IBM

Program Directory for

DFSMS/VM® function level 221

a feature of z/VM®

Program Number 5741-A07

for Use with
z/VM® version 6 release 2 and higher

Document Date: November 2016

This program directory, dated November 2016, applies to IBM® DFSMS/VM, function level 221   (DFSMS/VM), Program Number 5741-A07.

Contents

Figures

A Summary of Changes

1 The following describes the different revision indicators used and the time frame when they were inserted:

1 • Lines flagged with revision indicator of '1' indicate changes made between March 1998 and April 1998.
1 The major change with this revision was to correct the RMSONLY component name within the
1 VMSES/E command invocation instructions. It was previously incorrectly shown as RSMONLY.

2 • Lines flagged with revision indicator of '2' indicate changes made between April 1998 and June 1999.

3 • Lines flagged with revision indicator of '3' indicate changes made between July 1999 and February
3 2001.

4 • Lines flagged with revision indicator of '4' indicate changes made between February 2001 and July
4 2001.

5 • Lines flagged with revision indicator of '5' indicate changes made between July 2001 and May 2002.

6 • Lines flagged with revision indicator of '6' indicate changes made between May 2002 and September
6 2004.

7 • Lines flagged with revision indicator of '7' indicate changes made between September 2004 and
7 December 2005.

8 • Lines flagged with revision indicator of '8' indicate changes made between January 2006 and October
8 2008. These changes are primarily related to supported z/VM install media.

9 • Lines flagged with revision indicator of '9' indicate changes made between November 2008 and
9 October 2009. These changes are primarily related to supported z/VM install media.

A • Lines flagged with revision indicator of 'A' indicate changes made between November 2009 and
A February 2014. The changes are primarily related to installation on z/VM 6.2 and higher.

C • Lines flagged with revision indicator of 'C' indicate changes made between July 2013 and November
C 2016. The changes are primarily related to installation on z/VM 6.4 and removal of Tape as a media
C deliverable.

2 DFSMS/VM Web Information

2 The DFSMS/VM home page can be visited at URL: **www.vm.ibm.com/related/dfsms** where you will find:

2 • Additional useful information, hints, and tips.

2 • A PDF version of the DFSMS/VM 221 program directory available for downloading.

2 Plan on visiting this URL often.

1.0 Introduction

This program directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of DFSMS/VM. The *DFSMS/VM Customization* manual will be used for install verification and optional customization procedures after the install and post install procedures for DFSMS/VM are complete. You should read all of this program directory before installing the program and then keep it for future reference.

A certain amount of preparation must be completed to facilitate the installation of DFSMS/VM. This preparation includes:

- Deciding on which functions you want installed (minidisk management, space management, removable media services)

- Understanding the information in the *DFSMS/VM Planning Guide*, if you are installing space management or minidisk management

- Understanding the information in the *DFSMS/VM Removable Media Services User's Guide and Reference*, if you are installing RMS

- Ensuring that corequisite software is installed and available

- Determining the names of virtual machines if you do not want to use the defaults

- Deciding on the number of servers for your installation

- Defining and preparing the required storage space for the product code

- Establishing the required SFS file spaces and subdirectories for the DFSMS/VM system files and work space

- Understanding the VMSES/E process for installing a product.

- Utilizing the preinstallation and postinstallation checklists found in Appendix C, "Installation Planning Checklists" on page 77.

The program directory contains the following sections:

- 2.0, "Program Materials" on page 4 identifies the basic and optional program materials and documentation for DFSMS/VM.

- 3.0, "Program Support" on page 7 describes the IBM support available for DFSMS/VM.

- 4.0, "Program and Service Level Information" on page 8 lists the APARs (program level) and PTFs (service level) incorporated into DFSMS/VM.

- 5.0, "Installation Requirements and Considerations" on page 12 identifies the resources and considerations for installing and using DFSMS/VM.

- 6.0, "Installation Instructions" on page 19 provides detailed installation instructions for DFSMS/VM.

- 7.0, "Service Instructions" on page 55 provides detailed servicing instructions for DFSMS/VM.

A - Appendix A, "Traditional Service Commands" on page 63 provides the traditional service instructions
A   for DFSMS/VM.

A - Appendix B, "Local Modification Example: ISMF EXEC File" on page 76 provides a local modification
A   example for DFSMS/VM.

A - Appendix C, "Installation Planning Checklists" on page 77 contains preinstallation and postinstallation
A   checklists for DFSMS/VM.

A - Appendix D, "Sample User Definitions for use on z/VM 6.2 or higher" on page 80 provides sample
A   user definitions for use on z/VM 6.2 and higher.

Before installing DFSMS/VM, read section 3.1, "Preventive Service Planning" on page 7. This section tells you how to find any updates to the information and procedures in this program directory.

1.1 Program Description

DFSMS/VM is a feature of z/VM designed to:

- manage files in Shared File System (SFS) file pools,

- help you move CMS minidisks between like and unlike direct access storage devices (DASD) quickly and efficiently, and

- provide a command and Callable Services Library (CSL) interface to removable media library support.

There are four major functional components of DFSMS/VM:

1. The user interface consists of:

   - Interactive Storage Management Facility (ISMF), which offers a set of menus, data entry panels, and list panels that run on the user's virtual machine. Through ISMF, you can select applications to:

     – Define management classes

     – Create file, minidisk, and management class lists based on your criteria

- Perform storage management functions against the file and minidisk lists

- Edit and test automatic class selection (ACS) routines

- Define the installation's space management policies in DFSMS configurations

- Activate DFSMS/VM configurations.

- DFSMS module, which provides a command interface to most minidisk and storage management functions

- DFSMSRM module, which provides a command interface to removable media services functions

- A set of CSL-routine programming interfaces to removable media services functions.

2. Minidisk management provides:

- A high-performance data mover for copying CMS-formatted minidisks, or a list of minidisks, between like and unlike DASD

- Integrity evaluation tools for CMS minidisks or a list of minidisks.

3. Space management provides:

- Automatic assignment of management classes to SFS files and directories

- Automatic migration (with compaction) or erasure of selected SFS files based on management class policies

- Migration to 2 levels of lower cost tape and/or dasd

- Automatic recall of migrated files upon reference

- Command-initiated migration and recall of files.

4. Removable media services (RMS) provides:

- Support of the IBM 3495 Tape Library Dataserver to extend automated mount support and other library capabilities to VM users and tape management applications.

2.0 Program Materials

An IBM program is identified by a program number. The program number for DFSMS/VM, function level 221 is 5741-A07.

The program announcement materials describe the features supported by DFSMS/VM. Ask your IBM marketing representative for this information if you have not already received a copy.

The following sections identify:

- basic and optional program materials available with this program

- publications useful during installation.

2.1 Basic Machine-Readable Material

6 DFSMS/VM, function level 221, previously provided automatically with the z/VM deliverable, is no longer
A shipped automatically. It is orderable as a no-charge feature of the z/VM version 6 SDO.

9 Refer to the appropriate z/VM version 6 software announcement for information on ordering DFSMS/VM.

C The distribution medium for this program is electronic or DVD.   It can be ordered through the z/VM SDO
C using IBM Shopz. The DVD contains the electronic envelope file. The electronic envelope file contains all
C the programs and data needed for installation. For more information about IBM Shopz go to

C   **https://www.ibm.com/software/shopzseries**

See section 6.0, "Installation Instructions" on page 19 for more information about how to install the program.

2.2 Optional Machine-Readable Material - Japanese National Language Translation

6 DFSMS/VM, function level 221, Japanese feature, previously provided automatically with the z/VM
A deliverable, is no longer shipped automatically. It is orderable as a no-charge feature of the z/VM version
6 6 SDO.

9 Refer to the appropriate z/VM version 6 software announcement for information on ordering DFSMS/VM.

6 The distribution medium for optional machine-readable material is electronical or DVD. It can be ordered
C through the z/VM SDO using IBM Shopz. The DVD contains the electronic envelope file.

Note: The program machine-readable materials contain "Restricted Materials of IBM."

2.3 Program Publications

The following sections identify the basic and optional publications for DFSMS/VM.

2.3.1 Softcopy Publications

7 DFSMS/VM publications are offered in displayable softcopy form. These files are shipped on the *IBM*
7 *Online Library: z/VM Collection* DVD. The publications are available on the z/VM Collection DVD in
6 Adobe® Portable Document Format (PDF) and IBM BookManager® format.

6 You can view a PDF file using the Adobe Acrobat Reader, which is available free from the Adobe Web
6 site at **www.**abobe.com. The BookManager format can be used with the IBM BookManager READ/VM
6 licensed program in any of the supported environments.

C DFSMS/VM publications, except the Program Directory, are also available in the library in the IBM
C Knowledge Center web site:

C   http://www.ibm.com/support/knowledgecenter/SSB27U

2.3.2 Program Publications

6 Figure 1 identifies the unlicensed program publications available for DFSMS/VM.

Figure 1. Billable Material: Unlicensed Publications

Publication Title	Form Number
9 *z/VM: DFSMS/VM Planning Guide*	SC24-6184
9 *z/VM: DFSMS/VM Customization*	SC24-6181
9 *z/VM: DFSMS/VM Storage Administration*	SC24-6186
9 *z/VM: DFSMS/VM Messages and Codes*	GC24-6183
9 *z/VM: DFSMS/VM Removable Media Services*	SC24-6185
9 *z/VM: DFSMS/VM Diagnosis Guide*	GC24-6182

2.4 Publications Useful During Installation

6 The publications listed in Figure 2 may be useful during the installation of DFSMS/VM.

Figure 2 (Page 1 of 2). Publications Useful During Installation / Service

Publication Title	Form Number
9 *z/VM: VMSES/E Introduction and Reference*	GC24-6243
9 *z/VM: Service Guide*	GC24-6247

9 *Figure 2 (Page 2 of 2). Publications Useful During Installation / Service*

9 **Publication Title**	**Form Number**
9 *z/VM: CMS File Pool Planning, Administration, and Operation*	SC24-6167
9 *z/VM: CP Planning and Administration*	SC24-6178
9 *z/VM: Saved Segments Planning and Administration*	SC24-6229
9 *z/VM: Other Components Messages and Codes*	GC24-6207
9 *z/VM: CMS and REXX/VM Messages and Codes*	GC24-6161
9 *z/VM: CP Messages and Codes*	GC24-6177
9 *z/VM: DFSMS/VM Customization*	SC24-6181
9 *z/VM: DFSMS/VM Storage Administration*	SC24-6186
9 *z/VM: DFSMS/VM Messages and Codes*	GC24-6183

3.0 Program Support

This section describes the IBM support available for DFSMS/VM.

3.1 Preventive Service Planning

Before installing DFSMS/VM, check with your IBM Support Center or use IBMLink™ to see whether there is additional Preventive Service Planning (PSP) information. To obtain this information, specify the following UPGRADE and SUBSET values:

Figure 3. PSP Upgrade and Subset ID

	Retain		
COMPID	Release	Upgrade	Subset
570611601	221	DFSMSVM221	SMS221
570611601	22H	DFSMSVM221	SMS221J

3.2 Statement of Support Procedures

4 **Note:**   When you order DFSMS/VM, function level 221, you are entitled to support under the basic
4 warranty for z/VM version 6. To receive zSeries® service that you are accustomed to, IBM highly
9 recommends ordering the z/VM Software Subscription and Support, 5741-SNS. Refer to the applicable
9 z/VM version 6 software announcement for ordering information.

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will tell you where to send any needed documentation.

Figure 4 identifies the component ID (COMPID), Retain Release and Field Engineering Service Number (FESN) for DFSMS/VM.

Figure 4. Component IDs

	Retain		
COMPID	Release	Component Name	FESN
570611601	221	DFSMS/VM 221	0401098
570611601	22H	DFSMS/VM 221 Kanjii	0401098

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of DFSMS/VM. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs shipped with this product. Information about the cumulative service tape is also provided.

4.1 Service Level Information

6 The install media supplied for DFSMS/VM, function level 221 will be at the current SDO service level.

Check the DFSMSVM221 PSP bucket for any additional PTFs that should be installed or any additional install information.

4.2 Cumulative Service Tape

Cumulative service for DFSMS/VM is available through a monthly corrective service tape, Expanded
7 Service Option, ESO. When ordering an ESO tape, you will need to specify the PRODID for the product.
7 For DFSMS the PRODID is VSM221B. If you have installed the Japanese (Kanji) feature you will also
7 need to order ESO for PRODID VSM221H.

4.3 Available DFSMS/VM, function level 221 New Function APARs

The following new function (development) APARs are available for DFSMS/VM:

- APAR VM54789

  Provides a programming interface for VM backup products that need to protect Shared File System files which have been migrated.

- APAR VM55830

  Provides the the following RMS function which were not enabled in the GA level of DFSMS/VM

  – Foreign Host Server support

  – Default Scratch Category support

  – Device Selection Installation Exit (FSMRMDEV) support

  – DETAILS option on QUERY LIBRARY OPSTATE, QUERY LIBRARY VOLUME and QUERY LIBRARY DEVICE commands

  – QUERY LIBRARY INVENTORY command

  – SET VOLCAT BULK command

  – Automatic Bulk Insert processing

- – Support for new hardware completion code introduced in microcode level 41B.
- – The logical write protection for MOUNT CATEGORY support will default to READWRITE for categories SCRATCH0-SCRATCHF and the default scratch category (SCRATCH).

- APAR VM56597

  Enables ML2 support and provides required maintenance for the Space Management component of DFSMS/VM FL221 which was not available in the GA level of DFSMS/VM. This PTF is also **required** maintenance for those DFSMS/VM installations running Space Management to ML1 only.

- APAR VM58436

  Provides library control support for VSE guests through the DFSMS/VM RMS functions.

- APAR VM58787

  Provides expanded VSE Guest Services (VGS) support for full VSE/ESA® API provided for automated library support through the VSE LBSERV macro.

- APAR VM59338

  Improves performance when DFSMS COPY is used to send multiple concurrent copies to the 9391 device.

- APAR VM59346

  Provides VSE guest support compatibility with 3494 devices. The changes are for interfaces provided in VSE/ESA 2.1.

- APAR VM59473

  Enhances the RMS device selection to access devices that were not available during RMS server initialization.

- APAR VM60753

  DFSMS/VM part handler FSMBDMLD EXEC requires file $VMFMLB$ XEDIT which is no longer supplied with VMSES/E.

- APAR VM60816

  Provides RMS Support for 3590 devices as well as using Diagnose x'254' Support.

3 • APAR VM62683

3 RMS tolerates Peer to Peer ATL error codes and support 3590 model E1A and E11 tape drives.

6 • APAR VM63004

6 Support for 3390 DASD with 32760 cylinders.

6 • APAR VM63097

6 RMS support for 3590 model H tape drives.

6 • APAR VM63353

6 RMS and VGS support for 3592 tape drives and 300 GB standard length TotalStorage® Enterprise
6 tape cartridges; identified by RMS as 300G

6 • APAR VM63460

6 RMS and VGS support for 3592 Write Once Read Many (WORM) cartridges, including::

6 300 GB standard length TotalStorage Enterprise WORM tape cartridges; identified by RMS as
6 300W
6 60 GB standard length TotalStorage Enterprise WORM tape cartridges; identified by RMS as 60W
6 60 GB standard length TotalStorage Enterprise WORM tape cartridges; identified by RMS as
6 60WGB

7 • APAR VM63664

7 Support for 10-digit disk sizes, 1TB CP disk and 381GB CMS minidisk sizes

7 • APAR VM63746

7 Support for attaching tape drives as multiuser

7 • APAR VM63811

7 Support for 3592 Model E05 tape drives
7 Support for VSE categories SCRATCH16-SCRATCH31

8 • APAR VM63745

8 RMS intialization changes:

8 Before RMS initialization starts, a new exit point (FSMRMINI) is called.
8 RMS will attach and initialize each device one at a time rather than all at once.
8 After RMS initialization has completed, a new exit point (FSMRMINC) is called.

8 • APAR VM64062

8 RMS and VGS tape encryption support

8 • APAR VM64458

8 Support for 3592 Model E06 tape drives

9 • APAR VM64657

9 Support for a disk-only tape environment of the IBM TS7720 Virtualization Engine

A • APAR VM64773

A Support for the Total Storage TS7680 tape librarian product

A • APAR VM65005

A Support for the 3592 model E07 Tape drive

A • APAR VM65023

A RMSMASTR stops processing all requests when a configured tape library is not available during
A initialization.

C • APAR VM65789

C Provides support within the Removable Media Services (RMS) component of DFSMS/VM for the IBM
C Virtualization Engine TS7700 Copy Export functionality.

C • APAR VM65653

C Provides support for moving minidisks defined within a subconfig.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating DFSMS/VM.

5.1 Hardware Requirements

6 DFSMS/VM operates on any hardware configuration supported by z/VM version 6.

Removable media services provides support for the IBM 3494 and 3495 Tape Library Dataserver.

5.2 Program Considerations

The following sections list the programming considerations for installing DFSMS/VM and activating its functions.

5.2.1 Operating System Requirements

DFSMS/VM supports the following VM operating systems:

9 • z/VM version 6

5.2.2 Other Program Product Requirements

You need the following functional corequisite software to run DFSMS/VM, function level 221:

• Interactive Storage Productivity Facility (ISPF) version 3 release 2 (Program Number 5684-043), to use ISMF functions for space management and minidisk management.

   Notes:

2   1. ISPF APARs, VM60943 and VM61922, provide year 2000 support.

