IBM

Program Directory for

z/VM

version 5 release 3

Program Number 5741-A05

for Use with
z/VM V5.3

Document Date: June 2007

GI10-0782-00

This program directory, dated June 2007, applies to z/VM® version 5 release 3 , Program Number 5741-A05.

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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 z/VM version 5 release 3. You should read all of this program directory before installing the program and then keep it for future reference. Section 3.1, "Preventive Service Planning" on page 10, 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 z/VM.

- 3.0, "Program Support" on page 10 describes the IBM support available for z/VM.

- 4.0, "Program and Service Level Information" on page 14 lists the program levels of the required licensed products and the service level of z/VM.

- 5.0, "Installation Requirements and Considerations" on page 15 identifies the resources and considerations for installing and using z/VM.

- 6.0, "Installation Instructions" on page 21 provides information regarding the installation process for z/VM.

- 7.0, "Service Instructions" on page 23 provides information regarding the service process for z/VM.

- Appendix A, "z/VM APARs Included From Previous Release" on page 24 lists the APARs and PTFs incorporated into z/VM.

- Appendix B, "z/VM Inclusion of FINs" on page 27 lists the FIN APARs and FIN PITS problem records incorporated into z/VM.

- Appendix C, "z/VM Object Code Only Modules" on page 29 lists the Object Code Only modules within z/VM.

2.0 Program Materials

An IBM program is identified by a program number. The program number for z/VM version 5 release 3 is 5741-A05.

The program announcement material describes the features supported by z/VM version 5 release 3. Ask your IBM marketing representative for this information if you have not already received a copy.

The following sections identify:

- The basic and optional program materials available with this program
- National Language Support (NLS).

2.1 Basic Machine-Readable Material

Refer to the *IBM z/VM V5.3 - Improving scalability, security and virtualization technology* Software Announcement, 207-019, for information about ordering z/VM version 5 release 3 and its features.

The distribution medium for the z/VM System Deliverable is 3480 tape cartridge, 3590 tape cartridge, or DVD. (The DVD format is a binary image and not DDR format.) The tapes and DVD support install to 3390 DASD model 3 and model 9. The DVDs also support install to FCP-attached IBM TotalStorage® SCSI disks or equivalent.

Note: The licensed products orderable through the z/VM V5.3 SDO (System Delivery Option) are eligible for internet delivery. This does not include the z/VM operating system (z/VM System Deliverable).

Please refer to the Media Report, that comes with your order, for a description of the contents of each individual deliverable.

See section 6.0, "Installation Instructions" on page 21 for more information about how to install the program.

2.2 National Language Support (NLS)

The distribution medium for NLS is 3480 tape cartridge, 3590 tape cartridge, or electronic, if ordering the z/VM SDO through ShopzSeries.

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

2.2.1 NLS Basic Machine-Readable Material

The NLS basic material that is available is DFSMS/VM™ Kanji. It is shipped as a separately orderable free feature of the z/VM V5.3 SDO (5741-A06). If you need DFSMS/VM Kanji you can order it when you order z/VM through the SDO. If you are installing on SCSI disks and you need DFSMS/VM Kanji, you must order it electronically.

2.3 Optional Machine-Readable Material

The DFSMS/VM feature of z/VM no longer comes as part of the z/VM deliverable. It is now an optionally orderable free feature of the z/VM V5.3 SDO.

The z/VM Restricted Source feature and the PL/X Source feature are no longer shipped with the z/VM deliverable. Both are available as no-charge downloads from IBM Resource Link™ at:

   www.ibm.com/servers/resourcelink/

In order to download either of these features you need to:

 • be registered with Resource Link

 • have a license for z/VM V5.3

Entitlement will be verified when you request this source code. After your approval, you will receive instructions describing how to download the source code for these features.

Information on downloading the source features can be found in section 6.1.1.1, "(Optional) Restricted and PL/X Source Installation" on page 21.

Notes:

 1. The optional machine-readable source material contains "Restricted Materials of IBM."

2.4 Program Publications

The following sections identify the basic and optional publications for z/VM version 5 release 3.

