IBM

Program Directory for

VM Performance Reporting Facility for z/VM

Function Level 410

Program Number 5739-A03

for Use with
z/VM Version 4

Document Date: October 2001

GI10-4724-01

> **Note**
>
> Before using this information and the product it supports, be sure to read the general information under "Notices" on page 39.

This program directory, dated October 2001, applies to VM Performance Reporting Facility for z/VM Function Level 410 (VMPRF), Program Number 5739-A03 for the following:

COMPIDs	Feature Numbers	System Name
568407301	6095 6096 1004	z/VM Version 4

A form for reader's comments appears at the back of this publication. When you send information to IBM®, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

Contents

Figures

Summary of Changes

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

- The first suffix level is July 2001.

1
1
- Lines flagged with revision indicator of '1' indicate changes made between July 2001 and October 2001.

VMPRF Web Information

The VMPRF web page can be visited at URL **http://www.ibm.com/eserver/zseries/zvm/related/prf** where you will find:

- Additional useful information, hints, and tips.

- A postscript version of the VMPRF Function Level 410 program directory available for downloading.

- A PDF version of the VMPRF Function Level 410 program directory available for viewing.

- Additional IBM VM performance resources.

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 VMPRF. You should read all of this program directory before installing the program and then keep it for future reference.

When you are ready to install VMPRF, read 3.1, "Preventive Service Planning" on page 5. This section tells you how to find any updates to the information and procedures in this program directory.

The program directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic and optional program materials and documentation for VMPRF.

- 3.0, "Program Support" on page 5 describes the IBM support available for VMPRF.

- 4.0, "Program and Service Level Information" on page 6 lists the APARs (program level) and PTFs (service level) incorporated into VMPRF.

- 5.0, "Installation Requirements and Considerations" on page 7 identifies the resources and considerations for installing and using VMPRF.

- 6.0, "Installation Instructions" on page 11 provides detailed installation and tailoring instructions for VMPRF.

- 7.0, "Service Instructions" on page 16 provides detailed servicing instructions for VMPRF.

- Appendix A, "Create Product Parameter File (PPF) Override" on page 26 provides detailed information on overriding the Product Parameter File (PPF).

- Appendix B, "Applying a Recommended Service Upgrade (RSU) Tape For VMPRF" on page 29 provides detailed RSU install instructions for VMPRF.

- Appendix C, "Disabling VMPRF" on page 35 provides a description of disabling VMPRF Function Level 410, when VMPRF is not licensed.

- Appendix D, "Service Instructions for z/VM Express Users Only" on page 37 provides detailed servicing instructions for z/VM Express only customers of VMPRF.

1.1 Program Description

VM Performance Reporting Facility Function Level 410 (VMPRF 5739-A03) provides performance management capabilities for VM systems. It is a post-processor of the VM Control Program (CP) monitor data. It is a performance analysis tool for z/VM systems which can be used to detect and diagnose performance problems, analyze system performance, and provide printed reports that show the utilizations and response times of key system components.

History files created by VMPRF can be used as input for performance analysis by VMPAF, Service Level Reporter (SLR 5665-397), or installation-written application programs. VMPRF is useful for systems analysts, systems programmers, and systems administrators; it simplifies the work of resource management in z/VM systems.

1.2 Enhancements for VM Performance Reporting Facility for z/VM

The following enhancements have been made to VMPRF:

- VM performance reporting support for z/VM Version 4.

- Pre-installed disabled on z/VM Version 4.

- Service available on stacked RSU.

- Tailorable files have been moved to the 1CC disk with customer tailoring on the CCC disk for ease of future migration.

2.0 Program Materials

An IBM program is identified by a program number. The program number for VM Performance Reporting Facility for z/VM is 5739-A03.

The program announcement material describes the features supported by VMPRF. 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

VMPRF is distributed pre-installed as part of the z/VM Version 4 system DDR. Therefore there are no basic machine readable materials. VMPRF is a priced feature, so it is installed disabled. You must order
1 VM Performance Reporting Facility for z/VM to enable and use the product. Refer to the appropriate z/VM
1 V4 software announcement for information on ordering z/VM Version 4 and its features.

2.2 Optional Machine-Readable Material

There are no optional machine-readable materials for VMPRF.

2.3 Program Publications

The following sections identify the basic and optional publications for VMPRF.

2.3.1 Softcopy Publications

The VMPRF publication:

> *VM Performance Reporting Facility Function Level 410*, SC24-6028,

is offered in displayable softcopy form on the *IBM Online Library Omnibus Edition VM Collection* (SK2T-2067) CD-ROM. One copy of the VM collection kit CD-ROM is included when you order the basic materials for z/VM Version 4.

BookManager® format displayable manuals can be used with the BookManager READ licensed programs in any of the supported environments. Terms and conditions for use of the machine-readable files are shipped with the Online Product Library.

Adobe PDF files are available on the VM Collection CD-ROM and are available at the IBM VM Web site at: http://www.ibm.com/eserver/zseries/zvm/pubs/

You can view a PDF file using the Adobe Acrobat Reader which is available free from the Adobe Web site at: http://www.adobe.com

2.3.2 Basic Program Publications

One copy of the following publication is included when you order the basic materials for VMPRF. For additional copies, see the http://www.ibm.com/eserver/zseries/zvm/related/prf web site.

Figure 1. Basic Material: Unlicensed Publications

Publication Title	Form Number
Program Directory for VM Performance Reporting Facility for z/VM	GI10-4724-01

2.4 Microfiche Support

There is no microfiche for VMPRF.

2.5 Publications Useful During Installation

The publications listed in Figure 2may be useful during the installation of VMPRF. To order copies, contact your IBM representative.

Figure 2. Publications Useful During Installation / Service on z/VM Version 4

Publication Title	Form Number
z/VM: VMSES/E Introduction and Reference	GC24-5994
z/VM: Service Guide	GC24-5993
z/VM: Planning and Administration	SC24-5995
z/VM: CP Command and Utility Reference	SC24-6008
z/VM: CMS Command and Utility Reference	SC24-6010
z/VM: CMS File Pool Planning, Administration, and Operation	SC24-5949
z/VM: System Messages and Codes - CP	GC24-6030
z/VM: System Messages and Codes - CMS	GC24-6031
z/VM: System Messages and Codes - Other Components	GC24-6032
z/VM: Performance	SC24-5999
VM Performance Reporting Facility Function Level 410	SC23-6027

3.0 Program Support

This section describes the IBM support available for VMPRF.