   2. ISPF must **not** be installed into SFS but rather must be installed on minidisk as the ISMF EXEC can not be tailored to handle ISPF in SFS. It will only work if ISPF is installed on minidisk.

• Shared File System (SFS) under z/VM version 6 or subsequent release (to use DFSMS/VM functions). The VMSYS file pool is required.

A • VM/Directory Maintenance (DIRMAINT™) FL620 or higher or a directory maintenance product with
6   equivalent function (for minidisk management).

Notes:

5   1. DFSMS/VM APARS VM60499, VM62140, and VM62522 must be applied in order to pick up
4   changes to the DGTQDIRM EXEC for supporting DirMaint FL510.

6   2. Ensure DFSMS/VM APAR VM55851 is installed to allow the DirMaint FL510 CONFIG DATADVH
6   ONLINE statement to equal a value other than IMMED. This change is to improve performance
       when there are more than 500 user directory entries.

- TCP/IP Level supplied with z/VM version 6 if you plan to access the IBM 3495 Tape Library
  Dataserver from processors capable of 3490/3490E tape operations but incapable of controlling the
  3495 tape library (foreign host support).

- The following is required if the space management function or RMS foreign host support is used:

5   – The C runtime library of LE as supplied with z/VM version 6.

The following are optional functional corequisite software to run DFSMS/VM Function Level 221:

A   • Interactive System Productivity Facility/Program Development Facility (ISPF/PDF) version 3 release 2
6   (Program Number 5684-123) or CMS Utilities Feature (CUF) which is part of the CMS component of
6   z/VM version 6.

Notes:

A   1. If neither ISPF/PDF or CUF is installed, then some ISMF functions (such as browse and edit) will
       be unavailable.

2   2. ISPF/PDF APARs, VM60513 and VM62060, provide year 2000 support. APAR VM60513 requires
       ISPF APAR VM60943.

9   Tivoli Storage Manager Extended Edition for z/OS and z/VM V5.2 (5698-A11), Tivoli Storage Manager
9   for z/OS and z/VM V5.2 (5698-A13), or Tivoli Storage Manager for VM (5697-TS9) and Language
9   Environment component supplied with z/VM if Migration Level 2 (ML2) function of DFSMS/VM is used.
9   **Note: Program numbers 5698-A11 and 5698-A13 were withdrawn from marketing on January 21,**
9   **2005, and service support was discontinued on April 30, 2007.**

Notes:

1. Ensure that the amount of catalog (storage group 1) space on your ML1 file pool is sufficient for
   your installation's data reference patterns and the management classes established. See *z/VM:
   CMS File Pool Planning, Administration, and Operation* for more details.

2. If the TSM product code is installed in a file pool, ensure that migration is disabled for the TSM
   product code files.

3. When registering DFSMS/VM for your migration level 2 (ML2) TSM Server, it is imperative that
   you ensure that both ARCHDELETE and BACKDELETE are set to YES. Failure to do so will
   prevent the cleanup of migration level 2, and subsequent migrates will fail.

4. The TSM server commands EXPORT and IMPORT cannot be used to backup and restore a TSM
   server which contains DFSMS/VM ML2 data. Using EXPORT and IMPORT will cause ML2 data
   to be lost. *DFSMS/VM Customization* contains procedures for backing up and restoring TSM
   server data.

A • RACF Security Server feature FL620 or higher (RACF®) (to control authorizations).

   Notes:

   1. In a VM/MVS shared environment, the RACF PERMIT of STGADMIN.* does not protect all STGADMIN profiles. In addition, if RACF is shared with MVS™, RACF enhancements are installed, or another product using the RACROUTE interface is being used, the SMSRACF EXEC may not work.

      With Enhanced Generic Naming (EGN) active, the profile name of STGADMIN.** is required. Refer to the manuals for the product installed and the charts contained in the "Authorizing DFSMS/VM Users" chapter of *DFSMS/VM Customization* manual to determine how to protect DFSMS/VM functions.

   2. Using the command *"RAC SETROPS GRPLIST GENERIC(FACILITY) GENCMD(FACILITY)"* as suggested in the "Setting up RACF/VM" section of "Authorizing DFSMS/VM Users" chapter of *DFSMS/VM Customization* manual may produce problems when using a shared DB2® database with an MVS guest. The GRPLIST parameter forces the DB2-Signon-Exit to perform a security-check in RACF, but RACF/MVS is not aware of the required user-profiles. If in this situation, you may change the above command to *"RAC SETROPS GENERIC(FACILITY) GENCMD(FACILITY)"*. Before doing this, please refer to the *RACF/VM Security Administrator's* Guide to ensure this is appropriate for your environment.

A • Remote Spooling Communications Subsystem (RSCS) Feature for z/VM 6.2 or higher for remote operations.

   • IBM Compiler for REXX/370 (Program Number 5695-013) and IBM Library for REXX/370 (Program Number 5695-014), if compiled REXX installation-wide exit or a compiled ACS REXX exit is desired.

Figure 5 lists software requirements for DFSMS/VM by component.

Figure 5. Software Requirements for DFSMS/VM

Software	Space Management	Minidisk Management	Removable Media Services
Required Software:			
ISPF	ISMF	ISMF	
SFS	X	X	X
DirMaint (or equivalent)		X	
TCP/IP			foreign host support
C Runtime Library of LE	X		foreign host support
Optional Software:			
TSM	X		
IBM Compiler for REXX/370	X		
IBM Library for REXX/370	X		
RACF	X	X	X
RSCS	X	X	X

5.2.3 Program Installation and Service Considerations

This section describes items that should be considered before you install or service DFSMS/VM.

- VMSES/E is required to install and service this product.

A   • Starting with z/VM 6.2, a new maintenance userid (MAINT*vrm*) is provided that owns the 51D and 5E5
A   minidisks. You will continue to link to MAINT 51D and MAINT 5E5 as the MAINT userID has links to
B   the appropriate MAINT*vrm* disks.

- If multiple users install and maintain licensed products on your system, there may be a problem getting the necessary access to MAINT's 51D disk. If you find that there is contention for write access to the 51D disk, you can eliminate it by converting the Software Inventory from minidisk to Shared File System (SFS). See the *VMSES/E Introduction and Reference* manual, section 'Changing the Software Inventory to an SFS Directory', for information on how to make this change.

A   • Starting with z/VM 6.2, customers will no longer install and service DFSMS/VM using the DGTOWNER
A   user ID. They should use either user ID DFSMS (new to DFSMS/VM with FL221) or the MAINT*vrm*
A   user ID for all installation and service functions. User ID DFSMS is the default owner of DFSMS/VM
A   service and build disks. You are free to change the owning user ID name if you wish; however, a PPF
A   override must be created.

   Note: It may be easier to make the above change during the installation procedure 6.2, "Plan Your Installation For DFSMS/VM" step 6 on page 21, rather than after you have installed this product.

5.2.4 Required DASD Storage for DFSMS/VM

The following table contains the required DASD for the DFSMS and MAINT user IDs in order to install and service DFSMS/VM 221.

Figure 6. DASD Storage Requirements for Target Minidisks						
Minidisk owner (user ID)	Default Address	Storage in Cylinders		FB-512 Blocks	SFS 4K Blocks	Usage
		DASD	CYLS			
DFSMS	1B1	3390 9345	69 83	99360	12420	Contains all the base code shipped with DFSMS/VM.
DFSMS	1C4	3390 9345	2 2	2400	300	Used for local modifications.
DFSMS	1C2	3390 9345	2 2	2400	300	Contains sample files.
DFSMS	1D6	3390 9345	40 48	57600	7200	Contains serviced files.
DFSMS	1A6	3390 9345	8 8	11200	1400	Contains AUX files and software inventory tables that represent the test service level of DFSMS/VM.
DFSMS	1A4	3390 9345	8 8	11200	1400	Contains AUX files and software inventory tables that represent the Intermediate service level of DFSMS/VM.
DFSMS	1A2	3390 9345	8 8	11200	1400	Contains AUX files and software inventory tables that represent the service level of DFSMS/VM that is currently in production.
DFSMS	1B5	3390 9345	69 83	99360	12420	Production build disk.
DFSMS	191	3390 9345	30 36	43200	5400	DFSMS user ID's 191 minidisk.
DFSMS	29D	3390 9345	9 10	12960	1620	Contains American English and Uppercase English help files for DFSMS/VM.
MAINT	19D	3390 9345	9 10	12960	1620	Production disk containing American English and Uppercase English help files for DFSMS/VM.

Notes:

1. Cylinder values defined in this table are based on a 4K block size. FB-512 block and SFS values are derived from the 3380 cylinder values in this table. The FBA blocks are listed as .5K but should be CMS formatted at 1K size.

2. The help minidisks should be formatted using a 1K block size.

3. Sizes for MAINT minidisks are additional storage needed for existing MAINT minidisks.

5.2.5 Optional DASD Storage for DFSMS/VM

6 The following tables contain the DASD requirements in order to install the Japanese language feature, use
6 the RMS feature or use the space or minidisk management functions, of DFSMS/VM.

5.2.5.1 Optional DASD Storage for Japanese Language Feature

The following table contains the DASD requirements for the DFSMS and MAINT user ID's in order to
install the Japanese language feature of DFSMS/VM.

Figure 7. DASD Storage Requirements for Japanese Language Feature						
Minidisk owner (user ID)	Default Address	Storage in Cylinders		FB-512 Blocks	SFS 4K Blocks	Usage
		DASD	CYLS			
DFSMS	1B2	3390 9345	30 36	43200	5400	Contains the base code shipped with DFSMS/VM Japanese language feature.
DFSMS	411	3390 9345	9 10	12960	1620	Contains Japanese language feature help files for DFSMS/VM.
MAINT	401	3390 9345	9 10	12960	1620	Production disk containing Japanese language feature help files for DFSMS/VM.

Notes:

1. Cylinder values defined in this table are based on a 4K block size. FB-512 block and SFS values are derived from the 3390 cylinder values in this table. The FBA blocks are listed as .5K but should be CMS formatted at 1K size.

2. The help minidisks should be formatted using a 1K block size.

3. Sizes for MAINT minidisks are additional storage needed for existing MAINT minidisks.

6 ### 5.2.5.2 Optional DASD Storage for Space and Minidisk Management Functions

6 The following table contains the DASD requirements for the space and minidisk management functions of
6 DFSMS/VM.

6	Figure 8. DASD Storage Requirements for Space/Minidisk Management						
6 6 6 6	**Minidisk owner (user ID)**	**Default Address**	**Storage in Cylinders**		**FB-512 Blocks**	**SFS 4K Blocks**	**Usage**
			DASD	**CYLS**			
6 6	SMSMASTR	191	3390 9345	5 5	7200	NOSFS	191 minidisk for space and minidisk managment master virtual machine.
6	**Notes:**						
6 6	1. Cylinder values defined in this table are based on a 4K block size. FB-512 block values are derived from the 3390 cylinder values in this table and are listed as .5K but should be CMS formatted at 1K size.						
A A	2. If you are installing in a multi-member SSI cluster you will need resources for this user ID on every member of your cluster.						

6 5.2.5.3 Optional DASD Storage for RMS Function

6 The following table contains the DASD requirements for the RMS function of DFSMS/VM.

6	Figure 9. DASD Storage Requirements for RMS function						
6 6 6 6	**Minidisk owner (user ID)**	**Default Address**	**Storage in Cylinders**		**FB-512 Blocks**	**SFS 4K Blocks**	**Usage**
			DASD	**CYLS**			
6 6	RMSMASTR	191	3390 9345	5 5	7200	NOSFS	191 minidisk for RMS master virtual machine.
6	**Notes:**						
6 6	1. Cylinder values defined in this table are based on a 4K block size. FB-512 block values are derived from the 3390 cylinder values in this table and are listed as .5K but should be CMS formatted at 1K size.						
A A	2. If you are installing in a multi-member SSI cluster you will need resources for this user ID on every member of your cluster.						

6.0 Installation Instructions

This chapter describes the installation methods and the step-by-step procedures to install and activate DFSMS/VM.

Each step of the installation instructions must be followed. Do not skip any step unless directed to do so.

Throughout these instructions, the use of IBM-supplied default minidisk addresses and user IDs is assumed. If you use different user IDs, or minidisk addresses to install DFSMS/VM, adapt these instructions as needed for your environment.

A The sample console output presented throughout these instructions was produced on a z/VM version 6.3 system. Your messages may differ from those depicted here.

One of the following component names should be chosen and used throughout the install instructions:

- **DFSMSVM -** Used to install the entire DFSMS/VM product.
- **RMSONLY -** Used to install the RMS component of DFSMS/VM only.
- **DFSMSVMNOSM -** Used to install DFSMS/VM without the space management component.

5 Select the appropriate component based on what you plan to use and what software you have. If you
5 select anything other than DFSMSVM and later decide to begin using other components, you will have to
5 do a reinstall in order to activate the other components.

5 You can install DFSMSVM, if you have all of the functional corequisite software available, and still just
5 implement selected components. For example, you can install DFSMSVM but only implement RMS, and
5 at a later date implement space management or minidisk management.

5 Remember that in order to install all components (the DFSMSVM option), you need both ISPF and the
5 Language Environment support that is included with z/VM.

6.1 VMSES/E Installation Process Overview

The following is a brief description of the main steps in installing DFSMS/VM using VMSES/E.

- Plan Your Installation

  Use the VMFINS command to load several VMSES/E files from the product tape and to obtain DFSMS/VM resource requirements.

- Allocate Resources

  The information obtained from the previous step is used to allocate the appropriate minidisks and user IDs needed to install and use DFSMS/VM.

- Install the DFSMS/VM Product

Use the VMFINS command to load the DFSMS/VM product files from tape to the test BUILD and BASE minidisks/directories. VMFINS is then used to update the VM SYSBLDS file used by VMSES/E for software inventory management.

- Perform Post-installation Tasks

  Information about file tailoring and initial activation of the program is presented in 6.6, "Post Install Checklist" on page 35.

For a complete description of all VMSES/E installation options refer to *VMSES/E Introduction and Reference*.

6.2 Plan Your Installation For DFSMS/VM

The VMFINS command will be used to plan the installation. This section has 2 main steps that will:

- load the first tape file, containing installation files
- generate a 'PLANINFO' file listing
  - all user ID and mdisks directory requirements
  - required products

To obtain planning information for your environment:

1 Log on as DFSMS/VM installation planner.

A
A   This user ID can be any ID that has read access to the MAINT*vrm* 5E5
A   minidisk and write access to the MAINT*vrm* 51D minidisk. The MAINT*vrm* ID
A   is recommended.

2 Load the DFSMS/VM installation DVD and follow the instructions for electronically delivered service, as the procedure is the same:
   https://www.vm.ibm.com/install/servinst.html

3 Establish read access to the VMSES/E code.

link MAINT*vrm* **5e5 5e5 rr**   The 5E5 disk contains the VMSES/E code.
access 5e5 b

4 Establish write access to the Software Inventory disk.

link MAINT*vrm* **51d 51d mr**   The MAINT*vrm* 51D disk is where the VMSES/E
access 51d d   system-level Software Inventory and other
                                                     dependent files reside.

> **Note:** If another user already has the MAINT*vrm* 51D minidisk linked in write mode (R/W), you will only obtain read access (R/O) to this minidisk. If this occurs, you will need to have that user re-link the 51D in read-only mode (RR), and then re-issue the above LINK and ACCESS commands. Do not continue with these procedures until a R/W link is established to the 51D minidisk.

5 Load the DFSMS/VM product control files to the 51D minidisk.

This command will perform the following:

- load Memo-to-Users

- load various product control files, including the Product Parameter File (PPF) and the PRODPART files

- create VMFINS PRODLIST on your A-disk. The VMFINS PRODLIST contains a list of products on the installation tape.

  a Installing from a product **envelope** file

vmfins install info (nomemo env *envfilename*   *envfilename* is the file name of the product envelope file. The file type must be SERVLINK.

The **NOMEMO** option will load the memos from the tape but will not issue a prompt to send them to the system printer. Specify the **MEMO** option if you want to be prompted for printing the memo.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS1909I VMFINS PRODLIST created on your A-disk
VMFINS2760I VMFINS processing completed successfully
Ready;
```

6 Obtain resource planning information for DFSMS/VM.

- The product will **not** be loaded by the VMFINS command at this time.

- The **PLAN** option indicates that VMFINS will perform requisite checking, plan system resources, and provide an opportunity to override the defaults in the product parameter file. See the notes following the command, before you issue the command, for more information about overrides and DFSMS/VM.

  You can override any of the following:

    – the name of the product parameter file

7   – the default user IDs

7   – minidisk/directory definitions

7   – change the address for the ISPVM 192 minidisk

6   – remove the PRODUSER A5 minidisk as it is not required on z/VM

7   – change the address and owner of the minidisk where the DFSMS/VM
7   help files will be installed

7   **a** Installing from a product **envelope** file

7 **vmfins install ppf VSM221B {DFSMSVM I RMSONLY I DFSMSVMNOSM} (plan nomemo env** *envfilename*

7   *envfilename* is the file name of the product
7   envelope file. The file type must be SERVLINK.

7   Use **DFSMSVM** for installing the entire DFSMS/VM
A   product, **RMSONLY** for installing only the RMS
A   component, or **DFSMSVMNOSM** for installing
7   DFSMS/VM without the space management
7   component.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF VSM221B DFSMSVM
            :PRODID. VSM221B%DFSMSVM?
            Enter 0 (No), 1 (Yes) or 2 (Exit)
0
VMFINS2603I Processing product :PPF VSM221B DFSMSVM :PRODID
            VSM221B%DFSMSVM
VMFREQ1909I VSM221B PLANINFO created on your A-disk
VMFREQ2805I Product :PPF VSM221B DFSMSVM :PRODID VSM221B%DFSMSVM
            has passed requisite checking
VMFINT2603I Planning for the installation of product :PPF VSM221B DFSMSVM
            :PRODID VSM221B%DFSMSVM
VMFRMT2760I VMFRMT processing started
VMFRMT2760I VMFRMT processing completed successfully
VMFINS2760I VMFINS processing completed successfully
```

Notes:

a. If you change the PPF name, a default user ID, or other parameters via a
   PPF override, you will need to use your changed values instead of those
   indicated (when appropriate), throughout the rest of the installation
9 instructions, as well as the instructions for servicing DFSMS/VM. You will
9 need to choose a new file name for your PPF override (the file type will
9 be $PPF). For example, you will need to specify your PPF override file
   name instead of VSM221B for certain VMSES/E commands.

