



Program Directory for Performance Toolkit for VM

function level 530

Program Number 5741-A05

for Use with
z/VM version 5 release 3

Document Date: June 2007

GI10-0785-00

Note

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 43.

This program directory, dated June 2007, applies to Performance Toolkit for VM, function level 530, Program Number 5741-A05.

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Summary of Changes

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

- The -00 suffix level is June 2007.

Performance Toolkit for VM Web Information

The Performance Toolkit for VM web page can be visited at URL:

www.ibm.com/eserver/zseries/zvm/related/perfkit

where you will find:

- Additional useful information, hints, and tips.
- Comparison to RealTime Monitor (RTM) and Performance Reporting Facility (VMPRF)
- A postscript version of the Performance Toolkit for VM, function level 530 program directory available for downloading.
- A PDF version of the Performance Toolkit for VM, function level 530 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 Performance Toolkit for VM. 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 Performance Toolkit for VM™, read section 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 2 identifies the basic and optional program materials and documentation for Performance Toolkit for VM.
- 3.0, “Program Support” on page 5 describes the IBM support available for Performance Toolkit for VM.
- 4.0, “Program and Service Level Information” on page 6 lists the APARs (program level) and PTFs (service level) incorporated into Performance Toolkit for VM.
- 5.0, “Installation and Migration Requirements and Considerations” on page 7 identifies the resources and considerations for installing, migrating and using Performance Toolkit for VM.
- 6.0, “Installation Instructions” on page 12 provides detailed installation and tailoring instructions for Performance Toolkit for VM.
- 7.0, “Service Instructions” on page 17 provides detailed servicing instructions for Performance Toolkit for VM.
- Appendix A, “Applying a Recommended Service Upgrade (RSU) For Performance Toolkit for VM” on page 27 provides detailed RSU install instructions for Performance Toolkit for VM.
- Appendix B, “Moving Performance Toolkit for VM to SFS Directories and Creating a PPF Override” on page 34 provides detailed information on moving Performance Toolkit for VM into the shared file system (SFS) and overriding the default Product Parameter File (PPF).
- Appendix C, “Disabling Performance Toolkit for VM” on page 41 provides a description of disabling Performance Toolkit for VM, function level 530, when it is not licensed.

1.1 Program Description

Performance Toolkit for VM Function Level 530 is a pre-installed priced feature that provides performance management capabilities for VM systems and their guests. It allows systems programmers to monitor users, system performance and analyze bottlenecks. Performance Toolkit for VM is also designed to facilitate the operation of VM systems, thereby improving operator efficiency and productivity.

2.0 Program Materials

An IBM program is identified by a program number. The program number for Performance Toolkit for VM is 5741-A05.

The program announcement material describes the features supported by Performance Toolkit for 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

Performance Toolkit for VM is distributed pre-installed as part of the z/VM® version 5 release 3 System deliverable, therefore there are no basic machine readable materials. Performance Toolkit for VM is a priced feature, so it is installed disabled. **If you want to enable and use Performance Toolkit for VM then you MUST order Performance Toolkit for VM to obtain a license for it.** Refer to the z/VM version 5 release 3 Software Announcement for information on ordering z/VM version 5 release 3 and its features.

2.2 Optional Machine-Readable Material

There are no optional machine-readable materials for Performance Toolkit for VM.

2.3 Program Publications

The following sections identify the basic and optional publications for Performance Toolkit for VM.

2.3.1 Basic Program Publications

One copy of the following publication is included when you order Performance Toolkit for VM.

Figure 1. Basic Material: Unlicensed Publications

Publication Title	Form Number
<i>Program Directory for Performance Toolkit for VM</i>	G110-0785-00

2.3.2 Base Program Publications

Figure 2 identifies the base program publications associated with Performance Toolkit for VM.

Figure 2. Program Publications: New Editions

Publication Title	Form Number
z/VM: Performance Toolkit Guide	SC24-6156
z/VM: Performance Toolkit Reference	SC24-6157

2.3.3 Softcopy Publications

The Performance Toolkit for VM publications are supplied softcopy as part of the *IBM Online Library: z/VM Collection* in BookManager® and Adobe™ Portable Document Format (PDF). One copy of the *IBM Online Library: z/VM Collection* CD-ROM and DVD is included when you order the basic materials for z/VM version 5 release 3.

In addition, the Performance Toolkit for VM softcopy publications, including this program directory, are available in Adobe Portable Document Format from the z/VM internet library home page on the World Wide Web; the URL for this home page is:

www.ibm.com/eserver/zseries/zvm/library

The z/VM publications can be ordered separately, for a fee, using the specific publication number through the IBM Publication Center at:

www.ibm.com/shop/publications/order

The Publications Center is a world wide central repository for IBM product publications and marketing material. Furthermore, a large number of publications are available online in various file formats (e.g. Adobe PDF), which can currently be downloaded free of charge.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Performance Toolkit for VM.

2.5 Publications Useful During Installation and Service

The publications listed in Figure 3 may be useful during the installation of Performance Toolkit for VM.

Figure 3 (Page 1 of 2). Publications Useful During Installation / Service on z/VM version 5 release 3

Publication Title	Form Number
z/VM: Performance	SC24-6109

Figure 3 (Page 2 of 2). Publications Useful During Installation / Service on z/VM version 5 release 3

Publication Title	Form Number
<i>z/VM: Performance Toolkit Guide</i>	SC24-6156
<i>z/VM: Performance Toolkit Reference</i>	SC24-6157
<i>z/VM: VMSES/E Introduction and Reference</i>	GC24-6130
<i>z/VM: CP Planning and Administration</i>	SC24-6083
<i>z/VM: CP Commands and Utilities Reference</i>	SC24-6081
<i>z/VM: CMS Commands and Utilities Reference</i>	SC24-6073
<i>z/VM: CMS File Pool Planning, Administration, and Operation</i>	SC24-6074
<i>z/VM: Guide for Automated Installation and Service</i>	GC24-6099
<i>z/VM: CP Messages and Codes</i>	GC24-6119
<i>z/VM: CMS and REXX/VM Messages and Codes</i>	GC24-6118
<i>z/VM: Other Components Messages and Codes</i>	GC24-6120

3.0 Program Support

This section describes the IBM support available for Performance Toolkit for VM.

