



# **Program Directory for RealTime Monitor Feature for z/VM**

Function Level 410

Program Number 5739-A03

for Use with  
z/VM Version 4

Document Date: October 2001

GI10-4723-01

**Note**

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 47.

This program directory, dated October 2001, applies to Realtime Monitor Feature for z/VM Function Level 410 (RTM), Program Number 5739-A03 for the following:

<b>COMPIDs</b>	<b>Feature Numbers</b>	<b>System Name</b>
5798DWD00	6167 6168 1004	z/VM Version 4

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## Summary of Changes

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

- The first suffix level is July 2001.
- 1 • Lines flagged with revision indicator of '1' indicate changes made between July 2001 and October  
1 2001.

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## RTM Web Information

The RTM web page can be visited at URL <http://www.ibm.com/eserver/zseries/zvm/related/rtm> where you will find:

- Additional useful information, hints, and tips.
- A postscript version of the RTM Function Level 410 program directory available for downloading.
- A PDF version of the RTM Function Level 410 program directory available for viewing.
- Additional IBM VM performance resources.

Plan on visiting this URL often.



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## 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 RTM. 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 RTM, read 3.1, “Preventive Service Planning” on page 5. This section tells you how to find any updates to the information and procedures in this program directory.

The program directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic and optional program materials and documentation for RTM.
- 3.0, “Program Support” on page 5 describes the IBM support available for RTM.
- 4.0, “Program and Service Level Information” on page 6 lists the APARs (program level) and PTFs (service level) incorporated into RTM.
- 5.0, “Installation Requirements and Considerations” on page 7 identifies the resources and considerations for installing and using RTM.
- 6.0, “Installation Instructions” on page 10 provides detailed installation and customization instructions for RTM.
- 7.0, “Service Instructions” on page 19 provides detailed servicing instructions for RTM.
- Appendix A, “Local Modification Example: Assemble File” on page 29 provides a local modification example for RTM.
- Appendix B, “Create Product Parameter File (PPF) Override” on page 33 provides detailed information on overriding the Product Parameter File (PPF).
- Appendix C, “Applying a Recommended Service Upgrade (RSU) Tape For RTM” on page 36 provides detailed RSU install instructions for RTM.
- Appendix D, “Disabling RTM” on page 42 provides a description of disabling RTM Function Level 410, when RTM is not licensed.
- Appendix E, “Service Instructions for z/VM Express Users Only” on page 44 provides detailed servicing instructions for z/VM Express only customers of RTM.

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## 1.1 Program Description

RTM was designed as a realtime monitor and diagnostic tool for monitoring, analysis and problem solving z/VM Version 4 systems. It is recommended that RTM be used for installations of hardware and software to assist in validating the system components and establishing requirements for additional hardware or software.

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## 1.2 Enhancements for Realtime Monitor Feature for z/VM

The following enhancements have been made to RTM:

- Performance monitoring of z/VM Version 4.
- Pre-installed disabled on z/VM Version 4.
- Service available on stacked RSU.
- Tailorable files have been moved to the 1CC disk with customer tailoring on the CCC disk for ease of future migration.



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## 2.0 Program Materials

An IBM program is identified by a program number. The program number for Realtime Monitor Feature for z/VM is 5739-A03.

The program announcement material describes the features supported by RTM. 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

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

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### 2.2 Optional Machine-Readable Material

There are no optional machine-readable materials for RTM.

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### 2.3 Program Publications

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

#### 2.3.1 Softcopy Publications

The RTM publication:

*z/VM RealTime Monitor Function Level 410, SC24-6028,*

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

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

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

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

## 2.3.2 Basic Program Publications

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

*Figure 1. Basic Material: Unlicensed Publications*

<b>Publication Title</b>	<b>Form Number</b>
Program Directory for RealTime Monitor Feature for z/VM	GI10-4723-01

## 2.4 Microfiche Support

There is no microfiche for RTM.

## 2.5 Publications Useful During Installation

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

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

<b>Publication Title</b>	<b>Form Number</b>
<i>z/VM: VMSES/E Introduction and Reference</i>	GC24-5994
<i>z/VM: Service Guide</i>	GC24-5993
<i>z/VM: Planning and Administration</i>	SC24-5995
<i>z/VM: CP Command and Utility Reference</i>	SC24-6008
<i>z/VM: CMS Command and Utility Reference</i>	SC24-6010
<i>z/VM: CMS File Pool Planning, Administration, and Operation</i>	SC24-5949
<i>z/VM: System Messages and Codes - CMS</i>	GC24-6031
<i>z/VM: System Messages and Codes - Other components</i>	GC24-6032
<i>z/VM: Performance</i>	SC24-5999

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## 3.0 Program Support

This section describes the IBM support available for RTM.

---

### 3.1 Preventive Service Planning

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

Figure 3. PSP Upgrade and Subset ID

---

Retain®				
COMPID	Release	Upgrade	Subset	Description
5798DWD00	410	VMRTM410	RTM/410	Installation information
1 5798DWD00	410	VMRTM410	yynnRSU	RSU Service Recommendations

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

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### 3.2 Statement of Support Procedures

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

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

Figure 4. Component IDs

---

Retain			
COMPID	Release	Component Name	FESN
5798DWD00	410	RTM Function Level 410	0991822

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

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## 4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of RTM. 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

No APARs have been incorporated into RTM.

---

### 4.2 Service Level Information

Check the VMRTM410 PSP bucket for any additional PTFs that should be installed or any additional install information. This can be accomplished by checking with your IBM Support Center or using IBMLink (ServiceLink). In addition, review the Realtime Monitor Feature for z/VM web page at <http://www.ibm.com/eserver/zseries/zvm/related/rtm> for any additional service hints, tips, and concerns.

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### 4.3 Cumulative Service Tape

An RSU tape for Realtime Monitor Feature for z/VM will be produced periodically as service warrants. See upgrade bucket VMRTM410 subset yynnRSU (where yynn is the year and the RSU service level) for the latest RSU tape available. For the list of PTF's included on the RSU tape, see the service memo from the tape.

