

FUJITSU Software BS2000 VM2000

Version V10.0A  
June 2017

Release Notice

All rights reserved, including intellectual property rights.  
Technical data subject to modifications and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

© 2017 Fujitsu Technology Solutions GmbH

Fujitsu and the Fujitsu logo are trademarks or registered trademarks of Fujitsu Limited in Japan and other countries. BS2000 is a trademark of Fujitsu Technology Solutions GmbH in Germany and other countries.

<b>1 General</b>	<b>3</b>
1.1 Ordering	3
1.2 Delivery	3
1.3 Documentation	4
<b>2 Software extensions</b>	<b>5</b>
2.1 Save and restore the VM2000 configuration	5
2.2 Extensions for SQ servers	5
2.3 Command extensions	5
<b>3 Technical information</b>	<b>6</b>
3.1 Resource requirements	6
3.2 Software configuration	6
3.3 Product installation	6
3.4 Product use	7
3.5 Discontinued functions (and those to be discontinued)	7
3.6 Incompatibilities	7
3.7 Restrictions	7
3.8 Procedure in the event of errors	7
<b>4 Hardware requirements</b>	<b>8</b>

# 1 General

VM2000 is a virtual machine system that allows different, completely encapsulated system environments to be operated simultaneously on one system with a performance comparable to the "native" mode. Depending on the type of system, up to 15 BS2000/OSD<sup>1</sup> operating systems with the corresponding self-loading systems (SLED, FIRST) can be used simultaneously as guest systems.

This Release Notice is a summary of the major extensions, requirements and operating information with regard to VM2000 V10.0A under the operating system BS2000/OSD.

- \*3 The release level is that of: June 2017.
- \*3 Changes to release level November 2015 are marked with \*3.
- \*2 Changes to release level April 2015 are marked with \*2.
- \*1 Changes to release level September 2012 are marked with \*1.

These and other current release notices are available on the SoftBooks DVD and online under <http://manuals.ts.fujitsu.com/>.

If one or more previous versions are skipped when this product version is used, the information from the Release Notices (and README files) of the previous versions must also be noted.

## 1.1 Ordering

VM2000 V10.0A can be ordered from your local distributors.

This software product is supplied subject to a single payment or payment by installments.

## 1.2 Delivery

The VM2000 V10.0A files are supplied via SOLIS.

The following release units are part of the delivery scope of VM2000 V10.0A: VM2000-MON, VM2000-HPV, VM2000-UTIL

The following delivery components are required regardless of the HSI:

SYSFGM.VM2000-MON.100.D	Release Notice German
SYSFGM.VM2000-MON.100.E	Release Notice English
SYSTEMS.VM2000-MON.100	Message file for VM2000
SYSPAR.VM2000-MON.100.SSP	Parameter file for VM2000-Monitor
SYSRMS.VM2000-MON.100	RMS delivery set for VM2000-Monitor
SYSSDF.VM2000-MON.100	SDF syntax file for VM2000-Monitor
SYSSSC.VM2000-MON.100	Subsystem catalog for VM2000-Monitor
SYSENT.VM2000-UTIL.100	Enter file for VMDUMP
SYSLNK.VM2000-UTIL.100	Load library for VMDUMP
SYSTEMS.VM2000-UTIL.100	Message file for VMDUMP
SYSPRG.VM2000-UTIL.100	Program file for VMDUMP

---

<sup>1</sup> BS2000/OSD (R) is a trademark of Fujitsu Technology Solution.

SYSRMS.VM2000-UTIL.100	RMS delivery set for VMDUMP
SYSSII.VM2000-MON.100	Structure and installation information
SYSSII.VM2000-UTIL.100	files for installation with IMON

The following delivery components are only required on S servers:

SYSPRG.VM2000-HPV.100	Program file for VM2000-Hypervisor
SYSLNK.VM2000-MON.100	Load library for VM2000-Monitor
SYSRMS.VM2000-HPV.100	RMS delivery set for VM2000-Hypervisor
SYSSII.VM2000-HPV.100	Structure and installation information file for installation with IMON

The following delivery components are only required on SQ servers:

SKMLNK.VM2000-MON.100	Load library for VM2000-Monitor
-----------------------	---------------------------------

The current file and volume characteristics are listed in the SOLIS2 delivery cover letter.