3.1 Preventive Service Planning

Before installing Performance Toolkit for VM, 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 4. PSP Upgrade and Subset ID

RETAIN®				
COMPID	Release	Upgrade	Subset	Description
568411218	530	VMPTK530	PTK/530	Installation Information
568411218	530	VMPTK530	yynnRSU	RSU Service Recommendations

Note: RSU-BY-LVL information can be obtained from the VM service RSU web site at url:

www.ibm.com/eserver/zseries/zvm/service/rsu

3.2 Statement of Support Procedures

With Performance Toolkit for VM you are entitled to support under the basic warranty for z/VM version 5 release 3. Also, note that the Software Subscription and Support for Performance Toolkit for VM is *automatically* added to your order - this provides zSeries® service to which you are likely accustomed. If you do not want the Software Subscription and Support for Performance Toolkit for VM, then you must take specific action to decline it when ordering Performance Toolkit for VM.

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

Figure 5 identifies the component ID (COMPID), Retain Release and Field Engineering Service Number (FESN) for Performance Toolkit for VM.

Figure 5. Component IDs

RETAIN			
COMPID	Release	Component Name	FESN
568411218	530	Performance Toolkit for VM, function level 530	0408274

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of Performance Toolkit for 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 Program Level Information

The following APAR fixes against the previous Performance Toolkit for VM, function level 520, release have been incorporated into this new release.

VM63767	VM63787	VM63798	VM63801	VM63835	VM63857
VM63864	VM63891	VM63898	VM63929	VM63951	VM63967
VM63979	VM63993	VM64007	VM64019	VM64061	VM64097
VM64108	VM64152	VM64158			

4.2 Service Level Information

Check the VMPTK530 PSP bucket upgrade 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 Performance Toolkit for VM web page at www.ibm.com/eserver/zseries/zvm/related/perfkit for any additional service hints, tips, and concerns.

4.3 Cumulative Service Tape

Cumulative service for Performance Toolkit for VM is available through a periodic, preventive service tape, the Recommended Service Upgrade (RSU). The RSU tape is used to provide service updates for multiple z/VM components and features (including Performance Toolkit for VM) and is often referred to as a *stacked* RSU tape.

The stacked RSU tape can be obtained by ordering PTF UM97530.

Check the PSP bucket upgrade VMPTK530 and subset yynnRSU (where yynn is the RSU service level) for the latest RSU available. For a list of the PTFs included on the RSU, see the service memo from the tape or refer to the RSU-BY-LVL information obtained from the VM service RSU web site at url:

www.ibm.com/eserver/zseries/zvm/service/rsu

5.0 Installation and Migration Requirements and Considerations

The following sections identify the system requirements for installing and activating Performance Toolkit for VM.

5.1 Hardware Requirements

There are no special hardware requirements for Performance Toolkit for VM.

5.2 Program Considerations

The following sections list the programming considerations for installing and activating Performance Toolkit for VM functions.

5.2.1 Operating System Requirements

Performance Toolkit for VM function level 530 supports the following VM operating system:

- z/VM version 5 release 3

5.2.2 Other Program Product Requirements

GDDM® (5684-168) is optional and will be used if available.

Performance Toolkit for VM is a prerequisite for IBM Tivoli® OMEGAMON® XE on z/VM and Linux™, V4R1 (5698-A36).

5.2.3 Migration Considerations

5.2.3.1 Migrating from Performance Toolkit for VM, function level 510 or 520

The Performance Toolkit for VM customizable files, as listed in Figure 8 on page 14, can be brought over from your z/VM V5.1 or z/VM V5.2 system to your new z/VM V5.3 system. You will need to compare your Performance Toolkit for VM FL510 or FL520 files with the new shipped files and make any changes.

If you use the new migration procedures, as documented in the *z/VM: Guide for Automated Installation and Service*, to migrate Performance Toolkit for VM then the files listed in Figure 8 on page 14, as well as the PROFILE EXEC for the PERFSVM user ID, will be migrated. If these customizable files were changed in Performance Toolkit for VM FL530, and you had also made changes to them on your z/VM V5.1 or V5.2 system, then you will be told to rework your changes.

5.2.3.2 Migrating From Performance Toolkit for VM, function level 440

If you were running Performance Toolkit for VM 4.4.0 then your customized Performance Toolkit files resided on the CCC minidisk or SFS directory VMSYS:4VMPTK40.PERFTK.CUSCONFIG. In this new level of Performance Toolkit for VM the customized files will reside on the 1CC minidisk or SFS directory VMSYS:5VMPTK30.PERFTK.CONFIG. Since the 1CC minidisk (or SFS directory) is now a production build disk for the customized files, in order to preserve your changes to these files you will need to update the files using the VMSES/E Local Modification procedure. Refer to 6.3, "Tailoring Performance Toolkit for VM Customization Files" on page 14 for instructions on modifying or changing the Performance Toolkit for VM customizable files.

5.2.3.3 Migrating from VM Performance Reporting Facility (VMPRF)

Performance Toolkit for VM can be used to create the printed and machine-readable trend data as it processes therefore eliminating the need for regularly scheduled processing (saving monitor data and then post processing it).

If you were running VM Performance Reporting Facility and will now be running Performance Toolkit for VM you will find similarities in the way batch mode is controlled in Performance Toolkit for VM, however, there are differences. You should migrate your existing VMPRF reports and performance history files to Performance Toolkit for VM. To ease this migration, there is a VMPRF option provided for the PERFKIT command. Refer to the Chapter 'Operation in Batch Mode', in the *z/VM: Performance Toolkit Guide* manual for more information on this option.

For a cross reference of VMPRF reports to Performance Toolkit for VM reports see the Performance Toolkit for VM home page at:

www.ibm.com/eserver/zseries/zvm/related/perfkit/pkitprf.html

5.2.3.4 Migrating from RealTime Monitor (RTM)

Performance Toolkit for VM already provides the same information that was provided by RTM. For a cross reference of RTM commands to Performance Toolkit for VM commands see the Performance Toolkit for VM home page at:

www.ibm.com/eserver/zseries/zvm/related/perfkit/pkitrtm.html

5.2.4 Program Installation and Service Considerations

This section describes items that should be considered before you install or service Performance Toolkit for VM.