2.4.1 Basic Program Publications

Figure 1 identifies the basic program publications for the z/VM base. One copy of each of these publications is included when you order the basic materials for z/VM version 5 release 3. For additional copies of any publication, visit the IBM Publications Center at their World Wide Web site:

www.ibm.com/shop/publications/order

Figure 1. Basic Material: Unlicensed Publications - New Editions

Publication Title	Form Number
z/VM: Guide for Automated Installation and Service	GC24-6099
z/VM: Summary for Automated Installation and Service (TAPE Installation)	GA76-0407
z/VM: Summary for Automated Installation and Service (DVD Installation)	GA76-0406
z/VM: License Information	GC24-6102
z/VM: Getting Started with Linux on System z9™ and zSeries®	GC24-6096

Figure 2 identifies the informal documentation for z/VM. One copy of each publication is included with your z/VM V5.3 order.

Figure 2. Basic Material: Informal Documentation

Publication Title	Form Number
Program Directory for z/VM	GI10-0782
Program Directory for TCP/IP for z/VM	GI10-0784
Program Directory for Open Systems Adapter Support Facility Feature	GI11-4801-01
Program Directory for Hardware Configuration Definition and Hardware Configuration Manager for z/VM	GI11-2855-01
Program Directory for Remote Spooling Communications Subsystem (RSCS) Networking for z/VM	GI10-0787
Program Directory for Environmental Record Editing and Printing (EREP)	GI10-8140
Program Directory for Device Support Facilities ICKDSF	GI10-4514
RSU Stacked Tape Memo	GI10-0783

2.4.2 Optional Base Program Publications

The following figures contain information on the optional publications available for z/VM.

Optional publications are supplied in PDF or BookManager® format with z/VM. Some of these publications have printed versions. They can be ordered separately, for a fee, using the specific publication number through the IBM Publications Center at:

  www.ibm.com/shop/publications/order

Also at this site, many of the publications are available online in various file formats, which can be downloaded free of charge.

z/VM offers unlicensed publications in softcopy displayable form for approximately 60 products that run on z/VM. The *IBM Online Library: z/VM Collection* CD-ROM or DVD contains all of the IBM libraries (unlicensed books only) that are available in IBM BookManager format for current VM system products and IBM licensed programs that run on z/VM. It also contains all of the z/VM base, additional facility and optional feature publications that are currently available in Adobe™ Portable Document Format (PDF). One copy of the z/VM Collection on CD-ROM and DVD is shipped automatically with the z/VM product at no additional charge. Figure 3 identifies the z/VM softcopy displayable feature and order numbers for the CD-ROM and DVD media. Use the order numbers shown if you need to order additional copies.

Figure 3. Optional Material: Softcopy Displayable

Publication Title	Feature Number	Order Number
IBM Online Library: z/VM Collection	7000	SK2T-2067 (CD-ROM)
IBM Online Library: z/VM Collection on DVD	7222	SK5T-7054 (DVD)

PDF and Bookmanager versions of the z/VM publications can also be be found at:

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

For more information on the contents of the z/VM Collection, and to find out which format each publication comes in, refer to the chapter "z/VM Library Guide" in the *z/VM: General Information* manual.

Figure 4 identifies the optional unlicensed program publications for z/VM that have new editions.

Figure 4 (Page 1 of 4). Optional Material: Publications for z/VM - New Editions

Publication Title	Form Number
z/VM: General Information	GC24-6095
z/VM: Service Guide	GC24-6117
z/VM: CMS Callable Services Reference	SC24-6072
z/VM: CMS Commands and Utilities Reference	SC24-6073
z/VM: CMS User's Guide	SC24-6079

Publication Title	Form Number
z/VM: CP Planning and Administration	SC24-6083
z/VM: CP Commands and Utilities Reference	SC24-6081
z/VM: I/O Configuration	SC24-6100
z/VM: CP Messages and Codes	GC24-6119
z/VM: CMS and REXX/VM Messages and Codes	GC24-6118
z/VM: Other Components Messages and Codes	GC24-6120
z/VM: VMSES/E Introduction and Reference	GC24-6130
z/VM: Performance	SC24-6109
z/VM: Migration Guide	GC24-6103
z/VM: System Operation	SC24-6121
z/VM: CP Programming Services	SC24-6084
z/VM: Group Control System	SC24-6098
z/VM: VM Dump Tool	GC24-6129
z/VM: Systems Management Application Programming	SC24-6122
z/VM: Running Guest Operating Systems	SC24-6115
z/VM: Connectivity	SC24-6080
z/VM: Diagnosis Guide	GC24-6092
z/VM: CMS Pipelines Reference	SC24-6076
z/VM: OpenExtensions™ Callable Services Reference	SC24-6105
z/VM: OpenExtensions User's Guide	SC24-6108
z/VM: OpenExtensions Advanced Application Programming Tools	SC24-6104
z/VM: OpenExtensions Command Reference	SC24-6106
z/VM: OpenExtensions POSIX Conformance Document	GC24-6107
z/VM: Saved Segments Planning and Administration	SC24-6116
z/VM: CMS Pipelines User's Guide	SC24-6077
z/VM: CP Exit Customization	SC24-6082
z/VM: REXX/VM User's Guide	SC24-6114
z/VM: REXX/VM Reference	SC24-6113
z/VM: Dump Viewing Facility	GC24-6093
z/VM: Reusable Server Kernel Programmer's Guide and Reference	SC24-6112
z/VM: XEDIT User's Guide	SC24-6132
z/VM: Enterprise Systems Architecture/Extended Configuration Principles of Operation	SC24-6094