A A	b. If you're not familiar with creating PPF overrides using VMFINS, you should review the section 'Using the Make Override Panel' in Chapter 3 of the *VMSES/E Introduction and Reference* before you continue.

c. If you do not have ISPF installed on your system, or if your ISPF code is installed on a minidisk other than the ISPVM 192 minidisk, you must create a PPF override to remove or change the BASE2 disk from the DFSMSVM or DFSMSVMNOSM component overrides in the VSM221B file. You can incorporate this override information in the PPF override file created in the next step. This override is not necessary when using the RMSONLY component.

Note: ISPF is required in order to use the ISMF component of DFSMS/VM.

An example of a PPF override to remove the ISPVM 192 minidisk:

```
:OVERLST. DFSMSVM
:DFSMSVM. DFSMSVM VSM221B
:DCL. UPDATE
./DELETE &BASE2
:EDCL.
:MDA. UPDATE
./DELETE BASE2
:EMDA.
:END.
```

d. There is no need for a link to the PRODUSER A5 minidisk, since the C runtime library is preinstalled with z/VM on the MAINT 19E minidisk. Therefore, you must create a PPF override to remove the BASE5 disk from the DFSMSVM component override in the VSM221B file. You can incorporate this override information in the PPF override file created in the next step. This override is not necessary when using the RMSONLY or DFSMSVMNOSM component.

Note: The C runtime library is required if using the space management or RMS foreign host support of DFSMS/VM.

An example of a PPF override to remove the PRODUSER A5 minidisk:

```
:OVERLST. DFSMSVM
:DFSMSVM. DFSMSVM VSM221B
:DCL. UPDATE
./DELETE &BASE5
:EDCL.
:MDA. UPDATE
./DELETE BASE5
:EMDA.
:END.
```

e. PPF overrides are compiled using the VMFPPF command; The resulting PPF file must reside on the 51D minidisk.

A   **7** Review the install message log ($VMFINS $MSGLOG). If necessary, correct
A   any problems before going on. For information about handling specific error
A   messages, see the appropriate *z/VM: System Messages and Codes*, or use
A   on-line HELP.

A **vmfview install**

A   **8** Create a Product Parameter File (PPF) override to add a DFSMS test help
A   build disk.

A   **a** Create a new $PPF override file, or edit the override file created via the
A   'Make Override Panel' function.

A **xedit** *overname* **$PPF** *fm***2**   *overname* is the PPF override file name (such as
A   "myDFSMS") that you want to use.

A   *fm* is an appropriate file mode. If you create this
A   file yourself, specify a file mode of A.

A   If you modify an existing override file, specify a file
A   mode of A or D, based on where the file currently
A   resides (A being the file mode of a R/W 191
A   minidisk, or equivalent; D, that of the MAINT*vrm*
A   51D minidisk). For the correct input refer to
A   Appendix B, "Local Modification Example: ISMF
A   EXEC File" on page 76.

A   **b** Modify the Variable Declarations (**:DCL.**) section for all components:
A   DFSMSVM, RMSONLY, or DFSMSVMNOSM so that it resembles the
A   **:DCL.** section as shown below.

```
:OVERLST. DFSMSVM RMSONLY DFSMSVMNOSM
*
* ===================================================================== *
* Override Section for Initial Installation (Using SFS Directories)   *
* ===================================================================== *
:DFSMSVM. DFSMSVM VSM221B
:DCL. UPDATE
&BUILD4    LINK DFSMS    29D 29D MR          * DFSMS/VM HELP FILES
:EDCL.
:END.
:RMSONLY. RMSONLY VSM221B
```

```
A                                    :DCL. UPDATE
A                                    &BUILD4     LINK DFSMS    29D 29D MR          * DFSMS/VM HELP FILES
A                                    :EDCL.
A                                    :END.
A                                    :DFSMSVMNOSM. DFSMSVMNOSM VSM221B
A                                    :DCL. UPDATE
A                                    &BUILD4     LINK DFSMS    29D 29D MR          * DFSMS/VM HELP FILES
A                                    :EDCL.
A                                    :END.
A                                    *
```

A   **c** If your $PPF override file was created as file mode A, copy it to the
A   Software Inventory minidisk (MAINT*vrm* 51D). The default file mode is
A   D.

A **file**
A **copyfile** *overname* **$PPF a = = d (olddate**
A **erase** *overname* **$PPF a**

A   **d** Compile your changes to create the usable *overname* PPF file.

A **vmfppf** *overname* *   where *overname* is the file name of your $PPF
A   override file.

A   **e** Copy the PPF file that was created at file mode A to the Software
A   Inventory minidisk (MAINT*vrm* 51D). The default file mode is D.

A **copyfile** *overname* **PPF a = = d (olddate**
A **erase** *overname* **PPF a**

6.3 Allocate Resources for Installing DFSMS/VM

A Use the planning information in the VSM221B PLANINFO file, created in the **PLAN** step, and the sample
A directory entries in Appendix D, "Sample User Definitions for use on z/VM 6.2 or higher" on page 80, to
A create the directory entries for DFSMS, and DFSMS/VM master and server user ids.

6.3.1 Installing DFSMS/VM on Minidisk

A   **1** Obtain the directory entry for DFSMS user ID from the VSM221B PLANINFO
A   file.

Notes:

   a. The DFSMS directory entry is located in the resource section of the PLANINFO file, at the bottom; these entries will contain all of the links and privilege classes necessary for the DFSMS user ID. Use the directory entry found in PLANINFO as a model for your directory entry.

   This user ID should be defined as a single-configuration user, which uses the USER directory statement. This is how the directory entry is defined in the PLANINFO file.

   b. Ensure the DFSMS directory entry includes the following link statements to the VMSES/E disks:

- LINK MAINT 5E5 5E5 RR

- LINK MAINT*vrm.* 51D 51D MR

- If you are using a security manager ensure that DFSMS/VM is properly authorized to link to the MAINT*vrm* 5E5 and MAINT*vrm* 51D disks.

   c. Ensure the DFSMS user ID has class E privilege, used for building the DFSMSSEG shared segment.

   d. Ensure the DFSMS user ID has the NAMESAVE DFSMSSEG statement in its directory entry, necessary for building the DFSMSSEG shared segment.

2 Create directory entries for the DFSMS/VM Master and Server user ID.

The information needed to create the directory entries for the DFSMS/VM virtual machines is in the VSM221B PLANINFO file. Prior to z/VM 6.2, the information in the PLANINFO file was correct. Beginning with z/VM 6.2, some of the IDs for DFSMS/VM should be defined using multiconfiguration directory entries, using the IDENTITY and SUBCONFIG statements. Sample directory entries for user IDs defined using multiconfiguration definitions are provided in Appendix D, "Sample User Definitions for use on z/VM 6.2 or higher" on page 80.

It is recommended that the DFSMS/VM master virtual machine (SMSMASTR) and the RMS master virtual machine (RMSMASTR) be given Class B privilege in order to autolog server virtual machines and for device attachment.

You should format the 191 disk for each master virtual machine you install (SMSMASTR, RMSMASTR). Also, there are CP directory entries that you should modify based on your installation size and customization. In particular, update the MAXCONN value for the SMSMASTR and servers based on your installation. A description of this field and others is provided in the "DFSMS/VM Sample CP Directory Entries" appendix of *DFSMS/VM Customization* manual.

3 Add the MDISK statements to the directory entry for DFSMS. If appropriate, also place passwords on the MDISK statements. Use Figure 6 on page 16 to obtain the minidisk requirements.

A
A
A
6

> **Note:** You should obtain minidisk resources at this time for all optional installation features and functions of DFSMS/VM you intend to use. The resources can be obtained from the tables in section 5.2.5, "Optional DASD Storage for DFSMS/VM" on page 17.

A
A
A

4 Add the directory entries for users DFSMS, SMSMASTR and RMSMASTR to your systems user directory. Change the passwords for the userids from xxxxx to valid passwords, in accordance with your security guidelines.

A
A

5 Place the new directory on-line using VM/Directory Maintenance (DirMaint) or an equivalent CP directory maintenance method.

A
A

If you are installing DFSMS/VM in a z/VM Single System Image Cluster, place the directory on-line on each member of the cluster.

A
A
A
A
A
A

6 Logon to each new user ID and format their minidisks, if this is not done automatically by your directory manager program, before installing DFSMS/VM. In an SSI cluster you will need to logon to each member to format the minidisks that belong to each multi-configuration user ID. The DFSMS 1B5 minidisk must be formatted using label DFS1B5 as if you are using the ISMF EXEC.

6.4 Install DFSMS/VM

A The *ppfname* to be used throughout these installation instructions MUST BE the name of the PPF override
A created in step 8 on page 24, *overname*, instead of **VSM221B**. The *ppfname* you use should be used
A **throughout** the rest of this procedure.

1 Logon to the installation user ID **DFSMS**.

2 Create a PROFILE EXEC that will contain the ACCESS commands for MAINT 5E5 and 51D minidisks.

xedit profile exec a
===> input //**
===> input 'access 5e5 b'
===> input 'access 51d d'
===> file

If either 5E5 or 51D is in a shared file system (SFS) then substitute your SFS directory name in the access command.

3 Run the profile to access MAINT's minidisks.

profile

4 If the Software Inventory disk (51D) was accessed R/O (read only) then
establish write access to the Software Inventory disk.

Note: If the MAINT*vrm* 51D minidisk was accessed R/O, you will need to
have the user who has it linked R/W link it as R/O. You then can issue the
following commands to obtain R/W access to it.

link MAINT*vrm* **51d 51d mr**
access 51d d

Make sure the product envelope SERVLINK file is available on   n the
A-disk or any work disk accessed as C.

5 Install DFSMS/VM.

Notes:

- If you've already created a PPF override file, you should specify your
  override file name, in place of the default PPF name (VSM221B), after
  the **PPF** keyword for the following VMFINS command.

- You will need to link the MAINT 19D minidisk **R/W** in order to complete
  the install of DFSMS/VM, unless you created a 29D disk for DFSMS and
  a PPF override in step 8 on page 24.

- You may be prompted for additional information during VMFINS INSTALL
  processing depending on your installation environment. If you're unsure
  how to respond to a prompt, refer to the "Installing Products with
  VMFINS" and "Install Scenarios" chapters in the *VMSES/E Introduction
  and Reference* to decide how to proceed.

a Installing from a product **envelope**

vmfins install ppf VSM221B {DFSMSVM | RMSONLY | DFSMSVMNOSM} (nomemo nolink env *envfilename*

> *envfilename* is the file name of the product
> envelope file. The file type must be SERVLINK.

> Use **DFSMSVM** for installing the entire DFSMS/VM
> product, **RMSONLY** for installing the RMS
> component only, or **DFSMSVMNOSM** for installing
> DFSMS/VM without the space management
> component.

> The **NOLINK** option indicates that you don't want
> VMFINS to link to the appropriate minidisks, only
> access them if not accessed.

Note: The following output uses a PPF override, myDFSMS, that contains the new 29D minidisk.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF myDFSMS DFSMSVM
            :PRODID. VSM221B%DFSMSVM?
            Enter 0 (No), 1 (Yes) or 2 (Exit)
0
VMFINS2603I Processing product :PPF myDFSMS DFSMSVM :PRODID
            VSM221B%DFSMSVM
VMFREQ2805I Product :PPF myDFSMS DFSMSVM :PRODID VSM221B%DFSMSVM
            has passed requisite checking
VMFINT2603I Installing product :PPF myDFSMS DFSMSVM :PRODID
            VSM221B%DFSMSVM
VMFSET2760I VMFSETUP processing started
VMFUTL2205I Minidisk|Directory Assignments:
            String    Mode  Stat  Vdev  Label/Directory
VMFUTL2205I LOCAL     E     R/W   1C4   DFS1C4
VMFUTL2205I LOCALSMP  F     R/W   1C2   DFS1C2
VMFUTL2205I APPLY     G     R/W   1A6   DFS1A6
VMFUTL2205I           H     R/W   1A4   DFS1A4
VMFUTL2205I           I     R/W   1A2   DFS1A2
VMFUTL2205I DELTA     J     R/W   1D6   DFS1D6
VMFUTL2205I BUILD4    K     R/W   29D   DFS29D
VMFUTL2205I BUILD     L     R/W   1B5   DFS1B5
VMFUTL2205I BASE      M     R/W   1B1   DFS1B1
VMFUTL2205I BASE2     N     R/W   192   ISP192
VMFUTL2205I BASE3     O     R/O   190   CMS230
VMFUTL2205I BASE3     S     R/O   190   CMS230
VMFUTL2205I BASE4     P     R/O   19E   YDISK
VMFUTL2205I BASE4     Y/S   R/O   19E   YDISK
VMFUTL2205I BASE5     P     R/O   19E   YDISK
VMFUTL2205I BASE5     Y/S   R/O   19E   YDISK
VMFUTL2205I --------  A     R/W   191   SES191
VMFUTL2205I --------  B     R/O   5E5   MNT5E5
VMFUTL2205I --------  D     R/W   51D   SES51D
VMFUTL2205I --------  S     R/O   190   MNT190
VMFUTL2205I --------  Y/S   R/O   19E   MNT19E
VMFSET2760I VMFSETUP processing completed successfully
VMFREC2760I VMFREC processing started
VMFREC1852I Volume 1 of 1 of INS TAPE 9709
VMFREC1851I (1 of 6) VMFRCALL processing LOCALSMP
VMFRCA2159I Loading part(s) to LOCALSMP 1C2 (F)
VMFRCA2159I Loaded 13 part(s) to LOCALSMP 1C2 (F)
VMFREC1851I (2 of 6) VMFRCALL processing DELTA
VMFRCA2159I Loading part(s) to DELTA 1D6 (J)
VMFRCA2159I Loaded 1094 part(s) to DELTA 1D6 (J)
VMFREC1851I (3 of 6) VMFRCALL processing APPLY
VMFRCA2159I Loading part(s) to APPLY 1A6 (G)
VMFRCA2159I Loaded 4 part(s) to APPLY 1A6 (G)
VMFREC1851I (4 of 6) VMFRCALL processing BUILD4
VMFRCA2159I Loading part(s) to BUILD4 29D (K)
VMFRCA2159I Loaded 812 part(s) to BUILD4 29D (K)
VMFREC1851I (5 of 6) VMFRCALL processing BUILD
VMFRCA2159I Loading part(s) to BUILD 1B5 (L)
VMFRCA2159I Loaded 141 part(s) to BUILD 1B5 (L)
VMFREC1851I (6 of 6) VMFRCALL processing BASE
VMFRCA2159I Loading part(s) to BASE 1B1 (M)
VMFRCA2159I Loaded 3489 part(s) to BASE 1B1 (M)
VMFREC2760I VMFREC processing completed successfully
VMFINT2603I Product installed
VMFINS2760I VMFINS processing completed successfully
```

6 Review the install message log ($VMFINS $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview install

6.4.1 Update Build Status Table for DFSMS/VM

1 Update the VM SYSBLDS software inventory file for DFSMS/VM.

vmfins build ppf VSM221B {DFSMSVM l RMSONLY l DFSMSVMNOSM} (serviced nolink

Use **DFSMSVM** for installing the entire DFSMS/VM product, **RMSONLY** for installing the RMS component only, or **DFSMSVMNOSM** for installing DFSMS/VM without the space management component.

The **SERVICED** option will build any parts that were not built on the installation tape (if any) and update the Software Inventory build status table showing that the product VSM221B has been built.

2 Review the install message log ($VMFINS $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview install

A **3** Add DFSMS/VM into the VM SYSSUF inventory table.

A **vmfsuftb**

A **4** Add DFSMS/VM into the VM SYSPINV inventory file. Specify the non-SSI
A system or each SSI member system (as applicable) on the vmfupdat
A command.

A **vmfupdat syspinv PROD VSM221B** *membername1* *{membername2 {membername3} {membername4}}*

6.5 Optional Installation Steps

This section describes optional install steps that include the Japanese language feature, and local modifications.

If you plan on doing any of the following:

- 6.5.1, "Install Japanese Language Feature" on page 31
- 6.5.2, "Local Modifications to DFSMS/VM" on page 34

Then continue with all applicable steps. Otherwise continue with 6.6, "Post Install Checklist" on page 35.

6.5.1 Install Japanese Language Feature

The DFSMS/VM Japanese language feature will be installed through VMSES/E support using the same user ID, DFSMS, as the base. DFSMS/VM provides American English and Uppercase English with the C base product.

1 Make sure you are logged on to DFSMS and have write access to the 51D disk.

Note: You should have already obtained the necessary resources in the plan section. If not, resource requirements are obtained from Figure 7 on page 17. Make sure the product envelope SERVLINK file is available on the A-disk or any work disk accessed as C.

2 Load DFSMS/VM specific files to the 51D disk.

This command will perform the following:

- load Memo-to-Users
- load various product control files, including the Product Parameter File (PPF) and the PRODPART files
- create VMFINS PRODLIST on your A-disk. The VMFINS PRODLIST contains a list of products on the installation media.

a Installing from a product **envelope** file

vmfins install info (nomemo env *envfilename*

envfilename is the file name of the product envelope file. The file type must be SERVLINK.

The **NOMEMO** option will load the memos from the tape but will not issue a prompt to send them to the system printer. Specify the **MEMO** option if you want to be prompted for printing the memo.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS1909I VMFINS PRODLIST created on your A-disk
VMFINS2760I VMFINS processing completed successfully
Ready;
```

A **3** Create a Product Parameter File (PPF) override to add a DFSMS Japanese
A Feature test help build disk.