Note - z/VM Automated Service Procedure

If you modify any of the IBM-supplied default user IDs, minidisk addresses, or SFS directory names associated with Performance Toolkit for VM and you plan on using the z/VM automated service procedure (the **SERVICE** and **PUT2PROD** commands) to service your z/VM system, then you must create a PPF override for the **SERVP2P \$PPF** file.

You must also use the **VMFUPDAT SYSSUF** command to update the VM SYSSUF Software Inventory file, so that your PPF override for SERVP2P is used for automated service processing. For more information about PPF overrides, see the *z/VM: VMSES/E Introduction and Reference*.

- VMSES/E is required to install and service this product.
- Performance Toolkit for VM is pre-installed on the z/VM version 5 release 3 System deliverables.
- 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 *z/VM: VMSES/E Introduction and Reference* manual, section "Changing the Software Inventory to an SFS Directory", for information on how to make this change.
- If you choose to move Performance Toolkit for VM from minidisk to SFS, and you did not do it at initial z/VM install time, or if you want to change from the default SFS file pool or directories, then you will need to follow the steps in Appendix B, "Moving Performance Toolkit for VM to SFS Directories and Creating a PPF Override" on page 34. These steps will have you create the SFS directories, move the files to the SFS directories and create a PPF override file.
- RSUs will be supplied as necessary. Service between RSUs can be obtained through CORrective service.

5.3 DASD Storage and User ID Requirements

Figure 6 lists the user IDs, minidisks and default SFS directory names that are used to install and service Performance Toolkit for VM.

Important Installation Notes:

- The user IDs and minidisks are listed here so that you can get an idea of the resources required by Performance Toolkit for VM. They are already defined and allocated on the z/VM System deliverable, as Performance Toolkit for VM is pre-installed.
- The CP user ID directory entry for PERFSVM is shipped with statement:

```
SHARE ABS 3%
```

It is recommended that you **DO NOT CHANGE** this statement.

Figure 6 (Page 1 of 2). DASD Storage Requirements for (Required) Target Minidisks

Minidisk owner (user ID)	Default Address	Storage in Cylinders		FB-512 Blocks	SFS 4K Blocks	Usage
		DASD	CYLS			Default SFS Directory Name
5VMPTK30	2B2	3390	9	12960	1620	Contains all the base code shipped with Performance Toolkit for VM. VMSYS:5VMPTK30.PERFTK.BASE
5VMPTK30	2C2	3390	2	2880	360	Contains sample customization files. VMSYS:5VMPTK30.PERFTK.SAMPLE
5VMPTK30	2C4	3390	5	7200	900	Contains local modifications VMSYS:5VMPTK30.PERFTK.LOCALMOD
5VMPTK30	2D2	3390	50	72000	9000	Contains serviced files VMSYS:5VMPTK30.PERFTK.DELTA
5VMPTK30	2A6	3390	2	2880	360	Contains AUX files and software inventory tables that represent the test service level of Performance Toolkit for VM VMSYS:5VMPTK30.PERFTK.APPLYALT
5VMPTK30	2A2	3390	2	2880	360	Contains AUX files and software inventory tables that represent the service level of Performance Toolkit for VM that is currently in production. VMSYS:5VMPTK30.PERFTK.APPLYPROD
5VMPTK30	200	3390	10	14400	1800	Test BUILD disk. This code will be copied to Performance Toolkit for VM production disk. VMSYS:5VMPTK30.PERFTK.TBUILD
5VMPTK30	201	3390	10	14400	1800	Production BUILD disk. VMSYS:5VMPTK30.PERFTK.PBUILD
5VMPTK30	191	3390	12	17280	2160	5VMPTK30 user ID's 191 minidisk VMSYS:5VMPTK30.
5VMPTK30	1CC	3390	1	1440	180	Contains customized files. VMSYS:5VMPTK30.PERFTK.CONFIG
Notes:						
1. Cylinder values defined in this table are based on a 4k block size. FB-512 and SFS block values are derived from the 3390 cylinder values in this table.						
2. 41580 4K blocks are needed for SFS installation.						

<i>Figure 6 (Page 2 of 2). DASD Storage Requirements for (Required) Target Minidisks</i>						
Minidisk owner (user ID)	Default Address	Storage in Cylinders		FB-512 Blocks	SFS 4K Blocks	Usage
		DASD	CYLS			Default SFS Directory Name
5VMPTK30	29D	3390	8	11520	1440	Contains help files. VMSYS:5VMPTK30.PERFTK.PERFTKHELP
PERFSVM	191	3390	120	172800	21600	Performance Toolkit for VM user ID's 191 work minidisk VMSYS:PERFSVM.
PERFSVM	195	3390	60	86400	10800	Performance Toolkit for VM user ID's 195 minidisk for output files. VMSYS:PERFSVM.WORK195
Notes:						
1. Cylinder values defined in this table are based on a 4k block size. FB-512 and SFS block values are derived from the 3390 cylinder values in this table.						
2. 41580 4K blocks are needed for SFS installation.						

<i>Figure 7. DASD Storage Requirements for Collecting Monitor Data</i>						
Minidisk owner (user ID)	Default Address	Storage in Cylinders		FB-512 Blocks	SFS 4K Blocks	Usage
		DASD	CYLS			Default SFS Directory Name
MONWRITE	191	3390	90	129600	n/a	VM disk containing monitor data Note: This size varies depending on the magnitude of monitor data.
Note: 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.						

6.0 Installation Instructions

This chapter describes the installation methods and the step-by-step procedures to install and activate Performance Toolkit for VM.

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.

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 Performance Toolkit for VM, 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 Performance Toolkit for VM.

Have you Licensed Performance Toolkit for VM?

Performance Toolkit for VM is pre-installed on z/VM version 5 release 3, using VMSES/E, in a DISABLED state. **If, and only if**, you have a license for Performance Toolkit for VM, function level 530 proceed with the installation to enable it for use.

- Set Performance Toolkit for VM to the ENABLED state.

This will allow Performance Toolkit for VM to run.

