARED

The occupying jobs of all pubsets imported as shared are displayed.

SELECT-PUBSET = *ACCESSIBLE

The occupying jobs of all pubsets which can be accessed are displayed.

SELECT-PUBSET = *LOCAL-ACCESSIBLE

The occupying jobs of all locally accessible, i.e. imported, pubsets are displayed.

SELECT-PUBSET = *REMOTE-ACCESSIBLE

The occupying jobs of 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 occupying jobs of all pubsets which are supported by the HSMS subsystem are displayed.

SELECT-PUBSET = *SPEEDCAT

The occupying jobs of all SF pubsets whose file catalog can be accessed in the local system via SPEEDCAT are displayed.

SELECT-PUBSET = *PAGING

The occupying jobs of all pubsets with paging areas which are used locally are displayed.

SELECT-PUBSET = *SINGLE-FEATURE

The occupying jobs of all SF pubsets are displayed.

SELECT-PUBSET = *SYSTEM-MANAGED

The occupying jobs of all SM pubsets are displayed.

SELECT-PUBSET = *DEFINED-XCS-CONFIGURATED

The occupying jobs of all pubsets which are defined as XCS pubsets in the MRS catalog are displayed.

SELECT-PUBSET = *XCS-CONFIGURATED

The occupying jobs of all XCS pubsets are displayed.

HOST = *LOCAL / *ALL / <alphanum-name 1..8>

Identifies the host system of the jobs which are to be listed.

HOST = *LOCAL

Only the occupying jobs on the local host are displayed.

HOST = *ALL

If the local host is the pubset master, the occupying jobs on all the hosts in the shared-pubset network are displayed. If it is not, only the occupying jobs on the local host are displayed (as for HOST=*LOCAL).

HOST = <alphanum-name 1..8>

The occupying jobs on the specified host are displayed. If the specified BCAM name is not that of the local host, the information is output only if the local host is the pubset master of the shared pubset and the specified BCAM name is that of a pubset sharer.

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 two groups of output blocks:

1. output block for pubset-global summary information
2. output blocks for pubset-global 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

The occupying jobs are displayed for the pubsets.

The output block is introduced by the following header line:

```
--- REFERENCE -----
```

The following row of values shows the number of jobs occupying the pubset:

```
NUMBER OF OCCUPYING TASKS | <number>
```

If there is at least one job occupying the pubset, detailed information about the occupying jobs is shown next. The output is arranged according to the host on which the occupying jobs reside. The information about the occupying jobs of each host is preceded by one of the following header lines:

- Header line for occupying jobs on the local host:

```
OCCUPATIONS BY LOCAL TASKS
```

- Header line for occupying jobs on unknown hosts:

```
OCCUPATIONS FROM HOST: (UNKNOWN)
```

- Header line for occupying jobs on a remote host:

```
OCCUPATIONS FROM HOST: <bcam name>
```

The header line is followed by one or more lines indicating all the occupying jobs on the given host, showing the task sequence number (TSN) and the user ID (if there is one):

```
<tsn> <userid>    <tsn> <userid>    <tsn> <userid>    <tsn> <userid>
```

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
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>	
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	
Number of occupying tasks	var(*LIST).OCCUP.NUM-OF-TASK	I	<integer>	
Host name (only if OCCUP.NUM-OF-TASK > 0)	var(*LIST).OCCUP.HOST(*LIST).NAME	S	*LOC *UNKNOWN <alphan.-name 1..8>	
TSN of an occupying task (only if OCCUP.NUM-OF-TASK > 0)	var(*LIST).OCCUP.HOST(*LIST).TASK(*LIST).TSN	S	<tsn>	
User ID of an occupying task (only if OCCUP.NUM-OF-TASK > 0)	var(*LIST).OCCUP.HOST(*LIST).TASK(*LIST).USER-ID	S	*NONE <user-id>	
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	

Example

```
/show-pubset-occupation pubset=x
```

```
%-----
```

```
%COMMAND: SHOW-PUBSET-OCCUPATION
```

```
%-----
```

```
PUBSET X : SINGLE-FEATURE, ACC
```

```
---- REFERENCE -----
```

```
NUMBER OF OCCUPYING TASKS | 1
```

```
---- DETAILS OF OCCUPATION -----
```

```
OCCUPATIONS BY LOCAL TASKS
```

```
RP02
```

```
-----
```

SHOW-PUBSET-PARAMETERS

Show pubset operating parameters

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

Function

The SHOW-PUBSET-PARAMETERS command provides systems support with information on the default and current settings of pubset operating parameters. The command supplies detailed information both for single-feature (SF) pubsets and for system-managed (SM) pubsets and the volume sets in them.

The command supports structured output in S variables (see [“Output in S variables” on page 6-551](#)).



You also obtain some of the information of the SHOW-PUBSET-PARAMETERS with the following SHOW commands. With the exception of SHOW-PUBSET-OCCUPATION these commands exist as counterparts to the corresponding MODIFY commands:

Command	Corresponding operand in SHOW-PUBSET-PARAMETERS
SHOW-PUBSET-CACHE-ATTRIBUTES	INFORMATION=*CACHE-CONFIGURATION, VOLUME-SET-INFO=*YES(INFORMATION=*CACHE-CONFIGURATION)
SHOW-PUBSET-OCCUPATION	INFORMATION=*PUBSET-OCCUPATION, VOLUME-SET-INFO=*NO
SHOW-PUBSET-SPACE-DEFAULTS	INFORMATION=*SPACE-ALLOCATION, VOLUME-SET-INFO=*NO
SHOW-SPACE-SATURATION-LEVELS	INFORMATION=*SPACE-ALLOCATION, VOLUME-SET-INFO=*YES(INFORMATION=*SPACE-SATURATION)

Restrictions

The current settings of the pubset operating parameters are shown only for locally accessible (i.e. imported) pubsets.

In the case of SF pubsets in a shared pubset network, only the information about pubset operating parameter settings which is 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-PUBSET-PARAMETERS

PUBSET = *ALL / <cat-id 1..4>
,SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *LOCAL-ACCESSIBLE / *HSMS-SUPPORTED /
                *SINGLE-FEATURE / *SYSTEM-MANAGED / *XCS-CONFIGURATED
,INFORMATION = *SUMMARY / *ALL / *PUBSET-OCCUPATION(...) /
                list-poss(4): *GLOBAL-PARAMETERS / *SPACE-ALLOCATION / *EAM-PARAMETERS /
                *CACHE-CONFIGURATION

    *PUBSET-OCCUPATION(...)
        | HOST = *LOCAL / *ALL / <alphanum-name 1..8>
,VOLUME-SET-INFO = *NO / *YES(...)

    *YES(...)
        | VOLUME-SET = *ALL / <cat-id 1..4>
        | ,SELECT-VOLUME-SET = *ALL / *NORMAL-USE / *IN-HOLD / *DEFECT / *DEFINED-ONLY
        | ,INFORMATION = *SUMMARY / *ALL / *VOLUME-SET-OCCUPATION(...) /
        |                 list-poss(2): *CACHE-CONFIGURATION / *SPACE-SATURATION
        | *VOLUME-SET-OCCUPATION(...)
        | | HOST = *LOCAL / *ALL / <alphanum-name 1..8>
```

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

Specifies the pubsets for which the operating parameters are to be displayed.

PUBSET = *ALL

The operating parameters of 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>

Catalog ID of the subset for which the operating parameters are to be displayed.

SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *LOCAL-ACCESSIBLE / *HSMS-SUPPORTED / *SINGLE-FEATURE / *SYSTEM-MANAGED / *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 operating parameters of all the pubsets specified in the PUBSET operand are to be displayed.

SELECT-PUBSET = *EXCLUSIVE

The operating parameters of all exclusive imported pubsets are displayed.

SELECT-PUBSET = *SHARED

The operating parameters of all shared imported pubsets are displayed.

SELECT-PUBSET = *LOCAL-ACCESSIBLE

The operating parameters of all locally accessible, i.e. imported, pubsets are displayed.

SELECT-PUBSET = *HSMS-SUPPORTED

The operating parameters of all pubsets which are supported by the HSMS subsystem are displayed.

SELECT-PUBSET = *SINGLE-FEATURE

The operating parameters of all SF pubsets are displayed.

SELECT-PUBSET = *SYSTEM-MANAGED

The operating parameters of all SM pubsets are displayed.

SELECT-PUBSET = *XCS-CONFIGURATED

The operating parameters of all XCS pubsets are displayed.

INFORMATION = *SUMMARY / *ALL / *PUBSET-OCCUPATION(...) / list-poss(4): *GLOBAL-PARAMETERS / *SPACE-ALLOCATION / *EAM-PARAMETERS / *CACHE-CONFIGURATION

Governs exactly which of the subset-global operating parameters are to be displayed. Output can be restricted to summary information or include all the detailed information. It is also possible to request specific information blocks from the full range information.

INFORMATION = *SUMMARY

A summary of the pubset-global information is displayed:

- Pubset ID
- pubset type (SF or SM pubset)
- control volume set ID and device type (for SM pubsets)
- operating mode
- HSMS support (for SM pubsets)

INFORMATION = *ALL

All the detailed information is output.

INFORMATION = *PUBSET-OCCUPATION(...)

Detailed information on jobs occupying the pubset is to be output. The HOST suboperand can be used to identify the host system of the jobs in question.

HOST = *LOCAL / *ALL / <alphanum-name 1..8>

Identifies the host system of the jobs which are to be listed.

HOST = *LOCAL

Only the occupying jobs on the local host are displayed.

HOST = *ALL

If the local host is the pubset master, the occupying jobs on all the hosts in the shared-pubset network are displayed. If it is not, only the occupying jobs on the local host are displayed (as for HOST=*LOCAL).

HOST = <alphanum-name 1..8>

The occupying jobs on the specified host are displayed. If the specified BCAM name is not that of the local host, the information is output only if the local host is the master of the shared pubset and the specified BCAM name is that of a pubset sharer.

INFORMATION = *GLOBAL-PARAMETERS

In addition to the pubset-global summary (see INFORMATION=*SUMMARY), information on the following pubset operating parameters is supplied:

- wait times for batch and interactive jobs in the event of host connection failures
- response to loss of connection
- number of CMS buffers
- import mode (shared or exclusive)
- import behavior in response to cache defects and invalid cache parameters
- access control
- SPEEDCAT mode
- BCAM name of the master
- XCS attribute of the pubset and, where relevant, name of the XCS network using the pubset
- information on locally importing the catalog of a remote host
- information on V10 conversion of the file catalog during SF pubset export

INFORMATION = *SPACE-ALLOCATION

In addition to the pubset-global summary (see INFORMATION=*SUMMARY), detailed information on the pubset-specific defaults for file space allocation is supplied.

INFORMATION = *EAM-PARAMETERS

In addition to the pubset-global summary (see INFORMATION=*SUMMARY), detailed information on the pubset-specific settings of the SYSEAM files is supplied.

INFORMATION = *CACHE-CONFIGURATION

This operand value is evaluated for SM pubsets only.

In addition to the cross-pubset summary information (see INFORMATION=*SUMMARY), detailed information on the cache configuration of SF pubsets is output.

For SM pubsets this information is volume set-specific and can be requested with the VOLUME-SET-INFO operand.

VOLUME-SET-INFO = *NO / *YES(...)

Governs whether volume set-specific operating parameters for SM pubsets are also to be displayed.

VOLUME-SET-INFO = *NO

Volume set-specific operating parameters are not to be shown.

VOLUME-SET-INFO = *YES(...)

This operand value is evaluated for SM pubsets only.

Volume set-specific operating parameters are also to be shown. In this case the VOLUME-SET and SELECT-VOLUME-SET suboperands identify the volume sets, and the INFORMATION operand specifies how much information to display.

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

Identifies the volume sets for which the operating parameters are to be displayed.

VOLUME-SET = *ALL

The operating parameters of all volume sets are to be shown. The SELECT-VOLUME-SET operand can be used to restrict the selection to specific volume sets.

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

Catalog ID of the volume set for which the operating parameters are to be displayed.

SELECT-VOLUME-SET = *ALL / *NORMAL-USE / *IN-HOLD / *DEFECT / *DEFINED-ONLY

Defines the criterion for selecting specific volume sets from the set of all volume sets (see VOLUME-SET=*ALL). The default is *ALL, i.e. the operating parameters of all volume sets are displayed.

SELECT-VOLUME-SET = *NORMAL-USE

The operating parameters of all accessible volume sets are displayed.

SELECT-VOLUME-SET = *IN-HOLD

The operating parameters of all temporarily inoperable volume sets are displayed.

SELECT-VOLUME-SET = *DEFECT

The operating parameters of all defective volume sets are displayed.

SELECT-VOLUME-SET = *DEFINED-ONLY

The configuration parameters of all defined but inaccessible volume sets are displayed.

INFORMATION = *SUMMARY / *ALL / *VOLUME-SET-OCCUPATION(...) / list-poss(2): *CACHE-CONFIGURATION / *SPACE-SATURATION

Specifies the operating parameters which are to be displayed and the scope of the information.

INFORMATION = *SUMMARY

Only summary information relating to the pubset configuration is displayed:

- Volume set ID
- device type of the volume set's system disk
- volume set operating status

INFORMATION = *ALL

In addition to the summary, detailed information is supplied on the cache configuration of the volume set, on volume set-specific space saturation levels and on jobs occupying the volume set.

INFORMATION = *VOLUME-SET-OCCUPATION(...)

Detailed information on jobs occupying the volume set is to be output in addition to the summary. The HOST suboperand can be used to identify the host system of the jobs in question.

HOST = *LOCAL / *ALL / <alphanum-name 1..8>

Identifies the host system of the jobs which are to be listed.

HOST = *LOCAL

Only the occupying jobs on the local host are displayed.

HOST = *ALL

If the local host is the pubset master, the occupying jobs on all the hosts in the shared-pubset network are displayed. If it is not, only the occupying jobs on the local host are displayed (as for HOST=*LOCAL).

HOST = <alphanum-name 1..8>

The occupying jobs on the specified host are displayed. If the specified BCAM name is not that of the local host, the information is output only if the local host is the pubset master of the shared pubset and the specified BCAM name is that of a pubset sharer.

INFORMATION = *CACHE-CONFIGURATION

In addition to the summary, detailed information on the cache configuration of the volume set is supplied.

INFORMATION = *SPACE-SATURATION

In addition to the summary, detailed information on the volume set-specific space saturation levels is supplied.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	32	CMD0221	Internal system error
	32	CMD2009	Error on output to 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>
```

