

FUJITSU Software BS2000 VM2000

Version V11.5A  
June 2020

Release Notice

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<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 VM migration	5
2.2 Update of the configuration	5
2.3 VM2000 functions in the SE Manager	5
2.4 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	6
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 32 BS2000 operating systems can be used simultaneously as guest systems. VM2000 V11.5A supports the current FUJITSU Server BS2000 SE series (Server Units /390 and x86).

This Release Notice is a summary of the major extensions, dependencies and operating information with respect to VM2000 V11.5A under the BS2000 operating system.

The release level is that of: June 2020.

\*1 Changes to release level October 2017 are marked with \*1.

This and other current Release Notices are shipped on the SoftBooks DVD and are available online at <https://bs2manuals.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 11.5A can be ordered from your local distributors.

VM2000 11.5A is supplied subject to a single payment or payment by instalments.

## 1.2 Delivery

The VM2000 11.5A files are supplied via SOLIS.

The following delivery groups are part of the VM2000 11.5A delivery scope: VM2000-MON, VM2000-HPV, VM2000-UTIL

The following delivery components are required regardless of the HSI:

SYSFGM.VM2000-MON.115.D	Release Notice German
SYSFGM.VM2000-MON.115.E	Release Notice English
SYSTEMS.VM2000-MON.115	Message file for VM2000
SYSPAR.VM2000-MON.115.SSP	Parameter file for VM2000 Monitor
SYSRMS.VM2000-MON.115	RMS delivery set for VM2000 Monitor
SYSSDF.VM2000-MON.115	SDF syntax file for VM2000 Monitor
SYSSSC.VM2000-MON.115	Subsystem catalog for VM2000 Monitor
SYSENT.VM2000-UTIL.115	Enter file for VMDUMP
SYSLNK.VM2000-UTIL.115	Load library for VMDUMP
SYSTEMS.VM2000-UTIL.115	Message file for VMDUMP
SYSPRG.VM2000-UTIL.115	Program file for VMDUMP
SYSRMS.VM2000-UTIL.115	RMS delivery set for VMDUMP
SYSSII.VM2000-MON.115	Structure and installation information
SYSSII.VM2000-UTIL.115	files for installation with IMON

The following delivery components are only required on Server Unit /390 (SU /390):

SYSLNK.VM2000-MON.115	Load library for VM2000 Monitor
SYSPRG.VM2000-HPV.115	Program file for VM2000 Hypervisor
SYSRMS.VM2000-HPV.115	RMS delivery set for VM2000 Hypervisor
SYSSII.VM2000-HPV.115	Structure and installation information file for installation with IMON

The following delivery components are only required on Server Unit x86 (SU x86):

SKMLNK.VM2000-MON.115	Load library for VM2000-Monitor
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The current file and volume characteristics are listed in the SOLIS2 delivery cover letter.

### 1.3 Documentation

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

The documentation is also available on the internet at <http://manuals.ts.fujitsu.com>. Manuals which are displayed with an order number 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 README files are available on the SoftBooks-DVD or online under <https://bs2manuals.ts.fujitsu.com>.

## 2 Software extensions

Only the extensions and improvements over the previous version VM2000 V11.0A are described in the following section.

### 2.1 VM migration

VM migration, also generally referred to as Live Migration (LM), enables an uninterrupted migration of a running BS2000 guest system from one Server Unit to another within an SU Cluster. The VM migration of BS2000 VMs is supported by the new VM2000 commands MIGRATE-VM and CHECK-VM-MIGRATION. A VM definition can be migrated using the MIGRATE-VM-DEFINITION command.

### 2.2 Update of the disk configuration

Service engineers may make configuration changes to a disk storage system during live operation. The new VM2000 command CHECK-VM-DISK-CONFIGURATION updates the VM2000 disk configuration (SU /390).