- Tailor customization files

Information about file tailoring for the program is presented in 6.3, "Tailoring Performance Toolkit for VM Customization Files" on page 14.

- Place Performance Toolkit for VM files into production

Once the product has been tailored, the product files are copied from the test BUILD disk(s) to the production BUILD disk(s).

- Perform Post-installation Tasks

Information about the initial activation of the program is presented in 6.5, "Post-Installation Considerations" on page 15.

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

6.2 Enable Performance Toolkit for VM for Use

The following instructions will enable Performance Toolkit for VM so it can be used.

1 Log on to the **MAINT** 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 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 who has it linked R/W link it as R/O. You can then issue the following commands 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 51d 51d mr
access 51d d**

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

3 Set Performance Toolkit for VM to the enabled state.

service perftk enable

This command will perform the following:

- Set Performance Toolkit for VM as ENABLED in VMSES/E and within CP.
- Update the CP system configuration file (SYSTEM CONFIG) on the CP primary (default CF1) parm disk.

What's Next?

Continue with 6.3, "Tailoring Performance Toolkit for VM Customization Files" on page 14.

If you do not need to tailor any customizable files at this time then you need to continue with 6.4, "Place Performance Toolkit for VM Into Production" on page 15.

Notes:

1. If, in the future, you are no longer licensed for Performance Toolkit for VM, function level 530, you **must** follow the instructions in Appendix C, "Disabling Performance Toolkit for VM" on page 41 to disable Performance Toolkit for VM.

6.3 Tailoring Performance Toolkit for VM Customization Files

Note: Read the section 5.2.3, “Migration Considerations” on page 7 before continuing in this section.

The following table describes the sample customization files provided with Performance Toolkit for VM that have been installed to the 1CC customization files disk.

Sample File Name	Sample Description
FCONX \$PROFILE	Sample profile used when Performance Toolkit for VM is started. This file is to provide settings to Performance Toolkit for VM.
FCONX REPORTS	Sample reports file for Performance Toolkit for VM. This file allows you to define which part of the collected performance data should be printed when either a PRINT ALL command is entered or when average data are printed automatically prior to RESET.
FCONX TRENDREC	Sample file to select which machine readable detailed trend records are to be produced.
FCONX SUMREC	Sample file to select which machine readable summary trend records are to be produced.
FCONXREP SETTINGS	Sample setup for running FCONXREP EXEC in batch mode.
Note: See the <i>z/VM: Performance Toolkit Guide</i> for further information on the sample control files and their use.	

All of the Performance Toolkit for VM customization files are delivered as replacement-maintained parts. In order to make your site changes to these files, you need to use VMSES/E to create a local modification to the files. Review the *z/VM: Performance Toolkit Guide* for details on configuring these files. If you need to make changes to these files that are not going to be permanent then you can copy the files to the A-disk of the user ID that will be running Performance Toolkit for VM and update them there.

To tailor the customizable files in Figure 8 use the following instructions to create a local modification for them.

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

2 Create and apply the local modification

Note: Repeat this step for each file you need to modify.

a Run the LOCALMOD command to create the local modification for a customizable file.

localmod perftk partfn partft

partfn and *partft* is the file name and file type of the customizable file, in Figure 8, that you need to modify.

b Reply to any prompt messages.

c Make your changes to the displayed file. See the *z/VM: Performance Toolkit Guide* manual for details on configuring these files.

d File your changes.

====> file

Enter **file** on the XEDIT command line

3 Run SERVICE command to build the local modification(s).

service perfTk build

What's Next?

You have now finished tailoring Performance Toolkit for VM. Continue with 6.4, "Place Performance Toolkit for VM Into Production."

6.4 Place Performance Toolkit for VM Into Production

This step will copy the Performance Toolkit for VM files from its test BUILD disks or SFS directories to its production BUILD disks or SFS directories.

1 Copy Performance Toolkit for VM files into production.

put2prod perfTk

This command may take several minutes to complete.

6.5 Post-Installation Considerations

Deploying Linux on z/VM

If you plan to deploy Linux on z/VM see the *z/VM: Getting Started with Linux on System z™* publication for more information on setting up Performance Toolkit for VM to monitor your z/VM system and Linux virtual servers.

To start using Performance Toolkit for VM you need to do the following.

- 1** Log on to the PERFSVM user ID. The PERFSVM profile will run. It will access the required minidisks or SFS directories and start Performance Toolkit for VM.
- 2** You need to remove the comments from the monitor commands in the PERFSVM user ID's PROFILE EXEC in order to enable the monitor domain data that you want to collect.

In order to do this you need to stop Performance Toolkit for VM by pressing the PF3 Quit Key twice. Then XEDIT the PROFILE EXEC, make your changes, and type file on the XEDIT command line. Restart Performance Toolkit for VM by typing PROFILE and pressing enter. Disconnect the PERFSVM user ID by typing DISC and pressing enter.

Note: If this has not been done then when you get to the section '*Performance Monitoring Mode*', in the "Guided Tour" chapter, in the *z/VM: Performance Toolkit Guide*, you will not have any monitor data collected for analysis.

- 3** Refer to the chapter 'Preparing the Performance Toolkit' in the the *z/VM: Performance Toolkit Guide* for information on interfaces that can be set up with Performance Toolkit for VM, such as an Internet Interface. This chapter will also refer you to the "Guided Tour" chapter in the *z/VM: Performance Toolkit Guide* for installation verification steps.

Performance Toolkit for VM is now installed and built on your system.

7.0 Service Instructions

Note - z/VM Automated Service Procedure

The **preferred** method for installing service to Performance Toolkit for VM is to use the z/VM automated service procedure (use of the **SERVICE** and **PUT2PROD** commands).

If you have chosen to use the automated procedure to apply preventive (RSU) and CORrective service to your z/VM system, you need to follow the service instructions documented in the *z/VM: Guide for Automated Installation and Service* manual, instead of those presented here.

RSU Warning

If applying a Performance Toolkit for VM RSU go to the instructions in Appendix A, "Applying a Recommended Service Upgrade (RSU) For Performance Toolkit for VM" on page 27. 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 Performance Toolkit for VM. VMSES/E is used to install service for Performance Toolkit for VM.