Meaning of 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

The pubset-global detailed information breaks down into five output blocks, each preceded by a header line. The header line indicates the output block type. With INFORMATION=*ALL, the five output blocks are displayed one after the other. Depending on what is specified in the INFORMATION operand, it is also possible to request each of the output blocks separately:

1. Pubset operating parameters (INFORMATION=*GLOBAL-PARAMETERS)
2. Space allocation defaults (INFORMATION=*SPACE-ALLOCATION)
3. SYSEAM file settings (INFORMATION=*EAM-PARAMETERS)
4. Cache configuration of an SF pubset (INFORMATION=*CACHE-CONFIGURATION)
5. Information on jobs occupying the pubset (INFORMATION=*PUBSET-OCCUPATION)

The header lines of output blocks 1 through 4 divide 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. Output block 4, containing information on cache configuration, is displayed for SF pubsets only. For SM pubsets this information is volume set-specific.

*Pubset operating parameters (INFORMATION=*GLOBAL-PARAMETERS)*

The output block is introduced by the following header line:

```
--- GLOBAL PARAMETERS      ---- + --- DEFINED --- + --- CURRENT ---
```

Then the following rows of values are displayed:

- Information on wait times (in seconds) for batch and interactive (dialog) jobs in the event of host connection failures:

DIALOG WAIT TIME	<n> SEC	<n> SEC
BATCH WAIT TIME	<n> SEC	<n> SEC

- Information on CMS buffers:

NUMBER OF CMS BUFFERS	UNDEFINED	UNDEFINED
	<n> (PAGEABLE)	<n> (PAGEABLE)
	<n> (RESIDENT)	<n> (RESIDENT)

- Information on the import mode (exclusive or shared)

IMPORT MODE	EXCLUSIVE	EXCLUSIVE
	SHARED	SHARED

- Information on import behavior; appears only if the SF pubset or individual volume sets in the SM pubset have nonvolatile cache areas and if a cache used in a pubset session which terminated abnormally beforehand can no longer be connected.

FORCE IMPORT	NO	
	BY OPERATOR	

- Information on import behavior in response to invalid cache parameters:

SIZE TOLERANCE	NO	
	YES	

- Information on access control:

ACCESS CONTROLLED	NO	NO
	FOR <userid>	FOR <userid>

- Information on the SPEEDCAT mode (for SF pubsets only):

SPEEDCAT MODE	NO	NO SCA RUNNING
	SPEEDCAT TASK	SCA RUNNING
	OWN TASK	

- Information on the name of the pubset owner (only for imported pubsets whose owner is not the local computer):

HOST NAME			<alphanum-name 1..8>
-----------	--	--	----------------------

- Information on the XCS name and on XCS pubset usage:

XCS NAME			<alphanum-name 1..8>
XCS CONFIGURATED		NO	NO
		YES	YES

- Information on whether at least one disk of the pubset is emulated in the GS:

GS VOLUMES			NO
------------	--	--	----

- Information on locally importing a remote catalog:

REMOTE IMPORT		BY COMMAND ONLY	
		BY CONNECTION	

- Information on converting the file catalog to V10 format on export (for SF pubsets only):

CONVERT TSOSCAT DURING NEXT EXPORT		NO CONVERSION	
		V10-COMPATIBLE	

*Space allocation defaults (INFORMATION=*SPACE-ALLOCATION)*

The output block is introduced by the following header line:

```
--- SPACE ALLOCATION      ---- + --- DEFINED --- + --- CURRENT ---
```

Then the following rows of values are displayed:

- Default values (in PAM pages) for space allocation for files. Values with invalid definitions (≤ 0) are replaced by the system with suitable current values.

PRIMARY ALLOCATION		<number> HP		<number> HP
SECONDARY ALLOCATION		<number> HP		<number> HP
MAXIMAL ALLOCATION		<number> HP		<number> HP

- For SM pubsets the next section gives information on the default file format:

DEFAULT FILE FORMAT		PAMKEY		PAMKEY
		NK2		NK2
		NK4		NK4

- For SF pubsets the next section gives information on whether absolute (physical) space allocation is allowed for nonprivileged users or only for systems support:

PHYSICAL ALLOCATION		BY ADMINISTRATOR		BY ADMINISTRATOR
		USER ALLOWED		USER ALLOWED

SHOW-PUBSET-PARAMETERS

- For SF pubsets again, the next section gives information on space saturation thresholds and on space reserved for a ZIP startup. For SM pubsets this information is volume set-specific.

```

--- 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    |

```

*SYSEAM file settings (INFORMATION=*EAM-PARAMETERS)*

The output block is introduced by the following header line:

```

--- EAM PARAMETERS          --- + --- DEFINED --- + --- CURRENT ---

```

The following rows of values show information relating to SYSEAM files. An output value of SYSTEM-STANDARD means that the value of the corresponding system parameter (EAMMIN, EAMSIZE, EAMSEC or EAMMEM) applies.

```

MINIMAL SIZE OF SYSEAM      | SYSTEM-STANDARD | <number> HP
                               | <number> HP    |
                               | UNLIMITED      |
MAXIMAL SIZE OF SYSEAM      | SYSTEM-STANDARD | <number> HP
                               | <number> HP    |
SECONDARY ALLOCATION OF SYSEAM| SYSTEM-STANDARD | <number> HP
                               | <number> HP    |
VIRTUAL MEMORY OF SYSEAM    | SYSTEM-STANDARD | <number> HP
                               | <number> HP    |

```


*Cache configuration of an SF pubset (INFORMATION=*CACHE-CONFIGURATION)*

This information is shown for SF pubsets only. For SM pubsets the information is volume set-specific. The output block is introduced by the following header line:

```
--- CACHE CONFIGURATION  ---- + --- DEFINED --- + --- CURRENT ---
```

Then the following rows of values are displayed:

- Information on the cache medium:

CACHE MEDIUM	NONE	NONE
	MAIN MEMORY	MAIN MEMORY
	GLOBAL STORAGE	GLOBAL STORAGE

The following extra row is displayed if the cache is currently not active:

		NOT ACTIVE
--	--	------------

The following extra row is displayed if the cache has been disabled for reconfiguration:

		IN HOLD
--	--	---------

- Information on the size of the cache (in MB or KB):

CACHE SIZE	NONE	
	<n> MB	<n> MB
	<n> KB	<n> KB

- Information on whether caching must be granted by the user, applies to all files or whether the files are selected automatically by the system (AutoDAB for MM and GS):

CACHED FILES	BY USER	
	ALL	
	BY SYSTEM	

The status of the following additional information depends on the type of cache medium. The defined value is always shown, but it applies only if the associated medium is defined (value in parentheses). The currently set value is shown only if the currently associated medium is currently being used.

SHOW-PUBSET-PARAMETERS

- Information on whether the consistency of the cached write data is ensured in the event of a power failure in the global storage system:

VOLATILITY (GLOBAL STORAGE)	YES	YES
	NO	NO

- For global storage, extra information on the GS unit is displayed:

GS-UNIT (GLOBAL STORAGE)	BY DEFAULT	DUAL
	DUAL	
	MONO (1)	MONO (1)
	MONO (2)	MONO (2)

- Information on the segment size:

SEGMENT SIZE (NOT CONTROLLER)	4	KB 4	KB
	8	KB 8	KB
	16	KB 16	KB
	32	KB 32	KB

- Information on the time at which the cache contents are asynchronously written out to disk by the main memory or global storage of the DAB cache handler (threshold-controlled save):

FORCE OUT (NOT CONTROLLER)	NO FORCE OUT	NO FORCE OUT
	AT LOW FILLING	AT LOW FILLING
	AT HIGH FILLING	AT HIGH FILLING

*Information on jobs occupying the pubset (INFORMATION=*PUBSET-OCCUPATION)*

The output block is introduced by the following header line:

--- REFERENCE -----

The following row of values shows the number of jobs occupying the pubset:

NUMBER OF OCCUPYING TASKS	<number>
---------------------------	----------

If there is at least one job occupying the pubset, detailed information about the occupying jobs is shown next. The output is arranged according to the host on which the occupying jobs reside. The information about the occupying jobs of each host is preceded by one of the following header lines:

- Header line for occupying jobs on the local host:

OCCUPATIONS BY LOCAL TASKS

- Header line for occupying jobs on unknown hosts:

OCCUPATIONS FROM HOST: (UNKNOWN)

- Header line for occupying jobs on a remote host:

```
OCCUPATIONS FROM HOST: <bcam name>
```

The header line is followed by one or more lines indicating all the occupying jobs on the given host, showing the task sequence number (TSN) and the user ID (if there is one):

```
<tsn> <userid>    <tsn> <userid>    <tsn> <userid>    <tsn> <userid>
```

Volume set-specific information

Volume set-specific information can be requested with VOLUME-SET-INFO=*YES. The output information is preceded by the header line “VOLUME SET INFO”:

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

This is followed by the output information for the selected volume sets. 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.

