



Program Directory for Performance Toolkit for VM

function level 710

Program Number 5741-A09

for Use with
z/VM version 7

Document Date: September 2018

GI13-4361-00

Note

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 27.

This program directory, dated September 2018, applies to IBM® Performance Toolkit for VM™, function level 710, Program Number 5741-A09.

© **Copyright International Business Machines Corporation 2004, 2018. All rights reserved.**

Note to U.S. Government Users — Documentation related to restricted rights — Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract with IBM Corp.

Contents

Performance Toolkit for VM Web Information	iv
1.0 Introduction	1
1.1 Program Description	1
2.0 Program Materials	2
2.1 Basic Machine-Readable Material	2
2.2 Optional Machine-Readable Material	2
2.3 Program Publications	2
2.3.1 Basic Program Publications	2
2.3.2 Base Program Publications	3
2.3.3 Softcopy Publications	3
2.4 Program Source Materials	3
2.5 Publications Useful During Installation and Service	3
3.0 Program Support	5
3.1 Preventive Service Planning	5
3.2 Statement of Support Procedures	5
4.0 Program and Service Level Information	6
4.1 Program Level Information	6
4.2 Service Level Information	6
4.3 Cumulative Service Tape	6
5.0 Installation and Migration Requirements and Considerations	7
5.1 Hardware Requirements	7
5.2 Program Considerations	7
5.2.1 Operating System Requirements	7
5.2.2 Other Program Product Requirements	7
5.2.3 Migration Considerations	7
5.2.3.1 Migrating from Performance Toolkit for VM, function level 5nn or 6nn	7
5.2.3.2 Migrating From Performance Toolkit for VM, function level 440	8
5.2.3.3 Migrating from RealTime Monitor (RTM)	8
5.2.4 Program Installation and Service Considerations	8
5.3 DASD Storage and User ID Requirements	9
6.0 Installation Instructions	12
6.1 Performance Toolkit for VM Enablement and Customization Process Overview	12
6.2 Enable Performance Toolkit for VM for Use	13
6.3 Tailoring Performance Toolkit for VM Customization Files	13
6.4 Place Performance Toolkit for VM Into Production	15
6.5 Post-Installation Considerations	15

7.0 Service Instructions	17
7.1 Servicing Performance Toolkit for VM	17
Appendix A. Moving Performance Toolkit for VM to SFS Directories and Creating a PPF Override	18
A.1 Setup SFS File Pool and Directories	19
A.2 Copy Minidisk (or SFS) Files to SFS Directories	21
A.3 Create Product Parameter File (PPF) Override	22
Appendix B. Disabling Performance Toolkit for VM	25
Notices	27
Privacy Policy Consideration	28
Trademarks	28
Reader's Comments	30

Figures

1. Basic Material: Informal Documentation	2
2. Basic Material: Unlicensed Publications	3
3. Program Publications: New Editions	3
4. Publications Useful During Installation / Service on z/VM version 7 release 1	3
5. PSP Upgrade and Subset ID	5
6. Component IDs	5
7. DASD Storage Requirements for (Required) Target Minidisks	9
8. DASD Storage Requirements for Collecting Monitor Data	11
9. Performance Toolkit for VM, function level 710 Supplied Sample Customization Files	13

Performance Toolkit for VM Web Information

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

www.vm.ibm.com/related/perfkit

where you will find:

- Additional useful information, hints and tips.
- Comparison to RealTime Monitor (RTM) and Performance Reporting Facility (VMPRF)
- A PDF version of the Performance Toolkit for VM, function level 710 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, “Moving Performance Toolkit for VM to SFS Directories and Creating a PPF Override” on page 18 provides detailed information on moving Performance Toolkit for VM into the shared file system (SFS) and overriding the default Product Parameter File (PPF).
- Appendix B, “Disabling Performance Toolkit for VM” on page 25 provides a description of disabling Performance Toolkit for VM, function level 710, when it is not licensed.

1.1 Program Description

Performance Toolkit for VM Function Level 710 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 to 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-A09.

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 a priced feature of z/VM® version 7 release 1 and is distributed pre-installed in a disabled state as part of the z/VM system deliverable. Therefore, there are no basic machine readable materials. **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 7 release 1 Software Announcement for information on ordering and licensing z/VM version 7 release 1 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

Figure 1 identifies the informal shipped documentation for Performance Toolkit for VM. One copy of this publication is included with your Performance Toolkit for VM order.