3.1 Preventive Service Planning

Before installing VMPRF, check with your IBM Support Center or use IBMLink™ (ServiceLink) 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

COMPID	Retain Release	Upgrade	Subset	Description
568407301	410	VMPRF410	PRF/410	Installation Information
568407301	410	VMPRF410	yynnRSU	RSU Service Recommendations

Note: RSU-BY-LVL information can be obtained from the vm service rsu web site at url
http://www.ibm.com/eserver/zseries/zvm/service/rsu

3.2 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address nd to which any needed documentation can be sent.

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

Figure 4. Component IDs

COMPID	Retain Release	Component Name	FESN
568407301	410	VMPRF Function Level 410	0401144

When you order VM Performance Reporting Facility for z/VM, you are entitled to support under the basic warranty for z/VM Version 4. To receive zSeries service that you are accustomed to, IBM highly recommends ordering the z/VM Software Subscription and Support, 5739-SWS. Refer to the applicable z/VM Version 4 software announcement for ordering information.

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of VMPRF. 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 Program Level Information

The following APAR fixes against the previous release of VMPRF have been incorporated into this release.

VM62712   VM62866

4.2 Service Level Information

Check the VMPRF410 PSP bucket for any additional PTFs that should be installed or any additional install information. This can be accomplished by checking with your IBM Support Center or using IBMLink (ServiceLink). In addition, review the VM Performance Reporting Facility for z/VM web page at http://www.ibm.com/eserver/zseries/zvm/related/prf for any additional service hints, tips, and concerns.

4.3 Cumulative Service Tape

An RSU tape for VM Performance Reporting Facility for z/VM will be produced periodically as service
1 warrants. See upgrade bucket VMPRF410 subset yynnRSU (where yynn is the year and the RSU service level) for the latest RSU tape available. For the list of PTF's included on the RSU tape, see the service memo from the tape.

1 The stacked RSU tape can be obtained by ordering PTF UM974n0; where n indicates the release of z/VM
1 Version 4.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating VMPRF.

5.1 Hardware Requirements

There are no special hardware requirements for VMPRF.

5.2 Program Considerations

The following sections list the programming considerations for installing and activating VMPRF functions.

5.2.1 Operating System Requirements

1 VMPRF Function Level 410 supports the following VM operating systems:

- z/VM Version 4

5.2.2 Other Program Product Requirements

The following software products are required for the execution of VMPRF:

- IBM Language Environment® VM

  LE is shipped preinstalled on z/VM Version 4.

- Apply any outstanding fixes to CP monitor data.

- Monitor data on disk or tape in MONWRITE format. Any program may be used to write the data as long as the format is compatible. Refer to the *z/VM Performance* manual for the format of MONWRITE output and the use of *MONITOR.

Usage Notes:

1. VMPRF does not load the monitor saved segment.

2. VMPRF does not connect to the *MONITOR CP system service.

3. In the case of a z/VM system running in LPAR (logically partitioned) mode with the Processor Resource/Systems Manager™ (PR/SM™) feature, VMPRF reports not only on the performance of the VM system collecting the monitor data, but also on the performance of each logical partition, each running its own operating system.

4. VMPRF reports contain information in mixed case (uppercase and lowercase letters). If you are using a printer or terminal that cannot display the lowercase letters, convert the file to uppercase characters with the following command:

```
COPYFILE fn ft fm (UPCASE
```

5.2.3 Program Installation and Service Considerations

This section describes items that should be considered before you install or service VMPRF.

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

- 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.

- Customers will no longer install and service VMPRF strictly using the MAINT user ID, but may use a new user ID--4VMPRF10. This is the IBM suggested user ID name. You are free to change this to any user ID name you wish; however, a PPF override must be created.

- RSU tapes will be supplied as necessary. Service between RSU tapes can be obtained through CORrective service.

5.3 DASD Storage and User ID Requirements

Figure 5 lists the user IDs, minidisks and default SFS directory names that are used to install and service VMPRF.

Important Installation Notes:

- The user IDs and minidisks are listed here so that you can get an idea of the resources required by VMPRF.

- 4VMPRF10 is a default user ID and can be changed. If you choose to change the name of the installation user ID you need to create a Product Parameter Override (PPF) to reflect this change.

- If you choose to install VMPRF on a common user ID the default minidisk addresses for VMPRF may already be defined. If any of the default minidisks required by VMPRF are already in use you will have to create an override to change the default minidisks for VMPRF so they are unique.

| Minidisk owner (user ID) | Default Address | Storage in Cylinders | | FB-512 Blocks | SFS 4K Blocks | Usage |
		DASD	CYLS			Default SFS Directory Name
4VMPRF10	2B2	3390 3380 9345	9 10 10	12000	1500	Contains all the base code shipped with VMPRF. **VMSYS:4VMPRF10.VMPRF.OBJECT**
4VMPRF10	2C2	3390 3380 9345	2 2 2	2400	300	Contains serviced customization files. **VMSYS:4VMPRF10.VMPRF.SAMPLE**
4VMPRF10	2C4	3390 3380 9345	2 2 2	2400	300	Contains local modifications **VMSYS:4VMPRF10.VMPRF.LOCALMOD**
4VMPRF10	2D2	3390 3380 9345	90 108 108	130000	16200	Contains serviced files **VMSYS:4VMPRF10.VMPRF.DELTA**
4VMPRF10	2A6	3390 3380 9345	2 2 2	2400	300	Contains AUX files and software inventory tables that represent the test service level of VMPRF **VMSYS:4VMPRF10.VMPRF.APPLYALT**
4VMPRF10	2A2	3390 3380 9345	2 2 2	2400	300	Contains AUX files and software inventory tables that represent the service level of VMPRF that is currently in production. **VMSYS:4VMPRF10.VMPRF.APPLYPROD**
4VMPRF10	597	3390 3380 9345	60 72 72	86400	10800	Test build disk. This code will be copied to VMPRF production disk. **VMSYS:4VMPRF10.VMPRF.TBUILD**
4VMPRF10	497	3390 3380 9345	60 72 72	86400	10800	Production build disk. **VMSYS:4VMPRF10.VMPRF.PBUILD**
4VMPRF10	191	3390 3380 9345	5 5 5	6000	750	4VMPRF10 user ID's 191 minidisk **VMSYS:4VMPRF10.**
4VMPRF10	1CC	3390 3380 9345	1 1 1	1200	150	Contains IBM Supplied Sample files **VMSYS:4VMPRF10.VMPRF.IBMCONFIG**
4VMPRF10	CCC	3390 3380 9345	1 1 1	1200	150	Contains customized files. **VMSYS:4VMPRF10.VMPRF.CUSCONFIG**