The amount of information shown per volume set is governed by the INFORMATION operand within the VOLUME-SET-INFO=*YES(...) structure. INFORMATION=*SUMMARY causes only the summary information to be output. With INFORMATION=*ALL, the following three additional blocks of detailed information is output. Depending on what is specified in the INFORMATION operand, it is also possible to request each of the output blocks separately:

1. Space saturation thresholds (INFORMATION=*SPACE-SATURATION)
2. volume set cache configuration (INFORMATION=*CACHE-CONFIGURATION)
3. Information on jobs occupying the volume set (INFORMATION=*VOLUME-SET-OCCUPATION)

The header lines of output blocks 1 and 2 divide 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.

*Volume set cache configuration (INFORMATION=*CACHE-CONFIGURATION)*

The output block is introduced by the following header line:

```
--- CACHE CONFIGURATION  ---- + --- DEFINED --- + --- CURRENT ---
```

Then the following rows of values are displayed:

- Information on the cache medium:

CACHE MEDIUM	NONE	NONE
	MAIN MEMORY	MAIN MEMORY
	GLOBAL STORAGE	GLOBAL STORAGE

The following extra row is displayed if the cache is currently not active:

	NOT ACTIVE
--	------------

The following extra row is displayed if the cache has been disabled for reconfiguration:

	IN HOLD
--	---------

- Information on the size of the cache (in MB or KB):

CACHE SIZE	NONE	
	<n> MB	<n> MB
	<n> KB	<n> KB

- Information on whether caching must be granted by the user or applies to all files:

CACHED FILES	BY USER	
	ALL	

The status of the following additional information depends on the type of cache medium. The defined value is always shown, but it applies only if the associated medium is defined (value in parentheses). The currently set value is shown only if the currently associated medium is currently being used.

- Information on whether the consistency of the cached write data is ensured in the event of a power failure in the global storage system:

VOLATILITY (GLOBAL STORAGE)	YES	YES
	NO	NO

- For global storage, extra information on the GS unit is displayed:

GS-UNIT (GLOBAL STORAGE)	BY DEFAULT	DUAL
	DUAL	
	MONO (1)	MONO (1)
	MONO (2)	MONO (2)

- Information on the segment size:

SEGMENT SIZE (NOT CONTROLLER)	4	KB 4	KB
	8	KB 8	KB
	16	KB 16	KB
	32	KB 32	KB

- Information on the time at which the cache contents are asynchronously written out to disk by the main memory or global storage of the DAB cache handler (threshold-controlled save):

FORCE OUT (NOT CONTROLLER)	NO FORCE OUT	NO FORCE OUT
	AT LOW FILLING	AT LOW FILLING
	AT HIGH FILLING	AT HIGH FILLING

*Space saturation thresholds (INFORMATION=*SPACE-SATURATION)*

The output block is introduced by the following header line:

```
--- SPACE ALLOCATION      ---- + --- DEFINED --- + --- CURRENT ---
```

The next rows of values give information on space saturation thresholds and on space reserved for a ZIP startup.

```
--- 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 |
```

*Information on jobs occupying the volume set (INFORMATION=*VOLUME-SET-OCCUPATION)*

The output block is introduced by the following header line:

```
--- REFERENCE -----
```

The following row of values shows the number of jobs occupying the volume set:

```
NUMBER OF OCCUPYING TASKS      | <number>
```

If there is at least one job occupying the volume set, detailed information about the occupying jobs is shown next. The output is arranged according to the host on which the occupying jobs reside. The information about the occupying jobs of each host is preceded by one of the following header lines:

Header line for occupying jobs on the local host:

```
OCCUPATIONS BY LOCAL TASKS
```

Header line for occupying jobs on unknown hosts:

```
OCCUPATIONS FROM HOST: (UNKNOWN)
```

Header line for occupying jobs on a remote host:

```
OCCUPATIONS FROM HOST: <bcam name>
```

The header line is followed by one or more lines indicating all the occupying jobs on the given host, showing the task sequence number (TSN) and the user ID (if there is one):

```
<tsn> <userid>      <tsn> <userid>      <tsn> <userid>      <tsn> <userid>
```

Example

```
/show-pubset-parameters pubset=p1,inf=*all,vol-set-info=*yes
```

```
%-----
%
%COMMAND: SHOW-PUBSET-PARAMETERS
%-----
%PUBSET DATA: SYSTEM-MANAGED, CTL-SET=(KEY, STDDISK), INACC, NO-HSMS-SUP
%---- GLOBAL PARAMETERS      + ---- DEFINED ---- + ---- CURRENT ----
% DIALOG WAIT TIME           | 30          SEC   |
% BATCH WAIT TIME            | 28800       SEC   |
% NUMBER OF CMS BUFFERS      | UNDEFINED    |
% IMPORT MODE                 | EXCLUSIVE    |
% FORCE IMPORT                 | NO           |
% SIZE TOLERANCE              | YES          |
% ACCESS CONTROLLED           | NO           |
% HOST NAME                   |              |
% XCS NAME                    |              |
% XCS CONFIGURATED           | NO           |
% REMOTE IMPORT               | BY CONNECTION |
```

```

%---- SPACE ALLOCATION          + ---- DEFINED ---- + ---- CURRENT ---
% PRIMARY ALLOCATION            | 3             HP |
% SECONDARY ALLOCATION          | 3             HP |
% MAXIMAL ALLOCATION            | 24            HP |
% DEFAULT FILE FORMAT         | UNDEFINED     |
%---- EAM PARAMETERS          + ---- DEFINED ---- + ---- CURRENT ---
% MINIMAL SIZE OF SYSEAM      | SYSTEM-STANDARD |
% MAXIMAL SIZE OF SYSEAM      | SYSTEM-STANDARD |
% SECONDARY ALLOCATION OF SYSEAM | SYSTEM-STANDARD |
% VIRTUAL MEMORY OF SYSEAM    | SYSTEM-STANDARD |
%---- REFERENCE               +-----+
% NUMBER OF OCCUPYING TASKS   | 0
%---- VOLUME-SET INFORMATION  +-----+
%VOLUME-SET KEY : STDDISK, NORMAL-USE
%VOLUME-SET NK2 : STDDISK, NORMAL-USE
%-----+

```

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 = *CACHE-CONFIGURATION	1
INFORMATION = *EAM-PARAMETERS	2
INFORMATION = *GLOBAL-PARAMETERS	3
INFORMATION = *PUBSET-OCCUPATION	4
INFORMATION = *SPACE-ALLOCATION	5
INFORMATION = *SUMMARY	6
VOLUME-SET-INFO = *YES(INFORMATION = *CACHE-CONFIGURATION)	7
VOLUME-SET-INFO = *YES(INFORMATION = *SPACE-SATURATION)	8
VOLUME-SET-INFO = *YES(INFORMATION = *SUMMARY)	9
VOLUME-SET-INFO = *YES(INFORMATION = *VOLUME-SET-OCCUPATION)	10

SHOW-PUBSET-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Current standard file format (*UNDEF for SF pubset)	var(*LIST).ALLOC-CURR.FILE-FORM	S	*K *NK2 *NK4 *UNDEF	5
Current secondary allocation limit	var(*LIST).ALLOC-CURR.MAX-ALLOC	S	*UNDEF <integer 1..32767>	5
Physical allocation possible (FALSE for SM pubset)	var(*LIST).ALLOC-CURR.PHYS-ALLOC	B	FALSE TRUE	5
Current primary allocation standard	var(*LIST).ALLOC-CURR.PRIMARY-ALLOC	S	*UNDEF <integer 1..16777215>	5
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>	5
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>	5
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>	5
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>	5
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>	5
Current secondary allocation standard *UNDEF=no definition (always this value for SM pubset)	var(*LIST).ALLOC-CURR.SECONDARY- ALLOC	S	*UNDEF <integer 1..32767>	5
Current ZIP level *UNDEF=no definition (always this value for SM pubset)	var(*LIST).ALLOC-CURR.ZIP-LEVEL	S	*UNDEF <integer 0..2147483647>	5
Defined standard file format (*UNDEF always this value for SF pubset)	var(*LIST).ALLOC-DEFI.FILE-FORM	S	*K *NK2 *NK4 *UNDEF	5
Defined secondary allocation limit	var(*LIST).ALLOC-DEFI.MAX-ALLOC	S	<integer 1..32767>	5
Defined possibility for physical allocation (FALSE for SM pubset)	var(*LIST).ALLOC-DEFI.PHYS-ALLOC	B	FALSE TRUE	5
Defined primary allocation standard	var(*LIST).ALLOC-DEFI.PRIMARY-ALLOC	S	<integer 1..16777215>	5

(Part 1 of 11)

Output information	Name of the S variable	T	Contents	Condition
Defined saturation level 1	var(*LIST).ALLOC-DEFI.SAT-LEVEL1	S	*BY-SYS <integer 1..2147483647>	5
Defined saturation level 2	var(*LIST).ALLOC-DEFI.SAT-LEVEL2	S	*BY-SYS <integer 1..2147483647>	5
Defined saturation level 3	var(*LIST).ALLOC-DEFI.SAT-LEVEL3	S	*BY-SYS <integer 1..2147483647>	5
Defined saturation level 4	var(*LIST).ALLOC-DEFI.SAT-LEVEL4	S	*BY-SYS <integer 1..2147483647>	5
Defined saturation level 5	var(*LIST).ALLOC-DEFI.SAT-LEVEL5	S	*BY-SYS <integer 1..2147483647>	5
Defined secondary allocation standard	var(*LIST).ALLOC-DEFI.SECONDARY-ALLOC	S	<integer 1..32767>	5
Defined ZIP level (*UNDEF for SM pubset)	var(*LIST).ALLOC-DEFI.ZIP-LEVEL	S	*BY-SYS <integer 0..2147483647>	5
Current FORCE-OUT value *NO=no forced removal *AT-HIGH-FILL=removal with high filling level *AT-LOW-FILL=removal with low filling level *UNDEF=no definition (for SM pubset)	var(*LIST).CACHE-CURR.FORCE-OUT	S	*AT-HIGH-FILL *AT-LOW-FILL *NO *UNDEF	1
GS unit set *MONO=in one of the two units *DUAL=dual operation via both units *UNDEF=no definition (for SM pubset)	var(*LIST).CACHE-CURR.GS-UNIT	S	*DUAL *MONO *UNDEF	1
GS unit number set for MONO (0 for SM pubset)	var(*LIST).CACHE-CURR.GS-UNIT-NUM	I	0 <integer 1..2>	1
Current cache medium *GLOBAL-STOR=global storage *MAIN-MEM=main memory *NONE=no cache defined (*UNDEF for SM pubset only)	var(*LIST).CACHE-CURR.MED	S	*GLOBAL-STOR *MAIN-MEM *NONE *UNDEF	1

(Part 2 of 11)