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

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## 5.0 Installation Requirements and Considerations

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

---

### 5.1 Hardware Requirements

There are no special hardware requirements for RTM.

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### 5.2 Program Considerations

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

#### 5.2.1 Operating System Requirements

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

- z/VM Version 4

#### 5.2.2 Other Program Product Requirements

HLASM (5696-234) Release 4, or higher, is **required** if you plan on making local modifications or need to recompile RTM for any reason, which includes applying RTM or CP corrective service. HLASM APAR PQ42642 **must** be applied for proper assembly of RTM parts.

#### 5.2.3 Program Installation and Service Considerations

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

- VMSES/E is required to install and service this product.
- If multiple users install and maintain licensed products on your system, there may be a problem getting the necessary access to MAINT's 51D disk. If you find that there is contention for write access to the 51D disk, you can eliminate it by converting the Software Inventory from minidisk to Shared File System (SFS). See the *VMSES/E Introduction and Reference* manual, section "Changing the Software Inventory to an SFS Directory", for information on how to make this change.
- Customers will no longer install and service RTM strictly using the MAINT user ID, but may use a new user ID--4VMRTM10. This is the IBM suggested user ID name. You are free to change this to any user ID name you wish; however, a PPF override must be created. See Appendix B, "Create Product Parameter File (PPF) Override" on page 33 for an example of creating a PPF override.
- RSU tapes will be supplied as necessary. Service between RSU tapes can be obtained through CORrective service.

## 5.3 DASD Storage and User ID Requirements

Figure 5 on page 8 lists the user IDs, minidisks and default SFS directory names that are used to install and service RTM.

### Important Installation Notes:

- The user IDs and minidisks are listed here so that you can get an idea of the resources required by RTM.
- 4VMRTM10 is a default user ID and can be changed. If you choose to change the name of the installation user ID you need to create a Product Parameter Override (PPF) to reflect this change.
- If you choose to install RTM on a common user ID the default minidisk addresses for RTM may already be defined. If any of the default minidisks required by RTM are already in use you will have to create an override to change the default minidisks for RTM so they are unique.

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

Minidisk owner (user ID)	Default Address	Storage in Cylinders		FB-512 Blocks	SFS 4K Blocks	Usage
		DASD	CYLS			Default SFS Directory Name
4VMRTM10	2B2	3390 3380 9345	9 10 10	12000	1500	Contains all the base source code shipped with RTM <b>VMSYS:4VMRTM10.SOURCE</b>
4VMRTM10	2C2	3390 3380 9345	2 2 2	2400	300	Contains shipped customization files. <b>VMSYS:4VMRTM10.SAMPLE</b>
4VMRTM10	2C4	3390 3380 9345	2 2 2	2400	300	Contains local modifications. <b>VMSYS:4VMRTM10.LOCALMOD</b>
4VMRTM10	2D2	3390 3380 9345	50 56 56	48000	9000	Contains serviced files and assemble listings <b>VMSYS:4VMRTM10.DELTA</b>
4VMRTM10	2A6	3390 3380 9345	2 2 2	2400	300	Contains AUX files and software inventory tables that represent the test service level of RTM <b>VMSYS:4VMRTM10.APPLYALT</b>
4VMRTM10	2A2	3390 3380 9345	2 2 2	2400	300	Contains AUX files and software inventory tables that represent the service level of RTM that is currently in production. <b>VMSYS:4VMRTM10.APPLYPROD</b>

**Note:** Cylinder values defined in this table are based on a 4K block size. FB-512 block and SFS values are derived from the 3380 cylinder values in this table. The FBA blocks are listed as 1/2K but should be CMS formatted at 1K size. 17100 4K blocks are needed for SFS install.

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

Minidisk owner (user ID)	Default Address	Storage in Cylinders		FB-512 Blocks	SFS 4K Blocks	Usage
		DASD	CYLS			Default SFS Directory Name
4VMRTM10	400	3390 3380 9345	9 10 10	12000	1500	Test disk. Also Server machine's, VMRTM, 192 disk. Used to store object files created during product build. <b>VMSYS:4VMRTM10.TBUILD</b>
4VMRTM10	401	3390 3380 9345	9 10 10	12000	1500	Production disk. <b>VMSYS:4VMRTM10.PBUILD.</b>
4VMRTM10	191	3390 3380 9345	12 15 15	14400	1800	4VMRTM10 user ID's 191 minidisk <b>VMSYS:4VMRTM10.</b>
4VMRTM10	1CC	3390 3380 9345	1 1 1	1200	150	Contains IBM Supplied Configuration Files <b>VMSYS:4VMRTM10.IBMCONFIG.</b>
4VMRTM10	CCC	3390 3380 9345	1 1 1	1200	150	Contains Customized Configuration Files <b>VMSYS:4VMRTM10.CUSCONFIG.</b>
VMRTM(1)	191	3390 3380 9345	2 2 2	2400	300	4VMRTM10 user ID's 191 minidisk <b>VMSYS:VMRTM.</b>

**Note:** Cylinder values defined in this table are based on a 4K block size. FB-512 block and SFS values are derived from the 3380 cylinder values in this table. The FBA blocks are listed as 1/2K but should be CMS formatted at 1K size. 17100 4K blocks are needed for SFS install.

### 5.3.1 User ID Requirements

RTM requires two user ID's:

- 4VMRTM10 is used for installation and service. This userid requires access to maclibs: HCPESAME, HCPOM1, HCPOM2, HCPPSI, HCPGPI and DMSGPI. By default, these are located on the MAINT 190 and 193 disks. If this is not correct for your system, ensure that the disks that do contain these maclibs are accessible to user 4VMRTM10.

In addition, RTM requires access to the HL-assembler (Release 4). By default, this is located on the MAINT 19E disk. Again, if this does not reflect your system, ensure that the disk containing the HL-assembler is accessible to user 4VMRTM10.

- VMRTM is the suggested product server machine. It requires class E privilege because RTM accesses CP control block data areas during execution.