A **a** Create a new $PPF override file.

A **xedit** *overname* **$PPF** *fm***2**   *overname* is the PPF override file name (such as
A "myDFSMSH") that you want to use.

A   *fm* is an appropriate file mode. If you create this
A   file yourself, specify a file mode of A.

A   If you modify an existing override file, specify a file
A   mode of A or D, based on where the file currently
A   resides (A being the file mode of a R/W 191
A   minidisk, or equivalent; D, that of the MAINT*vrm*
A   51D minidisk).

A **b** Modify the Variable Declarations (**:DCL.**) section for component: DFSMSVM so that it
A resembles the **:DCL.** section as shown below.

A   :OVERLST. DFSMSVM
A   *
A   * === *
A   * Override Section for Initial Installation (Using SFS Directories) *
A   * === *
A   :DFSMSVM. DFSMSVM VSM221H
A   :PRODID. VSM221H%DFSMSVM
A   :DCL. UPDATE
A   &BUILD4   LINK DFSMS   411 411 MR   * DFSMS/VM HELP FILES
A   :EDCL.
A   :END.
A   *

A   **c** If your $PPF override file was created as file mode A, copy it to the
A   Software Inventory minidisk (MAINT*vrm* 51D). The default file mode is
A   D.

A **file**
A **copyfile** *overname* **$PPF** *fm* **= = d (olddate**
A **erase** *overname* **$PPF** *fm*

A   **d** Compile your changes to create the usable *overname* PPF file.

A **vmfppf** *overname* *   where *overname* is the file name of your $PPF
A   override file.

A   **e** Copy the PPF file that was created at file mode A to the Software
A   Inventory minidisk (MAINT*vrm* 51D). The default file mode is D.

A **copyfile** *overname* **PPF** *fm* **= = d (olddate**
A **erase** *overname* **PPF** *fm*

4 Install NLS Feature

A   The *ppfname* to be used throughout these installation instructions MUST BE
A   the name of the PPF override created in step 3 on page 32, *overname*,
A   instead of **VSM221B**. If you have your own PPF override file for DFSMS/VM,
A   you should use your file's *ppfname* instead of **VSM221B**. The *ppfname* you
A   use should be used **throughout** the rest of this procedure.

      a Installing from a product **envelope** file

vmfins install ppf VSM221H DFSMSVM (nomemo nolink env *envfilename*

      envfilename is the file name of the product
      envelope file. The file type must be SERVLINK.

      When prompted for creating an override either
      enter a **0** if you do not want to create an override,
      or enter a 1 to create one.

      The **NOLINK** option indicates that you don't need
      VMFINS to link to the appropriate minidisks, only
      access them if not accessed.

A   **5** Add DFSMS/VM Japanese language feature into the VM SYSSUF inventory
A   table.

A **vmfsuftb**

A   **6** Add DFSMS/VM into the VM SYSPINV inventory file. Specify the non-SSI
A   system or each SSI member system (as applicable) on the vmfupdat
A   command.

A **vmfupdat syspinv PROD VSM221B** *membername1 {membername2 {membername3} {membername4}}*

A   **7** Logon to MAINT*vrm* on each member of a cluster if you plan to put
A   DFSMS/VM help files on the Japanese system Help (MAINT*vrm*'s 401) disk.

A **link DFSMS 411 411 rr**
A **access 411 e**
A **link MAINT***vrm* **401 401 mr**
A **access 401 f**
A **vmfcopy * * e = = f2 (prodid VSM221H%DFSMSVM olddate replace**

6.5.2 Local Modifications to DFSMS/VM

A If any local modifications to DFSMS/VM are needed at this time, refer to the "Applying local service and
A local modifications" chapter of the *z/VM: Service Guide*. Follow the steps that are applicable to your local
modification.

The following substitutions need to be made in the Service Guide when creating a local modification to
DFSMS/VM:

A • *compname* should be **VSM221B%DFSMSVM**, **VSM221B%RMSONLY**, or
A **VSM221B%DFSMSVMNOSM** if the base product is being modified. If the Japanese language feature
A is being modified than use **VSM221H%DFSMSVM**

A • *partfn* and *partft* should be the file name and file type of the source part that is to be modified

A If you have changed any of the installation parameters through a PPF override, you need to substitute
A your changed values where applicable.

A Keep in mind that when you get to the step that runs PUT2PROD in the *z/VM: Service Guide*, you should
return back to this program directory at 6.6, "Post Install Checklist" on page 35.

There is a local modification example in Appendix B, "Local Modification Example: ISMF EXEC File" on
page 76.

6.6 Post Install Checklist

Note

This section is required. You will create and tailor the server machines for your operating environment, define the DFSMS/VM saved segment, and customize the ISMF exec if applicable.

6.6.1 Customization Overview

DFSMS/VM includes three powerful customization capabilities.

DFSMS/VM Control File
> This file contains keywords with values you can modify to control:
> - DFSMS/VM virtual machine names
> - Minidisk management operations
> - Space management operations
> - Message selection and disposition
> - RMS resource names and operational options.

Installation-Wide Exits
> You may want to perform various processes associated with DFSMS/VM functions or operations. You can customize a variety of DFSMS/VM functions with installation-wide exits, or you can use the default exits as shipped with the product.

Automatic Class Selection Processing
> ACS processing automatically assigns management classes to SFS files and directories. You can customize this processing to meet installation storage management goals. ACS processing can be customized by writing an ACS routine or by writing an installation exit in either one of the two exits (REXX™ or assembler language) associated with ACS. Refer to *DFSMS/VM Storage Administration Guide and Reference* for more details on ACS processing and customization.

6.6.2 DFSMS/VM Tailoring

3 If you have only installed the RMS function of DFSMS/VM, then the following tailoring steps can be
3 **skipped**:

3 • Step 5 on page 38.
3 • Step 12 on page 49.
3 • Step 13 on page 50.
3 • Step 15 on page 52.

3 If you have only installed the space management function OR installed both the space and minidisk
3 management functions of DFSMS/VM, then the following tailoring steps can be **skipped**:

3 • Step 3 on page 37.
3 • Step 14 on page 52.

3 If you have only installed the minidisk management function of DFSMS/VM, then the following tailoring
3 steps can be **skipped**:

3   • Step 3 on page 37.
3   • Step 12 on page 49.
3   • Step 14 on page 52.

3 If you have installed RMS and minidisk management, then Step 12 on page 49 can be skipped.

3 If you have installed RMS and space management (with or without minidisk management), then all the
3 steps must be followed.

1 Log on to the DFSMS user ID if you are not already logged on to it.

2 Decide Which Virtual Machines to Define

The examples given assume you are installing DFSMS/VM with the recommended defaults. For example, it assumes that the DFSMS/VM master's name is SMSMASTR, and that you will define three server machines. You are free to change the DFSMS/VM defaults if you so desire. Throughout this section, the default names of the DFSMS/VM virtual machines will be used. Substitute the names you have selected where appropriate. When fewer virtual machines have been defined, adjust all statements accordingly.

The DFSMS/VM master (SMSMASTR) virtual machine provides space management services as well as minidisk management services.

The space management server virtual machines (SMSSRVnn) provide space management services. These services include migration, recall, and expiration of SFS files. The default space management server virtual machines are:

```
SMSSRV01
SMSSRV02
SMSSRV03
```

The minidisk server virtual machines (DGTSRVnn) provide minidisk management services. These services include functions that help move CMS minidisks between like and unlike DASD quickly and easily. The default minidisk management virtual machines are:

```
DGTSRV01
DGTSRV02
DGTSRV03
```

3

┌─ **Critical information!** ──────────────────────────────┐

3 The 500 and 5FF minidisk for each minidisk management virtual machine
A **must be** defined as 3380 dasd without regard to the actual DASD device
A type. The CP directory MDISK statements should look like:

```
3    MDISK 0500 3380 001 001 $$$$$ MR
3    MDISK 05FF 3380 002 001 $$$$$ MR
```

└──┘

The DFSMSRM master (RMSMASTR) provides support for RMS library interface and functions. RMS functions support use of the IBM 3495 Tape Library dataserver.

3 Determine Library Sequence Number

If you installed RMS, determine the library sequence number which is required for preliminary customization. Each specified library requires a unique library sequence number.

4 Establish a Logon/Logoff Process

DFSMS/VM uses various virtual machines to accomplish its work and these machines need to be logged on for DFSMS/VM to do its job. You will need to define your logon process before you define the DFSMS/VM virtual machines to the CP directory in order to correctly assign privilege classes.

It is recommended that the DFSMS/VM and RMS masters (SMSMASTR, RMSMASTR) be automatically logged on at IPL of the VM system. This is usually done by placing XAUTOLOG commands in the PROFILE EXEC of the AUTOLOG1 virtual machine or its equivalent (for example, AUTOLOG2 if RACF is installed).

Ensure that the SMSMASTR and RMSMASTR virtual machines are autologged after the following are running:

- Coordinated resource recovery (CRR) server.

- ML2 server (if space management is enabled).

A
A
- File pools that are required by DFSMS/VM (VMSYS and VMSYSU, the file pools used for the DFSMS/VM control files, work directory and for logging).

  The master virtual machines will wait up to 30 minutes for the work directory to become available. If the work directory is not available after that time, they will terminate.

A
A
- The local or global file pool used for ML1 (if space management is enabled)

Note: Transparent services access facility (TSAF), which runs in a virtual machine, writes a file to its A-disk during initialization and while it is operational. This A-disk can be a minidisk or an SFS file space. If the SFS file space is defined in an SFS file pool that is DFSMS/VM-managed, a deadlock between DFSMS/VM and TSAF may occur during initialization of TSAF. To avoid this problem, we recommend that the TSAF virtual machine be autologged after the SMSMASTR virtual machine is started and initialized.

Soon after the DFSMS/VM master (SMSMASTR) is logged on and the
A
DFSMS/VM application starts in the virtual machine, the DFSMS/VM master

A A A A	automatically logs on its space management servers (SMSSRV01 through SMSSRVnn) by invoking DGTQAUTO EXEC for each server. The minidisk servers (DGTSRV01 through DGTSRVnn) will only be autologged when there is work to be done. Once a minidisk server is autologged, it is not logged off until DFSMS is shut down.

While RMS master has no servers to autolog, it may, as a result of optionally specified control file parameters, autolog a foreign-host server. See *DFSMS/VM Removable Media Services User's Guide and Reference* manual for more details.

A A	The Space and Minidisk Management Master and RMS Master user ID's require class B privilege for the purpose of supporting the default autolog process and for device attachment. The sample virtual machine directory definitions provided for SMSMASTR and RMSMASTR include privilege classes B and G, and the sample DGTQAUTO EXEC specifies the CP command XAUTOLOG. You can customize the directory definition and the DGTQAUTO EXEC to fit your installation's needs.

A A	**5** Review Directory Manager (DirMaint) authorization requirements and make appropriate updates.

Notes:

a. If you have only installed the RMS function of DFSMS/VM, then proceed with step 6 on page 41.

b. If you are installing space management only, go to step 5d on page 40.

4 4	c. For more details on using the DIRM commands as shown in the examples that follow, see *z/VM: Directory Maintenance Facility Commands Reference*.

6 6	d. For more details on configuration entries contained within the DirMaint CONFIG DATADVH file, as shown in the examples that follow, see *z/VM: Directory Maintenance Facility Tailoring and Administration Guide*.

e. If you are using an equivalent directory maintenance program, you will need to modify the DGTQDIRM EXEC as required.

A A	When using DirMaint as the CP directory maintenance manager, you should consider the following requirements and suggestions. The recommended changes must be done from a DirMaint administrator user ID.

a CMDSet classes

A A 2	The DIRMAINT AUTHFOR command defines the command set a user is authorized to use. Log onto a user ID with the proper DirMaint authority and for each minidisk server machine, issue the following commands:

| 2 | **DIRM AUTHFor** *userid* **CMDSet** *cmdset* **CMDLevel 150A** |
| 2 | **DIRM AUTHFor** *userid* **CMDSet** *cmdset* **CMDLevel 140A** |

When appropriate, the minidisk server virtual machine requests DirMaint to perform certain operations that DirMaint considers privileged. Thus, the DirMaint command set must be defined appropriately for each minidisk server virtual machine.

| 2 | The DirMaint administrator would need to issue both **AUTHFor** |
| 2 | commands for each minidisk server. |

b NEEDPass

The **DIRM NEEDPass** command defines whether or not the CP logon password for transaction verification is required. Normally, DirMaint must have the current logon password for verification and authorization when you request a service from DirMaint. To reduce complexities, the supplied DGTQDIRM EXEC expects the minidisk server virtual machine to not prompt for a logon password. Therefore, each minidisk server virtual machine will need to issue the **DIRM NEEDPass NO** command.

6	**Note:** The DIRM NEEDPASS command must be issued from the
6	DIRMAINT server console as the minidisk servers have a read only 191
6	minidisk.

c DirMaint CONFIG DATADVH File Options

A   The following configuration options should be specified within the CONFIG DATADVH file:

UPDATE_IN_PLACE=YES

This parameter specifies whether the DIRMAINT server will attempt to use Diagnose X "84" to put directory changes online. This parameter must be set to YES.

EXTENT_CHECK=ON

This parameter specifies whether verification of manually allocated minidisk extents should occur. It is highly recommended that it be set to ON.

ONLINE=IMMED

This parameter specifies when the updated source directory is to be placed online. This parameter should be set to IMMED, which specifies that the updated source directory is to be placed online as soon as possible.

Note: If the size of your directory impacts the performance of the CP DIRECT command, do not set the ONLINE option in the CONFIG DATADVH file to ONLINE=IMMED. Directories with entries greater than

500 users experience slower performance when ONLINE=IMMED.

RUNMODE=OPERATIONAL

This parameter specifies whether DirMaint is running in a test environment or is fully operational. When running in a test environment, source changes to the directory are not allowed. This parameter must be set to OPERATIONAL.

d EXTENT Control File

Verify the DirMaint EXTENT CONTROL file contains the following:

1) The AUTOBLOCK section contains:

```
3380  800 540 1 CKD
3380  512 690 1 CKD
3380 1024 465 1 CKD
3380 2048 270 1 CKD
3380 4096 150 1 CKD
```

2) The DEFAULTS section contains:

```
3380 885
```

or any number larger than 2 plus the number of minidisk management server virtual machines.

3) Make sure the REGIONS section does **not** contain an entry for **volume $$$$$$**, or if present, the device type is 3380.

4) A section of the EXTENT control file contains a list of minidisks excluded when extent checking is enabled. Each minidisk management server virtual machine's 0500 and 05FF minidisks should be listed in this exclusion list, because the intent of these minidisks is to overlap source and target minidisks. The server virtual machine's 0567 minidisk **must not** be included in the EXTENT control file exclude section. The following is an example of the statements you can specify in the EXTENT control file to exclude minidisks.

```
:EXCLUDE
    DGTSRV01 0500
    DGTSRV01 05FF
      .
      .
      .
:END
```

> **Important**
>
> Groups and full volume minidisks must be defined in the
> EXTENT control file if any minidisks are to be moved into a
> location where these full volumes reside.

A
A
A
e Ensure that any DirMaint control files that you updated are online
(DIRM RLDEXTN ALL and DIRM RLDDATA), DirMaint is fully
operational and that the DIRMaint ENABLE command has been issued.

A
6 Review SFS Requirements for DFSMS/VM and update SFS servers.

DFSMS/VM needs proper authority to access certain SFS file pools. Some
SFS parameters need to be modified by an SFS administrator to allow for
DFSMS/VM connections and operations.

The installation user ID (DFSMS) is not a required administrator for the file
pools discussed in this step. You may, however, find it helpful to make that
user ID an administrator in order to facilitate the install and verification
procedure.

A
A
A
Note: If you have installed DFSMS/VM in a multi-member SSI cluster you
will need to update file pool VMSYS and VMSYSU on each member of your
cluster. All commands listed will need to be entered on every member.

A
a Update the VMSYS File Pool

DFSMS/VM uses a file space, DFSMS, on the VMSYS file pool to store
the control file, authorization file, and other information. Refer to *z/VM
CMS File Pool Planning, Administration, and Operation* for more
information on the VMSYS file pool.

Grant VMSYS file pool administrator authority to all DFSMS/VM virtual
machines by modifying the DMSPARMS file on the VMSYS file pool
server's 191 disk to include all of the DFSMS/VM virtual machines as
administrators. To modify the DMSPARMS file, stop the file pool
server, make the modifications to the DMSPARMS file, and then restart
the file pool server.