Figure 5 (Page 1 of 2). DASD Storage Requirements for Target Minidisks

Note: 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 1/2K but should be CMS formatted at 1K size. 62550 4K blocks are needed for SFS install.

| Minidisk owner (user ID) | Default Address | Storage in Cylinders | | FB-512 Blocks | SFS 4K Blocks | Usage |
		DASD	CYLS			Default SFS Directory Name
VMPRF	191	3390 3380 9345	25 30 30	36000	4500	VMPRF user ID's 191 work minidisk **VMSYS:VMPRF.**
VMPRF	192	3390 3380 9345	9 10 10	12000	1500	VMPRF user ID's 192 minidisk for output files. **VMSYS:VMPRF.WORK192**
MONWRITE	191	3390 3380 9345	90 100 100	120000	15000	VM disk containing monitor data **Note:** This size varies depending on the magnitude of monitor data.

Figure 5 (Page 2 of 2). DASD Storage Requirements for Target Minidisks

Note: 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 1/2K but should be CMS formatted at 1K size. 62550 4K blocks are needed for SFS install.

6.0 Installation Instructions

This chapter describes the installation methods and the step-by-step procedures to install and activate VMPRF.

The step-by-step procedures are in two-column format. The steps to be performed are in bold, large numbers. Commands for these steps are on the left-hand side of the page in bold print. Additional information for a command may exist to the right of the command. For more information about the two-column format see "Understanding Dialogs with the System" in the *Installation Guide*.

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, minidisk addresses, or SFS directories to install VMPRF, adapt these instructions as needed for your environment.

6.1 VMSES/E Installation Process Overview

The following is a brief description of the main steps to complete the installation of VMPRF.

Have you Licensed VMPRF?

VMPRF is pre-installed on z/VM Version 4, using VMSES/E in a DISABLED state. **If, and only if,** you have a license for VMPRF Function Level 410 (feature number 0029) proceed with the installation to enable it for use.

- Set VMPRF to the ENABLED state.

   This will allow VMPRF to run.

- Perform Post-installation Tasks

   Information about file tailoring and initial activation of the program is presented in 6.4, "Post-Installation Considerations" on page 15.

For a complete description of VMSES/E commands refer to *VMSES/E Introduction and Reference*.

6.2 Completing Your installation of VMPRF

To complete the installation of VMPRF:

1 Log on to the installation user ID **4VMPRF10**.

2 Establish write access to the Software Inventory Disk (MAINT 51D) if it is not already linked in write mode.

Note: If the MAINT 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 command to obtain write access to it. **Do not use** *mw* **mode.** Do not continue with these procedures until a R/W link is established to the 51D minidisk.

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

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

4 Set VMPRF to the enabled state. VMFINS ENABLE will set VMPRF as ENABLED in VMSES/E, and issue the CP SET PRODUCT ENABLE command.

vmfins enable ppf 4vmprf10 {vmprf|vmprfsfs}   Use **vmprf** if installing using minidisk or **vmprfsfs** if installing using SFS.

This command will create a 4VMPRF10 PRODSYS file on the A-disk that contains the CP system configuration PRODUCT statement with a state of ENABLED.

5 In order to **retain the ENABLED state** for VMPRF, **update the CP system configuration file** with the information in the 4VMPRF10 PRODSYS file; which was created in the previous step.

You need to update the CP system config file so that the next time you IPL your system VMPRF will be in the ENABLED state. If you are not authorized to update the CP system configuration file then contact your CP System Administrator. The CP system configuration file default name is SYSTEM CONFIG and it resides on the CP parm disk (MAINTs CF1, CF2 and CF3 minidisks). The section, PRODUCT ENABLE/DISABLE INFORMATION, in

the SYSTEM CONFIG file, needs to be updated. You will need to replace the current DISABLED entry for PRODID 4VMPRF10 (VMPRF) with the entry from the 4VMPRF10 PRODSYS file. Once the SYSTEM CONFIG is working, it should be backed up to the CF2 and CF3 disks. If necessary, refer to the *z/VM: Planning and Administration* manual for more information.

What's Next?

Continue with 6.3, "Post Install Tailoring."

Notes:

1. If, in the future, you are no longer licensed for VMPRF Function Level 410, you **must** follow the instructions in Appendix C, "Disabling VMPRF" on page 35 to disable VMPRF.

6.3 Post Install Tailoring

The following table describes the sample customization files provided with VMPRF that have been installed to the 1CC samples disk. This section will have you copy the sample files to the CCC customized disk or SFS equivalent if using SFS.

Figure 6. VMPRF Function Level 410 Supplied Sample Customization Files	
Sample File Name	**Sample Description**
VMPRF INCLUSER	Sample INCLUSER file for VMPRF Function Level 410. This file is used with the USER_type reports or type 41, 42 and 43 records. user ID's specified in this file are placed at the top of the listing, in the report record, regardless of their activity level.
VMPRF MASTER	Sample MASTER file for VMPRF Function Level 410. This file is used to specify control files as input and generate and store reports and records.
VMPRF MDISKS	Sample MDISKS file for VMPRF Function Level 410. This file is used as input to the MDISK_SEEK_BY_CONFIG report and contains cylinder delimiters for minidisks.
VMPRF MDISKVOL	Sample MDISKVOL file for VMPRF Function Level 410. This file is used to select specific volume serials for the MDISK_SEEK_BY_CONFIG report.
VMPRF REPORTS	Sample REPORTS file for VMPRF Function Level 410. This file is used to select VMPRF Function Level 410 reports, summary records, or trend records to be produced.
VMPRF SETTINGS	Sample SETTINGS file for VMPRF Function Level 410. This file is used to specify the stream parameters that control the operation of VMPRF Function Level 410, and the report parameters that affect information in generated reports and records.
VMPRF UCLASS	Sample UCLASS file for VMPRF Function Level 410. This file is used when generating reports on specific groups or combinations of users.
Note: See the *VM Performance Reporting Facility Function Level 410* manual for further information on the sample control files and their use.	