Figure 4 (Page 3 of 4). Optional Material: Publications for z/VM - New Editions

Publication Title	Form Number
z/OS®: Language Environment Concepts Guide	SA22-7567
z/OS: Language Environment Programming Guide	SA22-7561
z/OS: Language Environment Programming Reference	SA22-7562
z/OS: Language Environment Writing Interlanguage Communication Applications	SA22-7563
z/OS: Language Environment Debugging Guide	SA22-7560
z/OS: Language Environment Run-Time Messages	SA22-7566
z/VM: TCP/IP Planning and Customization	SC24-6125
z/VM: TCP/IP User's Guide	SC24-6127
z/VM: TCP/IP Messages and Codes	GC24-6124
z/VM: TCP/IP Programmer's Reference	SC24-6126
z/VM: TCP/IP Diagnosis Guide	GC24-6123
z/VM: TCP/IP LDAP Administration Guide	SC24-6140
z/OS and z/VM: Hardware Configuration Manager User's Guide	SC33-7989
z/OS and z/VM: Hardware Configuration Definition Messages	SC33-7986
CMS/TSO Pipelines: Author's Edition	SL26-0018
Network Job Entry: Formats and Protocols	SA22-7539
z/OS MVS® Program Management: Advanced Facilities	SA22-7644
z/OS MVS® Program Management: User's Guide and Reference	SA22-7643

Figure 5 identifies the optional unlicensed program publications for z/VM that do not have new editions.

Figure 5 (Page 1 of 2). Optional Material: Publications for z/VM - Not New Editions

Publication Title	Form Number
z/VM: XEDIT Command and Macro Reference	SC24-6131
z/VM: CMS Application Development Guide	SC24-6069
z/VM: CMS File Pool Planning, Administration, and Operation	SC24-6074
z/VM: CMS Application Development Guide for Assembler	SC24-6070
z/VM: CMS Planning and Administration	SC24-6078
z/VM: CMS Application Multitasking	SC24-6071
z/VM: CMS Macros and Functions Reference	SC24-6075
z/VM: Program Management Binder and Loader for CMS	SC24-6110
z/VM: CMS Primer	SC24-6137
z/VM: Glossary	GC24-6097

Publication Title	Form Number
z/VM: Virtual Machine Operation	SC24-6128
z/VM: CPI Communications User's Guide	SC24-6085
Common Programming Interface Communications Reference	SC26-4399
Common Programming Interface Resource Recovery Reference	SC31-6821
z/VM: Language Environment® User's Guide	SC24-6101

Note: The CP and CMS control block information is no longer provided in book form. This information is available on the z/VM home page (**www.**ibm.com/servers/eserver/zseries/zvm/library/) or you can use the BLOCKDEF utility against control blocks on your system to get the most current data.

Figure 6 and Figure 7 identify the optional unlicensed program publications for OSA/SF for VM.

Figure 6. Optional Material: OSA/SF Publications - New Editions

Publication Title	Form Number
System z9 and eServer™ zSeries: Open Systems Adapter-Express Customer's Guide and Reference	SA22-7935
System z9 and eServer zSeries: Open Systems Adapter-Express Integrated Console Controller User's Guide	SA22-7990

Figure 7. Optional Material: OSA/SF Publications - Not New Editions

Publication Title	Form Number
eServer zSeries 900: Planning for Open Systems Adapter-2 Feature	GA22-7477

Figure 8 and Figure 9 identify the optional unlicensed program publications for DFSMS/VM FL221.