The following is an example of the statements you may add to the
VMSYS file pool DMSPARMS file, if you are using the space
management, minidisk, and RMS functions of DFSMS/VM.

```
ADMIN DFSMS
ADMIN SMSMASTR
ADMIN RMSMASTR
ADMIN SMSSRV01
ADMIN SMSSRV02
ADMIN SMSSRV03
ADMIN DGTSRV01
ADMIN DGTSRV02
ADMIN DGTSRV03
```

A
A **Note:** Remove undefined virtual machines and include additional
virtual machines in the DMSPARMS file as necessary. If in the
future the list of virtual machines changes, update this list
accordingly.

Because DFSMS/VM requires space on the VMSYS file pool, you must
enroll DFSMS as a user of VMSYS. Refer to the following example:

```
ENROLL USER DFSMS VMSYS:    (BLOCKS 500
```

You must also create the VMSYS:DFSMS.CONTROL directory on
which the DFSMS/VM control file (DGTVCNTL DATA) resides. To
create this directory, refer to the following example:

```
CREATE DIR VMSYS:DFSMS.CONTROL
```

A **b** Update the VMSYSU file pool for DFSMS/VM

DFSMS/VM needs an SFS directory to use as work space. The SFS
directory value given in the sample control file is:

```
VMSYSU:DFSMS.WORK
```

The first five characters of the file space (DFSMS in the example
above) that you choose must be DFSMS. The three remaining
characters (positions 6–8) may be anything you choose or may be left
blank. Enroll this user in VMSYSU, or some other file pool that you
designate. If you are installing minidisk management, space
management, and RMS, the file space needs at least 4000 blocks of
storage. If you are installing only RMS, or only minidisk management
and space management, the file space needs at least 2000 blocks of
storage or possibly a greater number of blocks, depending on your
workload.

If the work directory is placed in a storage group with other users,
DFSMS/VM cannot be running when you issue the SFS FILEPOOL
BACKUP command against that storage group because DFSMS/VM
has open files in the work directory. You may want to consider putting
the work directory in its own storage group so that your SFS FILEPOOL
A BACKUP command will be unaffected by DFSMS/VM.

You may want to place both the work directory and log files in the same storage group.

The following is an example of the ENROLL command you might use here:

```
ENROLL USER DFSMS VMSYSU: (BLOCKS 4000  STOrgroup nnnnn
```

where *nnnnn* is a storage group set aside for the work directory.

If you name the file pool something other than VMSYSU or specify a user other than DFSMS, you must also update the entry in the control file (DGTVCNTL DATA in VMSYS:DFSMS.CONTROL) during customization.

Note: Before continuing, issue the CREATE command to create the work directory, for example:

```
CREATE DIR VMSYSU:DFSMS.WORK
```

Grant administrator authority to all DFSMS/VM virtual machines for the work directory's file pool by modifying the DMSPARMS file on the work directory's file pool server 191 disk to include all of the DFSMS/VM virtual machines as administrators. To modify the DMSPARMS file, stop the file pool server, make the modifications to the DMSPARMS file, and then restart the file pool server.

The following is an example of the statements to add to the VMSYSU file pool DMSPARMS file, if you will be using the space management, minidisk, and RMS functions of DFSMS/VM.

```
ADMIN DFSMS
ADMIN SMSMASTR
ADMIN RMSMASTR
ADMIN SMSSRV01
ADMIN SMSSRV02
ADMIN SMSSRV03
ADMIN DGTSRV01
ADMIN DGTSRV02
ADMIN DGTSRV03
```

Notes:

 1) Remove undefined virtual machines and include additional virtual machines in the DMSPARMS file as necessary. If in the future the list of virtual machines changes, update this list accordingly.

 2) The work directory is for exclusive use by DFSMS/VM only. Files other than those created by DFSMS/VM should not be placed in this directory. Removal or modification of any DFSMS/VM-created file is strongly discouraged unless instructed to do so by IBM

Service. Failure to follow these guidelines may result in undesired results such as an abend.

7 Autolog a Coordinated Resource Recovery Server

The coordinated resource recovery (CRR) server should be autologged at system IPL time. You will need to define a CRR virtual machine if there is more than one file pool being DFSMS/VM-managed, or if the file pool being managed is separate from the work directory file pools. See *z/VM CMS File Pool Planning, Administration, and Operation*.

8 Copy and Update Sample DFSMS/VM Files

a Access VMSYS:DFSMS.CONTROL

access VMSYS:DFSMS.CONTROL u (FORCERW

b Access the DFSMS/VM samples

access 1c2 t   The sample files were loaded to the 1C2 minidisk.

c Copy the sample control file (DGTVCNTL SAMPDATA), the sample authorization file (DGTVAUTH SAMPDATA), and the sample RMS configuration file (RMCONFIG SAMPCNFG) to VMSYS:DFSMS.CONTROL directory, renaming them to DGTVCNTL DATA, DGTVAUTH DATA, and RMCONFIG DATA, respectively.

copyfile dgtvcntl sampdata t = data u (olddate
copyfile dgtvauth sampdata t = data u (olddate
copyfile rmconfig sampcnfg t = data u (olddate

Note: If you have installed with the DFSMSVMNOSM component, then you may receive errors upon SMSMASTR initialization. To resolve these errors, you will need to edit the DGTVCNTL DATA file and comment out the references to the DFSMS_SERVER_VM server statements (these are the SMSSRVXX server entry definitions).

9 Perform preliminary customization work.

A a. Modify the DFSMS/VM control file (DGTVCNTL DATA) to include your
A preliminary customization information. Edit the file you just copied to
A VMSYS:DFSMS.CONTROL to make any changes.

A b. Update the RMCONFIG DATA file to include all device addresses that
A are in the 3495 library. See *DFSMS/VM Removable Media Services*
A *User's Guide and Reference* manual for more details.

A   The following is some of the information you may need to change.

Minidisk Management Server Virtual Machine Names
Make any necessary changes to the minidisk management virtual machine names (DGTSRVnn, and installation ID) in the DFSMS/VM control file. The control file keywords are MINIDISK_SERVER_VM and DFSMS_OWNER_VM. This step is not required if you set up a default configuration with default master, server, and owner virtual machine names, or if you do not choose to use the minidisk management functions of DFSMS/VM. However, if you are using alternate names for any of these machines, you must modify the DFSMS/VM control file keywords. If you are not using the minidisk management function of DFSMS/VM or use fewer than the three default machines, remove the statements not needed or place an asterisk at the beginning of each statement to create a comment statement. See the "Minidisk Management Control File Keywords" section within the "Customizing the DFSMS/VM Control File" chapter of the *DFSMS/VM Customization* manual.

Space Management Server Virtual Machine Names
Make any necessary changes to the space management virtual machine names (SMSSRVnn) in the DFSMS/VM control file. The control file keyword is DFSMS_SERVER_VM. This step is not required if the default configuration is used. However, if you are using alternate names for any of these machines or if you are not using space management, you must modify the DFSMS/VM control file keywords. If you are not using the space management function of DFSMS/VM, function level 221 or use fewer than the three default machines, remove the statements not needed or place an asterisk at the beginning of each statement to create a comment statement. There must be at least one space management server if the space management function is used. See the "Space Management Control File Keywords" section within the "Customizing the DFSMS/VM Control File" chapter of the *DFSMS/VM Customization* manual.

Removable Media Services Virtual Machine Name
Make any necessary changes to the RMS virtual machine name (RMSMASTR) in the DFSMS/VM control file. The control file keyword is DFSMSRM_MASTER_VM. This step is not required if you set up a default configuration or if you do not choose to use the RMS functions of DFSMS/VM. However, if you are using an alternate name for this machine, you must modify the DFSMS/VM control file keyword. See the "Removable Media Services (RMS) Control File Keywords" section within the "Customizing the DFSMS/VM Control File" chapter of the *DFSMS/VM Customization* manual.

Removable Media Services Library Sequence Number

A   Update the RM_AUTO_LIB keyword in the DFSMS/VM control file
A   with the sequence number of each library specified, if any, in the
A   RMS configuration file (RMCONFIG DATA).

Space and Minidisk Management Master Virtual Machine Name

Make any necessary changes to the name of the master virtual machine (SMSMASTR) used for space management and minidisk management functions in the DFSMS/VM control file. The control file keyword is DFSMS_MASTER_VM. This step is not required if the default configuration is used. However, if you are using an alternate name for this virtual machine or if you are not using the space management or minidisk management functions of DFSMS/VM, you must modify the DFSMS/VM control file keyword. See the "Space and Minidisk Management Control File Keywords" section within the "Customizing the DFSMS/VM Control File" chapter of the *DFSMS/VM Customization* manual.

DFSMS Logging

A   The DFSMS/VM control file is shipped with DFSMS_LOG_TO_FILE message level set to 0 and DFSMS_LOG_TO_CONSOLE message level set to 3. During preliminary verification, it may be helpful to have all messages (level 4) issued somewhere, and logging to file may be useful if you wish to peruse the messages after you have done verification. Update the two logging parameters according to your installation's needs.

A   If using the removable media services function, the DFSMS/VM control file is shipped with RM_LOG_TO_FILE message level set to 0 and RM_LOG_TO_CONSOLE message level set to 3. During preliminary verification, it may be helpful to have all messages (level 4) issued somewhere, and logging to file may be useful if you wish to peruse the messages after you have done verification. Update the two logging parameters according to your installation's needs.

A   If you choose to use logging to a file, make sure the file pool and file space you select exist, (default VMSYSU:LOGFILES) and the file pool and file space are specified on the appropriate LOG_TO_FILE parameter. Also, ensure the file space is enrolled with space. See the "Customizing the DFSMS/VM Control File" chapter of the *DFSMS/VM Customization* manual for information regarding these parameters.

Work Area

If you defined a work area in a file pool and file space other than VMSYSU:DFSMS., update the DFSMS/VM control file with the file pool and file space you chose. The control file keyword is WORK_DIRECTORY.

Directory Maintenance

If the directory maintenance virtual machine has a name other than DIRMAINT, modify the DFSMS/VM control file to update the values associated with the DIRECTORY_VM keywords. See the "Minidisk Management Control File Keywords" section within the "Customizing the DFSMS/VM Control File" chapter of the *DFSMS/VM Customization* manual.

Note: If you are using a directory maintenance product other than DirMaint, you must customize the DGTQDIRM EXEC directory exit appropriately. Other modifications are necessary as well for DFSMS/VM to work with your directory maintenance product. See the "Using the DFSMS/VM Installation-Wide Exits" chapter in the *DFSMS/VM Customization* manual.

c. Authorization

If the user ID DFSMS is not used as the installation ID, update the authorization file (DGTVAUTH DATA) with the user ID you have selected.

If you are implementing space management, authorize SFS file pool servers to DFSMS/VM by adding the file pool server machine user IDs to the DFSMS authorization file. For example, if VMSYSU will be a DFSMS/VM-managed file pool, add its virtual machine name to the authorization file.

Then, if you have not done so already, enroll the installation ID (that is, DFSMS or the user ID you choose to do the verification from) into this managed file pool for verification testing. Use the following as an example:

```
ENROLL USER DFSMS  VMSYSU:  (BLOCKS 4000
```

If RACF/VM is installed on your system, do the following:

1 Identify all new user IDs and minidisks to RACF/VM according to your installation's policies.

2 Ensure all minidisks shared between different virtual machines are granted the appropriate authority.

3 Ensure the installing virtual machine has READ access to the DFSMS RACF/VM entities. Refer to the "Authorizing DFSMS/VM Users" chapter of *DFSMS/VM Customization* manual.

For further details on these control file statements, see the "Customizing the DFSMS/VM Control File" chapter and the "Authorizing DFSMS/VM Users" chapter of *DFSMS/VM Customization* manual.

10 Prepare the PROFILE EXEC

A The sample PROFILE EXECs supplied with DFSMS/VM must be copied to
A the SMSMASTR and RMSMASTR 191 minidisks. In an SSI cluster this step
A must be done on every member of your cluster. The sample EXECs are
A named FSMPROF EXEC and RMSPROF EXEC, respectively. They can be
A found on the local samples disk, DFSMS 1C2.

A **a** Link and Access the SMSMASTR and RMSMASTR 191 disks and
A access the local samples disk.

link smsmastr 191 991 w
access 991 u
link rmsmastr 191 992 w
access 992 v
access 1C2 t

b Copy the FSMPROF EXEC from the local samples disk to the
SMSMASTR 191 disk.

copyfile fsmprof exec t profile = u (olddate

c Copy the RMSPROF EXEC from the local samples disk to the
RMSMASTR 191 disk.

copyfile rmsprof exec t profile = v (olddate

A **d** Update the PROFILE EXECs

A If space management is being implemented, add the appropriate link
A and access statements to the SMSMASTR's PROFILE EXEC for the C
A runtime library (by default the C runtime library is shipped on MAINT
A 19E). If you plan on implementing ACS processing using a compiled
REXX EXEC for your ACS routines, add the appropriate LINK and
ACCESS statements to the SMSMASTR's PROFILE EXEC to gain
access to the IBM Library for REXX/370 for run time support.

You may also want to consider spooling the console of the SMSMASTR
and RMSMASTR virtual machines. If DFSMS/VM is unable to write to
the log files for any reason (for example, being out of space or file pool
being down) messages are written to the console. Other
non-DFSMS/VM messages are written to the console only. These may
be useful in debugging problems. If you spool the console, ensure that
you have some method of periodically closing and deleting these
consoles so that you do not run out of spool space.

11 Ensure Public Access to DFSMS/VM

For proper access to DFSMS/VM ensure the DFSMS 1B5 minidisk is publicly accessible or copy the files listed in -- Fig 'ERASEM' unknown -- to a publicly accessible disk.

12 Define the DFSMS/VM Saved Segment for Space Management

Note: If you installed RMS only, then proceed to step 13 on page 50.

If you want to use the space management functions of DFSMS/VM you **must** define and save the DFSMS/VM saved segment using the FSMSEGDF EXEC on the DFSMS 1B5 disk.

Defined as a restricted (RSTD) read/write saved segment, this segment is used by DFSMS/VM virtual machines. Because of this, the DFSMS/VM master and space management server virtual machines are given segment access with a NAMESAVE statement in their CP directory entry. In addition, each SFS file pool server managed by DFSMS/VM needs to have the NAMESAVE statement included in its directory entry. Refer to the VSM221B PLANINFO file for an example of using the NAMESAVE statement.

Notes:

a. The size of the installing virtual machine must be greater than or equal to the starting location of the segment plus 3MB.
b. If the SFS virtual machine size includes the segment location, you should ensure that the segment is always accessible by the SFS virtual machine by adding SEGMENT RESERVE DFSMSSEG to the PROFILE EXEC of SFS virtual machines for file pools that are DFSMS/VM-managed.
c. See *z/VM: Saved Segments Planning and Administration* manual for details on creating and managing saved segments and defining the segment size.

   a Determine the Address Location of the Segment

Before running the FSMSEGDF EXEC, you may choose to modify the address where the segment will be located. The EXEC shipped with DFSMS/VM creates the segment (of size 1MB) in segment pages 1400–14FF (20M decimal). If you change the address where the segment is loaded, you should use the VMSESE local modification procedure to modify the FSMSEGDF EXEC.

   b Establish the correct minidisk access order. You should use the override PPF you created for the VSM221B PPF during installation.

vmfsetup VSM221B DFSMSVM

   c Invoke the EXEC to Save the Segment. Perform this step on a non-SSI system or each member of an SSI cluster.

fsmsegdf

When the FSMSEGDF EXEC is running, messages are issued. During segment creation, you may see messages that you think are errors; however, if the return code from the EXEC is 0, the segment has been successfully created. The following is an example of the messages and return codes you may see when FSMSEGDF completes successfully. Note that message DMSDCS344E is issued, but the EXEC still completes successfully.

```
fsmsegdf
  NO FILES PURGED
DMSDCS344E Segment space DFSMSSEG has not been reserved
HCPNSD440I Saved segment DFSMSSEG was successfully defined in fileid 1631.
HCPNSS440I Saved segment DFSMSSEG was successfully saved in fileid 1631.
HCPNSD440I Saved segment DFSMSSEG was successfully defined in fileid 1632.
HCPNSS440I Saved segment DFSMSSEG was successfully saved in fileid 1632.
Ready; T=0.04/0.14 09:24:44
```

If errors occur that prevent the segment from being correctly defined, you will see a nonzero return code. The following is an example of what you will see if the user ID running the EXEC does not have the NAMESAVE DFSMSSEG statement in the directory entry for that user ID.

```
fsmsegdf
0001 FILE  PURGED
DMSDCS344E Segment space DFSMSSEG has not been reserved
HCPNSD440I Saved segment DFSMSSEG was successfully defined in fileid 1633.
HCPNSS440I Saved segment DFSMSSEG was successfully saved in fileid 1633.
HCPNSD440I Saved segment DFSMSSEG was successfully defined in fileid 1634.
FSMACS8008S No access to shared segment DFSMSSEG
******** Initialization of segment failed ********
Ready(00020); T=0.03/0.09 09:12:50
```

Note: If you receive a "0001 FILE PENDING PURGE" message, the segment has been previously defined and is in use. This error message must be resolved before continuing.

13 Update the ISMF EXEC

Note: If you have only installed the RMS function of DFSMS/VM, then proceed with step 14 on page 52.

In order for users to use the ISMF EXEC, it must be on a publicly accessible disk. The users will also require access to the ISPF product code, and, if all ISMF functions are to be available, they will also require access to either the ISPF/PDF product code or the CMS Utilities or both.

The ISMF EXEC contains within it a number of variables that indicate what disks the different code is on, what the labels are, and what functions are available. These must be tailored in order for users to have the access you desire. The default values are listed in Figure 10.