To become more familiar with service using VMSES/E, you should read the introductory chapters in the *z/VM: 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 Performance Toolkit for 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 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 Performance Toolkit for VM

RSU Warning

If applying a Performance Toolkit for VM RSU go to the instructions in Appendix A, "Applying a Recommended Service Upgrade (RSU) For Performance Toolkit for VM" on page 27. 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(s) to your A-disk. The decompression is currently done by using the DETERSE MODULE (shipped with VMSES/E).

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

The *ppfname* used throughout these servicing instructions is **5vmptk30**, which assumes you are using the PPF supplied by IBM for Performance Toolkit for VM. If you have your own PPF override file for Performance Toolkit for VM, you should use your file's *ppfname* instead of **5vmptk30**. The *ppfname* you use should be used **throughout** the rest of this procedure, unless otherwise stated differently.

- 1** Logon to user id **5VMPTK30**
- 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 can then issue the following commands to obtain R/W 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 51d 51d mr
access 51d d**

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

- 3** Have the Performance Toolkit for VM CORrective service tape mounted and attached to **5VMPTK30**. If you have a CORrective service envelope (SERVLINK) file make sure that it is available on the A-disk or any minidisk or SFS directory accessed as C.
- 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.

b If receiving the service from an envelope file

vmfrec info (env *envfilename*)

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

The INFO option loads the documentation (including the product service memo) to the 191 disk.

- 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. To do this, use the PF5 key to show all status messages which identify the products with service.

6 Read the product memo (5VMPTK30 MEMO) before going on.

xedit 5vmptk30 memo

7 Setup the correct product access order.

vmfsetup 5vmptk30 {perftk | perftksfs}

Use **perftk** for installing on minidisks or **perftksfs** 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.

vmfmrdsd 5vmptk30 {perftk | perftksfs} apply

Use **perftk** for installing on minidisks or **perftksfs** 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 5vmptk30 {perftk | perftksfs}

Use **perftk** for installing on minidisks or **perftksfs** 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 5vmptk30 {perftk | perftksfs} (env *envfilename*

Use **perftk** for installing on minidisks or **perftksfs** for installing in Shared File System directories.

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

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 5vmptk30 {perftk | perftksfs}

Use **perftk** for installing on minidisks or **perftksfs** 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.

Note: If you receive a return code of 4 this may indicate that you have local modifications that need to be reworked so make sure you review the VMFAPPLY message log as documented in the next step.

- 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 you must re-apply any local modifications before building the new Performance Toolkit for VM. It is very important that you rework your local modifications to sample customization files which have been serviced.

Refer to Chapter 7, 'Reworking Local Service and Modifications', 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 **5vmptk30**
- *compname* should be **perftk** or **perftksfs** (minidisk or SFS)
- *fm-local* should be the filemode where the 2C4 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 to this program directory at 7.2.4, "Update the Build Status Table" on page 22.

7.2.4 Update the Build Status Table

- 1 Update the Build Status Table with serviced parts.

vmfbld ppf 5vmptk30 {perftk | perftksfs} (status)

Use **perftk** for installing on minidisks or **perftksfs** 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 5vmptk30 \$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 5vmptk30 \$PPF
on 191 (A) from level \$PFnnnnn

vmfppf 5vmptk30 *

Note: If you have created your own PPF override then use your PPF name instead of 5vmptk30.

**copy 5vmptk30 \$ppf a = = d (olddate replace
erase 5vmptk30 \$ppf a**

Note: **Do not** use your own PPF name in place of 5vmptk30 for the COPY and ERASE commands.

vmfbl d ppf 5vmptk30 {perftk | perftksfs} (status

1

Re-issue VMFBLD to complete updating the build status table. If you have your own PPF name then you should use it on the VMFBLD command.

Use **perftk** for installing on minidisks or **perftksfs** 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 Performance Toolkit for VM serviced parts.

vmfbld ppf 5vmptk30 {perftk | perftksfs} (serviced

Use **perftk** for installing on minidisks or **perftksfs** 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

7.3 Place the New Performance Toolkit for VM Service Into Production

7.3.1 Copy the New Performance Toolkit for VM Serviced Files Into Production

- 1 Logon to the **5VMPTK30** user ID.
- 2 Copy the serviced 'production' level of the Performance Toolkit for VM code.

a If servicing using minidisks

access 200 j
access 201 k

The VMFCOPY command will update the VMSES PARTCAT file on the 201 minidisk.

vmfcopy * * j = k (prodid 5vmptk30%perftk olddate replace

b If servicing using Shared File System

access 5VMPTK30.PERFTK.TBUILD j
access 5VMPTK30.PERFTK.PBUILD k
vmfcopy * * j = k (prodid 5vmptk30%perftk olddate replace

The VMFCOPY command will update the VMSES PARTCAT file on the production code directory.

C Copy the serviced customizable files for Performance Toolkit for VM.

It may have been that the supplied customizable files for Performance Toolkit for VM were serviced. If so, this step will copy the serviced level of the file to the 1CC minidisk or equivalent SFS directory. If you had modified these files using the VMSES/E local modification procedure then your changes were built in to the new serviced version when you applied the service. If, for some reason, you did not use VMSES/E local modification to update these files then you need to save a copy of those files before you continue with this step. After the copy is done you will need to put your updates back into the files using the VMSES/E local modification procedure as documented in 6.3, "Tailoring Performance Toolkit for VM Customization Files" on page 14.

1 If servicing using minidisks

access 2C2 f
access 1CC I
vmfcopy * * f = I (prodid 5vmptk30%perftk olddate replace

The VMFCOPY command will update the VMSES PARTCAT file on the 1CC minidisk.

2 If servicing using Shared File System

access 5VMPTK30.PERFTK.SAMPLE f
access 5VMPTK30.PERFTK.CONFIG I
vmfcopy * * f = I (prodid 5vmptk30%perftk olddate replace

The VMFCOPY command will update the VMSES PARTCAT file on the customized files directory.