### 1.3 Documentation

The VM2000 documentation is available in German and English on DVD with the title BS2000/OSD SoftBooks.

- \*1 The documentation is also available on the internet at
- \*1 <http://manuals.ts.fujitsu.com>. Manuals which are displayed with an order number
- \*1 can also be ordered in printed form.

The manuals may be supplemented with README files. These contain changes and extensions to the manual of the product concerned. The file names are made up as follows:

SYSRME.VM2000-MON.100.D	(file in German)
SYSRME.VM2000-MON.100.E	(file in English)

When printing the files, you should specify the CONTR-CHAR=EBCDIC operand in the PRINT-FILE command.

## 2 Software extensions

Only the extensions and improvements over the previous versions VM2000 V9.0B (S servers) and VM2000 V9.5A (SQ servers) are described in the following section.

After version V9.0B (S/SX servers) and V9.5A (SQ servers only) VM2000 V10.0A is a version which again provides shared support for the current HSI lines (S/SQ).

### 2.1 Save and restore the VM2000 configuration

As a result of saving the current VM2000 configuration the VM2000 administrator can also restore the saved VM2000 configuration on another (backup) server after a (re)start of the entire VM2000 system.

The /SAVE-VM-CONFIGURATION command can be used to save the components of the VM2000 configuration in a backup file on the home pubset of the monitor system.

The /RESTORE-VM-CONFIGURATION command can be used to restore the components of the VM2000 configuration from a previously created backup file. Certain prerequisites must be met in order to save and restore a VM2000 configuration. The general conditions are described in section 6.5 of the VM2000 V10 manual.

### 2.2 Extensions for SQ servers

- **HA (high availability) cluster procedure**

As of X2000 V5.3 it is possible to put two server units of different SQ servers together to form a high availability cluster. The moving of virtual machines with a running guest system to the other server unit is known as "Live Migration".

The SQ Manager on the SQ servers involved is used to operate and control server units, HA clusters and Live Migration.

VM2000 provides information about VMs in the HA cluster in the commands /SHOW-VM-DEVICE-STATUS and /SHOW-VM-RESOURCES.

There are restrictions for a VM that is to be migrated. Some commands are rejected or only partially executed. The restrictions are described in section 6.6 of the VM2000 V10.0 manual.

- CPU pools are also used for SQ servers
- The maximum value for the number of virtual CPUs has been increased for SQ servers to 32.

### 2.3 Command extensions

The following commands have new operands or operand values:

- /BEGIN-VM-DIALOG, new operand value TYPE=\*STD
- /CREATE-VM, new operand MAX-MEMORY-SIZE
- /CREATE-VM, new operand value PROCESSOR = \*EXTRA-AND-NORMAL
- /SHOW-VM-DEVICE-STATUS and /SHOW-VM-RESOURCES, new operand value INFORMATION=\*HA-CLUSTER

The following commands have new output values:

- /SHOW-VM-ATTRIBUTES and -RESOURCES, new VM status MIGRATING.
- /SHOW-VM-DEVICE-STATUS and /SHOW-VM-RESOURCES, new outputs for INFORMATION=\*HA-CLUSTER

### 3 Technical information

#### 3.1 Resource requirements

The following memory area is required at runtime:

Real address space:	static for the VM2000 Hypervisor as of 4 MB depending on the IO peripherals. Up to 255 MB can be set via the parameter service (S servers)
	static for the monitor system at least 64 MB (S servers), 512 MB (SQ servers)
	static for the main memory required by the guest systems, at least 512 MB (SQ servers)
Virtual address space:	approx. 0.8 MB static (in the monitor system) approx. 0.3 MB dynamic, depending on the number of VM administration dialogs (\$VMCONS)
Static disk storage space:	less than 10 MB
Dynamic disk storage space:	approx 2-3 MB on the SYSDUMP ID per automatically created VMDUMP