**Note:** Wherever the locations of your maclibs and HL-assembler are, you must ensure that they are on minidisks or directories that are accessed when the product is built. For VMSES/E installations, this is done by simply accessing the minidisks or directories before invoking the build commands.

---

## 6.0 Installation Instructions

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

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

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

Throughout these instructions, the use of IBM-supplied default minidisk addresses and user IDs is assumed. If you use different user IDs, minidisk addresses, or SFS directories to install RTM, 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 RTM.

#### Have you Licensed RTM?

RTM is pre-installed on z/VM Version 4, using VMSES/E in a DISABLED state. **If, and only if,** you have a license for RTM Function Level 410 (feature number 0027) proceed with the installation to enable it for use.

- Set RTM to the ENABLED state.

This will allow RTM to run.

- 1 • Copy RTM into production.
- 1 Copy updated RTM parts to the production disk.

- Perform Post-installation Tasks

Information about file tailoring and initial activation of the program is presented in 6.3, "Post Install Tailoring" on page 15.

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

---

### 6.2 Completing Your Installation of RTM

To complete the installation of RTM:



- 1 Log on to **4VMRTM10**.
- 2 Establish write access to the Software Inventory Disk (MAINT 51D) if it is not already linked in write mode.

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

```
link maint 51d 51d mr  
access 51d d
```

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

```
vmfins enable ppf 4vmrtm10 {rtmlrtnsfs}
```

Use **rtm** if installing using minidisk or **rtmsfs** if installing using SFS.

This command will create a 4VMRTM10 PRODSYS file on the A-disk that contains the CP system configuration PRODUCT statement with a state of ENABLED.

- 4 In order to **retain the ENABLED state** for RTM, **update the CP system configuration file** with the information in the 4VMRTM10 PRODSYS file; which was created in the previous step.

You need to update the CP system config file so that the next time you IPL your system RTM will be in the ENABLED state. If you are not authorized to update the CP system configuration file then contact your CP System Administrator. The CP system configuration file default name is SYSTEM CONFIG and it resides on the CP parm disk (MAINTs CF1, CF2 and CF3 minidisks). The section, PRODUCT ENABLE/DISABLE INFORMATION, in the SYSTEM CONFIG file, needs to be updated. You will need to replace the current DISABLED entry for PRODID 4VMRTM10 (RTM) with the entry from the 4VMRTM10 PRODSYS file. Once the SYSTEM CONFIG is working, it should be backed up to the CF2 and CF3 disks. If necessary, refer to the *z/VM: Planning and Administration* manual for more information.

- 5 RTM needs to be rebuilt whenever service is applied to either z/VM CP or RTM.

```
vmfsim modify vm sysuff d tdata :prodid 4vmrtm10%rtm :build yes (replace
```

This command will allow VMSES/E to recognize the need to rebuild RTM when service is applied to either z/VM CP or RTM.

1 **6** If you have applied any CORrective service to CP, you need to rebuild RTM.  
1 If you have not applied any CORrective service to CP, then skip this step and  
1 use the appropriate step to put RTM into production.

1 **Note!**

1 To compile the RTM assemble parts and build the executable modules,  
1 you **must have** the HL-assembler (5696-234) Release 4 installed.

1 **a** Set up the required access order

1 **vmfsetup 4vmrtm10 {rtm | rtmsfs}** Use **rtm** if the product is installed on minidisks or  
1 **rtmsfs** if the product is installed in Shared File  
1 System directories.

1 **b** Rebuild RTM

1 **vmfbld PPF 4vmrtm10 {rtm | rtmsfs} (all** Use **rtm** if the product is installed on minidisks or  
1 **rtmsfs** if the product is installed in Shared File  
1 System directories.

1 **What's next?**

1 RTM needs to be put into production. The next step depends on whether you are using the  
1 z/VM Express installation or the traditional installation.

1 Continue with step 7 if you installed using z/VM Express, otherwise continue with step 8 on  
1 page 13.

1 **7** For the z/VM Express installation:

1 **a** Log on as **MAINT**

1 **Note:** The following steps should be done from the MAINT user ID so  
1 that the CMS shared system can be saved.

1 **b** Copy files to the RTM production disk and rebuild the CMS saved  
1 system

1 **ipl cms** This copies the RTM system Y-disk code to  
1 **put2prod rtm** MAINT's 19E disk and resaves the CMS saved  
1 system to return the Y-disk to 'shared' status.

1 **What's next?**  
1 Continue with step 6.3, "Post Install Tailoring" on page 15.

1 **8** For the traditional installation:

1 **a** Copy files from the test build disk to the production build disk.

1 **1** If installing using minidisks

1 **access 400 i** The VMFCOPY command will update the VMSES  
1 **access 401 j** PARTCAT file on the 401 minidisk.  
1 **vmfcopy \* \* i = j (prodid 4vmrtm10%rtm replace olddate**

1 **2** If installing using SFS

1 **access VMSYS:4VMRTM10.TBUILD i**  
1 **access VMSYS:4VMRTM10.PBUILD j (forcerw**  
1 **vmfcopy \* \* i = j (prodid 4vmrtm10%rtm replace olddate**  
1 The VMFCOPY command will update the VMSES  
1 PARTCAT file on the VMSYS:VMRTM SFS  
1 directory.

1 **b** Log on as **MAINT**

1 **Note:** The following steps should be done from the MAINT user ID so  
1 that the appropriate CMS shared system can be saved.

1 **C** Copy the system Y-disk code to MAINT's 19E minidisk

1 **1** If installing using minidisks

1 **link 4vmrtm10 400 addr rr**

1 **access addr e**

1 **access 19E f**

1 **vmfcopy vmc module e = = f (prodid 4vmrtm10%rtm replace olddate**

1 *addr* is any free disk address on the MAINT user  
1 ID

1 The VMFCOPY command will update the VMSES  
1 PARTCAT file on MAINT's 19E minidisk.

1 **Note:** RTM users require this file to be placed on  
1 the 19E minidisk.