SHOW-PUBSET-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Current status of the cache medium *ACTIVE=cache active *NOT-ACTIVE=cache not active *IN-HOLD=cache temporarily deactivated (*UNDEF for SM pubset only)	var(*LIST).CACHE-CURR.MED-STAT	S	*ACTIVE *IN-HOLD *NOT-ACTIVE *UNDEF	1
No meaning (displayed only for reasons of compatibility)	var(*LIST).CACHE-CURR.PREFETCH	S	*HIGH *LOW *NO *UNDEF	1
Current segment size of the cache medium (0 for SM pubset)	var(*LIST).CACHE-CURR.SEG-SIZE	I	0 4 8 16 32	1
Current cache size (0 for SM pubset)	var(*LIST).CACHE-CURR.SIZE	I	0 <integer 1..32767>	1
Current unit of measurement for the cache size *KB=size in kilobytes *MB=size in megabytes *UNDEF=no definition (for SM pubset)	var(*LIST).CACHE-CURR.SIZE-DIM	S	*KB *MB *UNDEF	1
Current value for data consistency *NO=full data consistency after crash *YES=no data consistency after crash *UNDEF=no definition (for SM pubset)	var(*LIST).CACHE-CURR.VOLATILITY	S	*NO *YES *UNDEF	1
Defined caching setting *ALL=caching for all files *BY-USER=activation by the user *BY-SYSTEM=activation by the system (AutoDAB) (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.CACH-FILE	S	*ALL *BY-USER *BY-SYSTEM *UNDEF	1
Defined FORCE-OUT value *AT-HIGH-FILL=removal with high filling level *AT-LOW-FILL=removal with low filling level *NO=no forced removal (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.FORCE-OUT	S	*AT-HIGH-FILL *AT-LOW-FILL *NO *UNDEF	1

(Part 3 of 11)

Output information	Name of the S variable	T	Contents	Condition
Defined GS unit *BY-DEFAULT=dependent on the availability of the GS *DUAL=dual operation via both units *MONO=in one of the two units (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.GS-UNIT	S	*BY-DEFAULT *DUAL *MONO *UNDEF	1
Defined GS unit number for MONO (0 for SM pubset)	var(*LIST).CACHE-DEFI.GS-UNIT-NUM	I	0 <integer 1..2>	1
Defined cache medium *GLOBAL-STOR=global storage *MAIN-MEM=main memory *NONE=no cache defined (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.MED	S	*GLOBAL-STOR *MAIN-MEM *NONE *UNDEF	1
No meaning (displayed only for reasons of compatibility)	var(*LIST).CACHE-DEFI.PREFETCH	S	*HIGH *LOW *NO *UNDEF	1
Defined segment size of the cache medium (0 for SM pubset)	var(*LIST).CACHE-DEFI.SEG-SIZE	I	0 4 8 16 32	1
Defined cache size (0 for SM pubset)	var(*LIST).CACHE-DEFI.SIZE	I	<integer 1..32767> 0	1
Defined unit of measurement for the cache size *KB=size in kilobytes *MB=size in megabytes (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.SIZE-DIM	S	*KB *MB *UNDEF	1
Defined guarantee of data consistency *NO=full data consistency after crash *YES=no data consistency after crash (*UNDEF for SM pubset only)	var(*LIST).CACHE-DEFI.VOLATILITY	S	*NO *YES *UNDEF	1
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>	
ID of the control volume set; *NO for SF pubsets	var(*LIST).CONTR-VOLSET	S	*NO FALSE=none	

(Part 4 of 11)

SHOW-PUBSET-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Current access control value FALSE=none TRUE=access only for authorized user IDs	var(*LIST).CURR.ACCESS-CONTR	B	FALSE TRUE	3
Current waiting time in seconds for batch jobs	var(*LIST).CURR.BATCH-WAIT-TIME	I	<integer 0..2147483647>	3
Current waiting time in seconds for dialog jobs	var(*LIST).CURR.DIALOG-WAIT-TIME	I	<integer 0..2147483647>	3
BCAM name of the pubset owner (only for imported pubsets whose owner is not the local host)	var(*LIST).CURR.HOST-NAME	S	*UNDEF <alphan.-name 1..8>	3
Current number of CMS buffers	var(*LIST).CURR.NUM-OF-BUF	I	<integer 0..255>	3
Current CMS buffer class FALSE=PAGEABLE TRUE=RESIDENT	var(*LIST).CURR.RESID-BUF	B	FALSE TRUE	3
Current operating mode FALSE=EXCL TRUE=SHARED	var(*LIST).CURR.SHARE-PUBSET	B	FALSE TRUE	3
Current SPEEDCAT mode *NOT-RUN=not activated *RUN=activated *UNDEF=no definition (for SM pubset)	var(*LIST).CURR.SPEEDCAT-MODE	S	*NOT-RUN *RUN *UNDEF	3
Authorized user ID if CURR.ACCESS-CONTR=TRUE	var(*LIST).CURR.USER-ID	S	*UNDEF <user-id>	3
Current XCS attribute FALSE=not an XCS pubset TRUE=declared as an XCS pubset	var(*LIST).CURR.XCS-CONF	B	FALSE TRUE	3
Current XCS name of the pubset	var(*LIST).CURR.XCS-NAME	S	*UNDEF <alphan.-name 1..8>	3
Defined access control FALSE=none TRUE=access only for authorized user IDs	var(*LIST).DEFI.ACCESS-CONTR	B	FALSE TRUE	3
No meaning (displayed only for reasons of compatibility)	var(*LIST).DEFI.ACCESS-FAILURE	S	*CANCEL-JOBS *HOLD-JOBS	3
Defined waiting period in seconds for batch jobs	var(*LIST).DEFI.BATCH-WAIT-TIME	I	<integer 0..2147483647>	3
Definition of whether the TSOS catalog of the SF pubset is converted to V10 format when exported	var(*LIST).DEFI.CONVERSION	S	*NO-CONVERSION *V10-COMPATIBLE	3

(Part 5 of 11)

Output information	Name of the S variable	T	Contents	Condition
Defined waiting period in seconds for dialog jobs	var(*LIST).DEFI.DIALOG-WAIT-TIME	I	<integer 0..2147483647>	3
Defined import behavior in the event of a cache defect FALSE=import is aborted TRUE=output of a console query	var(*LIST).DEFI.FORCE-IMP	B	FALSE TRUE	3
Defined number of CMS buffers	var(*LIST).DEFI.NUM-OF-BUF	I	<integer 0..255>	3
Definition of when a catalog of a remote processor is entered locally *BY-CMD-ONLY=by explicit IMPORT-PUBSET command *BY-CONNECTION=when establishing the MSCF connection	var(*LIST).DEFI.REMOTE-IMPORT	S	*BY-CMD-ONLY *BY-CONNECTION	3
Defined CMS buffer class FALSE=PAGEABLE TRUE=RESIDENT	var(*LIST).DEFI.RESID-BUF	B	FALSE TRUE	3
Defined operating mode FALSE=EXCL TRUE=SHARED	var(*LIST).DEFI.SHARE-PUBSET	B	FALSE TRUE	3
Defined import behavior if the cache parameters are incorrect FALSE=import is aborted TRUE=import is forced without caching	var(*LIST).DEFI.SIZE-TOL	B	FALSE TRUE	3
Defined SPEEDCAT mode for next import *NO=SPEEDCAT is not started (for SM pubset) *OWN-TASK=SPEEDCAT under the user's task *SPEEDCAT-TASK=SPEEDCAT under SCA-TASK	var(*LIST).DEFI.SPEEDCAT-MODE	S	*NO *OWN-TASK *SPEEDCAT-TASK	3
Defined authorized user ID if DEFI.ACCESS-CONTR=TRUE	var(*LIST).DEFI.USER-ID	S	*UNDEF <user-id>	3
Defined XCS attribute FALSE=not an XCS pubset TRUE=declared as an XCS pubset	var(*LIST).DEFI.XCS-CONF	B	FALSE TRUE	3
No meaning (displayed only for reasons of compatibility)	var(*LIST).EAM-CURR.MAX-SIZE	S	*UNDEF <integer 12..193536>	2
Current minimum size of SYSEAM	var(*LIST).EAM-CURR.MIN-SIZE	S	*UNDEF <integer 12..193536>	2

(Part 6 of 11)

SHOW-PUBSET-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Current secondary allocation for SYSEAM	var(*LIST).EAM-CURR.SECONDARY-ALLOC	S	*UNDEF <integer 1..193536>	2
Current memory size for SYSEAM	var(*LIST).EAM-CURR.VIRT-MEM	S	*UNDEF <integer 0..8192>	2
No meaning (displayed only for reasons of compatibility)	var(*LIST).EAM-DEFI.MAX-SIZE	S	*SYS-STD <integer 12..193536>	2
Defined minimum size of SYSEAM	var(*LIST).EAM-DEFI.MIN-SIZE	S	*SYS-STD <integer 12..193536>	2
Defined secondary allocation for SYSEAM	var(*LIST).EAM-DEFI.SECONDARY-ALLOC	S	*SYS-STD <integer 1..193536>	2
Defined memory size for SYSEAM	var(*LIST).EAM-DEFI.VIRT-MEM	S	*SYS-STD <integer 0..8192>	2
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	
Number of occupying tasks	var(*LIST).OCCUP.NUM-OF-TASK	I	<integer>	4
Host name (only if OCCUP.NUM-OF-TASK > 0)	var(*LIST).OCCUP.HOST(*LIST).NAME	S	*LOC *UNKNOWN <alphan.-name 1..8>	4
TSN of an occupying task (only if OCCUP.NUM-OF-TASK > 0)	var(*LIST).OCCUP.HOST(*LIST).TASK(*LIST).TSN	S	<tsn>	4
User ID of an occupying task (only if OCCUP.NUM-OF-TASK > 0)	var(*LIST).OCCUP.HOST(*LIST).TASK(*LIST).USER-ID	S	*NONE <user-id>	4
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	
Current FORCE-OUT value *AT-HIGH-FILL=removal with high filling level *AT-LOW-FILL=removal with low filling level *NO=no forced removal *UNDEFINED=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR.FORCE-OUT	S	*AT-HIGH-FILL *AT-LOW-FILL *NO *UNDEF	7
GS unit set *DUAL=dual operation via both units *MONO=in one of the two units *UNDEFINED=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR.GS-UNIT	S	*DUAL *MONO *UNDEF	7

(Part 7 of 11)

Output information	Name of the S variable	T	Contents	Condition
GS unit number set for MONO	var(*LIST).VOLSET(*LIST).CACHE-CURR. GS-UNIT-NUM	I	0 <integer 1..2>	7
Current cache medium *GLOBAL-STOR=global storage *MAIN-MEM=main memory *NONE=no cache defined	var(*LIST).VOLSET(*LIST).CACHE-CURR. MED	S	*GLOBAL-STOR *MAIN-MEM *NONE	7
Current status of the cache medium *ACTIVE=cache active *IN-HOLD=cache temporarily deactivated *NOT-ACTIVE=cache not active	var(*LIST).VOLSET(*LIST).CACHE-CURR. MED-STAT	S	*ACTIVE *IN-HOLD *NOT-ACTIVE	7
Current prefetching value *HIGH=prefetching for a maximum number of blocks *LOW=prefetching for a minimum number of blocks *NO=no prefetching *UNDEFINED=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR. PREFETCH	S	*HIGH *LOW *NO *UNDEF	7
Current segment size of the cache medium	var(*LIST).VOLSET(*LIST).CACHE-CURR. SEG-SIZE	I	0 4 8 16 32	7
Current cache size	var(*LIST).VOLSET(*LIST).CACHE-CURR. SIZE	I	0 <integer 1..32767>	7
Current unit of measurement for the cache size *KB=size in kilobytes *MB=size in megabytes *UNDEFINED=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR. SIZE-DIM	S	*KB *MB *UNDEFINED	7
Current value for data consistency *NO=full data consistency after crash *YES=no data consistency after crash *UNDEF=not defined	var(*LIST).VOLSET(*LIST).CACHE-CURR. VOLATILITY	S	*NO *YES *UNDEF	7
Defined cache value *ALL=caching for all files *BY-USER=activation by the user	var(*LIST).VOLSET(*LIST).CACHE-DEFI. CACH-FILE	S	*ALL *BY-USER	7

(Part 8 of 11)