Figure 10. Default Corequisite Product Information

Product	Available?	Label	Owner	CUU
DFSMS	Yes	DFS1B5	DFSMS	1B5
ISPF	Yes	ISP192	ISPVM	192
PDF	Yes	ISP193	ISPVM	193
CUF	Yes	MNT19E	MAINT	19E

If any of the assumptions referred to in Figure 10 is invalid, that is, if you have not installed a product listed in the table or have installed it in a different way, then you must customize the ISMF EXEC so that user machines can access these disks correctly.

Considerations when modifying statements in the ISMF EXEC:

a. The USER_INIT subroutine contains variables and logic which an installation might want to customize.

b. If you are going to use a shared file system for the publicly accessible files, you need to insert the following line within the USER_INIT subroutine.

```
PROD_SFS = 'VMSYSU:DFSMS.USERCODE'
```

c. If you have changed the name of your install machine from DFSMS, you need to modify the PROD_OWNER statement.

d. If the CMS Utilities disk is on a disk label other than the supplied label of MNT19E, you need to modify the CUF_LABEL statement.

Some considerations to keep in mind when setting up user access to ISMF:

• Users performing storage administrator functions must be enrolled in the VMSYS file pool and given READ access to the VMSYS:DFSMS.CONTROL directory.

• If you plan to make use of ISMF in split-screen mode, the IUCV MAXCONN value specified (or defaulted) must support the number of concurrent sessions on that machine, plus any additional connections required by other applications.

- Minimum storage requirements are 5MB. Define a larger virtual machine size if you plan to build large minidisk lists or run in split-screen mode.

- ISMF users need access to the ISPF product code and the ISPF/PDF code or the CMS Utilities Feature code, or both. If you do not have access, some of the edit and browse functions will not be available.

- If you wish to ACCESS a disk containing MACLIBs required by DFSMS/VM as a Read Only Extension (i.e. ACCESS vaddr D/A), then the ISMF EXEC will need to be updated to recognize this. Locate the following line (approximately line 190):

  ```
  PULL qmode .   . qcuu qlabel .
  ```

  Then add the following line after the above PULL instruction.

  ```
  qmode = substr(qmode,1,1) /* get filemode for later ESTATE use */
  ```

There is an example of applying a local modification to the ISMF exec in Appendix B, "Local Modification Example: ISMF EXEC File" on page 76.

14 Update the RMSSERV EXEC

A
Note: If you are using the C runtime library supplied with z/VM then proceed with step 15.

When initializing RMSMASTR you may receive message *'DMSOPN002E SCEERUN LOADLIB NOT FOUND'* if you are not using the C runtime library. The C runtime library is required if using the space management or RMS foreign host support of DFSMS/VM. If neither of these apply, then you can comment out the GLOBAL LOADLIB SCEERUN within the RMSSERV EXEC.

15 Corequisite Software Service Considerations

There may be a need to customize execs for ISMF to handle service to the following software:

ISPF   Functional corequisite for ISMF
ISPF/PDF   Optional functional corequisite for ISMF.

In the ISMF EXEC, the libraries associated with ISPF and ISPF/PDF are assumed to be in maclibs. If either of these products has service in the form of CMS files, then changes will have to be made to the ISMF EXEC.

Appropriate FILEDEF statements should be included in the USER_INIT section of the file ISMF EXEC using the following examples as a guide:

- To apply service for the ISPF panel ISPPFT04 that exists as ISPPFT04 COPY in your system's Y disk, include in the USER_INIT section

  ```
  'FILEDEF ISPPLIB DISK ISPPFT04 COPY Y (CONCAT'
  ```

- To apply service for the ISPF message member ISP11 that exists as ISPA11 COPY in your system's Y disk, include in the USER_INIT section

```
                              'FILEDEF ISPMLIB DISK ISPA11 COPY Y (CONCAT'
```
- To apply service for the ISPF table member ISPCMDS that exists as
  ISPCMDS COPY in your system's Y disk, include in the USER_INIT
  section

```
                              'FILEDEF ISPTLIB DISK ISPCMDS COPY Y (CONCAT'
```
- To apply service for the ISPF/PDF skeleton ISREMAS1 that exists as
  ISREMAS1 COPY in your system's S disk, include in the USER_INIT
  section

```
                              'FILEDEF ISRSLIB DISK ISREMAS1 COPY S (CONCAT'
```

Finally, you have to identify the appropriate DDNAME for that product and
language and include the FILEDEF statement in the USER_INIT section of
the ISMF EXEC.

A **16** To receive uppercase English versions of the CMS parser tables, issue the
A   following command:

A **vmfbld ppf VSM221B DFSMSVM fsmblcmd (all**

A **17** Log on to MAINT*vrm* on each member of a cluster if you plan to put
A   DFSMS/VM help files on the system AMENG Help (MAINT 19D) disk.

A **link DFSMS 29D 29D rr**
A **access 29D e**
A **link MAINT 19d 19d mr**
A **access 19d f**
A **vmfcopy * * e = = f2 (prodid VSM221B%DFSMSVM olddate replace**

A **18** If you are on z/VM 6.3 or higher, skip this step.

A   If you are installing on z/VM V6.2 re-build the CMS HELP logical saved
A   segment, to include DFSMS/VM's help files from the MAINT 19D disk.

A   Perform this step on a non-SSI system or each member of an SSI cluster.
A   Log on to MAINT*vrm* to perform the following command.

A **put2prod segments helpseg**

What's next?

You have now finished tailoring DFSMS/VM. Continue with the "Verifying the Installation Process",
"Postinstall and Optional Customization" and "Authorizing DFSMS/VM Users" chapters of the
DFSMS/VM Customization manual. You will not need to return to this program directory for any further
install instructions.

Notes:

1. The following minidisk server messages are normal during initialization and processing of a
   minidisk request:

   ```
   DMSDCS344E Segment space DFSMSSEG has not been reserved
   HCPDTV040E Device 0500 does not exist
   FSMDCM4020E Error from CP command DETACH, return code = 40
   FSMDCM4032I DETACH 0500
   HCPDTV040E Device 05FF does not exist
   FSMDCM4020E Error from CP command DETACH, return code = 40
   FSMDCM4032I DETACH 05FF
   DVHDMH042E User DGTSRV01 Minidisk address 0567 not found.
   ```

DFSMS/VM is now installed and built on your system.

7.0 Service Instructions

This section of the Program Directory contains the procedure to install CORrective service to DFSMS/VM. VMSES/E is used to install service for DFSMS/VM.

To become more familiar with service using VMSES/E, you should read the introductory chapters in the *VMSES/E Introduction and Reference*. This manual also contains the command syntax for the VMSES/E commands listed in the procedure.

Notes:

1. Each step of the servicing instructions must be followed. Do not skip any step unless directed to do so. All instructions showing accessing of disks assume the use of default minidisk addresses. If different minidisk addresses are used, or if using a shared file system, change the instructions appropriately.

2. The component name used to install DFSMS/VM should also be used during the service instructions. The three choices are:

   - **DFSMSVM -** Used to install the entire DFSMS/VM product.

   - **RMSONLY -** Used to install the RMS component of DFSMS/VM only.

   - **DFSMSVMNOSM -** Used to install DFSMS/VM without the space management component, includes minidisk management and RMS components only.

7.1 VMSES/E Service Process Overview

The following is a brief description of the main steps in servicing DFSMS/VM using VMSES/E.

- Setup Environment

  Access the software inventory disk. Use VMFSETUP command to establish the correct minidisk access order.

- Merge Service

  Use the VMFMRDSK command to clear the alternate apply disk before receiving new service. This allows you to easily remove the new service if a serious problem is found.

- Receive Service

  The VMFREC command receives service from the delivery media and places it on the Delta disk.

- Apply Service

  The VMFAPPLY command updates the version vector table (VVT), which identifies the service level of all the serviced parts. In addition, AUX files are generated from the VVT for parts that require them.

- Reapply Local Service (if applicable)

All local service (mods) must be entered into the software inventory to allow VMSES/E to track the changes and build them into the system. Refer to Chapter 7 in the *z/VM: Service Guide* for this procedure.

- Build New Levels

   The build task generates the serviced level of an object and places the new object on a test BUILD disk.

- Place the New Service into Production

   DFSMS/VM will be placed into production by copying the new service to any public disk if applicable, re-saving the NSS (Named Saved System) or DCSS (Discontiguous Saved Segments), etc.

Choose one of the following sections to proceed with based on the service being applied:

- 7.2, "Servicing DFSMS/VM" if applying service to the base product.

- 7.3, "Servicing the Japanese Language Feature" on page 59 if applying service to the Japanese language feature.

7.2 Servicing DFSMS/VM

┌─ **Electronic Service** ───┐

A │ If you have received service electronically on DVD or on a CD-ROM, follow the appropriate instructions
A │ to retrieve and decompress the envelope files to the MAINT*vrm* 500 minidisk. The decompression is
  │ currently done by using the DETERSE module.

7 │ The documentation envelope and the service (PTF) envelope files must have a file type of SERVLINK.
7 │ Make note of the file names that you are using for those SERVLINK files as you will need to enter
7 │ them in place of the variable *docenvfn* and *envfilename* in the VMSES/E commands that follow.

└──┘

The preferred method for installing service to z/VM products is to use the SERVICE command. The SERVICE command automates issuing the VMFREC, VMFAPPLY and VMFBLD commands. It can be used for DFSMS/VM as the product information for DFSMS/VM was added to the VMSES/E Service Update Facility Software inventory table (VM SYSSUF) at installation time.

To use the automated SERVICE command to install your CORrective PTF service follow the instructions in 7.2.1, "Service Commands." Otherwise follow the instructions in Appendix A, "Traditional Service Commands" on page 63.

7.2.1 Service Commands

A   **1** Log on to MAINT*vrm*

2 As a precaution, create a backup copy of the current DFSMS 1B5 disk. Save this copy until you have completed installing the service and you are confident that the service runs correctly.

3 If the Software Inventory disk (51D) was accessed R/O (read only) then establish write access to the Software Inventory disk.

Note: If the MAINT*vrm* 51D minidisk was accessed R/O, you will need to have the user that has it accessed R/W link it R/O. You then can issue the following commands to obtain R/W access to it.

link MAINT*vrm* **51d 51d mr**	The 51D minidisk is where the VMSES/E Software
access 51d d	Inventory files and other product dependent files reside.

4 Have the DFSMS/VM CORrective service tape mounted and attached to
A DFSMS. If you have a service envelope SERVLINK file make sure it is
A available on the MAINT*vrm* 500 minidisk and accessed as C.

A **5** If you are servicing from an envelope file you need to receive any memos
A from the documentation envelope file and review them. You skip this step if
A you have a service tape as the memos will be loaded down during SERVICE
A execution against the tape.

A **service {VSM221B%DFSMSVM I VSM221B%RMSONLY I VSM221B%DFSMSVMNOSM}** *docenvfn*

A **vmfupdat sysmemo**
A | *docenvfn* is the file name of the documentation
A | envelope (SERVLINK) file.

A | Use **DFSMSVM** when servicing the entire
A | DFSMS/VM product, **RMSONLY** when servicing
A | the RMS component only, or **DFSMSVMNOSM**
A | when servicing DFSMS/VM without the space
A | management component.

A **6** Receive, Apply and Build the service

A **a** If servicing from tape

A **service {VSM221B%DFSMSVM I VSM221B%RMSONLY I VSM221B%DFSMSVMNOSM}**

A | Use **DFSMSVM** when servicing the entire
A | DFSMS/VM product, **RMSONLY** when servicing
A | the RMS component only, or **DFSMSVMNOSM**
A | when servicing DFSMS/VM without the space
A | management component.

A   **b** If servicing from an envelope file

A **service {VSM221B%DFSMSVM | VSM221B%RMSONLY | VSM221B%DFSMSVMNOSM}** *envfilename*

A   *envfilename* is the file name of the COR (PTF)
A   service envelope (SERVLINK) file.

A   Use **DFSMSVM** when servicing the entire
A   DFSMS/VM product, **RMSONLY** when servicing
A   the RMS component only, or **DFSMSVMNOSM**
A   when servicing DFSMS/VM without the space
A   management component.

A   **Notes:**

A   a. If your software inventory disk (51D) is not owned by the MAINT*vrm* user
A   ID then make sure the SHRDISK tag in the VMSESE PROFILE reflects
A   the correct owning user ID.

A   b. The following messages are normal when applying service using the
A   RMSONLY and DFSMSVMNOSM components and can be ignored:

```
DMSLIO201W The following names are undefined:
           TIME SRAND CEESG003 MALLOC FREE LOCALTIM
           RAND @@TRT SPRINTF PRINTF SSCANF
VMFBDM1966W The command, LOAD , completed with return code
           4 while processing object FSMDFSMS.MODULE . It
           was operating upon file FSMDFSMS TTT00000
VMFBDM1966W The command, INCLUDE , completed with return
           code 4 while processing object FSMDFSMS.MODULE.
           It was operating upon file SVMSHARE TEXT
VMFBDM1966W The command, LOAD , completed with return code
           4 while processing object FSMDFSMS.MODULE . It
           was operating upon file FSMLAST TTT00000"
```

A   Message VMFBLD1851I, 'VMFBDMOD completed with return code 4', will
A   occur when the FSMDFSMS MODULE is rebuilt during service
A   installation. This return code is not an error and service was successfully
A   installed.

A   c. The following message is normal when applying service using the
A   RMSONLY component and can be ignored:

```
VMFBLD1851I (x of y) Cannot process FSMBLaaa EXEC because it is flagged to
           be bypassed
```

A   **7** Check the service message log ($VMFSRV $MSGLOG) for warning and error
A   messages. Take appropriate action based on any warning messages
A   received. Correct all errors reported and restart by issuing the SERVICE
A   command as displayed in message VMFSRV2310W.

A **vmfview service**

A   **8** Use the VMFUPDAT SYSMEMO command to review any additional memos
A   that were received with the service.

A **vmfupdat sysmemo**

> **What's next?**
>
> Servicing of the DFSMS/VM base product is complete.
>
> If you have service for the Japanese language feature, than continue with 7.3,
> "Servicing the Japanese Language Feature."
>
> Otherwise, continue with 7.4, "Place the New DFSMS/VM Service Into
> Production" on page 61.

7.3 Servicing the Japanese Language Feature

This section describes the service steps required for the Japanese language
feature.

A 7.3.1 Service Commands

> **Electronic Service**
>
> A   If you have received service electronically or on DVD or on CD-ROM, follow the appropriate
> A   instructions to retrieve and decompress the envelope files to your the MAINT*vrm* 500 minidisk. The
> 2   decompression is currently done by using the DETERSE module.
>
> 7   The documentation envelope and the service (PTF) envelope files must have a file type of SERVLINK.
> 7   Make note of the file names that you are using for those SERVLINK files as you will need to enter
> 7   them in place of the variable *envfilename* in the VMFREC commands that follow.

1 Log on to MAINT*vrm*

2 As a precaution, create a backup copy of the current DFSMS 1B5 disk. Save
this copy until you have completed installing the service and you are
confident that the service runs correctly.

3 If the Software Inventory disk (51D) was accessed R/O (read only) then
establish write access to the Software Inventory disk.

> **Note:** If the MAINT*vrm* 51D minidisk was accessed R/O, you will need to
> have the user that has it accessed R/W link it R/O. You then can issue the
> following commands to obtain R/W access to it.

link MAINT*vrm* 51d 51d mr
access 51d d

    The 51D minidisk is where the VMSES/E Software
Inventory files and other product dependent files
reside.

A
A

4 Have the DFSMS/VM CORrective service tape mounted and attached to
MAINT*vrm*. If you have a service envelope SERVLINK file make sure it is
available on the MAINT*vrm* 500 minidisk and accessed as C.

A
A
A
A

5 If you are servicing from an envelope file you need to receive any memos
from the documentation envelope file and review them. You skip this step if
you have a service tape as the memos will be loaded down during SERVICE
execution against the tape.

A **service VSM221H%DFSMSVM** *docenvfn*
A **vmfupdat sysmemo**

    docenvfn is the file name of the documentation
envelope (SERVLINK) file.

A

6 Receive, Apply and Build the service

A

    a If servicing from tape

A **service VSM221H%DFSMSVM**

A

    b If servicing from an envelope file

A **service VSM221H%DFSMSVM** *envfilename*

A
A

    envfilename is the file name of the COR (PTF)
service envelope (SERVLINK) file.

A
A
A
A

7 Check the service message log ($VMFSRV $MSGLOG) for warning and error
messages. Take appropriate action based on any warning messages
received. Correct all errors reported and restart by issuing the SERVICE
command as displayed in message VMFSRV2310W.

A **vmfview service**

A   **8** Use the VMFUPDAT SYSMEMO command to review any additional memos
A   that were received with the service.

A **vmfupdat sysmemo**

A   **9** Continue with 7.4, "Place the New DFSMS/VM Service Into Production" to
A   copy the new serviced files into production.

7.4 Place the New DFSMS/VM Service Into Production

Placing the DFSMS/VM code into production is a three step process:

- The DFSMSSEG segment is resaved.

- Then the contents of the DFSMS 1B5 minidisk should be copied to any applicable public disk.

- Then the CMS HELP logical saved segment should be re-built.

7.4.1 Rebuild the DFSMSSEG Saved Segment

A   If DFSMS/VM is installed in a multi-member SSI cluster, you must log on to
A   DFSMS on each member and perform the following steps.