Figure 1. Basic Material: Informal Documentation

Publication Title	Form Number
Memo to Users IBM Performance Toolkit for VM, function level 710	GI13-4368-00

The following publication is part of your order for Performance Toolkit for VM but it is only available as softcopy. Refer to the 2.3.3, "Softcopy Publications" on page 3 for the World Wide Web URLs that the program directory can be found at.

Figure 2. Basic Material: Unlicensed Publications

Publication Title	Form Number
Program Directory for Performance Toolkit for VM	GI13-4361-00

2.3.2 Base Program Publications

Figure 3 identifies the base program publications associated with Performance Toolkit for VM.

Figure 3. Program Publications: New Editions

Publication Title	Form Number
z/VM: Performance Toolkit Guide	SC24-6302
z/VM: Performance Toolkit Reference	SC24-6303

2.3.3 Softcopy Publications

Performance Toolkit for VM publications, with the exception of the Program Directory, are available in the z/VM library in the IBM Knowledge Center web site:

<http://www.ibm.com/support/knowledgecenter/SSB27U>

The Performance Toolkit for VM publications, including this program directory, also are available in Adobe Portable Document Format from the z/VM Library pages on the World Wide Web; the URL for this home page is:

www.vm.ibm.com/library

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 4 might be useful during the installation of Performance Toolkit for VM.

Figure 4 (Page 1 of 2). Publications Useful During Installation / Service on z/VM version 7 release 1

Publication Title	Form Number
z/VM: Performance	SC24-6301

Figure 4 (Page 2 of 2). Publications Useful During Installation / Service on z/VM version 7 release 1

Publication Title	Form Number
<i>z/VM: Performance Toolkit Guide</i>	SC24-6302
<i>z/VM: Performance Toolkit Reference</i>	SC24-6303
<i>z/VM: VMSES/E Introduction and Reference</i>	GC24-6336
<i>z/VM: CP Planning and Administration</i>	SC24-6271
<i>z/VM: CP Commands and Utilities Reference</i>	SC24-6268
<i>z/VM: CMS Commands and Utilities Reference</i>	SC24-6260
<i>z/VM: CMS File Pool Planning, Administration, and Operation</i>	SC24-6261
<i>z/VM: Installation Guide</i>	GC24-6292
<i>z/VM: Service Guide</i>	GC24-6325
<i>z/VM: CP Messages and Codes</i>	GC24-6270
<i>z/VM: CMS and REXX/VM Messages and Codes</i>	GC24-6255
<i>z/VM: Other Components Messages and Codes</i>	GC24-6300

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 5. PSP Upgrade and Subset ID

RETAIN®				
COMPID	Release	Upgrade	Subset	Description
568411218	710	VMPTK710	PTK/710	Installation Information
568411218	710	VMPTK710	yynnRSU	RSU Service Recommendations

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

www.vm.ibm.com/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 7 release 1. You should note that the Software Subscription and Support for Performance Toolkit for VM is *automatically* added to your order. This provides IBM Z® 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 (Authorized Program Analysis Report) is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 6 identifies the component ID (COMPID), Retain Release and Field Engineering Service Number (FESN) for Performance Toolkit for VM.

Figure 6. Component IDs

RETAIN			
COMPID	Release	Component Name	FESN
568411218	710	Performance Toolkit for VM, function level 710	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 previous releases of Performance Toolkit for VM have been incorporated into this new release.

VM64559 VM64750 VM65044 VM65046 VM65068 VM65081 VM65091 VM65100 VM65103
VM65149 VM65157 VM65164 VM65172 VM65178 VM65185 VM65243 VM65273 VM65295
VM65314 VM65325 VM65330 VM65347 VM65357 VM65361 VM65399 VM65502 VM65507
VM65527 VM65528 VM65529 VM65585 VM65589 VM65590 VM65591 VM65599 VM65624
VM65656 VM65679 VM65697 VM65698 VM65699 VM65812 VM65829 VM65959 VM66085
VM66088 VM66145 VM66164 VM66169

4.2 Service Level Information

Check the VMPTK710 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.vm.ibm.com/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 UM97710.