1 Log on to **4VMPRF10**, if you are not already logged on to it.

2 Tailor each of the sample files that you want to change by copying them to the CCC disk or VMSYS:4VMPRF10.VMPRF.CUSCONFIG directory, if using SFS and updating them there. See the "VMPRF Control Files" chapter in the

VM Performance Reporting Facility Function Level 410 manual for details on
configuring these files.

3 Log on to the **VMPRF** user ID.

4 The VMPRF command syntax sometimes requires the use of the double
quote (") character. Since this is also the default TERMINAL ESCAPE
character in CP, it is recommended that you do one of the following:

a Issue the CP TERMINAL command

cp terminal escape off   Add this command in the VMPRF user IDs
PROFILE EXEC so that the use of this character
will not be a problem in future sessions. See the
z/VM: CP Command Reference manual for
additional information on this command.

b Use two double quotes ("") whenever you are instructed to use one on
the command line.

5 Run the VMPRF profile to access required minidisks.

profile

6 Access the 4VMPRF10 test build disk

a If installing using minidisks:

access 597 b

b If installing using SFS:

access VMSYS:4VMPRF10.VMPRF.TBUILD b

7 Set up the CP Monitor as described in the *z/VM: Performance* manual.

8 Capture monitor data using the CP MONWRITE and MONWSTOP
commands as described in the *z/VM: CP Command Reference* manual.

9 Obtain performance reports by invoking VMPRF.

vmprf vmprf disk *monwrite_fn monwrite_ft* **c**   *monwrite_fn* and *monwrite_ft* are the filename and filetype of the monitor data file as specified on the MONWRITE command. See the *CP Command Reference* manual for further information on the monwrite command. See the *VM Performance Reporting Facility Function Level 410* manual for further information on the VMPRF command.

What's Next?

You have now finished tailoring VMPRF. You should review the contents of the VMPRF RUNFILE created on the VMPRF 192 minidisk to see how successful the performance run was. See the "VMPRF Control Files" chapter in the *VM Performance Reporting Facility Function Level 410* manual for details on the layout of the VMPRF RUNFILE. If applicable, continue tailoring VMPRF prior to continuing with 6.4, "Post-Installation Considerations."

6.4 Post-Installation Considerations

To activate the function of VMPRF refer to the 'Monitor Considerations', 'VMPRF Overview', and 'VMPRF Command' chapters of the *VM Performance Reporting Facility Function Level 410* manual.

VMPRF is now installed and built on your system.

7.0 Service Instructions

---
z/VM Express Users

If you installed z/VM using the Express Installation and Service Procedure then you need to follow the service instructions as documented in the *z/VM Express Installation and Service Procedures* pamphlet (that came with the *z/VM Installation Guide*) in order to install an RSU or COR service on an Express system. Or you can go to the instructions in Appendix D, "Service Instructions for z/VM Express Users Only" on page 37 of this program directory.

RSU Warning

If applying a VMPRF RSU go to the instructions in Appendix B, "Applying a Recommended Service Upgrade (RSU) Tape For VMPRF" on page 29. You will return to a step in this chapter as specified in that appendix.

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

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.

Note: 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.

7.1 VMSES/E Service Process Overview

The following is a brief description of the main steps in servicing VMPRF 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 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

  Once the service is satisfactorily tested it should be put into production by copying the new service to the production disk, etc.

7.2 Servicing VMPRF

RSU Warning

If applying a VMPRF RSU go to the instructions in Appendix B, "Applying a Recommended Service Upgrade (RSU) Tape For VMPRF" on page 29. You will return to a step in this chapter as specified in that appendix.

7.2.1 Prepare to Receive Service

Electronic Service (envelope file)

If you have received the service electronically or on CD-ROM, follow the appropriate instructions to retrieve and decompress the envelope file to your A-disk. The decompression is currently done by using the DETERSE MODULE. The file names of the decompressed files will be of the format:

- VLST*num* for the documentation envelope
- VPTF*num* for the service envelope

The file type for both of these files must be SERVLINK. You will need to enter the file name on the VMFREC commands that follow.

The *ppfname* used throughout these servicing instructions is **4vmprf10**, which assumes you are using the PPF supplied by IBM for VMPRF. If you have your own PPF override file for VMPRF, you should use your file's *ppfname* instead of **4vmprf10**. The *ppfname* you use should be used **throughout** the rest of this procedure, unless otherwise stated differently.

1 Logon to user id **4VMPRF10**

2 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 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 51d 51d mr   The 51D minidisk is where the VMSES/E Software
access 51d d   Inventory files and other product dependent files reside.

3 Have the VMPRF CORrective service tape mounted and attached to **4VMPRF10**. (If you have a SERVLINK file make sure that it is available on the A-disk.)

4 Receive the documentation.

    a If receiving the service from tape

vmfrec info   The INFO option loads the documentation (including the product service memo) to the 191 disk and displays a list of products on the tape.

    b If receiving the service from an envelope file

vmfrec info (env vlst_num_   The INFO option loads the documentation (including the product service memo) to the 191 disk and displays a list of products on the tape.

5 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.

6 Read the product memo (4VMPRF10 MEMO) before going on.

7 Setup the correct product access order.

vmfsetup 4vmprf10 {vmprf | vmprfsfs}

> Use **vmprf** for installing on minidisks or **vmprfsfs** for installing in Shared File System directories.

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

vmfmrdsk 4vmprf10 {vmprf | vmprfsfs} apply

> Use **vmprf** for installing on minidisks or **vmprfsfs** for installing in Shared File System directories.
>
> 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 applicable *System Messages and Codes*, or use on-line HELP.

vmfview mrd

7.2.2 Receive the Service

Note: If you are installing multiple service tapes, you can receive all of the service for this prodid before applying and building it.