A   **1** Log on to DFSMS

A   **2** Perform all the saved segment steps on a non-SSI system or each member
A   of an SSI cluster.

       3 Access the 1B5 build minidisk

access 1b5 e

       4 Re-save the DFSMSSEG segment.

fsmsegdf

7.4.2 Copy the New DFSMS/VM Serviced Files Into Production

If you have copied any DFSMS/VM product code to a public disk (such as MAINT 19E disk) and this code
has changed as a result of the applied service, you need to recopy that code to the public disk.

A   **1** Access the 1B5 disk

A **access 1B5 e**

A **2** Link and access the public disk (in this example, MAINT 19E)

A **link MAINT 19E 19E mr**
A **access 19E r**

A **3** Copy any files updated by service to the public disk using VMFCOPY.

A **vmfcopy fn ft e = = r2 (prodid VSM221B%DFSMSVM olddate replace**

A **4** Access the DFSMS help disk

A **access 29D e**

A **5** Access the system AMENG help disk

A **link MAINT 19D 19D mr**
A **access 19D f**

A **6** Copy any updated help files

A **vmfcopy * * e = = f2 (prodid VSM221B%DFSMSVM olddate replace**

A 7.4.3 Re-build the HELP Segment if Any Help Files were Serviced A (optional)

A If you are on z/VM 6.3 or higher, skip this step.

A If you are installing on z/VM 6.2, re-build the CMS HELP logical saved segment to include the help files A for DFSMS/VM that were moved to the AMENG Help disk (MAINT's 19D).

A **put2prod segments helpseg**

You have finished servicing DFSMS/VM.

---

^A Appendix A. Traditional Service Commands

^A A.1   Servicing DFSMS/VM

^A A.1.1 Prepare to Receive Service

^A

┌─ **Electronic Service** ───

^A If you have received service electronically, DVD or on a CD-ROM, follow the appropriate instructions to
^A retrieve and decompress the envelope files to the MAINT*vrm* 500 minidisk. The decompression is
^A currently done by using the DETERSE module.

^A The documentation envelope and the service (PTF) envelope files must have a file type of SERVLINK.
^A Make note of the file names that you are using for those SERVLINK files as you will need to enter
^A them in place of the variable *docenvfn* and *envfilename* in the VMSES/E service commands that
^A follow.

└──

^A The *ppfname* to be used throughout these installation instructions MUST BE the name of the PPF override
^A created in step 8 on page 24, *overname*, instead of **VSM221B**. If you have your own PPF override file for
^A DFSMS/VM, you should use your file's *ppfname* instead of **VSM221B**. The *ppfname* you use should be
^A used **throughout** the rest of this procedure, unless otherwise stated differently.

^A   **1** Log on to *DFSMS*

2 As a precaution, create a backup copy of the current DFSMS 1B5 disk. Save this copy until you have completed installing the service and you are confident that the service runs correctly.

3 If the Software Inventory disk (51D) was accessed R/O (read only) then establish write access to the Software Inventory disk.

Note: If the MAINT*vrm* 51D minidisk was accessed R/O, you will need to have the user that has it accessed R/W link it R/O. You then can issue the following commands to obtain R/W access to it.

link MAINT*vrm* 51d 51d mr   The 51D minidisk is where the VMSES/E Software
access 51d d   Inventory files and other product dependent files
                                              reside.

^A   **4** Have the DFSMS/VM CORrective service tape mounted and attached to
^A   MAINT*vrm*. If you have a service envelope SERVLINK file make sure it is
^A   available on the MAINT*vrm* 500 minidisk and it is linked and accessed as C.

5 Establish the correct minidisk access order.

vmfsetup VSM221B {DFSMSVM | RMSONLY | DFSMSVMNOSM}

A
A
A

VSM221B is the PPF that was shipped with the product. Substitute the PPF override that was created during DFSMS/VM installation for VSM221B.

Use **DFSMSVM** when servicing the entire DFSMS/VM product, **RMSONLY** when servicing the RMS component only, or **DFSMSVMNOSM** when servicing DFSMS/VM without the space management component.

6 Receive the documentation. VMFREC, with the INFO option, loads the documentation and displays a list of all the products on the tape.

2   **a** If receiving the service from tape

2 **vmfrec info**
2

This command will load the service memo to the 191 disk.

2   **b** If receiving the service from an envelope file

A **vmfrec info (env** *docenvfn*

This command will load the service memo to the 191 disk.

7 Check the receive message log ($VMFREC $MSGLOG) for warning and error messages.

vmfview receive

Also make note of which products and components have service on the tape. To do this, use the PF5 key to show all status messages which identify the products on the tape.

A   **8** Review the product memo (VSM221B MEMO) before going on.

9 Merge previously applied service to ensure that you have a clean alternate apply disk for new service.

1 **vmfmrdsk VSM221B {DFSMSVM | RMSONLY | DFSMSVMNOSM} apply (levels 2**

Use **DFSMSVM** when servicing the entire DFSMS/VM product, **RMSONLY** when servicing the RMS component only, or **DFSMSVMNOSM** when servicing DFSMS/VM without the space management component.

This command clears the alternate APPLY disk.

10 Review the merge message log ($VMFMRD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview mrd

A.1.2 Receive the Service

1 Receive the service.

2   **a** If receiving the service from tape

2 **vmfrec ppf VSM221B {DFSMSVM | RMSONLY | DFSMSVMNOSM}**

2   Use **DFSMSVM** when servicing the entire
2   DFSMS/VM product, **RMSONLY** when servicing
2   the RMS component only, or **DFSMSVMNOSM**
2   when servicing DFSMS/VM without the space
2   management component.

2   This command receives service from your service
2   tape. All new service is loaded to the DELTA disk.

2   **b** If receiving the service from an envelope file

7 **vmfrec ppf VSM221B {DFSMSVM | RMSONLY | DFSMSVMNOSM} (env** *envfilename*

2   Use **DFSMSVM** when servicing the entire
2   DFSMS/VM product, **RMSONLY** when servicing
2   the RMS component only, or **DFSMSVMNOSM**
2   when servicing DFSMS/VM without the space
2   management component.

2   This command receives service from your service
2   envelope file. All new service is loaded to the
2   DELTA disk.

2 Review the receive message log ($VMFREC $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview receive

A.1.3 Apply the Service

1 Apply the new service.

vmfapply ppf VSM221B {DFSMSVM I RMSONLY I DFSMSVMNOSM}

> Use **DFSMSVM** when servicing the entire DFSMS/VM product, **RMSONLY** when servicing the RMS component only, or **DFSMSVMNOSM** when servicing DFSMS/VM without the space management component.
>
> This command applies the service that you just received. The version vector table (VVT) is updated with all serviced parts and all necessary AUX files are generated on the alternate apply disk.
>
> You must review the VMFAPPLY message log if you receive a return code (RC) of a 4, as this may indicate that you have local modifications that need to be reworked.

2 Review the apply message log ($VMFAPP $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview apply

> **Note**
>
> A
> A
> If you get the message VMFAPP2120W then re-apply any local modifications before building the new DFSMS/VM. Refer to chapter 3 in the *z/VM: Service Guide*. Follow the steps that are applicable to your local modification.
>
> A
> The following substitutions need to be made:
>
> A
> A
> - *compname* should be **VSM221B%DFSMSVM**, **VSM221B%RMSONLY**, or **VSM221B%DFSMSVMNOSM**
>
> A
> A
> - *partfn* and *partft* should be the file name and file type of the source part that needs to be reworked.
>
> If you have changed any of the installation parameters through a PPF override, you need to substitute your changed values where applicable.
>
> A
> Keep in mind, when you get to the step that runs SERVICE you should return back to this program directory at A.1.4, "Update the Build Status Table" on page 67.
>
> There is a local modification example in Appendix B, "Local Modification Example: ISMF EXEC File" on page 76.

A.1.4 Update the Build Status Table

1 Update the Build Status Table with serviced parts.

vmfbld ppf VSM221B {DFSMSVM | RMSONLY DFSMSVMNOSM} (status

Use **DFSMSVM** when servicing the entire DFSMS/VM product, **RMSONLY** when servicing the RMS component only, or **DFSMSVMNOSM** when servicing DFSMS/VM without the space management component.

This command updates the Build Status Table.

```
┌─ Note ──────────────────────────────────────────────────────────────────┐
│                                                                          │
│ If the $PPF files have been serviced you will get the following prompt:  │
│                                                                          │
│                                                                          │
│ VMFBLD2185R The following source product parameter files have been       │
│             serviced:                                                    │
│ VMFBLD2185R VSM221B $PPF                                                  │
│ VMFBLD2185R When source product parameter files are serviced, all        │
│             product parameter files built from them must be recompiled   │
│             using VMFPPF before VMFBLD can be run.                        │
│ VMFBLD2185R Enter zero (0) to have the serviced source product           │
│             parameter files built to your A-disk and exit VMFBLD so      │
│             you can recompile your product parameter files with VMFPPF.  │
│ VMFBLD2185R Enter one (1) to continue only if you have already           │
│             recompiled your product parameter files with VMFPPF.         │
│                                                                          │
```

0   Enter a 0 and complete the following steps
                                                   before you continue.

```
VMFBLD2188I Building VSM221B $PPF
            on 191 (A) from level $PFnnnnn
```

vmfppf VSM221B {DFSMSVM | RMSONLY | DFSMSVMNOSM}

> **Note:** If you've created your own PPF
> override then use your PPF name instead of
> VSM221B.
>
> You should recompile all overrides to ensure
> they are at the proper level for future use.

copyfile VSM221B $PPF a = = d (olddate replace
erase VSM221B $PPF a

> **Note:** **Do not** use your own PPF name in
> place of VSM221B for the COPYFILE and
> ERASE commands.

vmfbld ppf VSM221B {DFSMSVM | RMSONLY | DFSMSVMNOSM} (status

> Re-issue VMFBLD to complete updating the
> build status table.

1   When you receive the prompt that was
                                                   previously displayed, enter a 1 to continue.

2 Use VMFVIEW to review the build status messages, and see what objects need to be built.

vmfview build

A.1.5 Build Serviced Objects

1 Rebuild DFSMS/VM serviced parts.

vmfbld ppf VSM221B {DFSMSVM | RMSONLY | DFSMSVMNOSM} (serviced

Use **DFSMSVM** when servicing the entire DFSMS/VM product, **RMSONLY** when servicing the RMS component only, or **DFSMSVMNOSM** when servicing DFSMS/VM without the space management component.

Notes:

a. If your software inventory disk (51D) is not owned by the MAINT user ID then make sure the VMSESE PROFILE reflects the correct owning user ID.

b. The following messages are normal when applying service using the RMSONLY and DFSMSVMNOSM components and can be ignored:

```
DMSLIO201W The following names are undefined:
           TIME SRAND CEESG003 MALLOC FREE LOCALTIM
           RAND @@TRT SPRINTF PRINTF SSCANF
VMFBDM1966W The command, LOAD , completed with return code
           4 while processing object FSMDFSMS.MODULE . It
           was operating upon file FSMDFSMS TTT00000
VMFBDM1966W The command, INCLUDE , completed with return
           code 4 while processing object FSMDFSMS.MODULE.
           It was operating upon file SVMSHARE TEXT
VMFBDM1966W The command, LOAD , completed with return code
           4 while processing object FSMDFSMS.MODULE . It
           was operating upon file FSMLAST TTT00000"
```

Message VMFBLD1851I, 'VMFBDMOD completed with return code 4', will occur when the FSMDFSMS MODULE is rebuilt during service installation. This return code is not an error and service was successfully installed.

c. The following message is normal when applying service using the RMSONLY component and can be ignored:

```
VMFBLD1851I (x of y) Cannot process FSMBLaaa EXEC because it is flagged to
           be bypassed
```

2 Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview build

┌── **What's next?** ───┐

Servicing of the DFSMS/VM base product is complete.

If you have service for the Japanese language feature, than continue with A.2, "Servicing the Japanese Language Feature."

Otherwise, continue with 7.4, "Place the New DFSMS/VM Service Into Production" on page 61.

└───┘

A.2 Servicing the Japanese Language Feature

This section describes the service steps required for the Japanese language feature.

A.2.1 Prepare to Receive Service

2 ┌── **Electronic Service** ──┐

A   If you have received service electronically on DVD or on a CD-ROM, follow the appropriate instructions
A   to retrieve and decompress the envelope files to the MAINT*vrm* 500 minidisk. The decompression is
A   currently done by using the DETERSE module.

7   The documentation envelope and the service (PTF) envelope files must have a file type of SERVLINK.
7   Make note of the file names that you are using for those SERVLINK files as you will need to enter
7   them in place of the variable *docenvfn* and *envfilename* in the VMSES/E service commands that
A   follow.

└───┘

A   The *ppfname* to be used throughout these installation instructions MUST BE the
A   name of the PPF override created in step 3 on page 32, *overname*, instead of
A   **VSM221H**. If you have your own PPF override file for DFSMS/VM Japanese
A   language feature, you should use your file's *ppfname* instead of **VSM221H**. The
A   *ppfname* you use should be used **throughout** the rest of this procedure, unless
A   otherwise stated differently.

A   **1** Logon to MAINT*vrm*

2 As a precaution, create a backup copy of the current DFSMS 1B5 disk. Save this copy until you have completed installing the service and you are confident that the service runs correctly.

3 If the Software Inventory disk (51D) was accessed R/O (read only) then establish write access to the Software Inventory disk.

Note: If the MAINT*vrm* 51D minidisk was accessed R/O, you will need to have the user that has it accessed R/W link it R/O. You then can issue the following commands to obtain R/W access to it.

link MAINT*vrm* **51d 51d mr**	The 51D minidisk is where the VMSES/E Software
access 51d d	Inventory files and other product dependent files reside.

4 Have the DFSMS/VM CORrective service tape mounted and attached to
A MAINT*vrm*. If you have a service envelope SERVLINK file make sure it is
A available on the MAINT*vrm* 500 minidisk and accessed as C.

5 Establish the correct minidisk access order.

A **vmfsetup VSM221H DFSMSVM**	VSM221H is the PPF that was shipped with the
A	Japanese language feature. Substitute the PPF
A	override that was created during DFSMS/VM
A	installation for VSM221H.

6 Receive the documentation. VMFREC, with the INFO option, loads the documentation and displays a list of all the products on the tape.

2 **a** If receiving the service from tape

2 **vmfrec info**	This command will load the service memo to the
2	191 disk.

2 **b** If receiving the service from an envelope file

A **vmfrec info (env** *docenvfn*	This command will load the service memo to the
7	191 disk.

7 Check the receive message log ($VMFREC $MSGLOG) for warning and error messages.

vmfview receive

Also make note of which products and components have service on the tape. To do this, use the PF5 key to show all status messages which identify the products on the tape.

8 Merge previously applied service to ensure that you have a clean alternate apply disk for new service.

1 **vmfmrdsk VSM221H DFSMSVM apply (levels 2**   This command clears the alternate APPLY disk.

9 Review the merge message log ($VMFMRD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview mrd

A.2.2 Receive the Service

1 Receive the service.

2   **a** If receiving the service from tape

2 **vmfrec ppf VSM221H DFSMSVM**   This command receives service from your service
2   tape. All new service is loaded to the DELTA disk.

2   **b** If receiving the service from an envelope file

2 **vmfrec ppf VSM221H DFSMSVM (env** *envfilename*   This command receives service from your service
2   tape. All new service is loaded to the DELTA disk.

2 Review the receive message log ($VMFREC $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview receive

A.2.3 Apply the Service

1 Apply the new service.

vmfapply ppf VSM221H DFSMSVM

This command applies the service that you just received. The version vector table (VVT) is updated with all serviced parts and all necessary AUX files are generated on the alternate apply disk.

You must review the VMFAPPLY message log if you receive a return code (RC) of a 4, as this may indicate that you have local modifications that need to be reworked.

2 Review the apply message log ($VMFAPP $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*, or use on-line HELP.

vmfview apply

┌─ **Note** ───┐

If you get the message VMFAPP2120W then re-apply any local modifications before building the
A   new DFSMS/VM. Refer to chapter 3 in the *z/VM: Service Guide*. Follow the steps that are
A   applicable to your local modification.

A   The following substitutions need to be made:

A   • *compname* should be **VSM221H%DFSMSVM**

A   • *partfn* and *partft* should be the file name and file type of the source part that needs to be
A   reworked.

A   If you have changed any of the installation parameters through a PPF override, you need to
A   substitute your changed values where applicable.

A   Keep in mind, when you get to the step that runs SERVICE you should return back to this
A   program directory at A.2.4, "Update the Build Status Table."

There is a local modification example in Appendix B, "Local Modification Example: ISMF EXEC
File" on page 76.