Check the PSP bucket upgrade VMPTK710 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.vm.ibm.com/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 710 supports the following VM operating system:

- z/VM version 7 release 1

5.2.2 Other Program Product Requirements

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

5.2.3 Migration Considerations

5.2.3.1 Migrating from Performance Toolkit for VM, function level 5nn or 6nn

Starting with z/VM version 6 release 2 the Performance Toolkit for VM production build disks are no longer in shared file.

When you use the upgrade installation documented in the *z/VM: Installation Guide* to upgrade Performance Toolkit for VM then the files listed in Figure 9 on page 13, 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 FL710, and you had also made changes to them on your z/VM 6.4 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 VMPSFS:7VMPTK10.PERFTK.CONFIG. Since the 1CC minidisk (or SFS directory) is now a production build disk you will need to update the customizable files using the VMSES/E Local Modification procedure in order to preserve your changes to these files. Refer to 6.3, "Tailoring Performance Toolkit for VM Customization Files" on page 13 for instructions on modifying or changing the Performance Toolkit for VM customizable files.

5.2.3.3 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.vm.ibm.com/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.

- Performance Toolkit for VM is pre-installed on the z/VM version 7 release 1 System deliverables.
- With the packaging changes introduced to z/VM to provide support for a z/VM single system image (SSI), note that **all Performance Toolkit for VM service activity now must be performed using user ID MAINT_{vr}m (e.g. MAINT710)**.
- VMSES/E is required to install and service this product.
- If you modify or eliminate any of the IBM-supplied user IDs, minidisk addresses or SFS directory names that are associated with Performance Toolkit for VM, you **must** create an appropriate PPF override for the **SERVP2P \$PPF** file.

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

- If you choose to move Performance Toolkit for VM from minidisk to SFS after initial z/VM installation, or if you want to change from the default SFS file pool or directories, then you will need to follow the steps in Appendix A, "Moving Performance Toolkit for VM to SFS Directories and Creating a PPF Override" on page 18. These steps help 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 7 on page 9 lists the user IDs, minidisks and default SFS directory names that are used to install and service Performance Toolkit for VM.

Important Installation Notes:

- All 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.
- With the exception of the Performance Toolkit for VM user ID that owns the service resources (7VMPTK10), **all** the Performance Toolkit for VM server virtual machines are defined by multiconfiguration virtual machine definitions. The 7VMPTK10 user ID is defined by a single-configuration virtual machine definition. See *z/VM: CP Planning and Administration* for information on multiconfiguration and single-configuration virtual machine definitions.
- 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 7 (Page 1 of 3). 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
7VMPTK10	2B2	3390	12	17280	2160	Contains all the base code shipped with Performance Toolkit for VM. VMPSFS:7VMPTK10.PERFTK.BASE
7VMPTK10	2C2	3390	2	2880	360	Contains sample customization files. VMPSFS:7VMPTK10.PERFTK.SAMPLE
7VMPTK10	2C4	3390	5	7200	900	Contains local modifications VMPSFS:7VMPTK10.PERFTK.LOCALMOD
7VMPTK10	2D2	3390	50	72000	9000	Contains serviced files VMPSFS:7VMPTK10.PERFTK.DELTA

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.

Figure 7 (Page 2 of 3). 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
7VMPTK10	2A6	3390	2	2880	360	Contains AUX files and software inventory tables that represent the test service level of Performance Toolkit for VM VMPSFS:7VMPTK10.PERFTK.APPLYALT
7VMPTK10	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. VMPSFS:7VMPTK10.PERFTK.APPLYPROD
7VMPTK10	200	3390	20	28800	3600	Test BUILD disk. This code will be copied to Performance Toolkit for VM production disk. VMPSFS:7VMPTK10.PERFTK.TBUILD
7VMPTK10	191	3390	12	17280	2160	7VMPTK10 user ID's 191 minidisk VMPSFS:7VMPTK10.
7VMPTK10	29D	3390	16	23040	2880	Contains help files. VMPSFS:7VMPTK10.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
PERFSVM	201	3390	40	57600	n/a	Production BUILD disk.
PERFSVM	1CC	3390	2	2880	n/a	Contains customized files.

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 (Page 3 of 3). 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
PERSMAPI	191	3390	120	172800	21600	PERSMAPI user ID's 191 work minidisk (IBM use only user ID) VMSYS:PERSMAPI.
PERSMAPI	195	3390	60	86400	10800	PERSMAPI user ID's 195 minidisk for output files. (IBM use only user ID) VMSYS:PERSMAPI.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 8. 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	300	432000	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

Performance Toolkit for VM is pre-installed in a disabled state on the z/VM System deliverable.