For **each** service tape or electronic envelope you want to receive, do the following:

1 Receive the service.

a If receiving the service from tape

vmfrec ppf 4vmprf10 {vmprf | vmprfsfs}

> Use **vmprf** for installing on minidisks or **vmprfsfs** for installing in Shared File System directories.
>
> This command receives service from your service tape. All new service is loaded to the DELTA disk.

b If receiving the service from the PTF envelope file

vmfrec ppf 4vmprf10 {vmprf | vmprfsfs} (env vptf*num*

Use **vmprf** for installing on minidisks or **vmprfsfs** for installing in Shared File System directories.

This command receives service from your service envelope. 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 applicable *System Messages and Codes*, or use on-line HELP.

vmfview receive

7.2.3 Apply the Service

1 Apply the new service.

vmfapply ppf 4vmprf10 {vmprf | vmprfsfs}

Use **vmprf** for installing on minidisks or **vmprfsfs** for installing in Shared File System directories.

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 applicable *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 new VMPRF. Refer to chapter 7 in the *z/VM Service Guide*. Follow the steps that are applicable to your local modification.
>
> The following substitutions need to be made:
>
> - **zvm** should be **4vmprf10**
> - *compname* should be **vmprf** or **vmprfsfs** (minidisk or SFS)
> - *appid* should be **4vmprf10**
> - *fm-local* should be the filemode where the 2C4 is accessed
> - *fm-applyalt* should be the filemode where the 2A6 is accessed
>
> If you have changed any of the installation parameters through a PPF override, you need to substitute your changed values where applicable.
>
> Keep in mind that when you get to the "Return to the Appropriate Section to Build Remaining Objects" or "Rebuild Remaining Objects" step in the *z/VM Service Guide*, you should return back to this program directory at 7.2.4, "Update the Build Status Table" on page 21.

7.2.4 Update the Build Status Table

1 Update the Build Status Table with serviced parts.

vmfbld ppf 4vmprf10 {vmprf | vmprfsfs} (status

Use **vmprf** for installing on minidisks or **vmprfsfs** for installing in Shared File System directories.

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 4vmprf10 $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 4vmprf10 $PPF
>             on 191 (A) from level $PFnnnnn
> ```
>
> **vmfppf 4vmprf10 ***   **Note:** If you've created your own PPF
>   override then use your PPF name instead of
>   4vmprf10.
>
> **copyfile 4vmprf10 $ppf a = = d (olddate replace**
> **erase 4vmprf10 $ppf a**
>
>   **Note:** **Do not** use your own PPF name in
>   place of 4vmprf10 for the COPYFILE and
>   ERASE commands.
>
> **vmfbld ppf 4vmprf10 {vmprf | vmprfsfs} (status**
>
> **1**   Re-issue VMFBLD to complete updating the
>   build status table.
>
>   Use **vmprf** for installing on minidisks or
>   **vmprfsfs** for installing in Shared File System
>   directories. 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

7.2.5 Build Serviced Objects

1 Rebuild VMPRF serviced parts.

vmfbld ppf 4vmprf10 {vmprf | vmprfsfs} (serviced

> Use **vmprf** for installing on minidisks or **vmprfsfs** for installing in Shared File System directories.

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 applicable *System Messages and Codes*, or use on-line HELP.

vmfview build

7.2.6 Additional Service Steps

1 Logon to 4VMPRF10, if you are not already logged onto it.

2 Setup the correct product access order.

vmfsetup 4vmprf10 {vmprf | vmprfsfs}

> Use **vmprf** for installing on minidisks or **vmprfsfs** for installing in Shared File System directories.

3 Only three copies of the VMPRF TXTLIB file will fit on the DELTA disk due to its size. It is recommended that the two most recent copies should be kept; any older ones can be erased in order to keep from expanding the DELTA disk size.

filelist vmprf tlb* *fm-delta*   *fm-delta* should be the fm of the 2D2 minidisk.

> Keep the two most recent copies, erase all older versions.

4 Update the VMPRF sample files on either the 1CC or CCC disk(s).

Review any of the sample files which have been serviced on the 2C2 disk to see if any changes should be made to the version you have on the CCC disk or to be moved to the 1CC disk.

filelist vmprf * e　　　　　　　　　　　　　　See the "VMPRF Control Files" chapter in the *VM Performance Reporting Facility Function Level 410* for further details on the sample files.

7.3 Place the New VMPRF Service Into Production

7.3.1 Copy the New VMPRF Serviced Files Into Production

1 Logon to 4VMPRF10, in order to access the disks that contain the 'production' level of the VMPRF code.

a If servicing using minidisks

access 597 i　　　　　　　　　　　　　　　The VMFCOPY command will update the VMSES
access 497 k　　　　　　　　　　　　　　　PARTCAT file on the 497 minidisk.
vmfcopy * * i = = k (prodid 4vmprf10%vmprf olddate replace

b If servicing using Shared File System

access 4VMPRF10.VMPRF.TBUILD i　　　　　The VMFCOPY command will update the VMSES
access 4VMPRF10.VMPRF.PBUILD k　　　　　PARTCAT file on the production code directory.
vmfcopy * * i = = k (prodid 4vmprf10%vmprf olddate replace

2 Logon to **MAINT** if the VMPRF help file was serviced and you have placed the help file on the system AMENG Help (MAINT's 19D) minidisk.

a If servicing using minidisks

link 4vmprf10 597 597 rr　　　　　　　　The VMFCOPY command will update the VMSES
access 597 e　　　　　　　　　　　　　　　PARTCAT file on the AMENG Help (MAINT 19D)
acc 19d f　　　　　　　　　　　　　　　　　minidisk.

vmfcopy * helpcms e = = f2 (prodid 4vmprf10%vmprf olddate replace

b If servicing using Shared File System

access 4VMPRF10.VMPRF.TBUILD e
acc 19d f

The VMFCOPY command will update the VMSES PARTCAT file on the AMENG Help (MAINT 19D) minidisk.

vmfcopy * helpcms e = = f2 (prodid 4vmprf10%vmprf olddate replace

3 Logon to **MAINT** if the VMPRF help file was serviced and you have placed the help file on the system AMENG Help (MAINT's 19D) minidisk.