1 **2** If installing using SFS

1 **access VMSYS:4VMRTM10.TBUILD e**

1 **access 19e f**

1 **vmfcopy vmc module e = = f (prodid 4vmrtm10%rtm replace olddate**

1 The VMFCOPY command will update the VMSES  
1 PARTCAT file on MAINT's 19e minidisk.

1 **Note:** RTM users require this file to be placed on  
1 the 19E minidisk.

1 **d** Re-save the CMS saved system, to return the Y-disk (product code or  
1 MAINT's 19E disk) to 'shared' status. See the "Placing (Serviced)  
1 Components into Production" section of the *z/VM Service Guide* for  
1 detailed information about how to save the CMS saved system.

1 **What's Next?**

1 Continue with step 6.3, "Post Install Tailoring" on page 15.

1 **Note!**

1 If, in the future, you are no longer licensed for RTM Function Level 410, you **must** follow the  
1 instructions in Appendix D, "Disabling RTM" on page 42 to disable RTM.

## 6.3 Post Install Tailoring

The following table describes the sample files provided with RTM that have been installed to the 1CC IBM supplied samples disk. This section will have you copy the sample configuration files to the CCC disk or SFS Directory in a form usable by RTM.

<i>Figure 6. RTM Function Level 410 Supplied Sample Files</i>	
<b>Sample File Name</b>	<b>Sample Description</b>
PROFILE EXEC SAMP	Sample PROFILE EXEC for the VMRTM server, which will set up PF keys and invokes the RTM MODULE. It will be copied as PROFILE EXEC on the VMRTM 191 minidisk.  The default PROFILE exec will also set MSG and WNG off for the virtual machine. MSG and WNG are set off, so as to avoid receiving system messages, operator warnings, and the "midnight message" from z/VM. All of these can cause the terminal to go into a HOLDING state and stop RTM from processing data until the screen is cleared.
RTM CONFSAMP	Provides a sample configuration file for the VMRTM server. It will be copied as RTM RTMCONFIG on the 1CC minidisk.
RTMCPUID CONFSAMP	Provides a sample CPU ID mapping configuration file for the VMRTM server. It will be copied as RTMCPUID RTMCONFIG on the 1CC minidisk.

In addition, the SNAPP MODULE is a sample program which uses the SNAP interface. The SNAP interface allows a virtual machine to extract RTM data for its own manipulation. It can be found, after installation is complete, on the 1CC disk. This program can be used as a model for other application programs. The assemble file is RTMSNAPP.

- 1** Log on to **4VMRTM10**, if you are not already logged on to it.
- 2** Tailor each of the sample files by copying them to the CCC disk and updating them there. See information on the CPUID and RTM configuration files in the *z/VM RealTime Monitor Function Level 410* for details on configuring these files.
  - a** If installing using minidisks

```
access 1CC e
access CCC i
vmfcopy * rtmconfg e = i (prodid 4vmrtm10%rtm olddate
```

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

- b** If installing using SFS

```
access VMSYS:4VMRTM10.IBMCONFIG e
access VMSYS:4VMRTM10.CUSCONFIG i
vmfcopy * rtmconfg e = i (prodid 4vmrtm10%rtm olddate
```

The VMFCOPY command will update the VMSES PARTCAT file on the VMSYS:4VMRTM10.CUSCONFIG SFS directory.

### What's Next?

1 You have now finished tailoring RTM, continue with step 6.4, "Post-Installation Considerations."

## 6.4 Post-Installation Considerations

### 6.4.1 Activating RTM

Execute the following procedure to insure that RTM was installed properly:

- 1** Logon to **VMRTM**.
- 2** The profile exec will invoke RTM. An RTM logo will initially appear followed several seconds later by an output screen. This will verify that RTM was installed correctly. Once the general display occurs, terminate RTM processing.

**quit** This will terminate the execution of RTM.

- 3** Review for errors the log created by RTM while processing the configuration file.

**xedit rtmconfig log a** Correct any errors identified. Repeat the activation steps until no more configuration processing errors are identified.

- 4** Start RTM

**profile** This will start RTM.

- 5** Disconnect from VMRTM

**#cp disconnect** This will leave the VMRTM server running.

## 6 Logon to any other userid and issue a VMC command

**vmc vmrtm d gen**

This will display the general screen.

### What's next?

You have now completed RTM installation verification. The rest of this chapter contains reference information about when RTM needs to be rebuilt and about building RTM for multiple systems.

## 6.4.2 Service to CP control blocks

**Note:** Any service applied to the following control blocks may affect the RTM module and require that the RTM module be rebuilt.

Once the fields have been modified, reassemble **ALL** RTM modules, and generate a new RTM module. See A.1, "RTM Product Rebuild" on page 31 in Appendix A, "Local Modification Example: Assemble File" for further information on rebuilding RTM executables.

### CP Control blocks used by RTM Function Level 410

HCPASCBK	HCPMEXBK	HCPsieBK
HCPCLASS	HCPMTEBK	HCPsrMBK
HCPcPVOL	HCPpFXPG	HCPsYSCM
HCPDVTYP	HCPPLSBK	HCPtCMBK
HCPEQUAT	HCPRDEV	HCPVDEV
HCPExpBK	HCPRSM	HCPVMBK
HCPFSATE	HCPSCMBK	HCPXSTMG
HCPMDC		VMCBLOKS

End of CP Control blocks used by RTM Function Level 410

### CMS Control blocks used by RTM Function Level 410

NUCON

End of CMS Control blocks used by RTM Function Level 410

---

## 6.5 Building RTM For Multiple VM Systems.

### Important note

Every z/VM 4.1.0 system must be properly licensed and enabled for RTM.

RTM Function Level 410 runs on z/VM Version 4. Some installations may want to build RTM modules that run on a number of z/VM systems. This can easily be done.

You should install the product according to the VMSES/E instructions on one of your systems.

If you wish to create an RTM MODULE that will run on another VM system at your installation, then all you need to do is make sure you have a minidisk that contains the CP maclibs for that VM system in your search order and build the product with the instructions provided in A.1, "RTM Product Rebuild" on page 31.