3 Logon to **MAINT** if the Performance Toolkit for VM help files were serviced and you have placed the help files on the system AMENG Help (MAINT's 19D) minidisk.

a If servicing using minidisks

link 5vmptk30 29d 29d rr
access 29d e
acc 19d f

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

vmfcopy * * e = f2 (prodid 5vmptk30%perftk olddate replace

b If servicing using Shared File System

access 5VMPTK30.PERFTK.PERFTKHELP e
acc 19d f

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

vmfcopy * * e = = f2 (prodid 5vmptk30%perftk olddate replace

- 4** Re-build the CMS HELP logical saved segment (from the MAINT user ID), to include Performance Toolkit for VM'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.)

- 5** Restart the PERFSVM server.

logon PERFSVM

Enter
press F3
press F3
profile
disconnect

You have finished servicing Performance Toolkit for VM.

Appendix A. Applying a Recommended Service Upgrade (RSU) For Performance Toolkit for VM

Note - z/VM Automated Service Procedure

The **preferred** method for installing service to Performance Toolkit for VM is to use the z/VM automated service procedure (use of the **SERVICE** and **PUT2PROD** commands).

If you have chosen to use the automated procedure to apply preventive (RSU) and CORrective service to your z/VM system, you need to follow the service instructions documented in the *z/VM: Guide for Automated Installation and Service* manual, instead of those presented here.

Note!

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

The RSU 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 alter customizable flat files, such as FCONX \$PROFILE, if they have been serviced. If you used the local modification process to update these files then you will be able to rework your modifications.
- 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) prior to actually loading the service from the RSU. 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 and determine the DASD required to install the RSU.

- Merge Service

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

- Receive Service

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

- Apply Additional 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. These steps are used to reapply service that was not contained on the refresh tape that was already installed for Performance Toolkit for VM.

- 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, etc.

A.1 Apply Performance Toolkit for VM RSU

A.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(s) to your A-disk. The decompression is currently done by using the DETERSE MODULE (shipped with VMSES/E).

The service (RSU PTF) envelope files must have a file type of SERVLINK. Make note of the file names that you are using as you will need to enter them in place of the variable *envfilename* in the VMFINS commands that follow.

The documentation envelope file will be a readable flat file after DETERSE is run against it. It will not get used in the following RSU application instructions.

The *ppfname* used throughout these instructions is **5vmptk30**, which assumes you are using the PPF supplied by IBM for Performance Toolkit for VM. If you have your own PPF override file for Performance Toolkit for VM you should use your file's *ppfname* instead of **5vmptk30**. The *ppfname* you use should be used **throughout** the rest of this procedure.

- 1** Log on to the Performance Toolkit for VM service user ID **5VMPTK30**
- 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 because someone else has it R/W, you will need to have that user link it R/O. You can then issue the following commands to obtain R/W access to it.

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

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

If your VMSES/E Software Inventory is on a different minidisk or in shared file (SFS), use that address or SFS directory name instead.

3 Mount the RSU tape on the tape drive as virtual device 181. You must use 181. If you have a CORrective service envelope (SERVLINK) file make sure that is it available on the A-disk or any minidisk or SFS directory accessed as C.

4 Receive the documentation:

Receive the documentation on the tape for the RSU. This step will also load the cumulative Apply Status Table (5VMPTK30 SRVAPPS) which identifies all preapplied service. 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 *envfilename*

envfilename is the file name of the service (RSU PTF) envelope file (SERVLINK) that represents volume 1 of the RSU.

5 Determine DASD sizes for disks to receive service:

In order to receive the service from the RSU, you need to have adequate space available on the alternate APPLY, DELTA, and BUILD disks or directories. The required sizes are identified in the Performance Toolkit for VM documentation (5VMPTK30 MEMO D) received in the previous step.

6 Setup the correct minidisk access order

vmfsetup 5vmptk30 {perftk|perftksfs}

Use component name **perftk** if the product is installed on minidisks or **perftksfs** if the product is installed in SFS.

7 Merge the APPLY disks for Performance Toolkit for VM:

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

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

vmfmrdsk 5vmptk30 {perftk|perftksfs} apply

Use component name **perftk** if the product is installed on minidisks or **perftksfs** if the product is installed in SFS.

8 Invoke the VMFPSU command to identify any local modifications.

vmfpsu 5vmptk30 {perftk|perftksfs}

Use component name **perftk** if the product is installed on minidisks or **perftksfs** 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 **5VMPTK30 PSUPLAN**. If local modifications affect objects that have been serviced, the FCX\$PSU\$ \$SELECT file will be created or updated to force the rebuild of those parts.

A.1.2 Receive the Preapplied, Prebuilt Service

1 Refresh the Performance Toolkit for VM service disks by loading new service from the RSU:

a If receiving the RSU from tape

vmfins install ppf 5VMPTK30 {perftk|perftksfs} (nomemo nolink

Use component name **perftk** if the product is installed on minidisks or **perftksfs** if the product is installed in SFS.

b If receiving the RSU from an envelope file

vmfins install ppf 5VMPTK30 {perftk|perftksfs} (nomemo nolink env *envfilename*

Use component name **perftk** if the product is installed on minidisks or **perftksfs** if the product is installed in SFS.

envfilename is the file name of the service (RSU PTF) envelope file (SERVLINK) that represents volume 1 of the RSU. If you have more than one envelope file for the RSU you will be prompted for the others when needed.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF 5vmptk30 perftk :PRODID
5vmptk30%perftk?
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

A.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 5vmptk30 {perftk|perftksfs}

Use component name **perftk** if the product is installed on minidisks or **perftksfs** 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 (5VMPTK30 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 **5VMPTK30 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 *z/VM: Service Guide*.

Note: It is very important that you rework your local modifications to sample customization files which have been serviced.

A.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 Section 7.2.4, "Update the Build Status Table" on page 22 and complete the rest of Section 7.

A.2 Determine RSU Service Level

The service contained on each RSU constitutes a new service level. Use this service level when ordering corrective service. The service level is updated in the system inventory when the RSU is installed.

To find out the current service level for Performance Toolkit for VM you can use the VMFSIM QUERY command or if you use the automated service procedures you can use SERVICE command with the STATUS operand.