This chapter describes the procedures to complete the installation and customize Performance Toolkit for VM.

Each step of the 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 support Performance Toolkit for VM, adapt these instructions as needed for your environment.

6.1 Performance Toolkit for VM Enablement and Customization Process Overview

The following is a brief description of the main steps to complete the enablement and customization of Performance Toolkit for VM.

Did you do an upgrade installation?

If you used the upgrade installation procedure documented in the *z/VM: Installation Guide* to upgrade a z/VM version 6 release 4 system with Performance Toolkit for VM enabled to a z/VM version 7 release 1 system, no further enablement or customization is necessary. Your installation of Performance Toolkit for VM is complete. Proceed to Section 7.

Have you Licensed Performance Toolkit for VM?

Performance Toolkit for VM is pre-installed on z/VM version 7 release 1 in a DISABLED state. **If, and only if**, you have a license for Performance Toolkit for VM, function level 710 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 13.
- 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). When running in an SSI cluster this step must be repeated on each member.

- Perform Post-installation Tasks

Information about the initial activation of the program is presented in 6.5, “Post-Installation Considerations” on page 15. When running in an SSI cluster this step must be repeated on each member.

6.2 Enable Performance Toolkit for VM for Use

In order to use Performance Toolkit for VM once you have acquired a license for it, you need to follow the instructions in the *MEMO TO USERS for IBM Performance Toolkit for VM, function level 710* to enable it for use.

What's Next?

Once you have completed the enablement instructions in the *MEMO TO USERS for IBM Performance Toolkit for VM* you need to return to this program directory and continue with either

- 6.3, “Tailoring Performance Toolkit for VM Customization Files.”
- OR
- 6.4, “Place Performance Toolkit for VM Into Production” on page 15 if you do not need to tailor any customizable files at this time.

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.

Figure 9 (Page 1 of 2). Performance Toolkit for VM, function level 710 Supplied Sample Customization Files

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 records are to be produced.

Figure 9 (Page 2 of 2). Performance Toolkit for VM, function level 710 Supplied Sample Customization Files

Sample File Name	Sample Description
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 make permanent changes to the customizable files listed in Figure 9 on page 13 use the following instructions to create a local modification for them.

- 1** Log on to **MAINT710**, if you are not already logged on to it.
If running in an SSI cluster you can log MAINT710 on to any member system.

- 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 9 on page 13, that you are modifying.

- 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 the 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” on page 15.

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. If you are running in an SSI cluster environment this will also enable Performance Toolkit for VM on each member system.

Note: If running in an SSI cluster you need to repeat the following steps on each member.

- 1** Log on to **MAINT710**, if you are not already logged on to it.
- 2** Copy any updated (local modified, serviced by RSU or COR before enabled) 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.

Note: If running in an SSI cluster you need to repeat the following steps on each member.

- 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 *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.
- 4** You may also want to have the PERFSVM user ID automatically started when z/VM is IPL'd. See the CP Planning and Administration Guide for information on how to add entries to the PROFILE EXEC for the AUTOLOG1 user ID. Remember that the SFS servers need to be started before PERFSVM if you've installed on SFS. Also, If you are starting the web interface, you'll need TCPIP started before trying to start PERFSVM. Also, if your installation is using an External Security Manager (ESM) you should review its program directory for additional AUTOLOG considerations.

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

7.0 Service Instructions

Note - z/VM Automated Service Procedure

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

7.1 Servicing Performance Toolkit for VM

Use the service instructions documented in the *z/VM: Service Guide* to receive, apply, build and place Performance Toolkit for VM service into production.

Appendix A. 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 7 on page 9 to see which minidisks can reside in SFS. IBM recommends that you use the default file pool, VMPSFS, but you can use a file pool of your choosing. If you are running in an SSI cluster then this new file pool needs to be accessible to all members. This can be accomplished by specifying the SSI startup parameter in the file pool server DMSPARMS file.