4 Re-build the CMS HELP logical saved segment, to include VMPRF's help files from the AMENG Help (MAINT's 19D) disk. See the "Placing (Serviced) Components into Production" section of the *z/VM Service Guide* for detailed information about how these segments should be saved on your system. (Note that you will need to use **(all** instead of **(serviced** on the VMSES/E VMFBLD command when re-building any segments.)

You have finished servicing VMPRF.

Appendix A. Create Product Parameter File (PPF) Override

This section provides information to help you create a product parameter file (PPF) override. The example used in this section shows how to change the shared file system (SFS) file pool where VMPRF files reside.

Note: Do **not** modify the product supplied 4vmprf10 $PPF or 4vmprf10 PPF files to change the file pool name or any other installation parameters. If the 4vmprf10 $PPF file is serviced, the existing $PPF file will be replaced, and any changes to that file will be lost; by creating your own $PPF override, your updates will be preserved.

The following process describes changing the default file pool name, VMSYS, to MYPOOL1:

1 Log on to the VMPRF service user ID **4VMPRF10**

2 Establish write access to the Software Inventory Disk (MAINT 51D) if it is not already linked in write mode.

> **Note:** If the MAINT 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 write access to it. **Do not use** *mw* **mode.**

link maint 51d 51d m　　　　　　　　　　　The MAINT 51D disk is where the VMSES/E
access 51d d　　　　　　　　　　　　　　　　system level software inventory files reside.

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

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

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

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

4 Create (or modify as required) the Variable Declarations (:DCL.) section for
the vmprfsfs override area, so that it resembles the :DCL. section shown
below.

```
:OVERLST. VMPRFSFS
*
* ==================================================================== *
* Override Section for Initial Installation (Using SFS Directories)  *
* ==================================================================== *
:VMPRFSFS. VMPRFSFS 4vmprf10
:DCL. REPLACE
&INST191    DIR MYPOOL1:4VMPRF10.
&BASE       DIR MYPOOL1:4VMPRF10.VMPRF.OBJECT
&LOCALSAM   DIR MYPOOL1:4VMPRF10.VMPRF.SAMPLE
&LOCAL      DIR MYPOOL1:4VMPRF10.VMPRF.LOCALMOD
&DELTA      DIR MYPOOL1:4VMPRF10.VMPRF.DELTA
&APPLY0     DIR MYPOOL1:4VMPRF10.VMPRF.APPLYALT
&APPLY1     DIR MYPOOL1:4VMPRF10.VMPRF.APPLYPROD
&BUILD0     DIR MYPOOL1:4VMPRF10.VMPRF.TBUILD
&BUILD1     DIR MYPOOL1:4VMPRF10.VMPRF.PBUILD
&BUILD2     DIR MYPOOL1:4VMPRF10.VMPRF.IBMCONFIG
&BUILD3     DIR MYPOOL1:4VMPRF10.VMPRF.CUSCONFIG
&MONWRITE   LINK MONWRITE 191 194 RR
&4VMPRF10   USER  4VMPRF10
&VMPRF      USER  VMPRF
:EDCL.
:END.
*
```

(This override will replace the :DCL. section of the vmprfsfs override area of
the 4vmprf10 $PPF file.)

5 If your $PPF override file was created at file mode A, copy it to file mode
D—the Software Inventory minidisk (MAINT 51D). Then erase it from file
mode A.

file
copyfile *overname* **$ppf** *fm* **= = d (olddate**
erase *overname* **$ppf** *fm*

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

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

Now that the *overname* PPF file has been created, you should specify *overname* instead of 4vmprf10 as the PPF name to be used for those VMSES/E commands that require a PPF name.

Appendix B. Applying a Recommended Service Upgrade (RSU) Tape For VMPRF

---
z/VM Express Users

If you installed z/VM using the Express Installation and Service Procedure then you need to follow the service instructions as documented in the *z/VM Express Installation and Service Procedures* pamphlet (that came with the *z/VM Installation Guide*) in order to install an RSU or COR service on an Express system. Or you can go to the instructions in Appendix D, "Service Instructions for z/VM Express Users Only" on page 37 of this program directory.

Note!

You should first read through the RSU hard copy memo contained with the tape before continuing with these instructions.

The RSU tape is structured to install all PTFs included on the tape plus the tape files containing the preapplied service and prebuilt objects. All PTF-related files are loaded to the Delta disk. The tape file containing the preapplied service, i.e. containing the results of VMFAPPLY, is loaded to the alternate apply disk and the contents of the tape files containing prebuilt objects are loaded to the appropriate Build disks.

Points to consider about using the Product Service Upgrade procedure are:

- This process will not alter any of your tailored flat files (files serviced by full part replacement only such as VMPRF REPORTS) in any way. Sample files which may have been updated using update files will have to have those updates reapplied.

- Planning must be done (such as determining any DASD size changes, and determining what service, if any, on your existing system is not contained on the RSU tape) prior to actually loading the service from the RSU tape. These tasks will be discussed.

The following outline is an overview of what tasks need to be performed during the PSU procedure:

- Prepare System

  In this task, you will receive the documentation contained on the RSU tape and determine the DASD required to install the RSU tape.

- Merge Service

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

- Receive Service

  The VMFINS command receives service from the RSU tape and places it on the Delta disk.

- Apply Additional Service

29

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. These steps are used to reapply service that was not contained on the refresh tape that was already installed for VMPRF.

- Reapply Local Service (if applicable)

  All local service must be entered into the software inventory to allow VMSES/E to track the changes and build them into the system.

- Build a New Level

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

- Place the New Service into Production

  Once the service is satisfactorily tested it should be put into production by copying the new service to the production disk, re-saving the DCSS (Discontiguous Saved Segments), etc.

B.1 Apply VMPRF RSU

B.1.1 Prepare Your System for Service Refresh

Electronic Service (envelope file)

If you have received the RSU electronically or on CD-ROM, follow the appropriate instructions to retrieve and decompress the envelope file to your A-disk. The decompression is currently done by using the DETERSE MODULE. The file names of the decompressed files will be of the format:

- RPTF*num* for the service envelope

The file type for both of these files must be SERVLINK. You will need to enter the file name on the VMFREC commands that follow.