The following is an example using VMFSIM to query the current RSU service level.

vmfsim query vm sysrecls tdata :ppf 5vmptk30 :stat The output from this command is similar to the following console log. The last part of the status line indicates the RSU service level: 0701

```
VMFSIP2408I RESULTS FOR
          TDATA :PPF 5VMPTK30 :STAT
:PPF 5VMPTK30 PERFTK
:STAT RECEIVED.mm/dd/yy.hh:mm:ss.userid.RSU-0701
```

The following is an example of using the SERVICE command to query the current RSU service level.

service perftk status

The output from this command is similar to the following console log. The last part of message VMFSRV1225I indicates the RSU service level: 0701

```
VMFSRV2760I SERVICE processing started
VMFSRV1225I PERFTK (5VMPTK30%PERFTK) status:
VMFSRV1225I   Service Level   RSU-0701
VMFSRV1225I   Production Level RSU-0701
VMFSRV2760I SERVICE processing completed successfully
```

Appendix B. Moving Performance Toolkit for VM to SFS Directories and Creating a PPF Override

By default, Performance Toolkit for VM is installed to minidisks as part of the z/VM System deliverable unless you choose to install Performance Toolkit for VM to SFS during the initial z/VM installation. If you did not install Performance Toolkit for VM into SFS directories and want to move it now, you can. Refer to Figure 6 on page 9 to see which minidisks can reside in SFS. You can use either the default file pool, VMSYS, or a file pool of your choosing.

A summary of the steps that are needed to place Performance Toolkit for VM into SFS are:

- Allocate space in the user-defined or default file pool
- Provide the installation user ID, 5VMPTK30, access to the file pool
- Create the necessary Performance Toolkit for VM subdirectories
- Copy files from the minidisks to the new SFS subdirectories
- Create a PPF override, if not using the default file pool or subdirectory names.

Where to next

You need to do one of the following:

- If you want to place Performance Toolkit for VM into SFS directories **using the defaults defined in the 5VMPTK30 PPF file** you should use the **MOVE2SFS** command, as documented in the *z/VM: CP Commands and Utilities Reference* manual.
- If you want to place Performance Toolkit for VM into your **own user-defined file pool or SFS directories**, continue with the instructions in B.1, "Setup SFS File Pool and Directories" on page 35.
- If you **only need to create a PPF override**, continue with the instructions in B.3, "Create Product Parameter File (PPF) Override" on page 38.

If you were pointed to this appendix from another section and you have completed the steps required (whether provided in this appendix or in the *z/VM: CP Commands and Utilities Reference*) you should now return to your original section to continue.

B.1 Setup SFS File Pool and Directories

Notes:

1. The steps that follow help you determine the Performance Toolkit for VM file pool space requirements, file pool enrollment, and SFS directory definitions. If not all of these steps are required - for example, if you are changing only SFS directory or subdirectory names - adapt these instructions as needed for your environment.
2. The steps that follow assume that a user-defined SFS file pool name is being used. If you will be using the VM default file pool name, VMSYS, substitute it in any place you see the text 'user-defined file pool' or variable *userfilepool*.
3. For more information about planning for, generating and managing a file pool and server, see *z/VM: CMS File Pool Planning, Administration and Operation*.

- 1** Determine the number of 4k blocks that are required for the SFS directories, for each user ID, by adding up the 4K blocks required for each SFS directory you plan to use.

If you intend to use all of the default Performance Toolkit for VM SFS directories, the 4K block requirements for each directory are summarized in Figure 6 on page 9.

This information will be used when the 5VMPTK30 and PERFSVM user IDs are enrolled in the user-defined file pool.

- 2** Enroll users 5VMPTK30 and PERFSVM in the user-defined file pool using the ENROLL USER command:

```
ENROLL USER 5VMPTK30 userfilepool: (BLOCKS blocks)
ENROLL USER PERFSVM userfilepool: (BLOCKS blocks)
```

where *blocks* is the number of 4k blocks that you calculated in the previous step.

Note: This must be done from a user ID that is an administrator for the user-defined file pool.

- 3** Determine if there are enough blocks available in the file pool to install Performance Toolkit for VM. This information can be obtained from the QUERY FILEPOOL STORGRP command. The output from this command is a list of storage groups and the number of 4K blocks free. If the number of blocks free is smaller than the total 4K blocks needed (refer to Figure 6 on page 9 to obtain total blocks needed) to install Performance Toolkit for VM you need to add space to the file pool. See *z/VM: CMS File Pool Planning, Administration, and Operation* manual for information on adding space to a file pool.

- 4 Create the necessary subdirectories using the CREATE DIRECTORY command.

Note: All of the Performance Toolkit for VM subdirectories are shown in the create directory commands. If you are not planning to create all of them, then just enter the commands for the ones you are planning to create.

A complete list of default Performance Toolkit for VM SFS directories is provided in Figure 6 on page 9.

If you have changed any of the default SFS directory names then use your new name in place of the old name in the create directory command.

```
set filepool userfilepool:  
create directory userfilepool:5VMPTK30.perftk  
create directory userfilepool:5VMPTK30.perftk.base  
create directory userfilepool:5VMPTK30.perftk.sample  
create directory userfilepool:5VMPTK30.perftk.local  
create directory userfilepool:5VMPTK30.perftk.delta  
create directory userfilepool:5VMPTK30.perftk.applyalt  
create directory userfilepool:5VMPTK30.perftk.applyprod  
create directory userfilepool:5VMPTK30.perftk.tbuild  
create directory userfilepool:5VMPTK30.perftk.pbuild  
create directory userfilepool:5VMPTK30.perftk.config  
create directory userfilepool:5VMPTK30.perftk.perftkhelp  
create directory userfilepool:PERFSVM.work195
```

If necessary, see the *z/VM: CMS Commands and Utilities Reference* manual for more information about the CREATE DIRECTORY command.

- 5 Give the **MAINT** user ID READ authority to the general-use test BUILD directory, and give the **PERFSVM** user ID READ authority to the 5VMPTK30 user ID's test and production BUILD, configuration and help disks using the GRANT AUTHORITY command.

```
grant auth userfilepool:5VMPTK30.perftk.tbuild to MAINT (read newread  
grant auth userfilepool:5VMPTK30.perftk.tbuild to PERFSVM (read newread  
grant auth userfilepool:5VMPTK30.perftk.pbuild to PERFSVM (read newread  
grant auth userfilepool:5VMPTK30.perftk.config to PERFSVM (read newread  
grant auth userfilepool:5VMPTK30.perftk.perftkhelp to PERFSVM (read newread
```

If necessary, see the *z/VM: CMS Commands and Utilities Reference* manual for more information about the GRANT AUTHORITY command.