In summary, if you have multiple VM systems, you only need to install RTM on one of the systems. As you build RTM modules to run on each of your systems, make sure that you build each RTM module with the corresponding CP maclibs that were used to build the system that the RTM module is intended to run on. Thus, you want to make the CP maclibs used to build your various systems accessible to user 4VMRTM10.

**RTM is now installed and built on your system.**



---

## 7.0 Service Instructions

### z/VM Express Users

If you installed z/VM using the Express Installation and Service Procedure then you need to follow the service instructions as documented in the *z/VM Express Installation and Service Procedures* pamphlet (that came with the *z/VM Installation Guide*) in order to install an RSU or COR service on an Express system. Or you can go to the instructions in Appendix E, "Service Instructions for z/VM Express Users Only" on page 44 of this program directory.

### RSU Warning

If applying a RTM RSU, go to the instructions in Appendix C, "Applying a Recommended Service Upgrade (RSU) Tape For RTM" on page 36. You will return to a step in this chapter specified in that appendix.

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

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

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

---

## 7.1 VMSES/E Service Process Overview

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

- Setup Environment

Access the software inventory disk. Use the 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 RTM

### RSU Warning

If applying a RTM RSU, go to the instructions in Appendix C, “Applying a Recommended Service Upgrade (RSU) Tape For RTM” on page 36. You will return to a step in this chapter specified in that appendix.

### 7.2.1 Prepare to Receive Service

#### Electronic Service (envelope file)

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

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

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

The *ppfname* used throughout these servicing instructions is **4vmrtm10**, which assumes you are using the PPF supplied by IBM for RTM. If you have your own PPF override file for RTM, you should use your file's *ppfname* instead of **4vmrtm10**. The *ppfname* you use should be used **throughout** the rest of this procedure, unless otherwise stated.

- 1** Logon to RTM service user ID **4VMRTM10**
- 2** If the Software Inventory disk (51D) was accessed R/O (read only) then establish write access to the Software Inventory disk.

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

**link maint 51d 51d mr  
access 51d d**

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

- 3** Have the RTM CORrective service tape mounted and attached to **4VMRTM10**. (If you have a SERVLINK file make sure that it is available on the A-disk.)
- 4** Receive the documentation.

**a** If receiving the service from tape

**vmfrec info**

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

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

**vmfrec info (env vlstnum**

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

- 5** Check the receive message log (\$VMFREC \$MSGLOG) for warning and error messages.

**vmfview receive**

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

- 6** Read the product memo (4VMRTM10 MEMO) before going on.
- 7** Setup the correct product access order.

### **vmfsetup 4vmrtm10 {rtm | rtmsfs}**

4vmrtm10 is the PPF that was shipped with the product. If you have your own PPF override you should substitute your PPF name for 4vmrtm10.

Use **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed in Shared File System directories.

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

### **vmfmrdsd 4vmrtm10 {rtm | rtmsfs} apply**

Use **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed 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 *z/VM: 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 feature 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 4vmrtm10 {rtm | rtmsfs}**

Use **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed 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 4vmrtm10 {rtm | rtmsfs} (env vptfnum**

Use **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed in Shared File System directories.

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

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

**vmfview receive**

## 7.2.3 Apply the Service

- 1** Apply the new service.

**vmfapply ppf 4vmrtm10 {rtm | rtmsfs}**

Use **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed in Shared File System directories.

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

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

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

## vmfview apply

### Note

If you get the message VMFAPP2120W then re-apply any local modifications before building the new RTM.

For further information on the local modification process, refer to the "Installing Local Service" chapter of the *z/VM Service Guide*. Follow the steps that are applicable to your local modification.

The following substitutions need to be made in the service guide when doing local modifications to RTM.

- **zvm** should be **4vmrtm10**
- *compname* should be **rtm** or **rtmsfs** (minidisk or SFS)
- *appid* should be **4vmrtm10**
- *fm-local* should be the filemode where the 2C4 is accessed
- *fm-applyalt* should be the filemode where the 2A6 is accessed

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

Keep in mind that when you get to the "Return to the Appropriate Section to Build Remaining Objects" or "Rebuild Remaining Objects" step in the *z/VM Service Guide*, you should return back to this program directory at 7.2.4, "Update the Build Status Table."

**Note:** There is a local modification example in Appendix A, "Local Modification Example: Assemble File" on page 29.

## 7.2.4 Update the Build Status Table

- 1 Update the Build Status Table with serviced parts.

**vmfbld ppf 4vmrtm10 {rtm | rtmsfs} (status**

Use **rtmsfs** if the product is installed on minidisks or **rtmsfs** if the product is installed 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 4vmrtm10 \$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 4vmrtm10 \$PPF  
on 191 (A) from level \$PFnnnnn

**vmfppf 4vmrtm10 \***

**Note:** If you've created your own PPF override then use your PPF name instead of 4vmrtm10.

**copyfile 4vmrtm10 \$ppf a = = d (olddate replace  
erase 4vmrtm10 \$ppf a**

**Note:** Do not use your own PPF name in place of 4vmrtm10 for the COPYFILE and ERASE commands.

**vmfbld ppf 4vmrtm10 {rtm | rtmsfs} (status**

**1**

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

Use **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed 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

**In order to continue!**

To complete the build process by compiling all RTM assemble parts and building the executable modules, you **must have** the HL-assembler (5696-234) Release 4 installed.

- 1 Rebuild RTM serviced parts.

**vmfblid ppf 4vmrtm10 {rtm | rtmsfs} (serviced**

Use **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed 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 *z/VM: System Messages and Codes*, or use on-line HELP.

**vmfview build**

---

## 7.3 Place the New RTM Service Into Production

**Important note**

This procedure should only be done when you have successfully tested the new service to RTM.

Placing the RTM code into production is a two step process:

- First the test code is moved from the test build disks to the server production minidisks.
- Then general user code is placed on the MAINT 19E minidisk making it available to all users.