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 user IDs 7VMPTK10 and MAINT710 with 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 7VMPTK10 PPF file**, and you are running in a non-SSI or a single member SSI environment, you can 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**, or want to use the default SFS directories and you are running in a multiple member SSI environment, continue with the instructions in A.1, “Setup SFS File Pool and Directories” on page 19.
- If you **only need to create a PPF override**, continue with the instructions in A.3, “Create Product Parameter File (PPF) Override” on page 22.

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.

A.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, VMPSFS, 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 7 on page 9.

This information will be used when the 7VMPTK10 and PERFSVM user IDs are enrolled in the user-defined file pool.

- 2** Enroll users 7VMPTK10 and PERFSVM in the user-defined file pool using the ENROLL USER command:

```
ENROLL USER 7VMPTK10 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** Make the system maintenance user ID, MAINT710, a file pool administrator for the user-defined file pool so that it can update files on the Performance Toolkit for VM service directories by adding the MAINT710 user ID to the ADMIN startup parameter in the user-defined file pool DMSPARMS file.
- 4** 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 7 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.

5 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 7 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:7VMPTK10.perftk*
create directory *userfilepool:7VMPTK10.perftk.base*
create directory *userfilepool:7VMPTK10.perftk.sample*
create directory *userfilepool:7VMPTK10.perftk.local*
create directory *userfilepool:7VMPTK10.perftk.delta*
create directory *userfilepool:7VMPTK10.perftk.applyalt*
create directory *userfilepool:7VMPTK10.perftk.applyprod*
create directory *userfilepool:7VMPTK10.perftk.tbuild*
create directory *userfilepool:7VMPTK10.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.

6 Give the **PERFSVM** user ID READ authority to the 7VMPTK10 user ID's test and production BUILD, configuration and help disks using the GRANT AUTHORITY command.

grant auth *userfilepool:7VMPTK10.perftk.tbuild* to **PERFSVM** (read newread)
grant auth *userfilepool:7VMPTK10.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.

- 7 If you intend to use an SFS directory as the work space for the 7VMPTK10 and PERFSVM user id's, update the IPL control statement in the 7VMPTK10 and PERFSVM CP user directory entry to look like:

```
IPL CMS PARM FILEPOOL userfilepool
```

This will cause CMS to automatically access 7VMPTK10'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.

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

- 1 Copy the files from the Performance Toolkit for VM minidisks (or from the VMPSFS 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 7 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 7vmptk10%PERFTK olddate
```

Where

- *vdev* is the minidisk you are copying files from. If you are copying from SFS then substitute the default SFS directory name in place of *vdev*.
- *dirid* is the name of the (target) SFS directory that you are copying files to.
- 7VMPTK10%PERFTK is the PRODID defined within the 7VMPTK10 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.

A.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 7VMPTK10 \$PPF, 7VMPTK10 PPF, SERVP2P \$PPF or SERVP2P PPF files to change the VMPSFS or VMSYS file pool name or any other installation parameters. If a product \$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 names, "VMPSFS" and "VMSYS" to "MYPOOL1":

- 1 Create a new \$PPF override file, or edit an existing override file, for the SERVP2P \$PPF 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 MAINT710 51D minidisk).

- 2 Create (or modify as required) the Variable Declarations (:DCL.) section for the PERFTKSFS and PERFTKSFSP2P override area so that it resembles the :DCL. section as shown below.