The *ppfname* used throughout these instructions is **4vmprf10**, which assumes you are using the PPF supplied by IBM for VMPRF. If you have your own PPF override file for VMPRF you should use your file's *ppfname* instead of **4vmprf10**. The *ppfname* you use should be used **throughout** the rest of this procedure.

1 Log on to the VM Performance Reporting Facility for z/VM service user ID **4VMPRF10**

2 Establish write access to the Software Inventory Disk (MAINT 51D) if it is not already linked R/W.

   Note: If the MAINT 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 51d 51d mr
access 51d d

The MAINT 51D disk is where the VMSES/E
system level software inventory files reside.

3 Mount the RSU tape on the tape drive as virtual device 181. You must use
181.

4 Receive the documentation:

Receive the documentation on the tape for the RSU tape. This step will also
load the cumulative Apply Status Table (RSCS SRVAPPS) which identifies all
preapplied service contained on the tape. These files are loaded to the 51D
disk.

    a If receiving the RSU from tape

vmfins install info (nomemo

    b If receiving the RSU from an envelope file

vmfins install info (nomemo env rptf*num*

5 Determine DASD sizes for disks to receive service:

In order to receive the service from the RSU tape, you need to have
adequate space available on the alternate APPLY, Delta, and Build disks or
directories. The required sizes are identified in the VMPRF documentation
(4VMPRF10 MEMO D) received in the previous step.

6 Setup the correct minidisk access order

vmfsetup 4vmprf10 {vmprf|vmprfsfs}

Use component name **vmprf** if the product is
installed on minidisks or **vmprfsfs** if the product is
installed in SFS.

7 Merge the APPLY disks for VMPRF:

Next, you must prepare your system to receive the service from the RSU
tape. To do this, you must first clear the alternate apply disk for receipt of the
service from the RSU tape.

Enter the VMFMRDSK command to merge the alternate apply disk to the
apply disk. This will clear the alternate apply disk.

vmfmrdsk 4vmprf10 {vmprf|vmprfsfs} apply

> Use component name **vmprf** if the product is installed on minidisks or **vmprfsfs** if the product is installed in SFS.

8 Invoke the VMFPSU command to identify any local modifications.

vmfpsu 4vmprf10 {vmprf|vmprfsfs}

> Use component name **vmprf** if the product is installed on minidisks or **vmprfsfs** if the product is installed in SFS.
>
> This command produces an output file that contains information about the service on the RSU compared against the service and local modifications on your system. The file name is **4VMPRF10 PSUPLAN**. If local modifications touch parts that have been serviced, the PRFPSU $SELECT file will be created or updated to force the rebuild of those parts.

B.1.2 Receive the Preapplied, Prebuilt Service

1 Refresh the VMPRF service disks by loading new service from the RSU tape:

a If receiving the RSU from tape

vmfins install ppf 4VMPRF10 {vmprf|vmprfsfs} (nomemo nolink

> Use component name **vmprf** if the product is installed on minidisks or **vmprfsfs** if the product is installed in SFS.