Figure 8. Optional Material: DFSMS/VM Publications - New Editions

Publication Title	Form Number
z/VM: DFSMS/VM Customization	GC24-6086
z/VM: DFSMS/VM Planning Guide	SC24-6089
z/VM: DFSMS/VM Removable Media Services	SC24-6090
z/VM: DFSMS/VM Storage Administration	SC24-6091

Figure 9 (Page 1 of 2). Optional Material: DFSMS/VM Publications - Not New Editions

Publication Title	Form Number
Program Directory for DFSMS/VM	GI11-4804-01
Z/VM: DFSMS/VM Messages and Codes	GC24-6088
z/VM: DFSMS/VM Diagnosis Guide	GC24-6087

The publications provided by the other pre-installed priced features of z/VM or products can be found in the their Program Directory.

2.5 Program Source Materials

Customers with access to View Program Listings (VPL) can use the VPL facility for online viewing of available program listings. Those customers without access to VPL can contact their IBM representative.

3.0 Program Support

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

3.1 Preventive Service Planning

3.1.1 Recommended Service Upgrade (RSU)

Before installing z/VM, you should see if you received the most current Stacked RSU available. If there is a higher RSU available, or if you did not receive an RSU with your order and there is now one available, you should order it and apply it when you install z/VM.

Be aware that there is a Stacked RSU package level which includes products at their individual RSU level. These levels are different. When checking for the current level you would check the current individual product RSU level. If you are not at the current product RSU level then you would order the z/VM Stacked RSU, UM97530. Refer to following z/VM RSU internet site at url:

www.ibm.com/servers/eserver/zseries/zvm/service/rsu/stk530.html

to see information about the Stacked RSU package level and corresponding product individual RSU level. You can also find information about ordering z/VM service, preventive (RSU) or CORrective, at the z/VM service internet Web site.

Note: You can click on 'Notify me' in the left navigation area of the VM home page and complete the form that is displayed so that you will be notified whenever the stk530.html file gets changed. A change to this file is an indication that a new RSU is available.

3.1.2 Obtaining Preventive Service

Before installing z/VM, check with your IBM Support Center or use IBMLink™ (ServiceLink) to see whether there is additional Preventive Service Planning (PSP) information and service recommendations that you should have. You should request the PSP information for the z/VM components and z/VM features that you are using. Refer to Figure 10 for PSP Upgrade and Subset information.

Use the appropriate product Service Procedures to apply any service recommendations in the PSP Bucket AFTER installation has been completed.

To obtain the PSP information, specify the UPGRADE and SUBSET values from Figure 10.

The features and other pre-installed products are shown after the double line in the figure.

Figure 10. PSP Upgrade and Subset ID - z/VM

Upgrade	Subset	RETAIN® Release
ZVM530	CP	530
ZVM530	DVF	530
ZVM530	GCS	530
ZVM530	CMS	530
ZVM530	TSAF	530
ZVM530	VMSES	530
ZVM530	REXX	530
ZVM530	AVS	530
ZVM530	LE	440
ZVM530	yynnRSU	RSU
TCPIP530	VM530	530
TCPIP530	yynnRSU	RSU
VMOSASF440	OSASF	440
VMOSASF440	yynnRSU	RSU
ZVMHCD520	ZVMHCD/520	520
ZVMHCD520	yynnRSU	RSU
VMPTK530	PTK/530	530
VMPTK530	yynnRSU	RSU
DIRM530	DIRM/530	530
DIRM530	yynnRSU	RSU
RACFVM530	RACF530	530
RACFVM530	yynnRSU	RSU
RSCS530	RSCS/530	530
RSCS530	yynnRSU	RSU
DFSMSVM221	SMS221	221
ICKDSF017	CMS0H14	H14
EREP350	VMEREP/350	500

3.2 Statement of Support Procedures

Note: With z/VM you are entitled to support under the basic warranty for z/VM. Also note that the z/VM Software Subscription and Support (5741-SNS) is ***automatically*** added when you order z/VM - this provides zSeries service to which you are likely accustomed. If you do not want the z/VM Software Subscription and Support for z/VM you must take specific action to decline it when ordering z/VM.

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 is to be sent.

Figure 11 identifies the component IDs (COMPID), Retain Release and Field Engineering Service Numbers (FESN) for z/VM.