SHOW-PUBSET-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
Defined FORCE-OUT value *AT-HIGH-FILL=removal with high filling level *AT-LOW-FILL=removal with low filling level *NO=no forced removal	var(*LIST).VOLSET(*LIST).CACHE-DEFI. FORCE-OUT	S	*AT-HIGH-FILL *AT-LOW-FILL *NO	7
Defined GS unit *BY-DEFAULT=dependend on the pubset attribute *DUAL=dual operation via both units *MONO=in one of the two units	var(*LIST).VOLSET(*LIST).CACHE-DEFI. GS-UNIT	S	*BY-DEFAULT *DUAL *MONO	7
Defined GS unit number for MONO	var(*LIST).VOLSET(*LIST).CACHE-DEFI. GS-UNIT-NUM	I	0 <integer 1..2>	7
Defined cache medium *GLOBAL-STOR=global storage *MAIN-MEM=main memory *NONE=no cache defined	var(*LIST).VOLSET(*LIST).CACHE-DEFI. MED	S	*GLOBAL-STOR *MAIN-MEM *NONE	7
Defined prefetching value *HIGH=prefetching for a maximum number of blocks *LOW=prefetching for a minimum number of blocks *NO=no prefetching	var(*LIST).VOLSET(*LIST).CACHE-DEFI. PREFETCH	S	*HIGH *LOW *NO	7
Defined segment size of the cache medium	var(*LIST).VOLSET(*LIST).CACHE-DEFI. SEG-SIZE	I	0 4 8 16 32	7
Defined cache size	var(*LIST).VOLSET(*LIST).CACHE-DEFI. SIZE	I	<integer 1..32767>	7
Defined unit of measurement for the cache size *KB=size in kilobytes *MB=size in megabytes	var(*LIST).VOLSET(*LIST).CACHE-DEFI. SIZE-DIM	S	*KB *MB	7
Defined guarantee of data consistency *NO=full data consistency after crash *YES=no data consistency after crash	var(*LIST).VOLSET(*LIST).CACHE-DEFI. VOLATILITY	S	*NO *YES	7
Device type of the system disk of the volume set	var(*LIST).VOLSET(*LIST).DEV-TYPE	S	*UNKNOWN <device>	7,8,9,10
Number of occupying tasks	var(*LIST).VOLSET(*LIST).OCCUP.NUM-OF-TASK	I	<integer>	10

(Part 9 of 11)

Output information	Name of the S variable	T	Contents	Condition
Host name (only if OCCUP.NUM-OF-TASK > 0)	var(*LIST).VOLSET(*LIST).OCCUP.HOST(*LIST).NAME	S	*LOC *UNKNOWN <alphan.-name 1..8>	10
TSN of an occupying task (only if OCCUP.NUM-OF-TASK > 0)	var(*LIST).VOLSET(*LIST).OCCUP.HOST(*LIST).TASK(*LIST).TSN	S	<tsn>	10
User ID of an occupying task (only if OCCUP.NUM-OF-TASK > 0)	var(*LIST).VOLSET(*LIST).OCCUP.HOST(*LIST).TASK(*LIST).USER-ID	S	*NONE <user-id>	10
Current value of saturation level 1	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL1	S	*UNDEF <integer 1..2147483647>	8
Current value of saturation level 2	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL2	S	*UNDEF <integer 1..2147483647>	8
Current value of saturation level 3	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL3	S	*UNDEF <integer 1..2147483647>	8
Current value of saturation level 4	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL4	S	*UNDEF <integer 1..2147483647>	8
Current value of saturation level 5	var(*LIST).VOLSET(*LIST).SAT-CURR.SAT-LEVEL5	S	*UNDEF <integer 1..2147483647>	8
Current ZIP level	var(*LIST).VOLSET(*LIST).SAT-CURR.ZIP-LEVEL	S	*UNDEF <integer 0..2147483647>	8
Defined saturation level 1	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL1	S	*BY-SYS <integer 1..2147483647>	8
Defined saturation level 2	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL2	S	*BY-SYS <integer 1..2147483647>	8
Defined saturation level 3	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL3	S	*BY-SYS <integer 1..2147483647>	8
Defined saturation level 4	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL4	S	*BY-SYS <integer 1..2147483647>	8
Defined saturation level 5	var(*LIST).VOLSET(*LIST).SAT-DEFI.SAT-LEVEL5	S	*BY-SYS <integer 1..2147483647>	8
Defined ZIP level	var(*LIST).VOLSET(*LIST).SAT-DEFI.ZIP-LEVEL	S	*BY-SYS <integer 0..2147483647>	8

(Part 10 of 11)

SHOW-PUBSET-PARAMETERS

Output information	Name of the S variable	T	Contents	Condition
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	7,8,9,10
Volume set ID	var(*LIST).VOLSET(*LIST).VOLSET	S	<vsid>	7,8,9,10

(Part 11 of 11)

SHOW-PUBSET-PROCESSING

Display pubset composition

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS OPERATING STD-PROCESSING
Routing code:	@

Function

The SHOW-PUBSET-PROCESSING command provides information on the physical configuration of pubsets. The name, device type and allocation capabilities of the volumes (in SF pubsets) or of the volume sets and their volumes (in SM pubsets) are displayed. Information is supplied only for locally available (imported) pubsets.

The pubset configuration can be modified with the MODIFY-PUBSET-PROCESSING command.

The command supports structured output in S variables (see [“Output in S variables” on page 6-566](#)).



This command corresponds to the SHOW-PUBSET-RESTRICTION command. The information on the physical configuration of the pubset is also contained in the output of the SHOW-PUBSET-PARAMETERS command.

Format

```
SHOW-PUBSET-PROCESSING
```

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

```
,SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *HSMS-SUPPORTED
```

Operands

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

Identifies the locally available pubsets for which the configuration parameters are to be displayed.

PUBSET = *ALL

The configuration parameters of all locally available pubsets are to be displayed. The SELECT-PUBSET operand can be used to restrict the selection to specific pubsets.

PUBSET = <cat-id 1..4>

Catalog ID of the pubset for which the configuration parameters are to be displayed.

SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *HSMS-SUPPORTED

Defines criteria for selecting specific pubsets from the set of all locally available pubsets (see PUBSET=*ALL). The default is *ALL, i.e. the configuration parameters of all pubsets are displayed.

SELECT-PUBSET = *EXCLUSIVE

The configuration parameters of all pubsets imported exclusively are displayed.

SELECT-PUBSET = *SHARED

The configuration parameters of all pubsets imported as shared are displayed.

SELECT-PUBSET = *HSMS-SUPPORTED

The configuration parameters of all SM pubsets which are supported by the HSMS subsystem are 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)
	32	DMS138A	Internal parameter error
	64	DMS1381	Volume set conflict
	64	DMS138B	Pubset does not exist or not with specified attribute
	64	DMS138C	Pubset not accessible
	64	DMS138E	Volume set does not exist
	128	DMS1386	Not enough class 4/5 memory

Output format

The output starts with a header line consisting of the command name. This is then followed for each pubset by:

1. the output block with cross-pubset summary information
2. the output block with information on the physical pubset configuration

Pubset-global summary information

The output block comprises one line showing the catalog ID, the pubset type (SF or SM) and the number of volumes or volume sets which belong to the pubset. With SM pubsets the default file format is shown as well.

Output for an SF pubset:

```
PUBSET <catid>: TYPE = SINGLE-FEATURE, VOLUMES = <n>
```

Output for an SM pubset:

```
PUBSET <catid>: TYPE = SYSTEM-MANAGED, VOLUMESETS = <m>, DEFAULT-FILE-FORMAT = <f>
```

Information on the physical pubset configuration

The output block is introduced by the following header line:

```
--- PHYSICAL CONFIGURATION -----
```

For an SF pubset, the information about the volumes is displayed on one or more lines of values beneath the following header:

```
VOLUME-CONFIGURATION:
VOLUME  DEVICE  ALLOCATION  VOLUME  DEVICE  ALLOCATION
<vsn>   <type>   <alloc>   <vsn>   <type>   <alloc>
```

For each volume set of an SM pubset, the volume set ID and the number of volumes in the set are displayed. This is followed by information about the volumes one or more lines of values beneath the following header:

```
--- VOLUME SET INFORMATION -----
VOLUME-SET <catid>: VOLUMES = <n>
VOLUME CONFIGURATION:
VOLUME  DEVICE  ALLOCATION  VOLUME  DEVICE  ALLOCATION
<vsn>   <type>   <alloc>   <vsn>   <type>   <alloc>
```

Key to the output values

<catid>	pubset or volume set ID
<n>	number of volumes in the pubset/volume set
<vsn>	volume serial number of the volume
<type>	device type assigned to the volume
<alloc>	allocation capability of the volume
	NOT RESTR allocation possible
	NOT ALLOWED allocation not possible
	PHYSICAL volume can only be physically allocated

Output in S variables

Some S variables are generated in accordance with the pubset type. These are shown in the Condition column of the table below, with "1" meaning SF pubset and "2" meaning SM pubset.

Output information	Name of the S variable	T	Contents	Condition
Number of volumes for SF pubset Number of volume sets for SM pubset	var(*LIST).COUNT	I	<integer 1..255>	
Maximum I/O transfer length (HP) of the SM pubset	var(*LIST).MAX-IO-LEN	I	<integer>	2
Pubset catalog ID	var(*LIST).PUBSET-ID	S	FALSE=none	
Pubset type	var(*LIST).PUBSET-TYPE	S	*SINGLE-FEATURE *SYS-MANAGE	
Allocation lock for the SF pubset *ALLOW=no lock *NOT-ALLOW=locked against allocation *PHYS-ONLY=can only be allocated physically	var(*LIST).VOL(*LIST).ALLOC	S	*ALLOW *NOT-ALLOW *PHYS-ONLY	1
Device types of the SF pubset	var(*LIST).VOL(*LIST).DEV	S	<device>	1
VSNs of the SF pubset volumes	var(*LIST).VOL(*LIST).VOL	S	<vsn>	1
Volume set ID	var(*LIST).VOLSET(*LIST).VOLSET	S	<vsid>	2
Number of volumes per volume set	var(*LIST).VOLSET(*LIST).VOL-COUNT	I	<integer 1..255>	2
Allocation lock for the volume set *ALLOW=no lock *NOT-ALLOW=locked against allocation *PHYS-ONLY=can only be allocated physically	var(*LIST).VOLSET(*LIST).VOL(*LIST).ALLOC	S	*ALLOC *NOT-ALLOW *PHYS-ONLY	2
Device types of the volumes per volume set	var(*LIST).VOLSET(*LIST).VOL(*LIST).DEV	S	<device>	2
VSNs of the volumes per volume set	var(*LIST).VOLSET(*LIST).VOL(*LIST).VOL		<vsn>	2

Example

```
/show-pubset-processing pubset=2os6
```

```

%-----
%COMMAND: SHOW-PUBSET-PROCESSING
%-----
%PUBSET 2OS6: TYPE = SYSTEM-MANAGED, VOLUMESETS = 6, DEFAULT FILE FORMAT = K
%---- PHYSICAL CONFIGURATION ----- + -----
%---- VOLUME-SET INFORMATION ----- + -----
%VOLUME-SET 6CV1: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6CV1.0   D3435   NOT RESTR   6CV1.1   D3435   NOT RESTR
%VOLUME-SET 6VS1: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS1.0   D3435   NOT RESTR   6VS1.1   D3435   NOT RESTR
%VOLUME-SET 6VS2: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS2.0   D3435   NOT RESTR   6VS2.1   D3435   NOT RESTR
%VOLUME-SET 6VS3: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS3.0   D3435   NOT RESTR   6VS3.1   D3435   NOT RESTR
%VOLUME-SET 6VS4: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS4.0   D3435   NOT RESTR   6VS4.1   D3435   NOT RESTR
%VOLUME-SET 6VS5: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS5.0   D3435   NOT RESTR   6VS5.1   D3435   NOT RESTR
%-----

```

SHOW-PUBSET-RESTRICTION

Display usage restrictions of a pubset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS OPERATING STD-PROCESSING
Routing code:	@

Function

The SHOW-PUBSET-RESTRICTION command provides information on the physical pubset configuration and the usage restrictions defined in it. The name, device type and allocation capabilities of the volumes (in SF pubsets) or of the volume sets and their volumes (in SM pubsets) are displayed. Information is supplied only for locally available (imported) pubsets.