#### 3.2 Software configuration

- VM2000 V10.0A runs in a monitor system with
- \*3 BS2000/OSD-BC V8.0, BS2000/OSD-BC V9.0, BS2000 OSD/BC V10.0 and
  - \*3 BS2000 OSD/BC V11.0 on S servers,
  - \*1 OSD/XC V4.0, OSD/XC V4.1, OSD/XC V9.0, OSD/XC V10.0 on SQ servers
  - \*1 OSD/XC V9.5, OSD/XC V10.0 on SE servers (server units /390 and x86).

The following can be used as guest systems:

- \*1 BS2000/OSD-BC V6.0, BS2000/OSD-BC V7.0, BS2000/OSD-BC V8.0,
- \*3 BS2000/OSD-BC V9.0, BS2000 OSD/BC V10.0 and BS2000 OSD/BC V11.0 on
- \*3 S servers
- \*1 OSD/XC V4.0, OSD/XC V4.1, OSD/XC V9.0 and OSD/XC V10.0 on SQ servers
- \*1 OSD/XC V8.5, OSD/XC V9.5 and OSD/XC V10.0 on SE servers (server units
- \*1 /390 and x86)

the corresponding self-loading systems (FIRST, SLED)

OMNIS as of V8.4 or a corresponding DCAM application is required for connection to \$VMCONS.

#### 3.3 Product installation

The installation of the product VM2000 with the installation monitor IMON is mandatory. You must follow the information concerning installation in the delivery cover letter and in the product documentation.

The necessary inputs and the sequence of the installation are described in the IMON documentation.

### 3.4 Product use

All VM2000 V10.0A activities are described in the VM2000 V10.0 manual.

- \*3 If a monitor system BS2000 OSD/BC V10.0 or V11.0 is in use, the version for VM2000 must be set to V10.0[A] in the parameter service, otherwise default version V11.0A/V11.5A is selected.
- \*3
- \*3
- \*2 Virtual consoles at a virtual type S-channel must be defined with MODE CNC and channel number FE on SU /390 of a SE server, if a new generation is required.
- \*2

Courses on VM2000 V10.0A are offered at Fujitsu Technology Solutions (<http://training.ts.fujitsu.com>).

### 3.5 Discontinued functions (and those to be discontinued)

The following functions are no longer supported as of this version:

- SX servers are no longer supported as of VM2000 V10.0A.
- Guest systems BS2000/OSD-BC V5.0 (on S servers) are no longer supported as of VM2000 V10.0A.

### 3.6 Incompatibilities

Apart from the following restrictions, VM2000 V10.0A is fully compatible with VM2000 V9.0B:

Subsystem VM2-MON has its own parameter file. It contains the \$VMCONS parameters which until VM2000 V9.0 were defined via the parameter service in the start-up parameter file of BS2000.

### 3.7 Restrictions

There are no restrictions for VM2000 V10.0A.

### 3.8 Procedure in the event of errors

If an error occurs, the following error documents are needed for diagnostics:

- A detailed description of the error condition, indicating whether and how the error can be reproduced
- The error must be reported to the appropriate service provider.  
A PERLE error report will be opened for Second Level Support.

The documents to be created are list in section 7 of the VM2000 V10.0A manual "Procedure for VM2000 in the event of errors".

## 4 Hardware requirements

\*1 VM2000 V10.0A runs on all current S servers, SQ200/SQ210 servers (as of  
\*1 X2000 V5.3A co-system) and SE servers (server units /390 and x86) in all  
\*1 configuration levels.

\*1 All peripheral devices are supported that can be connected to the hardware and  
\*1 are supported as of BS2000/OSD-BC V6.0 (S servers), OSD/XC V4.0 (SQ  
\*1 servers) and OSD/XC V8.5 (SE servers) .

ETERNUS DX disk storage systems DX400/8000 are supported by VM2000  
V10.0A to the same extent as EMC Symmetrix disk storage systems (PAV, Snap  
& Clones).