Figure 11 (Page 1 of 2). Component IDs and Field Engineering Numbers

COMPID	Retain Release	Component Name	PRODID	FESN
568411201	530	CMS	5VMCMS30	0460181
568411202	530	CP	5VMCPR30	0460647
568411204	530	AVS	5VMAVS30	0460648
568411205	530	REXX	5VMREX30	0460185
568411206	530	TSAF	5VMTSA30	0460186
568411208	530	DVF	5VMDVF30	0460188
568411209	530	VMSES/E	5VMSES30	0460646
568411211	530	GCS	5VMGCS30	0460191
568411220	440	LE	4VMVMQ40	0410741
568819802	440	LE COBOL RTL	4VMVMQ40	0562227
568819803	440	LE PL/I RTL	4VMVMQ40	0562228
568411201	A53	CMS JAPANESE KANJI	5VMCMS30	0460181
568411201	E53	CMS GERMAN	5VMCMS30	0460181
568411202	A53	CP JAPANESE KANJI	5VMCPR30	0460647
568411202	E53	CP GERMAN	5VMCPR30	0460647
568411204	A53	AVS JAPANESE KANJI	5VMAVS30	0460648
568411204	E53	AVS GERMAN	5VMAVS30	0460648
568411205	A53	REXX JAPANESE KANJI	5VMREX30	0460185
568411205	E53	REXX GERMAN	5VMREX30	0460185
568411206	A53	TSAF JAPANESE KANJI	5VMTSA30	0460186
568411206	E53	TSAF GERMAN	5VMTSA30	0460186
568411208	A53	DVF JAPANESE KANJI	5VMDVF30	0460188

Figure 11 (Page 2 of 2). Component IDs and Field Engineering Numbers

Retain				
COMPID	**Release**	**Component Name**	**PRODID**	**FESN**
568411208	E53	DVF GERMAN	5VMDVF30	0460188
568411209	A53	VMSES/E JAPANESE KANJI	5VMSES30	0460646
568411209	E53	VMSES/E GERMAN	5VMSES30	0460646
568411211	A53	GCS JAPANESE KANJI	5VMGCS30	0460191
568411211	E53	GCS GERMAN	5VMGCS30	0460191
568411220	A44	LE JAPENESE KANJI	4VMVMQ40	0410741
568819802	A44	LE COBOL RTL JAPANESE KANJI	4VMVMQ40	0562227
568819803	A44	LE PL/I RTL JAPANESE KANJI	4VMVMQ40	0562228

For your convenience, Figure 12 identifies the component IDs (COMPID), Retain Release and Field Engineering Service Numbers (FESN) for the features and products that are pre-installed on the z/VM deliverable.

Figure 12. Component IDs and Field Engineering Numbers

Retain				
COMPID	**Release**	**Component Name**	**PRODID**	**FESN**
568411219	520	HCD/HCM for z/VM	5VMHCD20	0409974
565510400	440	OSA/SF for VM	4OSASF40	0401298
5735FAL00	530	TCP/IP for z/VM	5VMTCP30	0461035
568411218	530	Performance Toolkit fo VM	5VMPTK30	0408274
5749DVH00	530	DirMaint™	5VMDIR30	6415301
576700201	530	RACF	5VMRAC30	6700201
568409601	530	RSCS	5VMRSC30	0401165
565899201	H14	ICKDSF	5684042J	5499201
565426001	500	EREP VM	n/a	5426001

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of z/VM. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated.

4.1 Program Level Information

z/VM version 5 release 2 APARs, which are fixed in z/VM version 5 release 3, are listed in Appendix A, "z/VM APARs Included From Previous Release" on page 24 of this document.

4.2 Service Level Information

EREP V3.5 is at SDO service level SDO-0700 available April 2007 and ICKDSF V1.17 is at the SDO service level ESO-0610 available April 2007.

When you complete installation, the following products will be at the Service Level provided on the GA z/VM System Deliverable plus the GA RSU. (If you install a higher level RSU then the products may be at a higher level.)

Figure 13. Feature/Product RSU Levels GA System Deliverable

Product Name	Release Level	RSU Level
Language Environment	4.4.0	0702 (plus PTFs UM31923 UM32009)
OSA/SF for VM	FL 440	0701
HCD/HCM for z/VM	FL 520	0701 (plus PTF UM31963)

Notes:

1. Products not listed are at base level (or an RSU level, if serviced on an RSU that you installed).

4.3 Cumulative Service

The Recommended Service Upgrade (RSU) for z/VM version 5 release 3 is cumulative.