b If receiving the RSU from an envelope file

vmfins install ppf 4VMPRF10 {vmprf|vmprfsfs} (nomemo nolink env rptf*num*

> Use component name **vmprf** if the product is installed on minidisks or **vmprfsfs** if the product is installed in SFS.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF 4vmprf10 vmprf :PRODID
            4vmprf10%vmprf?
            Enter 0 (No), 1 (Yes) or 2 (Exit)
0
```

2 Check the install message log ($VMFINS $MSGLOG) for warning and error messages. If necessary, correct any problems before going on. For information about handling specific install messages, see applicable *System Messages and Codes*, or use online HELP.

vmfview install

B.1.3 Process Additional Service

1 Apply additional service:

The VMFAPPLY command is used to reapply service that was not contained on the refresh tape that was already installed for the component.

Applying service with preapplied, prebuilt service will reapply any reach-ahead service that may be on the system **or** indicate that there are no reach-ahead PTFs to be applied.

vmfapply ppf 4vmprf10 {vmprf|vmprfsfs}

Use component name **vmprf** if the product is installed on minidisks or **vmprfsfs** if the product is installed in SFS.

Messages VMFAPP2122E and VMFAPP2109R will be displayed only if you have reach-ahead service that needs to be reapplied.

VMFAPP2122E The set of PTFs in the Apply Status Table (4VMPRF10 SRVAPPS) on the
         2A2 (G) disk is not a subset of the PTFs in the highest Level Apply
         Status Table on the 2A6 (F) disk. This is an inconsistent state.
VMFAPP2109R VMFAPPLY will automatically correct the problem identified by
         message 2122E by including the missing PTFs in the current Apply
         List. Enter (1) to continue; (0) to quit.

1

If you receive these messages, enter **1** for VMFAPPLY to reapply the reach-ahead service.

2 Check the apply message log ($VMFAPP $MSGLOG) for warning and error messages. If necessary, correct any problems before going on. For information about handling specific apply messages, see applicable *System Messages and Codes*, or use online HELP.

vmfview apply

3 If necessary, rework local service

The **4VMPRF10 PSUPLAN** (output from running the VMFPSU command), can be used to indicate what local service or modifications are affected by the RSU tape. If a PTF is applied and it contains service to a part for which you have a local modification, you will need to rework the local modification. Refer to the *Service Guide*.

This also applies to any of the sample files which have been serviced. You do not need to make any changes to the local modifications on the sample files on the 2C2 disk. Instead you should make any necessary applicable changes to the usable sample file.

   a. Copy the changed file from the 2C2 to the 1CC disk for use in production.

   b. If you have changes to this file on the CCC, you need to compare this with the new file on the 1CC disk and make the appropriate changes to the copy on the CCC disk.

B.1.3.1 Build the New Service Level:

The last task is to rebuild all objects that were affected by reach-ahead service that was reapplied, local modifications, and saved segments. continue with step 7.2.4, "Update the Build Status Table" on page 21.

Appendix C. Disabling VMPRF

If you are running z/VM Version 4 and had previously licensed and enabled VMPRF Function Level 410 for use, and no longer are licensed for VMPRF, you need to explicitly disable VMPRF. Perform the following steps to disable VMPRF.

1 Logon to a user ID that has privilege class E authority and has access to the VMSES/E code disk (default MAINT 5E5) and VMSES/E Software Inventory disk (default MAINT 51D).

2 Establish read access to VMSES/E code.

link maint 5e5 5e5 rr   The 5E5 minidisk is where VMSES/E resides.
access 5e5 b

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

4 Set VMPRF to the disabled state.

vmfins disable ppf 4vmprf10 {vmprf|vmprfsfs}   Use **vmprf** if installed using minidisk or **vmprfsfs** if
                                                             installed using Shared File System directories.

                                                             This command will perform the following:

                                                             - Set VMPRF as DISABLED in VMSES/E and
                                                               within CP.

                                                             - Create a 4VMPRF10 PRODSYS file on the
                                                               A-disk that contains the CP system
                                                               configuration PRODUCT statement with a state
                                                               of DISABLED.

5 In order to **retain the DISABLED state** for VMPRF, **update the CP system configuration file** with the information in the 4VMPRF10 PRODSYS file; which was created in the previous step.

You need to update the CP system config file so that the next time you IPL your system VMPRF will be in the DISABLED state. If you are not authorized to update the CP system configuration file then contact your CP System Administrator. The CP system configuration file default name is SYSTEM CONFIG and it resides on the CP parm disk (MAINTs CF1 and CF2 minidisks). The section, PRODUCT ENABLE/DISABLE INFORMATION, in the SYSTEM CONFIG file, needs to be updated. You will need to replace the current ENABLED entry for PRODID 4VMPRF10 with the entry from the 4VMPRF10 PRODSYS file. If necessary, refer to the *z/VM: Planning and Administration* manual for more information.

Appendix D. Service Instructions for z/VM Express Users Only

The following service instructions are to be used by those that choose to install z/VM using the Express Installation and Service Procedure. You can also find the Express Service instructions in the *z/VM Express Installation and Service Procedures* pamphlet (that came with the *z/VM Installation Guide*).

The following instructions are to be used whether you are putting on an RSU or COR service for VMPRF

1 Make sure that you have a current backup of your system. If not, refer to the *z/VM Installation Guide*, Chapter 'Post Load Installation Tasks', the step 'Store a Backup Copy of the z/VM System on Tape'.

2 Log on to the MAINT user ID.

logon maint
`Enter`

3 Mount the RSU (Recommended Service Upgrade) or COR (corrective service) tape and attach the tape drive as 181.

attach tapeaddr * 181   If the RSU or COR tape encompasses multiple volumes, you will be requested to mount the next tape when needed by the service exec.

Note: If you received the RSU or COR electronically, or on CD-ROM, follow the appropriate instructions to retrieve and decompress the envelope file to MAINT's A-disk. The decompression is currently done by using the DETERSE MODULE. The file names of the decompressed files will be of the format:

- RPTF*num* for RSU envelope
- VPTF*num* for COR service envelope

The file type for both of these files must be SERVLINK. You will need to enter the file name on the SERVICE command that follows.

4 Load the service

a If servicing just VMPRF

1 **ipl cms** **service vmprf**	This will install all the service for VMPRF on the tape

      b If servicing all the products on the tape

1 **ipl cms** **service**	This will install all the service for all the products on the tape

Note: If you received the RSU or COR electronically, or on CD-ROM, then you need to specify the envelope file name on the above service commands. So the command would look like:

```
service vmprf RPTFnum
  OR
service ALL RPTFnum
```

5 Perform any testing you find necessary before putting the new service into production.

6 Put the new service into production.

Note: This step will logoff any appropriate product server virtual machine so you may want to do this step at a planned system outage time.

ipl cms **put2prod**	This will copy all code, including service, from the test build disks to the production build disks for any component that has been serviced since the last time put2prod was executed.

7 Shutdown and re-IPL your system.

shutdown reipl
 Enter

Notices

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

```
IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.
```

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

```
IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan
```

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes to the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licenses of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

```
IBM Corporation
Mail Station P300
2455 South Road
Poughkeepsie, NY 12601-5400
U.S.A.
```

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same

39

on generally available systems. Furthermore, some measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities on non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrates programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to IBM application programming interfaces. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

Trademarks and Service Marks

The following terms are trademarks of the International Business Machines Corporation (IBM) in the United States, or other countries, or both:

BookManager
IBM
IBMLink
Language Environment
Processor Resource/Systems Manager
PR/SM
z/VM

Other company, product, and service names may be trademarks or service marks of others.

Reader's Comments

VM Performance Reporting Facility for z/VM Function Level 410

You may use this form to comment about this document, its organization, or subject matter. Please understand that your feedback is of importance to IBM, but IBM makes no promises to always provide a response to your feedback.

For each of the topics below please indicate your satisfaction level by circling your choice from the rating scale. If a statement does not apply, please circle N.

RATING SCALE

very satisfied				very dissatisfied	not applicable
1	2	3	4	5	N

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Time required to install the product	1	2	3	4	5	N
Contents of program directory	1	2	3	4	5	N
Readability and organization of program directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Installation verification procedure	1	2	3	4	5	N
Ease of customizing the product	1	2	3	4	5	N
Ease of migrating the product from a previous release	1	2	3	4	5	N
Ease of putting the system into production after installation	1	2	3	4	5	N
Ease of installing service	1	2	3	4	5	N

- Did you order this product as an independent product or as part of a package?

    □ System Delivery Offering (SDO)
    □ Other - Please specify type: _____

- Is this the first time your organization has installed this product?

  ☐ Yes
  ☐ No

- Were the people who did the installation experienced with the installation of VM products using VMSES/E?

  ☐ Yes

  How many years of experience do they have? _____

  ☐ No

- How long did it take to install this product? _____

- If you have any comments to make about your ratings above, or any other aspect of the product installation, please list them below:

  _____

  _____

  _____

  _____

  _____

  _____

  _____

  _____

Please provide the following contact information:

_____
Name and Job Title

_____
Organization

_____

_____
Address

_____
Telephone

Thank you for your participation.

Please send the completed form to the following address, or give to your IBM representative who will forward it to the VM Performance Reporting Facility for z/VM Development group:

IBM Corporation
Dept G32
1701 North Street
Endicott, NY 13760

IBM ®