### 7.3.1 Copy the New RTM Serviced Files Into Production

- 1** Log on to 4VMRTM10, if you are not already logged on to it.
- 2** Copy files from the test build disk to the production build disk.
  - a** If servicing using minidisks

```
access 400 i
access 401 j
vmfcopy * * i = j (prodid 4vmrtm10%rtm replace olddate
```

The VMFCOPY command will update the VMSES PARTCAT file on the 401 minidisk.

- b** If servicing using SFS

```
access VMSYS:4VMRTM10.TBUILD i
access VMSYS:4VMRTM10.PBUILD j (forcerw
vmfcopy * * i = j (prodid 4vmrtm10%rtm replace olddate
```

The VMFCOPY command will update the VMSES PARTCAT file on the VMSYS:VMRTM SFS directory.

### 7.3.2 Copy RTM to MAINT 19E Minidisk for Production

- 1** Log on as **MAINT**

**Note:** The following steps should be done from the MAINT user ID so that the appropriate CMS shared segment can be saved.
- 2** Copy the system Y-disk code to MAINT's 19E minidisk
  - a** If servicing using minidisks

```
link 4vmrtm10 400 addr rr
access addr e
access 19E f
vmfcopy vmc module e = f (prodid 4vmrtm10%rtm replace olddate
```

*addr* is any free disk address on the MAINT user ID

The VMFCOPY command will update the VMSES PARTCAT file on MAINT's 19E minidisk.

**Note:** RTM users require this file to be placed on the 19E minidisk.

**b** If servicing using SFS

**access VMSYS:4VMRTM10.TBUILD e**

**access 19e f**

**vmfcopy vmc module e = = f (prodid 4vmrtm10%rtm replace olddate**

The VMFCOPY command will update the VMSES PARTCAT file on MAINT's 19e minidisk.

**Note:** RTM users require this file to be placed on the 19E minidisk.

**3** Re-save the CMS saved system, to return the Y-disk (product code or MAINT's 19E disk) to 'shared' status. See the "Placing (Serviced) Components into Production" section of the *z/VM Service Guide* for detailed information about how to save the CMS saved system.

**4** Restart the VMRTM machine.

**force VMRTM**  
**xautolog VMRTM**

This will stop the VMRTM machine and restart it using the newly applied service.

**You have finished servicing RTM.**

---

## Appendix A. Local Modification Example: Assemble File

### Notes!

- This appendix provides an example for updating the RTMDIS ASSEMBLE part. You should substitute the file name of the part you are modifying for RTMDIS in the instructions.
- RTM Function Level 410 ships updates to its assemble files but does NOT send the replacement TEXT file. Therefore, instead of updating the local VVT (version vector table) with the new TEXT name, the local VVT should be updated to reflect a change has been made to the ASSEMBLE file.
- You can use these instructions to create local modifications to RTM EXEC parts as well.
- In order to compile any RTM assemble part you **must have** the HL-assembler (5696-234) Release 4 installed.

For further information on the local modification process, refer to the "Installing Local Service" chapter of the *z/VM Service Guide*. Some of the steps may be in a different order so you can cross reference the example against the *z/VM Service Guide* to help with the correct order.

**1** Log on to the RTM service user ID **4VMRTM10**

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

**Note:** If the MAINT 51D minidisk was accessed R/O, you will need to have the user who has it linked R/W link it as R/O. You then can issue the following commands to obtain write access to it. **Do not use *mw* mode.**

**link maint 51d 51d m  
access 51d d**

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

**3** Set up the required access order

**vmfsetup 4vmrtm10 {rtm | rtmsfs}**

Use **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed in Shared File System directories.

**4** Update the local service level (VVTLCL) of the software inventory to create a record of the local modification

**vmfsim logmod 4vmrtm10 vvtlcl *fmlocal* tdata :part rtmdis assemble :mod lc10001.updt0001**

*fmlocal* is the fm of the local modification (2C4)  
disk or directory

**5** Create/Edit the AUXLCL file for the part to update

**Note:** This step can be skipped when applying a local modification to a full part replacement part.

```
xedit rtmdis auxlcl fmlocal (noprof          fmlocal is the fm of the local modification disk or
====> input UPDT0001 LCL LCL0001 * comment  directory
====> file
```

**6** XEDIT Source file to create the update file

```
xedit rtmdis assemble (ctl rtmvm          fmlocal is the fm of the local modification disk or
====> fm fmlocal                          directory
```

**7** Make your desired changes

**8** Issue the XEDIT file command

```
====> file
```

**9** Use VMFHLASM to generate the text deck with the changes. The following can be substituted for VMFHLASM when doing local modifications to RTM parts other than ASSEMBLE:

- EXECUPDT to update a \$EXEC part

**Note:** This step may be skipped for other RTM parts such as full part replacement parts or build lists.

```
vmfhlasm rtmdis rtmvm (nosetup ctl
```

**10** If you are modifying rtmdis, a second compile is required.

```
vmfhlasm rtmdis rtmesame (nosetup ctl
```

**11** Copy the updated text deck to the DELTA disk or directory

```
vmfcopy rtmdis text a = = fmdelta (prodid 4vmrtm10%rtm olddate replace
erase rtmdis text a
```

*fmdelta* is the fm of the DELTA disk or directory  
The VMFCOPY command will update the VMSES  
PARTCAT file on the DELTA disk.

- 12** If you are modifying *rtmdis*, a second text file must be copied to the DELTA disk.

**vmfcopy rtmdis txtesame a = = *fmdelta* (prodid 4vmrtm10%rtm olddate replace  
erase rtmdis txtesame a**

- 13** Use VMFREPL to create or update the 4VMRTM10 \$SELECT file on the alternate apply disk

**vmfrepl rtmdis text 4VMRTM10 rtm (\$select nocopy filelet text**

- 14** Build the RTM product by issuing VMFBLD

**vmfbld ppf 4vmrtm10 {rtmlrtmsfs} (serviced**

Use component name **rtm** if using minidisks or  
**rtmsfs** if using SFS.