Usage restrictions are set or canceled using the MODIFY-PUBSET-RESTRICTION command.

The command supports structured output in S variables (see [“Output in S variables” on page 6-571](#)).



This command corresponds to the SHOW-PUBSET-PROCESSING command. The information on the physical configuration of the pubset is also contained in the output of the SHOW-PUBSET-PARAMETERS command.

Format

SHOW-PUBSET-RESTRICTION

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

,**SELECT-PUBSET** = *ALL / *EXCLUSIVE / *SHARED / *HSMS-SUPPORTED

Operands

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

Identifies the locally available pubsets for which the configuration parameters are to be displayed.

PUBSET = *ALL

The configuration parameters of all locally available pubsets are to be displayed. The SELECT-PUBSET operand can be used to restrict the selection to specific pubsets.

PUBSET = <cat-id 1..4>

Catalog ID of the pubset for which the configuration parameters are to be displayed.

SELECT-PUBSET = *ALL / *EXCLUSIVE / *SHARED / *HSMS-SUPPORTED

Defines criteria for selecting specific pubsets from the set of all locally available pubsets (see PUBSET=*ALL). The default is *ALL, i.e. the configuration parameters of all pubsets are displayed.

SELECT-PUBSET = *EXCLUSIVE

The configuration parameters of all pubsets imported exclusively are displayed.

SELECT-PUBSET = *SHARED

The configuration parameters of all pubsets imported as shared are displayed.

SELECT-PUBSET = *HSMS-SUPPORTED

The configuration parameters of all SM pubsets which are supported by the HSMS subsystem are 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)
	32	DMS138A	Internal parameter error
	64	DMS1381	Volume set conflict
	64	DMS138B	Pubset does not exist or not with specified attribute
	64	DMS138C	Pubset not accessible
	64	DMS138E	Volume set does not exist
	128	DMS1386	Not enough class 4/5 memory

Output format

The output starts with a header line consisting of the command name. This is then followed for each pubset by:

1. the output block with cross-pubset summary information
2. the output block with information on the physical pubset configuration and the usage restrictions

Pubset-global summary information

The output block comprises one line showing the catalog ID, the pubset type (SF or SM) and the number of volumes or volume sets which belong to the pubset. With SM pubsets the default file format is shown as well.

Output for an SF pubset:

```
PUBSET <catid>: TYPE = SINGLE-FEATURE, VOLUMES = <n>
```

Output for an SM pubset:

```
PUBSET <catid>: TYPE = SYSTEM-MANAGED, VOLUMESETS = <m>, DEFAULT-FILE-FORMAT = <f>
```

Information on the physical pubset configuration

The output block is introduced by the following header line:

```
--- PHYSICAL CONFIGURATION -----
```

For an SF pubset, the information about the volumes is displayed on one or more lines of values beneath the following header:

```
VOLUME-CONFIGURATION:
VOLUME  DEVICE  ALLOCATION  VOLUME  DEVICE  ALLOCATION
<vsn>   <type>   <alloc>   <vsn>   <type>   <alloc>
```

For each volume set of an SM pubset, the volume set ID and the number of volumes in the set are displayed. This is followed by information about the volumes one or more lines of values beneath the following header:

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

```
VOLUME-SET <catid>: VOLUMES = <n>
VOLUME CONFIGURATION:
VOLUME  DEVICE  ALLOCATION  VOLUME  DEVICE  ALLOCATION
<vsn>   <type>   <alloc>   <vsn>   <type>   <alloc>
```

Key to the output values

<catid>	pubset or volume set ID
<n>	number of volumes in the pubset/volume set
<vsn>	volume serial number of the volume
<type>	device type assigned to the volume
<alloc>	allocation capability of the volume
	NOT RESTR allocation possible
	NOT ALLOWED allocation not possible
	PHYSICAL volume can only be physically allocated

Output in S variables

Some S variables are generated in accordance with the pubset type. These are shown in the Condition column of the table below, with "1" meaning SF pubset and "2" meaning SM pubset.

Output information	Name of the S variable	T	Contents	Condition
Number of volume sets for single-feature pubsets Number of volume sets for SM pubset	var(*LIST).COUNT	I	<integer 1..255>	
Maximum I/O transfer length (HP) of the SM pubset	var(*LIST).MAX-IO-LEN	I	<integer>	2
Pubset catalog ID	var(*LIST).PUBSET-ID	S	FALSE=none	
Pubset type	var(*LIST).PUBSET-TYPE	S	*SINGLE-FEATURE *SYS-MANAGE	
Allocation lock for the single-feature pubset *ALLOW=no lock *NOT-ALLOW=locked against allocation *PHYS-ONLY=can only be allocated physically	var(*LIST).VOL(*LIST).ALLOC	S	*ALLOW *NOT-ALLOW *PHYS-ONLY	1
Device types of the SF pubset	var(*LIST).VOL(*LIST).DEV	S	<device>	1
VSNs of the SF pubset volumes	var(*LIST).VOL(*LIST).VOL	S	<vsn>	1
Volume set ID	var(*LIST).VOLSET(*LIST).VOLSET	S	<vsid>	2
Number of volumes per volume set	var(*LIST).VOLSET(*LIST).VOL-COUNT	I	<integer 1..255>	2
Allocation lock for the volume set *ALLOW=no lock *NOT-ALLOW=locked against allocation *PHYS-ONLY=can only be allocated physically	var(*LIST).VOLSET(*LIST).VOL(*LIST).ALLOC	S	*ALLOC *NOT-ALLOW *PHYS-ONLY	2
Device types of the volumes per volume set	var(*LIST).VOLSET(*LIST).VOL(*LIST).DEV	S	<device>	2
VSNs of the volumes per volume set	var(*LIST).VOLSET(*LIST).VOL(*LIST).VOL		<vsn>	2

Example

```

/show-pubset-restriction pubset=2os6
%-----
%COMMAND: SHOW-PUBSET-RESTRICTION
%-----
%PUBSET 2OS6: TYPE = SYSTEM-MANAGED, VOLUMESETS = 6, DEFAULT FILE FORMAT = K
%---- PHYSICAL CONFIGURATION ----- + -----
%---- VOLUME-SET INFORMATION ----- + -----
%VOLUME-SET 6CV1: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6CV1.0   D3435   NOT RESTR   6CV1.1   D3435   NOT RESTR
%VOLUME-SET 6VS1: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS1.0   D3435   NOT RESTR   6VS1.1   D3435   NOT RESTR
%VOLUME-SET 6VS2: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS2.0   D3435   NOT RESTR   6VS2.1   D3435   NOT RESTR
%VOLUME-SET 6VS3: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS3.0   D3435   NOT RESTR   6VS3.1   D3435   NOT RESTR
%VOLUME-SET 6VS4: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS4.0   D3435   NOT RESTR   6VS4.1   D3435   NOT RESTR
%VOLUME-SET 6VS5: VOLUMES = 2
% VOLUME CONFIGURATION:
% VOLUME   DEVICE   ALLOCATION   VOLUME   DEVICE   ALLOCATION
% 6VS5.0   D3435   NOT RESTR   6VS5.1   D3435   NOT RESTR
%-----

```

SHOW-PUBSET-SPACE-ALLOCATION

Show space allocation on pubset

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

Function

The SHOW-PUBSET-SPACE-ALLOCATION command provides systems support with information on space allocation on a pubset which is currently in service. Information can be requested globally for the pubset or in detail for all the volumes within the pubset. In the case of an SM pubset the information is output for each volume set, and the output can be restricted to specific volume sets.

The command supports structured output in S variables (see [“Output in S variables” on page 6-579](#)).

Format

```
SHOW-PUBSET-SPACE-ALLOCATION
```

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

```
,INFORMATION = *SUMMARY / *ALL
```

```
,SELECT-VOLUME-SET = *ALL / *STD / *WORK / *HSMS-CONTROLLED / list-poss(255): <cat-id 1..4>
```

Operands

PUBSET = <cat-id 1..4>

Identifies the pubset for which the space allocation is to be displayed.

INFORMATION = *SUMMARY / *ALL

Specifies how much information to display.

INFORMATION = *SUMMARY

Displays global information about space allocation on the entire pubset. With an SM pubset, the information is shown for each volume set selected in the SELECT-VOLUME-SET operand.

INFORMATION = *ALL

Displays global information about space allocation on the entire pubset (see INFORMATION=*SUMMARY).

Also displays space allocation on all the volumes in an SF pubset or on the selected volume set of an SM pubset.

SELECT-VOLUME-SET = *ALL / *STD / *WORK / *HSMS-CONTROLLED / list-poss(255): <cat-id 1..4>

This operand value is evaluated for SM pubsets only.

Identifies those volume sets in the SM pubset for which the space allocation is to be displayed. Volume sets can be selected by usage mode (see the USAGE operand of the MODIFY-PUBSET-DEFINITION-FILE command) or explicitly by catalog ID.

SELECT-VOLUME-SET = *ALL

Space allocation is shown for all volume sets.

SELECT-VOLUME-SET = *STD

Space allocation is shown only for volume sets which can be used as the storage location for ordinary files.

SELECT-VOLUME-SET = *WORK

Space allocation is shown only for volume sets which can be used as the storage location for work files.

SELECT-VOLUME-SET = *HSMS-CONTROLLED

Space allocation is shown only for volume sets which are used exclusively by the HSMS subsystem.

SELECT-VOLUME-SET = list-poss(255): <cat-id 1..4>

Catalog ID of the volume set for which the space allocation is to be displayed. Up to 255 volume sets can be listed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
	1	CMD0202	Syntax error
	32	CMD0221	Internal system error
	32	CMD2009	Error on output to S variables (e.g. subsystem not available)
	64	CMD0216	User does not have necessary authorization
	64	DMS140B	Pubset not available
	130	DMS140F	Not enough class 4/5 memory

Output formats

The output information breaks down into four output blocks:

1. pubset-global summary information
2. pubset-global space allocation for an SF pubset
3. volume set-global space allocation for an SF pubset
4. volume-related space allocation

With INFORMATION=*SUMMARY and an SF pubset, output blocks 1 and 2 containing the summary information and the pubset-global space allocation are displayed.

With an SM pubset, output blocks 1 and 3 containing the summary information and the volume set-global space allocation are displayed, with output block 3 being repeated for each volume set selected in the SELECT-VOLUME-SET operand.

With INFORMATION=*ALL, the space allocation for each volume is shown in addition to the global information. With an SM pubset, output is provided only for the volumes in the volume sets selected in the SELECT-VOLUME-SET operand.