└──┘

A.2.4 Update the Build Status Table

1 Update the Build Status Table with serviced parts.

vmfbld ppf VSM221H DFSMSVM (status   This command updates the Build Status Table.

```
┌─ Note ──────────────────────────────────────────────────────────────────┐
│                                                                          │
│ If the $PPF files have been serviced you will get the following prompt:   │
│                                                                          │
│                                                                          │
│ VMFBLD2185R The following source product parameter files have been       │
│             serviced:                                                    │
│ VMFBLD2185R VSM221H $PPF                                                  │
│ VMFBLD2185R When source product parameter files are serviced, all        │
│             product parameter files built from them must be recompiled    │
│             using VMFPPF before VMFBLD can be run.                        │
│ VMFBLD2185R Enter zero (0) to have the serviced source product           │
│             parameter files built to your A-disk and exit VMFBLD so       │
│             you can recompile your product parameter files with VMFPPF.   │
│ VMFBLD2185R Enter one (1) to continue only if you have already           │
│             recompiled your product parameter files with VMFPPF.          │
│                                                                          │
│ 0                                        Enter a 0 and complete the following steps │
│                                          before you continue.            │
│                                                                          │
│                                                                          │
│ VMFBLD2188I Building VSM221H $PPF                                         │
│             on 191 (A) from level $PFnnnnn                                │
│                                                                          │
│ vmfppf VSM221H DFSMSVM                    Note:  If you've created your own PPF │
│                                          override then use your PPF name instead of │
│                                          VSM221H.                         │
│                                                                          │
│                                          You should recompile all overrides to ensure │
│                                          they are at the proper level for future use. │
│                                                                          │
│                                                                          │
│ copyfile VSM221H $PPF a = = d (olddate replace                           │
│ erase VSM221H $PPF a                                                      │
│                                                                          │
│                                          Note:  Do not use your own PPF name in │
│                                          place of VSM221H for the COPYFILE and │
│                                          ERASE commands.                  │
│                                                                          │
│ vmfbld ppf VSM221H DFSMSVM (status        Re-issue VMFBLD to complete updating the │
│                                          build status table.             │
│                                                                          │
│ 1                                        When you receive the prompt that was │
│                                          previously displayed, enter a 1 to continue. │
│                                                                          │
└──────────────────────────────────────────────────────────────────────────┘
```

2 Use VMFVIEW to review the build status messages, and see what objects need to be built.

vmfview build

A.2.5 Build Serviced Objects

1 Rebuild DFSMS/VM serviced parts.

vmfbld ppf VSM221H DFSMSVM (serviced

Note: If your software inventory disk (51D) is not owned by the MAINT user ID then make sure the VMSESE PROFILE reflects the correct owning user ID.

2 Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the appropriate *z/VM: System Messages and Codes*,

vmfview build

```
┌─  What's next?  ─────────────────────────────────────────────────┐
│                                                                   │
│  Servicing of the DFSMS/VM base product is complete.              │
│                                                                   │
│  Continue with 7.4, "Place the New DFSMS/VM Service Into Production" on │
│  page 61.                                                         │
│                                                                   │
└───────────────────────────────────────────────────────────────────┘
```

Appendix B. Local Modification Example: ISMF EXEC File

The following local modification example is for a z/VM version 6.3 system.

Note!

This example is for updating the ISMF EXEC full part replacement part. You should substitute the file name of the part you are modifying for ISMF in the instructions. Since the output of the instructions is to create an EXEC file type with an abbreviation of EXC, you should substitute the abbreviation of the file type you are modifying for EXC.

A **1** Log on to MAINT*vrm* user ID.

A **2** Create and apply the local modification. You will need to reply to any prompt
A messages, make your changes to the displayed file. File your changes.

A **localmod VSM221B%{DFSMSVM|RMSONLY|DFSMSVMNOSM} ismf exec**

A **3** Run SERVICE to build the local modification

A **service VSM221B%{DFSMSVM|RMSONLY|DFSMSVMNOSM} build**

A **Note:** Message VMFBLD2180I will be issued
A listing the number of build requirements remaining
A upon completion of the VMFBLD command. These
A build requirements can be ignored, they will be
A satisfied the next time DFSMS/VM is serviced.

A **4** Place the local modification into production by continuing with 7.4, "Place the
A New DFSMS/VM Service Into Production" on page 61.

Appendix C. Installation Planning Checklists

C.1 DFSMS/VM Preinstallation Checklist

Task	Status
Is prerequisite software installed?	
___ ISPF/PDF 3.2, or later	
___ DirMaint FL620 or higher, or a directory maintenance product with equivalent function	
___ TCP/IP for z/VM, level 6 or higher	
___ Appropriate C runtime library	
___ Other	
Are disk locations for VMSES/E (installation of product) established?	
Decide which DFSMS/VM components to implement.	
Is machine configuration designed?	
DFSMS/VM owner user ID is _____	
Space management master machine user ID is _____	
Removable media master machine user ID is _____	
Minidisk management server machines user IDs are:	
_____	
_____	
_____	
Space management server machines user IDs are:	
_____	
_____	
_____	
Library sequence number(s) (if RMS is installed). _____	
Is authorization technique established?	
Is installation CP directory entry created?	
___ DFSMS/VM owner virtual machine	
Is master/server logon process selected?	
___ Appropriate AUTOLOG capability in place	

The letters "A" appear in the left margin alongside the DirMaint and TCP/IP lines.

Task	Status
Do minidisk management servers have proper directory maintenance authority?	
___ AUTHFor command issued	
___ NEEDPASS NO command issued	
Have the SFS file spaces and subdirectories been defined?	
___ VMSYS file pool	
___ Work area for DFSMS/VM	

C.2 DFSMS/VM Postinstallation Checklist

Task	Status
Is Control File updated to support verification?	
___ Master names	
___ Server names	
___ Owner name	
___ Directory machine and interface	
Are ISMF user machines ready?	
___ Can access disk (ISMF EXEC)	
Ensure appropriate DFSMS/VM-managed file pools.	
___ DMSPARMS file	
___ File pool directory entry	
___ File pool PROFILE EXEC	
Is a user authorized for performing verification?	
Is installation process verified?	
___ ISMF scenario	
___ Space management command	
___ Verifying Code in the user' machine	
___ DFSMS/VM	
___ Minidisk management	
___ Configuration verification for space management	
___ Removable Media Services (RMS)	

Task	Status
Have additional customization options been considered?	
___ DFSMS/VM control file	
___ Installation-wide exits	
___ ISMF interface	
___ Enabling the accounting function	
___ Defining a file space for ML1	
___ Defining a file space for ML2	
___ Specifying file pools to be managed by DFSMS/VM	
___ Verification of optional customization	
___ Adding functions to DFSMS/VM	
Is Authorization File or alternate technique in place?	
___ Appropriate user machines authorized	

^A Appendix D. Sample User Definitions for use on z/VM 6.2 or ^A higher

A   For z/VM 6.2 or higher, user IDs can be defined using a single-configuration
A   definition (using the USER statement) or using a multiconfiguration definition (using
A   IDENITY, BUILD ON and SUBCONFIG statements).   For DFSMS/VM, user ID
A   DFSMS is defined using a single-configuration definition. The statements that
A   should be included in the directory definition and the resoures required can be
A   found in the PLAN INFO file that is generated during product installation.

A   All other user IDs associated with DFSMS/VM should be defined using
A   multi-configuration defintions. This section includes samples of directory entries for:

A   1. RMS Master, RMSMASTR

A   2. SMS Master, SMSMASTR

A   3. SMS Worker Servers, SMSSRVxx

A   4. Minidisk Management Servers, DGTSRVxx

A   The samples provided show the definitions for each user ID as defined for a
A   non-SSI z/VM system.   Statements that would be needed for an SSI environment
A   are included as comments.

```
A                      ******************************************
A                      * RMS master - 1 per system or SSI Member
A                      ******************************************
A                      IDENTITY RMSMASTR RMSMASTR 32M 32M BG
A                       BUILD ON UPGRMEM1 USING SUBCONFIG RMSMST-1
A                      * BUILD ON Member1  USING SUBCONFIG RMSMST-1
A                      * BUILD ON Member2  USING SUBCONFIG RMSMST-2
A                      * BUILD ON Member3  USING SUBCONFIG RMSMST-3
A                      * BUILD ON Member4  USING SUBCONFIG RMSMST-4
A                       ACCOUNT 12345678
A                       MACHINE XA
A                       STDEVOPT LIBRARY CTL
A                       IPL CMS
A                       IUCV ALLOW
A                       IUCV *IDENT RESANY GLOBAL REVOKE
A                       OPTION MAXCONN 400 QUICKDSP ACCT
A                       SHARE RELATIVE 1300
A                       CONSOLE 009 3215 T DFSMS
A                       SPOOL 00C 2540 READER *
A                       SPOOL 00D 2540 PUNCH A
A                       SPOOL 00E 1403 A

A                      * This SUBCONFIG is the same for a non-SSI system and the first
A                      *   member of an SSI cluster
A                      SUBCONFIG RMSMST-1
A                       LINK DFSMS 1B5 192 RR
A                       LINK MAINT 190 190 RR
A                       LINK MAINT 19E 19E RR
A                       MDISK 191 3390 saddr 0005 volidmem1 MR READ WRITE MULTIPLE

A                      *SUBCONFIG RMSMST-2
A                      * LINK DFSMS 1B5 192 RR
A                      * LINK MAINT 190 190 RR
A                      * LINK MAINT 19E 19E RR
A                      * MDISK 191 3390 saddr 0005 volidmem2 MR READ WRITE MULTIPLE

A                      *SUBCONFIG RMSMST-3
A                      * LINK DFSMS 1B5 192 RR
A                      * LINK MAINT 190 190 RR
A                      * LINK MAINT 19E 19E RR
A                      * MDISK 191 3390 saddr 0005 volidmem3 MR READ WRITE MULTIPLE

A                      *SUBCONFIG RMSMST-4
A                      * LINK DFSMS 1B5 192 RR
A                      * LINK MAINT 190 190 RR
A                      * LINK MAINT 19E 19E RR
A                      * MDISK 191 3390 saddr 0005 volidmem4 MR READ WRITE MULTIPLE
A                      *
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A                       *****************************************
A                       *****************************************
A                       * SMS Master - 1 per system or SSI Member
A                       *****************************************
A                       IDENTITY SMSMASTR SMSMASTR 32M 32M BG
A                        BUILD ON * USING SUBCONFIG SMSMST-1
A                       * BUILD ON Member1  USING SUBCONFIG SMSMST-1
A                       * BUILD ON Member2  USING SUBCONFIG SMSMST-2
A                       * BUILD ON Member3  USING SUBCONFIG SMSMST-3
A                       * BUILD ON Member4  USING SUBCONFIG SMSMST-4
A                        ACCOUNT 12345678
A                        MACHINE XA
A                        IPL CMS
A                        IUCV ALLOW
A                        IUCV *IDENT RESANY GLOBAL REVOKE
A                        OPTION MAXCONN 400 QUICKDSP ACCT
A                        SHARE RELATIVE 1300
A                        NAMESAVE DFSMSSEG
A                        CONSOLE 009 3215
A                        SPOOL 00C 2540 READER *
A                        SPOOL 00D 2540 PUNCH A
A                        SPOOL 00E 1403 A
A
A                       * This SUBCONFIG is the same for a non-SSI system and the first
A                       *   member of an SSI cluster
A                       SUBCONFIG SMSMST-1
A                        LINK DFSMS 1B5 192 RR
A                        LINK MAINT 190 190 RR
A                        LINK MAINT 19E 19E RR
A                        MDISK 191 3390 saddr 0005 volidmem1 MR READ WRITE MULTIPLE
A
A                       *SUBCONFIG SMSMST-2
A                       * LINK DFSMS 1B5 192 RR
A                       * LINK MAINT 190 190 RR
A                       * LINK MAINT 19E 19E RR
A                       * MDISK 191 3390 saddr 0005 volidmem2 MR READ WRITE MULTIPLE
A
A                       *SUBCONFIG SMSMST-3
A                       * LINK DFSMS 1B5 192 RR
A                       * LINK MAINT 190 190 RR
A                       * LINK MAINT 19E 19E RR
A                       * MDISK 191 3390 saddr 0005 volidmem3 MR READ WRITE MULTIPLE
A
A                       *SUBCONFIG SMSMST-4
A                       * LINK DFSMS 1B5 192 RR
A                       * LINK MAINT 190 190 RR
A                       * LINK MAINT 19E 19E RR
A                       * MDISK 191 3390 saddr 0005 volmemid4 MR READ WRITE MULTIPLE
A                       *****************************************
```

```
A                       ******************************************
A                       * SMS Worker Machines - change "xx" to "01", "02", etc.
A                       *   1 set of Worker Machines per system or SSI Member
A                       *    Recommended default is a set of 3 virtual machines
A                       ******************************************
A                       IDENTITY SMSSRVxx AUTOONLY 32M 32M BG
A                        BUILD ON * USING SUBCONFIG SMSRV1-1
A                       * BUILD ON Member1  USING SUBCONFIG SMSRV1-1
A                       * BUILD ON Member2  USING SUBCONFIG SMSRV1-2
A                       * BUILD ON Member3  USING SUBCONFIG SMSRV1-3
A                       * BUILD ON Member4  USING SUBCONFIG SMSRV1-4
A                        ACCOUNT 12345678
A                        MACHINE XA
A                        IPL CMS
A                        OPTION MAXCONN 50 QUICKDSP ACCT
A                        OPTION LNKSTABL LNKEXCLU LNKNOPAS D84NOPAS
A                        OPTION DEVINFO
A                        SHARE RELATIVE 1300
A                        NAMESAVE DFSMSSEG
A                        CONSOLE 009 3215
A                        SPOOL 00C 2540 READER *
A                        SPOOL 00D 2540 PUNCH A
A                        SPOOL 00E 1403 A
```

```
A                      * This SUBCONFIG is the same for a non-SSI system and the first
A                      *   member of an SSI cluster
A                      SUBCONFIG SMSRV1-1
A                       LINK SMSMASTR 191 191 RR
A                       LINK DFSMS 1B5 192 RR
A                       LINK MAINT 190 190 RR
A                       LINK MAINT 19E 19E RR
A                       MDISK 0500 3380 1 1 $$$$$$ MR
A                       MDISK 05FF 3380 2 1 $$$$$$ MR

A                      *SUBCONFIG SMSRV1-2
A                      * LINK SMSMASTR 191 191 RR
A                      * LINK DFSMS 1B5 192 RR
A                      * LINK MAINT 190 190 RR
A                      * LINK MAINT 19E 19E RR
A                      * MDISK 0500 3380 1 1 $$$$$$ MR
A                      * MDISK 05FF 3380 2 1 $$$$$$ MR

A                      *SUBCONFIG SMSRV1-3
A                      * LINK SMSMASTR 191 191 RR
A                      * LINK DFSMS 1B5 192 RR
A                      * LINK MAINT 190 190 RR
A                      * LINK MAINT 19E 19E RR
A                      * MDISK 0500 3380 1 1 $$$$$$ MR
A                      * MDISK 05FF 3380 2 1 $$$$$$ MR

A                      *SUBCONFIG SMSRV1-4
A                      * LINK SMSMASTR 191 191 RR
A                      * LINK DFSMS 1B5 192 RR
A                      * LINK MAINT 190 190 RR
A                      * LINK MAINT 19E 19E RR
A                      * MDISK 0500 3380 1 1 $$$$$$ MR
A                      * MDISK 05FF 3380 2 1 $$$$$$ MR
A                      ****************************************
```

```
A                       *****************************************
A                       * Minidisk Management Machines - change "xx" to "01", "02", etc.
A                       *    1 set of MD managment machines per system or SSI Member
A                       *     Recommended default is a set of 3 virtual machines
A                       *****************************************
A                       IDENTITY DGTSRVxx AUTOONLY 32M 32M BG
A                        BUILD ON * USING SUBCONFIG DGTSR1-1
A                       * BUILD ON Member1  USING SUBCONFIG DGTSR1-1
A                       * BUILD ON Member2  USING SUBCONFIG DGTSR1-2
A                       * BUILD ON Member3  USING SUBCONFIG DGTSR1-3
A                       * BUILD ON Member4  USING SUBCONFIG DGTSR1-4
A                        ACCOUNT 12345678
A                        MACHINE XA
A                        IPL CMS
A                        OPTION QUICKDSP ACCT
A                        OPTION LNKSTABL LNKEXCLU LNKNOPAS D84NOPAS
A                        OPTION DEVINFO
A                        CONSOLE 009 3215
A                        SPOOL 00C 2540 READER *
A                        SPOOL 00D 2540 PUNCH A
A                        SPOOL 00E 1403 A

A                       * This SUBCONFIG is the same for a non-SSI system and the first
A                       *   member of an SSI cluster
A                       SUBCONFIG DGTSR1-1
A                        LINK SMSMASTR 191 191 RR
A                        LINK DFSMS 1B5 192 RR
A                        LINK MAINT 190 190 RR
A                        LINK MAINT 19E 19E RR
A                        MDISK 0500 3380 1 1 $$$$$$ MR
A                        MDISK 05FF 3380 2 1 $$$$$$ MR
```

```
A                       *SUBCONFIG DGTSR1-2
A                       * LINK SMSMASTR 191 191 RR
A                       * LINK DFSMS 1B5 192 RR
A                       * LINK MAINT 190 190 RR
A                       * LINK MAINT 19E 19E RR
A                       * MDISK 0500 3380 1 1 $$$$$$ MR
A                       * MDISK 05FF 3380 2 1 $$$$$$ MR

A                       *SUBCONFIG DGTSR1-3
A                       * LINK SMSMASTR 191 191 RR
A                       * LINK DFSMS 1B5 192 RR
A                       * LINK MAINT 190 190 RR
A                       * LINK MAINT 19E 19E RR
A                       * MDISK 0500 3380 1 1 $$$$$$ MR
A                       * MDISK 05FF 3380 2 1 $$$$$$ MR

A                       *SUBCONFIG DGTSR1-4
A                       * LINK SMSMASTR 191 191 RR
A                       * LINK DFSMS 1B5 192 RR
A                       * LINK MAINT 190 190 RR
A                       * LINK MAINT 19E 19E RR
A                       * MDISK 0500 3380 1 1 $$$$$$ MR
A                       * MDISK 05FF 3380 2 1 $$$$$$ MR
A                       **********************************
```

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