---

## A.1 RTM Product Rebuild

**Note!**

To compile the RTM assemble parts and build the executable modules, you **must have** the HL-assembler (5696-234) Release 4 installed.

- 1 If the RTM modules need to be rebuilt between servicing, do the following:

1 **1** Log on to the RTM service user ID **4VMRTM10**

1 **2** Set up the required access order

1 **vmfsetup 4vmrtm10 {rtm | rtmsfs}**

1

1

Use **rtm** if the product is installed on minidisks or  
**rtmsfs** if the product is installed in Shared File  
System directories.

1 **3** Rebuild RTM

1 **vmfbld ppf 4vmrtm10 {rtm | rtmsfs} (all**  
1  
1

Use **rtm** if the product is installed on minidisks or  
**rtmsfs** if the product is installed in Shared File  
System directories.

Whenever the above commands are issued, the new modules must be put into production by following the instructions in 7.3, "Place the New RTM Service Into Production" on page 26.

---

## Appendix B. Create Product Parameter File (PPF) Override

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

**Note:** Do **not** modify the product supplied 4vmrtm10 \$PPF or 4vmrtm10 PPF files to change the file pool name or any other installation parameters. If the 4vmrtm10 \$PPF file is serviced, the existing \$PPF file will be replaced, and any changes to that file will be lost; by creating your own \$PPF override, your updates will be preserved.

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

- 1** Log on to the RTM service user ID **4VMRTM10**
- 2** Establish write access to the Software Inventory Disk (MAINT 51D) if it is not already linked in write mode.

**Note:** If the MAINT 51D minidisk was accessed R/O, you will need to have the user who has it linked R/W link it as R/O. You then can issue the following commands to obtain write access to it. **Do not use *mw* mode.**

**link maint 51d 51d m  
access 51d d**

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

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

**xedit *overname* \$ppf *fm*2**

*overname* is the PPF override file name (such as 'myrtm') that you want to use.

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

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

- 4** Create (or modify as required) the Variable Declarations (:DCL.) section for the &COMP2N2 override, so that it resembles the :DCL. section shown below.

```

:OVERLST. RTMSFS
*
* ===== *
* Override Section for Initial Installation (Using SFS Directories) *
* ===== *
:RTMSFS. RTMSFS 4vmrtm10
:DCL. REPLACE
&ADISK      DIR MYPOOL1:4VMRTM10.
&BAS1Z      DIR MYPOOL1:4VMRTM10.SOURCE
&SAMPZ      DIR MYPOOL1:4VMRTM10.SAMPLE
&LOCAL      DIR MYPOOL1:4VMRTM10.LOCALMOD
&DELTZ      DIR MYPOOL1:4VMRTM10.DELTA
&APPLX      DIR MYPOOL1:4VMRTM10.APPLYALT
&APPLZ      DIR MYPOOL1:4VMRTM10.APPLYPROD
&BLD0Z      DIR MYPOOL1:4VMRTM10.TBUILD
&BLD1Z      DIR MYPOOL1:4VMRTM10.PBUILD
&BLD2Z      DIR MYPOOL1:4VMRTM10.IBMCONFIG
&BLD3Z      DIR MYPOOL1:4VMRTM10.CUSCONFIG
&BLD4Z      DIR MYPOOL1:VMRTM.
&BLD6Z      LINK MAINT 190 190 RR
&BLD7Z      LINK MAINT 193 193 RR
&4VMRTM10   USER 4VMRTM10
&VMRTM      USER VMRTM
:EDCL.
:END.
*

```

(This override will replace the :DCL. section of the RTMSFS override area of the 4vmrtm10 \$PPF file.)

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

**file**

**copyfile** *overname* \$ppf fm = = d (olddate

**erase** *overname* \$ppf fm

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

**vmfppf** *overname* rtmsfs

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 4vmrtm10 as the PPF name to be used for those VMSES/E commands that require a PPF name.

---

## Appendix C. Applying a Recommended Service Upgrade (RSU) Tape For RTM

### z/VM Express Users

If you installed z/VM using the Express Installation and Service Procedure then you need to follow the service instructions as documented in the *z/VM Express Installation and Service Procedures* pamphlet (that came with the *z/VM Installation Guide*) in order to install an RSU or COR service on an Express system. Or you can go to the instructions in Appendix E, "Service Instructions for z/VM Express Users Only" on page 44 of this program directory.

### Note!

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

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

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

- This process will not alter any of your tailored flat files (files serviced by full part replacement only such as RTM RTMCONFIG) in any way. Sample files which may have been updated using update files will have to have those updates reapplied.
- Planning must be done (such as determining any DASD size changes, and determining what service, if any, on your existing system is not contained on the RSU tape) prior to actually loading the service from the RSU tape. These tasks will be discussed.

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

- Prepare System

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

- Merge Service

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

- Receive Service

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

- Apply Additional Service

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 RTM.

- Reapply Local Service (if applicable)

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

- Build a New Level

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

- Place the New Service into Production

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

---

## C.1 Apply RTM RSU

### C.1.1 Prepare Your System for Service Refresh

#### Electronic Service (envelope file)

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

- RPTF*num* for the service envelope

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

The *ppfname* used throughout these instructions is **4vmrtm10**, which assumes you are using the PPF supplied by IBM for RTM. If you have your own PPF override file for RTM you should use your file's *ppfname* instead of **4vmrtm10**. The *ppfname* you use should be used **throughout** the rest of this procedure.

- 1** Log on to the Realtime Monitor Feature for z/VM service user ID 4VMRTM10
- 2** Establish write access to the Software Inventory Disk (MAINT 51D) if it is not already linked R/W.

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

**link maint 51d 51d mr  
access 51d d**

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

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

**4** Receive the documentation:

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

**a** If receiving the RSU from tape

**vmfins install info (nomemo**

**b** If receiving the RSU from an envelope file

**vmfins install info (nomemo env rptfnum**

**5** Determine DASD sizes for disks to receive service:

In order to receive the service from the RSU tape, you need to have adequate space available on the alternate APPLY, Delta, and Build disks or directories. The required sizes are identified in the RTM documentation (4VMRTM10 MEMO D) received in the previous step.