Note: The PPF file used by SERVICE, PUT2PROD and LOCALMOD is SERVP2P PPF therefore this example shows an override to the SERVP2P \$PPF file.

```

:OVERLST. PERFTKSFS PERFTKSFSP2P
*
* ===== *
* Override Section for Initial Installation (Using SFS Directories) *
* ===== *
:PERFTKSFS. PERFTKSFS SERVP2P
:DCL. UPDATE
&ADISK      DIR MYP00L1:7VMPTK10.
&BAS1Z      DIR MYP00L1:7VMPTK10.PERFTK.BASE
&SAMPZ      DIR MYP00L1:7VMPTK10.PERFTK.SAMPLE
&LMDZ       DIR MYP00L1:7VMPTK10.PERFTK.LOCALMOD
&DELTZ      DIR MYP00L1:7VMPTK10.PERFTK.DELTA
&APPLX      DIR MYP00L1:7VMPTK10.PERFTK.APPLYALT
&APPLZ      DIR MYP00L1:7VMPTK10.PERFTK.APPLYPROD
&BLD0Z      DIR MYP00L1:7VMPTK10.PERFTK.TBUILD
&BLD4Z      DIR MYP00L1:7VMPTK10.PERFTK.PERFTKHELP
&PSVMA      DIR MYP00L1:PERFSVM.
&PSVMZ      DIR MYP00L1:PERFSVM.WORK195
:EDCL.
:END.
:PERFTKSFSP2P. PERFTKSFSP2P SERVP2P
:DCL. UPDATE
&ADISK      DIR MYP00L1:7VMPTK10.
&BAS1Z      DIR MYP00L1:7VMPTK10.PERFTK.BASE
&SAMPZ      DIR MYP00L1:7VMPTK10.PERFTK.SAMPLE
&LMDZ       DIR MYP00L1:7VMPTK10.PERFTK.LOCALMOD
&DELTZ      DIR MYP00L1:7VMPTK10.PERFTK.DELTA
&APPLX      DIR MYP00L1:7VMPTK10.PERFTK.APPLYALT
&APPLZ      DIR MYP00L1:7VMPTK10.PERFTK.APPLYPROD
&BLD0Z      DIR MYP00L1:7VMPTK10.PERFTK.TBUILD
&BLD4Z      DIR MYP00L1:7VMPTK10.PERFTK.PERFTKHELP
&PSVMA      DIR MYP00L1:PERFSVM.
&PSVMZ      DIR MYP00L1:PERFSVM.WORK195
:EDCL.
:END.
*

```

This override will replace the :DCL. section of the PERFTKSFS and PERFTKSFSP2P override areas of the SERVP2P \$PPF file.

- 3 If your \$PPF override file was created as file mode A, copy it to the Software Inventory minidisk (MAINT710 51D). The default file mode is D.

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.

- 5 Update the VM SYSSUF Software Inventory table. Since you created a PPF override to the SERVP2P \$PPF file 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. Type in the command VMFUPDAT SYSSUF. This will bring up a panel so that you can change the PPF names stored in the VM SYSSUF file. Locate 7VMPTK10 under the 'Prodid' column. Replace the PPF name for INSTPPF, BLDPPF and P2PPPF for 7VMPTK10 with your new PPF override file name. Use PF5 to process your changes.

Now that the *overname* PPF file has been created, you should specify *overname* instead of SERVP2P or 7VMPTK10 as the PPF name to be used for any VMSES/E commands that require a PPF name for Performance Toolkit for VM.

Appendix B. Disabling Performance Toolkit for VM

If you had licensed and enabled Performance Toolkit for VM, function level 710 for use, and no longer are licensed for Performance Toolkit for VM, you need to explicitly disable Performance Toolkit for VM by following the instructions in the *MEMO TO USERS for IBM Performance Toolkit for VM, function level 710* section 'Performance Toolkit for VM Disablement'.

Notices

This information was developed for products and services offered in the U.S.A. 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:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, 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
Performance ToolKit for VM Development
Dept G37G
1701 North Street
Endicott, NY 13760
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 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 may contain 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 may contain 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 interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Privacy Policy Consideration

IBM Software products, including software as a service solutions, ("Software Offerings ") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If the Software Offering uses cookies to collect personally identifiable information, specific information about this offering's use of cookies is set forth below.

This Software Offering does not use cookies or other technologies to collect personally identifiable information.

If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent.

For more information about the use of various technologies, including cookies, for these purposes, see the IBM Online Privacy Policy at <http://www.ibm.com/privacy> and the IBM Online Privacy Statement at <http://www.ibm.com/privacy/details>, in particular the section entitled "Cookies, Web Beacons and Other Technologies ", and the IBM Software Products and Software-as-a-Service Privacy Statement at <http://www.ibm.com/software/info/product-privacy>.

Trademarks

IBM, the IBM logo, and [ibm.com](http://www.ibm.com) are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at IBM copyright and trademark information - United States at

www.ibm.com/legal/copytrade.shtml

Adobe, the Adobe logo, PostScript and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Reader's Comments

IBM® Performance Toolkit for VM, function level 710

You may use the VM Feedback page (Contact z/VM) on the z/VM Web site at:

www.vm.ibm.com/forms/

to comment about this document, its organization, or subject matter.

Please understand that your feedback is of importance to IBM, but IBM makes no promise to always provide a response to your feedback. When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.



Program Number: 5741-A09

Printed in USA

G113-4361-00