### 2.3 VM recovery

It is possible within an SU Cluster to take over a VM definition from a shutdown or failed Server Unit and to activate it on the local Server Unit. This function is supported currently only for SU /390 (a new X2000 version will be necessary for the support on SU x86).

### 2.4 VM2000 functions in the SE Manager

The live migration function is also available to SE server administrators via the SE Manager.

### 2.5 Command extensions

The following new commands are available to support VM migration:

- CHECK-VM-MIGRATION to check the requirements for VM migration
- MIGRATE-VM to migrate a VM
- MIGRATE-VM-DEFINITION to migrate a VM definition

The following new command is available to update the disk configuration:

- CHECK-VM-DISK-CONFIGURATION

The following new command is available to restore a VM definition:

- RECOVER-VM-DEFINITION

## 3 Technical information

### 3.1 Resource requirements

The following memory range is required for operation:

Real address space:	static for the VM2000 Hypervisor from 4 MB upwards depending on the IO peripherals. Up to 255 MB can be set via the parameter service (SU /390)
	static for the monitor system at least 512 MB (SU /390), 1024 MB (SU x86)
	static for the main memory required by the guest systems, at least 1024 MB per guest system on SU x86
Virtual address space:	approx. 0.8 MB static (in the monitor system) approx. 0.3 MB dynamic
Static disk storage space:	less than 10 MB
Dynamic disk storage space:	up to 20 MB on the user id SYSDUMP per an automatically created VMDUMP

### 3.2 Software configuration

VM2000 11.5A is executable in a monitor system BS2000 OSD/BC V11.0 (in the software package OSD/XC V11.0).

The following BS2000 systems can be used as guest systems: BS2000 OSD/BC V10.0 (in the software package OSD/XC V10.0) and BS2000 OSD/BC V11.0 (in the software package OSD/XC V11.0).

For VM migration functionality, ONETSERV V4.0 and REWAS V2.0 with the latest patches are required on all guest systems, for BS2000 OSD/BC V10.0 available with correction package 1/17.

OMNIS or a corresponding DCAM application is required for the 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 activities for VM2000 11.5A are described in the VM2000 11.5A manual.

Courses for VM2000 11.5A are offered by Fujitsu Technology Solutions (<http://training.ts.fujitsu.com/>).

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

None.

### 3.6 Incompatibilities

Apart from the following restrictions, VM2000 11.5A is fully compatible with VM2000 V11.0A:

The VM status "MIGRATING" is no longer listed as a main status in the SHOW-VM-ATTRIBUTES and SHOW-VM-RESOURCES information commands; it is output as new sub-status "MIGR". New main status "SETUP" has been introduced on the target SU for a VM that is being migrated.

The main memory VM2000 portion of the VM2000 Hypervisor has been increased due to the support of VM migration (SU /390). The standard main memory size of the Hypervisor (parameter HYPERVISOR-SIZE = \*BY-SYSTEM) is incremented by 1 MB for each 2 GB of main memory.

On SU /390, the default and minimum main memory size of the Monitor VM has been increased to 512 MB.

On SU x86, the default and minimum main memory size of the Monitor VM has been increased to 1024 MB.

### 3.7 Restrictions

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The maximum main memory that is supported for a VM migration on SU /390 is 30 GB for the VM being migrated.

The maximum main memory that is supported for a VM migration on SU x86 is 64 GB for the VM being migrated (or for the native system) and 512 GB for the Server Unit.

During a VM migration, no actions may be carried out in the guest system via the SHC-OSD component.

IP/IPv6 multicast registrations are not carried over during a VM migration.

### 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 provided are listed in the VM2000 11.5A manual in the section "Error handling in VM2000".

## **4 Hardware requirements**

VM2000 11.5A can be used on all Server Units /390 and x86 of the current SE Servers as up SE Software V6.2A.

A Management Cluster and SU Cluster must be set up for VM migration.

All peripheral devices are supported that can be connected to the hardware and are supported as of BS2000 OSD/BC V10.0.