**6** Setup the correct minidisk access order

**vmfsetup 4vmrtm10 {rtmlrtmsfs}**

Use component name **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed in SFS.

**7** Merge the APPLY disks for RTM:

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

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

**vmfmrdsk 4vmrtm10 {rtmlrtmsfs} apply**

Use component name **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed in SFS.

**8** Invoke the VMFPSU command to identify any local modifications.

**vmfpsu 4VMRTM10 {rtmlrtmsfs}**

Use component name **rtm** if the product is installed on minidisks or **rtmsfs** 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 **4VMRTM10 PSUPLAN**. If local modifications touch parts that have been serviced, the RTM\$PSU\$ \$SELECT file will be created or updated to force the rebuild of those parts.

## C.1.2 Receive the Preapplied, Prebuilt Service

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

**a** If receiving the RSU from tape

**vmfins install ppf 4vmrtm10 {rtmlrtmsfs} (nomemo nolink**

Use component name **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed in SFS.

**b** If receiving the RSU from an envelope file

**vmfins install ppf 4vmrtm10 {rtmlrtmsfs} (nomemo nolink env rptfnum**

Use component name **rtm** if the product is installed on minidisks or **rtmsfs** if the product is installed in SFS.

```

VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF 4vmrtm10 rtm :PRODID
              4vmrtm10%rtm?
              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 the applicable *System Messages and Codes*, or use online HELP.

## vmfview install

### C.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 4vmrtm10 {rtmlrtmsfs}

Use component name **rtm** if the product is installed on minidisks or **rtmsfs** 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 (4VMRTM10 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 the applicable *System Messages and Codes*, or use online HELP.

### vmfview apply

- 3 If necessary, rework local service

The **4VMRTM10 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*.

- 4 This also applies to any of the sample tailorable files which have been serviced. You do not need to make any changes to the sample files on the 2C2 disk. Instead you should make any necessary applicable changes to the usable configuration files. The usable configuration files are not touched when servicing RTM. To see what has been changed, compare the serviced sample files on the 2C2 (Localsam) disk to the sample files on the 1CC and CCC disks.
  - a. Copy the sample files from the 2C2 to the 1CC disk.
  - b. If you have changes that you have made on the CCC disk, then you need to make the appropriate changes to the file on the CCC.

#### C.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 parts flagged serviced on the RSU.

##### What's next

Choose one of the following sections to proceed with based on whether there are any CP or RTM reach-ahead service or local modifications to be reapplied.

- If there was CP reach-ahead service or a CP local modification that was reapplied, continue with step A.1, "RTM Product Rebuild" on page 31 or
- If there is RTM reach-ahead service or a local modification that needs to be reapplied, continue with step 7.2.4, "Update the Build Status Table" on page 24 or
- Otherwise, all objects or parts have been built and received to the test build disks during the receive of the RSU. Installation of the RSU is complete. It is not necessary to do the build step since there will not be any objects or parts flagged to be built. Continue with step 7.3, "Place the New RTM Service Into Production" on page 26.

---

## Appendix D. Disabling RTM

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

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

**link maint 5e5 5e5 rr  
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 that has it accessed R/W link it R/O. You then can issue the following commands to obtain R/W access to it.

**link maint 51d 51d mr  
access 51d d**

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

- 4** Set RTM to the disabled state.

**vmfins disable ppf 4vmrtm10 {rtmlrtmsfs}**

Use **rtm** if installed using minidisk or **rtmsfs** if installed using Shared File System directories.

This command will perform the following:

- Set RTM as DISABLED in VMSES/E and within CP.
- Create a 4VMRTM10 PRODSYS file on the A-disk that contains the CP system configuration PRODUCT statement with a state of DISABLED.

- 5** In order to **retain the DISABLED state** for RTM, **update the CP system configuration file** with the information in the 4VMRTM10 PRODSYS file; which was created in the previous step.



You need to update the CP system config file so that the next time you IPL your system RTM will be in the DISABLED state. If you are not authorized to update the CP system configuration file then contact your CP System Administrator. The CP system configuration file default name is SYSTEM CONFIG and it resides on the CP parm disk (MAINTs CF1, CF2 and CF3 minidisks). The section, PRODUCT ENABLE/DISABLE INFORMATION, in the SYSTEM CONFIG file, needs to be updated. You will need to replace the current ENABLED entry for PRODID 4VMRTM10 with the entry from the 4VMRTM10 PRODSYS file. Once the SYSTEM CONFIG is working, it should be backed up to the CF2 and CF3 disks. If necessary, refer to the *Planning and Administration* manual for more information.

## **6** RTM needs to be disabled for service

**vmfsim modify vm syssuf d tdata :prodid 4vmrtm10%rtm :build no (replace**

This command will stop VMSES/E from rebuilding RTM when service is applied to either z/VM CP or RTM.

---

## Appendix E. Service Instructions for z/VM Express Users Only

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

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

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

logon maint

**Enter**

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

attach tapeaddr \* 181

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

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

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

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

- 4** Load the service
  - a** If servicing just RTM

1 **ipl cms  
service rtm**

This will install all the service for RTM on the tape

**b** If servicing all the products on the tape

1 **ipl cms  
service**

This will install all the service for all the products on the tape

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

```
service rtm RPTFnum  
OR  
service ALL RPTFnum
```

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

**6** Put the new service into production.

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

**ipl cms  
put2prod**

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

**7** Shutdown and re-IPL your system.

**shutdown reipl  
Enter**



---

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

- If this product was ordered as part of a package, what type of package was ordered?
  - System Delivery Offering (SDO)
  - Other - Please specify type: \_\_\_\_\_

- Is this the first time your organization has installed this product?
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  - No
- Were the people who did the installation experienced with the installation of VM products using VMSES/E?
  - Yes
    - How many years of experience do they have? \_\_\_\_\_
  - No
- How long did it take to install this product? \_\_\_\_\_
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