- 6 If you intend to use an SFS directory as the work space for the 5VMPTK30 and PERFSVM user id's, update the IPL control statement in the 5VMPTK30 and PERFSVM CP user directory entry to look like:

```
IPL CMS PARM FILEPOOL VMSYS
```

This will cause CMS to automatically access 5VMPTK30's and PERFSVM's top directory as file mode A. Refer to the *z/VM:CP Planning and Administration* for information on updating the CP user directory.

B.2 Copy Minidisk (or SFS) Files to SFS Directories

- 1 Copy the files from the Performance Toolkit for VM minidisks (or from the VMSYS file pool if Performance Toolkit for VM is already installed there) to your new user-defined SFS file pool and directories using the VMFCOPY command.

Note: Repeat the ACCESS and VMFCOPY commands, that follow, for each disk or SFS directory you need to copy. Refer to Figure 6 on page 9 for the default minidisk and SFS directory names for Performance Toolkit for VM.

```
access vdev e
```

```
access dirid f
```

```
vmfcopy * * e = f (prodid 5vmptk30%PERFTK olddate replace
```

Where

- *vdev* is the minidisk you are copying files from. If you are copying from SFS then substitute the SFS directory name in place of *vdev*.
- *dirid* is the name of the (target) SFS directory that you are copying files to.
- 5VMPTK30%PERFTK is the PRODID defined within the 5VMPTK30 PPF file for the minidisk and SFS Performance Toolkit for VM components.

The VMFCOPY command will update the VMSES PARTCAT file on the target directory.

B.3 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 is how to change the shared file system (SFS) file pool where Performance Toolkit for VM files reside. Refer to the *z/VM: VMSES/E Introduction and Reference* for more information on PPF overrides.

Note: Do **not** modify the product supplied 5VMPTK30 \$PPF or 5VMPTK30 PPF files to change the VMSYS file pool name or any other installation parameters. If the 5VMPTK30 \$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 Create a new \$PPF override file or edit an existing override file.

xedit *overname* \$PPF *fm*2

overname is the PPF override file name (such as "myperftk") 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).

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

Notes:

a. If you service by using the automated service commands, SERVICE, PUT2PROD and LOCALMOD, then you will want to make sure you create an override to the SERVP2P \$PPF for the PERFTKSFS and PERFTKSFSP2P components. To do this you will follow the example below with the following changes:

- The OVERLST statement should be:
:OVERLST. PERFTKSFS PERFTKSFSP2P
- The :PERFTKSFS statement should be:
:PERFTKSFS. PERFTKSFS SERVP2P
- Repeat the DCL update but change the :PERFTKSFS to be
:PERFTKSFSP2P. PERFTKSFSP2P SERVP2P

```
:OVERLST. PERFTKSFS
*
* ===== *
* Override Section for Initial Installation (Using SFS Directories) *
* ===== *
:PERFTKSFS. PERFTKSFS 5VMPTK30
:DCL. UPDATE
&ADISK      DIR MYPPOOL1:5VMPTK30.
&BAS1Z      DIR MYPPOOL1:5VMPTK30.PERFTK.BASE
&SAMPZ      DIR MYPPOOL1:5VMPTK30.PERFTK.SAMPLE
&LMDZ       DIR MYPPOOL1:5VMPTK30.PERFTK.LOCALMOD
&DELTZ      DIR MYPPOOL1:5VMPTK30.PERFTK.DELTA
&APPLX      DIR MYPPOOL1:5VMPTK30.PERFTK.APPLYALT
&APPLZ      DIR MYPPOOL1:5VMPTK30.PERFTK.APPLYPROD
&BLD0Z      DIR MYPPOOL1:5VMPTK30.PERFTK.TBUILD
&BLD1Z      DIR MYPPOOL1:5VMPTK30.PERFTK.PBUILD
&BLD2Z      DIR MYPPOOL1:5VMPTK30.PERFTK.CONFIG
&BLD4Z      DIR MYPPOOL1:5VMPTK30.PERFTK.PERFTKHELP
&PSVMA      DIR MYPPOOL1:PERFSVM.
&PSVMZ      DIR MYPPOOL1:PERFSVM.WORK195
:EDCL.
:END.
*
```

This override will replace the :DCL. section of the PERFTKSFS override area of the 5VMPTK30 \$PPF file.

- 3 If your \$PPF override file was created as file mode A, copy it to file mode D — the Software Inventory minidisk (MAINT 51D).

file

copyfile *overname* \$PPF *fm = = d (olddate)*

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

vmfppf *overname* *

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 5VMPTK30 as the PPF name to be used for any VMSES/E commands that require a PPF name.

If you service by using the automated service commands, e.g. SERVICE, PUT2PROD, you need to update the VM SYSSUF Software Inventory table. If you created a PPF override to the SERVP2P \$PPF file then you need to make sure that the override name you created is reflected in the PPF tags for Performance Toolkit for VM in the VM SYSSUF table. You will use the new PPF override name with the PERFTKSFS component name twice and the new PPF override name with the PERFTKSFSP2P component name once in the change to the VM SYSSUF table. You can use the VMFUPDAT SYSSUF command to view and change the VM SYSSUF table PPF information.

Appendix C. Disabling Performance Toolkit for VM

If you had licensed and enabled Performance Toolkit for VM, function level 530 for use, and no longer are licensed for Performance Toolkit for VM, you need to explicitly disable Performance Toolkit for VM. Perform the following steps to disable Performance Toolkit for VM.

- 1** Logon to **MAINT** 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
access 5e5 b**

The 5E5 minidisk is where VMSES/E resides.

- 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 who has it linked R/W link it as R/O. You can then 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 51d 51d mr
access 51d d**

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

- 4** Set Performance Toolkit for VM to the disabled state.

service perftk disable

This command will perform the following:

- Set Performance Toolkit for VM as DISABLED in VMSES/E and within CP.
- Update the CP system configuration file (SYSTEM CONFIG) on the CP primary (default CF1) parm disk.

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