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>
```

Key:

<catid> Pubset ID

<type> Pubset type; possible values: SINGLE-FEATURE or SYSTEM-MANAGED

Pubset-global space allocation for an SF pubset

Output is provided only for SF pubsets. It has the following layout:

```
ACTUAL-SATURATION-LEVEL = <slev>, AVAILABLE-SPACE = <asp>
NOT-RESTRICTED-VOLUMES = <nrvol>, RESTRICTED-VOLUMES = <rvol>
TOTAL-SPACE (ON NOT-RESTRICTED-VOLUMES) = <tsp>
```

Key to the output fields

Output field	Meaning and possible values
ACTUAL-SATURATION-LEVEL	Shows which saturation level has been reached. Possible values: <integer 0..6>, where a value of 6 means that only the ZIP reserve is left.
AVAILABLE-SPACE	Number of free PAM pages on disks for which there is no allocation reserve
NOT-RESTRICTED-VOLUMES	Number of disks not subject to an allocation lock
RESTRICTED-VOLUMES	Number of disks subject to an allocation lock
TOTAL-SPACE	Total of free and occupied PAM pages on disks not subject to an allocation lock

Table 152: Output fields (pubset-global) of the SHOW-PUBSET-SPACE-ALLOCATION command

Volume set-global space allocation for an SM pubset

Output is provided only for SM pubsets. An output block with the following layout is displayed for each volume set selected in the SELECT-VOLUME-SET operand:

```
-----
VOLUME-SET <catid>: USAGE = <usage>
-----
ACTUAL-SATURATION-LEVEL = <slev>, AVAILABLE-SPACE = <asp>
NEW-FILE-ALLOCATION = <nfile>
NOT-RESTRICTED-VOLUMES = <nrvol>, RESTRICTED-VOLUMES = <rvol>
TOTAL-SPACE (ON NOT-RESTRICTED-VOLUMES) = <tsp>
```

If volume sets which are not present or not available in the SM pubset are selected in the SELECT-VOLUME-SET operand, the following output lines are generated instead of the requested information for the volume sets in question:

- if selection is by usage mode:
NO INFORMATION FOR VOLUME-SET WITH USAGE = <usage>
- if selection is by volume set ID:
NO INFORMATION FOR VOLUME-SET <catid>:

Key to the output fields

Output field	Meaning and possible values
VOLUME-SET	Volume set ID
USAGE	Indicates the usage mode of the volume set. Possible values: STANDARD, HSMS-CONTROLLED and WORK.
ACTUAL-SATURATION-LEVEL	Shows which saturation level has been reached. Possible values: <integer 0..6>, where a value of 6 means that only the ZIP reserve is left.
AVAILABLE-SPACE	Number of free PAM pages on disks for which there is no allocation reserve
NEW-FILE-ALLOCATION	Shows restrictions on new file allocation on the volume set. Possible values: NOT-RESTRICTED, PHYSICAL-ONLY and NOT-ALLOWED.
NOT-RESTRICTED-VOLUMES	Number of disks not subject to an allocation lock
RESTRICTED-VOLUMES	Number of disks subject to an allocation lock
TOTAL-SPACE	Total of free and occupied PAM pages on disks not subject to an allocation lock

Table 153: Output fields (volume set-global) of the SHOW-PUBSET-SPACE-ALLOCATION command

Volume-related space allocation

A table is displayed showing allocation restrictions and available space for all the disks in an SF pubset or a volume set. The table ends with a totals row giving totals for the space occupancy columns. The format of the table is as follows:

VOLUME	ALLOCATION ON VOLUME	SPACE ON NOT RESTRICTED VOLUMES		SPACE ON RESTRICTED VOLUMES	
		AVAILABLE	USED	AVAILABLE	USED
<vsn ₁ >	<amod>	<nrv>	<nru>	<rav>	<rus>
<vsn ₂ >	<amod>	<nrv>	<nru>	<rav>	<rus>
.
.
.
<vsn _n >	<amod>	<nrv>	<nru>	<rav>	<rus>
TOTAL		<nrv>	<nru>	<rav>	<rus>

Key to the output columns

Output column	Meaning and possible values
VOLUME	Volume serial number of the disk
ALLOCATION ON VOLUME	Shows restrictions on space allocation on the disk. Possible values: NOT-RESTRICTED, PHYSICAL-ONLY and NOT-ALLOWED.
SPACE ON NOT RESTRICTED VOLUMES	Number of free and occupied PAM pages on disks not subject to an allocation lock
AVAILABLE	Number of free PAM pages
USED	Number of used PAM pages
SPACE ON RESTRICTED VOLUMES	Number of free and occupied PAM pages on disks subject to an allocation lock
AVAILABLE	Number of free PAM pages
USED	Number of used PAM pages
TOTAL	Total number of PAM pages in the associated output column

Table 154: Output fields (volume-related) of the SHOW-PUBSET-SPACE-ALLOCATION command

For a disk which has no restrictions on space allocation (**NOT-RESTRICTED** in the **ALLOCATION ON VOLUME** column), the free and used pages are shown only in the **SPACE ON NOT RESTRICTED VOLUMES** column.

For a disk which does have restrictions on space allocation (**PHYSICAL-ONLY** or **NOT-ALLOWED** in the **ALLOCATION ON VOLUME** column), the free and used pages are shown only in the **SPACE ON RESTRICTED VOLUMES** column.

Output in S variables

The scope of the output varies depending on the type of pubset (SF or SM) and on the value of the INFORMATION operand. The following combinations are of importance:

Notation used in command	Abbreviated form used in table
Any pubset type, INFORMATION = any value	1
SF pubset, INFORMATION = any value	2
SF pubset, INFORMATION = *ALL	3
SM pubset, INFORMATION = any value	4
SM pubset, INFORMATION = *ALL	5

Output information	Name of the S variable	T	Contents	Condition
Actual saturation level of the pubset; 6 stands for the ZIP level	var(*LIST).ACTUAL-SATUR-LEV	I	<integer 0..6>	2
Number of PAM pages available for occupation on the pubset	var(*LIST).AVAIL-SPACE	I	<integer 0..2147483647>	2
Number of disks on the pubset not affected by allocation restrictions	var(*LIST).NOT-RESTRICT-VOL	I	<integer 0..255>	2
Pubset ID	var(*LIST).PUBSET	S	<cat-id>	1
Pubset type	var(*LIST).PUBSET-TYPE	S	*SINGLE-FEATURE *SYS-MANAGE	1
Number of disks on the pubset affected by allocation restrictions	var(*LIST).RESTRICT-VOL	I	<integer 0..255>	2
Total amount of free and occupied space on the pubset disks not affected by allocation restrictions (number of PAM pages)	var(*LIST).TOTAL-SPACE	I	<integer 0..2147483647>	2
Restrictions when occupying space on the disk *NOT-RESTRICT=no restrictions *PHYS-ONLY=can only be physically allocated *NOT-ALLOW=no space can be occupied on the specified disk	var(*LIST).VOL(*LIST).ALLOC-MODE	S	*NOT-RESTRICT *PHYS-ONLY *NOT-ALLOW	3
Available space on a disk belonging to the pubset	var(*LIST).VOL(*LIST).AVAIL-SPACE	I	<integer 0..2147483647>	3
Occupied space on a disk belonging to a pubset	var(*LIST).VOL(*LIST).USED-SPACE	I	<integer 0..2147483647>	3
VSN of the disk	var(*LIST).VOL(*LIST).VOL	S	<vsn>	3
Actual saturation level of the volume set; 6 stands for the ZIP level	var(*LIST).VOL-SET(*LIST).ACTUAL-SATUR-LEV	I	<integer 0..6>	4

(Part 1 of 2)

SHOW-PUBSET-SPACE-ALLOCATION

Output information	Name of the S variable	T	Contents	Condition
Number of PAM pages available for allocation on the volume set	var(*LIST).VOL-SET(*LIST).AVAIL-SPACE	I	<integer 0..2147483647>	4
Restrictions concerning the creation of new files on the volume set *NOT-RESTRICT=no restrictions *PHYS-ONLY=can only be physically allocated *NOT-ALLOW=no new files may be created on the volume set	var(*LIST).VOL-SET(*LIST).NEW-FILE-ALLOC		*NOT-RESTRICT *PHYS-ONLY *NOT-ALLOW	4
Number of disks belonging to the volume set that are not affected by allocation restrictions	var(*LIST).VOL-SET(*LIST).NOT-RESTRICT-VOL	I	<integer 0..255>	4
Number of disks belonging to the volume set that are affected by allocation restrictions	var(*LIST).VOL-SET(*LIST).RESTRICT-VOL	I	<integer 0..255>	4
Total amount of free and occupied space on the volume set disks not affected by allocation restrictions (number of PAM pages)	var(*LIST).VOL-SET(*LIST).TOTAL-SPACE	I	<integer 0..2147483647>	4
Way in which the volume set is used	var(*LIST).VOL-SET(*LIST).USAGE	S	*STD *WORK *HSMS-CONTR	4
ID of the volume set	var(*LIST).VOL-SET(*LIST).VOL-SET	S	<cat-id>	4
Restrictions when occupying space on the individual disks of the volume set *NOT-RESTRICT=no restrictions *PHYS-ONLY=can only be physically allocated *NOT-ALLOW=no space may be occupied on the specified disk	var(*LIST).VOL-SET(*LIST).VOL(*LIST).ALLOC-MODE	S	*NOT-RESTRICT *PHYS-ONLY *NOT-ALLOW	5
Available space on a disk of a volume set	var(*LIST).VOL-SET(*LIST).VOL(*LIST).AVAIL-SPACE	I	<integer 0..2147483647>	5
Occupied space on a disk of a volume set	var(*LIST).VOL-SET(*LIST).VOL(*LIST).USED-SPACE	I	<integer 0..2147483647>	5
VSN of the disk of a volume set	var(*LIST).VOL-SET(*LIST).VOL(*LIST).VOLUME	S	<vsn>	5

(Part 2 of 2)

SHOW-PUBSET-SPACE-DEFAULTS

Display disk space management defaults

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

Function

The SHOW-PUBSET-SPACE-DEFAULTS command provides system support with information on the pubset-specific default values of the disk space management. The command supplies information both for single-feature (SF) pubsets and for system-managed (SM) pubsets.

The pubset-specific disk space management defaults are modified using the MODIFY-PUBSET-SPACE-DEFAULTS command.

The command supports structured output in S variables (see [“Output in S variables” on page 6-585](#)).



The pubset-specific disk space management defaults 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-PUBSET-SPACE-DEFAULTS

```
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
```

Operands

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

Specifies the pubsets for which the defaults are to be displayed.

PUBSET = *ALL

The defaults of all volume sets are to be 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 pubset whose defaults 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 defaults of all the pubsets specified in the PUBSET operand are displayed.

SELECT-PUBSET = *EXCLUSIVE

The defaults of all pubsets imported exclusively are displayed.

SELECT-PUBSET = *SHARED

The defaults of all pubsets imported as shared are displayed.

SELECT-PUBSET = *LOCAL

The defaults of all locally imported pubsets are displayed. The defaults of the pubsets which cannot be accessed are also displayed.

SELECT-PUBSET = *REMOTE

The defaults of all pubsets for which the *LOCAL attribute does not apply are displayed.

SELECT-PUBSET = *ACCESSIBLE

The defaults of all pubsets which can be accessed are displayed.

SELECT-PUBSET = *LOCAL-ACCESSIBLE

The defaults of all locally accessible, i.e. imported, pubsets are displayed.

SELECT-PUBSET = *REMOTE-ACCESSIBLE

The defaults of 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 defaults of all pubsets which are supported by the HSMS subsystem are displayed.

SELECT-PUBSET = *SPEEDCAT

The defaults of all SF pubsets whose file catalog can be accessed in the local system via SPEEDCAT are displayed.

SELECT-PUBSET = *PAGING

The defaults of all pubsets with paging areas which are used locally are displayed.

SELECT-PUBSET = *SINGLE-FEATURE

The defaults of all SF pubsets are displayed.

SELECT-PUBSET = *SYSTEM-MANAGED

The defaults of all SM pubsets are displayed.

SELECT-PUBSET = *INACCESSIBLE

The defaults of all pubsets which are not available are displayed.

SELECT-PUBSET = *QUIET

The defaults of all pubsets whose file catalog can be accessed over an MSCF connection are displayed.

SELECT-PUBSET = *DEFINED-XCS-CONFIGURATED

The defaults of all pubsets which are defined as XCS pubsets in the MRS catalog are displayed.

SELECT-PUBSET = *XCS-CONFIGURATED

The defaults of all XCS pubsets are 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 two groups of output blocks:

1. output block for pubset-global summary information
2. output blocks for pubset-global 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

The defaults for storage space allocation are displayed for the pubsets.

The output block is introduced by the following header line:

```
--- SPACE ALLOCATION      ---- + --- DEFINED --- + --- CURRENT ---
```

Then the following rows of values are displayed:

- Default values (in PAM pages) for space allocation for files. Values with invalid definitions (≤ 0) are replaced by the system with suitable current values.

```
PRIMARY ALLOCATION      | <number> HP      | <number> HP
SECONDARY ALLOCATION   | <number> HP      | <number> HP
MAXIMAL ALLOCATION     | <number> HP      | <number> HP
```

- For SM pubsets the next section gives information on the default file format:

```
DEFAULT FILE FORMAT   | PAMKEY           | PAMKEY
                     | NK2              | NK2
                     | NK4              | NK4
                     | UNDEFINED        | NK4
```

- For SF pubsets the next section gives information on whether absolute (physical) space allocation is allowed for nonprivileged users or only for systems support:

```
PHYSICAL ALLOCATION    | BY ADMINISTRATOR| BY ADMINISTRATOR
                     | USER ALLOWED   | USER ALLOWED
```

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Current standard file format (*UNDEF for SF pubset)	var(*LIST).ALLOC-CURR.FILE-FORM	S	*K *NK2 *NK4 *UNDEF	
Current secondary allocation limit	var(*LIST).ALLOC-CURR.MAX-ALLOC	S	*UNDEF <integer 1..32767>	
Physical allocation possible (FALSE for SM pubset)	var(*LIST).ALLOC-CURR.PHYS-ALLOC	B	FALSE TRUE	
Current primary allocation standard	var(*LIST).ALLOC-CURR.PRIMARY-ALLOC	S	*UNDEF <integer 1..16777215>	
Current secondary allocation standard *UNDEF=no definition (always this value for SM pubset)	var(*LIST).ALLOC-CURR.SECONDARY- ALLOC	S	*UNDEF <integer 1..32767>	

(Part 1 of 2)

SHOW-PUBSET-SPACE-DEFAULTS

Output information	Name of the S variable	T	Contents	Condition
Defined standard file format (*UNDEF always this value for SF pubset)	var(*LIST).ALLOC-DEFI.FILE-FORM	S	*K *NK2 *NK4 *UNDEF	
Defined secondary allocation limit	var(*LIST).ALLOC-DEFI.MAX-ALLOC	S	<integer 1..32767>	
Defined possibility for physical allocation (FALSE for SM pubset)	var(*LIST).ALLOC-DEFI.PHYS-ALLOC	B	FALSE TRUE	
Defined primary allocation standard	var(*LIST).ALLOC-DEFI.PRIMARY-ALLOC	S	<integer 1..16777215>	
Defined secondary allocation standard	var(*LIST).ALLOC-DEFI.SECONDARY-ALLOC	S	<integer 1..32767>	
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>	
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 SF 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	

(Part 2 of 2)

Example

```
/show-pubset-space-defaults pubset=x
```

```
%-----  
%COMMAND: SHOW-PUBSET-SPACE-DEFAULTS  
%-----  
%PUBSET DATA: SYSTEM-MANAGED, CTL-SET=(KEY, STDDISK), INACC, NO-HSMS-SUP  
%---- SPACE ALLOCATION ----- + ---- DEFINED ---- + ---- CURRENT ----  
% PRIMARY ALLOCATION           | 3                HP |  
% SECONDARY ALLOCATION         | 3                HP |  
% MAXIMAL ALLOCATION           | 24               HP |  
% DEFAULT FILE FORMAT         | UNDEFINED        |  
%-----
```

SHOW-PUBSET-SPACEPRO-HISTORY

Display information about pubset monitoring

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

Function

The SHOW-PUBSET-SPACEPRO-HISTORY command provides information about the pubset extensions/reductions performed automatically by SPACEPRO, the extensions/reductions aborted with an error, and the extensions/reductions started manually. The SPACEPRO pubset (or volume set), time of the extension or reduction, the assigned pool pubset and volume (old VSN and MN) are displayed. The information is output to SYSOUT. The default for all imported pubsets is that the entire SPACEPRO history is output. The quantity of information can be restricted to particular pubsets and a specific number of the latest records.

Format

SHOW-PUBSET-SPACEPRO-HISTORY

PUBSET = *ALL / list-poss(255): <cat-id 1..4>

,**RECORDS** = *ALL / *LAST(...)

*LAST(...)

| **COUNT** = 16 / <integer 1..2147483647>

Operands

PUBSET = *ALL / list-poss(255): <cat-id 1..4>

Pubset whose SPACEPRO history is to be output. The default is *ALL, i.e. the output includes all imported pubsets.

RECORDS = *ALL / *LAST(...)

Determines the scope of the SPACEPRO history which is to be output for each specified pubset.

RECORDS = *ALL

All records of the SPACEPRO history are output.

RECORDS = *LAST(...)

Only the last records entered are output, the subsequent COUNT operand determining the maximum number of records which can be output.

COUNT = 16 / <integer 1..2147483647>

Maximum number of records to be output.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	SPP0202	No information found which matches input
	64	SPP0601	SPACEPRO pubset not available
	130	SDP0099	Insufficient storage space

Output format

The information is output in tabular form. The output begins with a header line containing the names of the output columns. The header *HISTORY OF PUBSET <catid>* introduces the information output for each pubset. Each SPACEPRO function logged for the pubset concerned is then output in a values line.

Sample output

```

:=====
:FCT T-PS T-VS/N          TIME(UTC)          F-PS F-VS/N MNEM MSG
:=====
:
:          HISTORY OF PUBSET KMSV
:RED KMSV KMSV.1  2012-06-09 09:56:11  POLS POLV  E08C SPP0334
:EXP KMSV KMSV.1  2012-06-20 12:19:16  POLS POLV.2 E08C SPP0327
:EXP KMSV KMSV.2  2012-06-20 12:32:32  POLS POLV.1 E08B SPP0327
:MOV POLS POLV.1  2012-06-20 12:44:32  KMSV KMSV.2 E08B SPP0612
:ERX KMSV -       2012-06-20 13:54:55  POLS POLV.1 E08B SPP0328 SPP0311
:=====

```

Explanation of the output columns

Output column	Meaning
FCT:	Logged SPACEPRO function; possible values: <ul style="list-style-type: none"> – EXP Successful autonomous extension – ERX Extension attempt terminated with an error – RED Successful autonomous reduction – ERR Reduction attempt terminated with an error – MOV Manual extension/reduction by means of MOVE-SPACEPRO-DISK with FROM=*PUBSET and/or TO=*PUBSET
T-PS:	<ul style="list-style-type: none"> – When FCT=MOV: Pubset ID specified in the TO operand – When FCT≠MOV: SPACEPRO pubset ID
T-VS/N:	<ul style="list-style-type: none"> – When FCT=MOV: Volume set ID or VSN specified in the TO operand – When FCT≠MOV: ID of the SPACEPRO volume set or VSN
TIME(UTC)	Time stamp (date and time in UTC) of the logged function
F-PS:	<ul style="list-style-type: none"> – When FCT=MOV: Pubset ID specified in the FROM operand – When FCT≠MOV: ID of the pool pubset
F-VS/N	<ul style="list-style-type: none"> – When FCT=MOV: Volume set ID or VSN specified in the FROM operand – When FCT≠MOV: ID of the pool volume set or VSN
MNEM	Device MN affected
MSG	Message key of one or two SPACEPRO messages which return or reflect the result

Table 155: Output columns of the SHOW-PUBSET-SPACEPRO-HISTORY command

SHOW-PUBSET-SPACEPRO-OPTIONS

Display the SPACEPRO options

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

Function

The SHOW-PUBSET-SPACEPRO-OPTIONS command outputs the SPACEPRO options which are currently set for one or more pubsets. The required pubset can be specified either directly by means of its catalog ID or by specifying its pool pubset. Options for outputting all imported pubsets are set by default.

Format

SHOW-PUBSET-SPACEPRO-OPTIONS

PUBSET = *ALL / *BY-POOL-PUBSET(...) / list-poss(255): <cat-id 1..4>

*BY-POOL-PUBSET(...)

| **PUBSET** = *ALL / list-poss(255): <cat-id 1..4>

Operands

PUBSET = *ALL / *BY-POOL-PUBSET(...) / list-poss(255): <cat-id 1..4>

Specifies the pubsets whose SPACEPRO options are to be output.

PUBSET = *ALL

The SPACEPRO options of all imported pubsets are output.

PUBSET = *BY-POOL-PUBSET(...)

The SPACEPRO options of the pubsets which are assigned one of the pool pubsets which are subsequently specified are output.

PUBSET = *ALL / list-poss(255): <cat-id 1..4>

Catalog ID of one or more assigned pool pubsets. The default *ALL specifies all assigned pool pubsets.

PUBSET = list-poss(255): <cat-id 1..4>

The SPACEPRO options of the specified pubset are output. Up to 255 pubsets can be specified in a list.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	SPP0101	Lock not received
	64	SPP0202	No information found which matches input
	64	SPP0305	JV subsystem not available
	64	SPP0311	Unexpected return code of the command specified in the insert
	130	SDP0099	Insufficient storage space

Output format

The information is output in tabular form. The output begins with two header lines containing the names of the output columns. Two value lines are then output for each specified pubset.

Sample output

```
S-PS P-PS P-VS SAT-LEV BLOCK-TIM CHECK-MIR
REMARK:
```

```
=====
SPS1 PPS1      3              999 YES
      SRDF mirrored Pubset - mirror must be checked!
```

```
-----
SPS2 PPS1      BY-PAR UNLIM      NO
      for test only - just one extension
```

```
-----
SPS3 PPS3 PVS1 BY-PAR BY-PAR      NO
      up to 255 chars in multiple lines of free text
```

```
-----
SPS4 *NONE      BY-PAR 12:00:00 BY-PAR
      *NONE
-----
```


Explanation of the output columns

The corresponding operand of the MODIFY-PUBSET-SPACEPRO-OPTIONS command is specified in parentheses.

Output column	Meaning
S-PS	Catalog ID of the SPACEPRO pubset whose SPACEPRO options are displayed (PUBSET operand)
P-PS	Catalog ID of the assigned pool pubset (POOL-PUBSET operand)
P-VS	Catalog ID of the assigned volume set if the pool pubset is an SM pubset. Contains no value if all volume sets of the SM pubset have been assigned or if an SF pubset is involved (VOLUME-SET operand)
SAT-LEV	Saturation level as a trigger criterion for automatic extension of the pubset (SATURATION-LEVEL operand). Possible values: <integer 1..5> or BY-PAR if the corresponding SPACEPRO parameter setting is to apply.
BLOCK-TIM	Minimum time between two automatic extensions as a prerequisite for executing the next automatic extension (BLOCKING-TIME operand). Possible values: <ul style="list-style-type: none"> – <time> for minimum time in the format hh:mm:ss – <integer 0..999> when hours are specified – BY-PAR for the corresponding SPACEPRO parameter setting – UNLIM for the value *UNLIMITED
CHECK-MIR	Specification regarding homogeneity check in the event of a pubset extension (CHECK-PUBSET-MIRRORS operand). NO, YES or BY-PAR if the corresponding SPACEPRO parameter setting is to apply.
REMARK:	Output in a new line: Descriptive text about the SPACEPRO options (REMARK operand)

Table 156: Output columns of the SHOW-SPACEPRO-OPTIONS command