The RSU is used to provide service updates for all z/VM components, features or products, in VMSES/E format, that are pre-installed on the z/VM System Deliverables. It is referred to as a stacked RSU.

The RSU can be ordered using the PTF number **UM97530**.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing z/VM.

5.1.1 Programming Requirements

A license for the following products is required to order z/VM version 5 release 3. These products are already installed on the z/VM System Deliverables.

Figure 14. Products Required for z/VM version 5 release 3.

Product Name	Product Level	Product Number
EREP	3.5.0	5654-260
ICKDSF*	1.17.0	5747-DS1
ICKDSF/VM*	1.17.0	5684-042

Note: *Only one ICKDSF product license (ICKDSF or ICKDSF/VM) is required.

A license for the following products is required in order to enable and run them. These products are installed on the z/VM System Deliverables disabled. Refer to the z/VM Software Announcement for information on obtaining a license for these products.

Figure 15. Products Requiring a License

Product Name	Product Level	Product Number
Performance Toolkit for VM	530	5741-A05
DirMaint	530	5741-A05
RACF	530	5741-A05
RSCS	530	5741-A05

5.1.2 DASD Storage Requirements

Figure 16 and Figure 17 on page   16 identify the DASD required to install z/VM version 5 release 3. The total amount of DASD you will need is what you choose from both figures.

Note: During installation INSTPLAN will tell you exactly how many DASD volumes are required.

Figure 16. DASD Requirements for System Residence and Work

DASD Type	Number of DASD	Reason
3390-Mod 3 (3339 cylinders)	3	if you select to load to minidisk or to SFS
	3 or 4	if you select to load to both minidisk and SFS. Note that 3 volumes might be enough but you should have a fourth volume available.
3390-Mod 9 (10017 cylinders)	1	if you select to load to minidisk or SFS
	1 or 2	if you select to load to both minidisk and SFS. Note that one volume might be enough but you should have a second volume available.
FBA (DVD install only)	1 - 3.5GB to 10.GB SCSI Disk	for the 530RES volume
	1 or 2 - SCSI Disks	for additional work volumes depending on the size you use for 530RES volume. Work volumes are assumed to be same size as 530RES volume.

Figure 17. DASD Requirements for SPOOL and PAGE

DASD Type	Number of DASD	Reason
Any Model 3390 install	2	the 3390-mod 3 DASD is suggested
FBA (DVD SCSI install only)	2 - SCSI DISKs (any size, minimum 1GB)	can only use these if doing a DVD install

Note: The SCSI disks must be defined by SET EDEVICE command.

5.1.3 Media/Tape Drive Requirements

The following devices are supported:

- 3480 (XF only)
- 3490
- 3490E
- 3590
- DVD install requires Hardware Management Console (HMC) V1.8 or later, or Windows™ or Linux™ FTP server

Note: If you use an Automatic Tape Libary controlled by DFSMS/VM then you need to have DFSMS/VM APAR VM63746 applied to utilize the full function of the ATL when installing the RSU tapes.

5.1.4 Hardware Requirements

Make sure you review the appropriate 'Understand the Requirements' section in the *Z/VM: Guide for Automated Installation and Service*. **This is especially important if you will be installing from DVD**.

5.1.5 Programming and Migration Considerations

5.1.5.1 Migration Considerations

The *z/VM:General Information*, *z/VM:Migration Guide* and the product Program Directories **should be reviewed** as they contain important information needed when migrating from one release to another.

The following information can be found in the *z/VM:Migration Guide* or in a product's Program Directory, but is highlighted here.

5.1.5.1.1 Product Changes in z/VM V5.3 That Are Noteworthy:

For TCP/IP:

- The TCP/IP installation and service user ID, 5VMTCP30, has been enrolled as a file pool administer for the VMSYS file pool. This is required to accommodate service update processing for LDAP server components that reside in the z/VM Byte File System (BFS). If you choose to use a different user ID to service TCP/IP or elect to use a file pool other than VMSYS for maintaining the Byte File System, you then will need to enroll the appropriate user ID as an administrator for the applicable file pool.

- TCP/IP level 530 is supported on corresponding level 530 releases of CP and CMS only. If TCP/IP level 530 services and functions are used with other CP or CMS levels (as might be the case for migration testing purposes), certain capabilities may be limited or may not function. In some instances, non-TCP/IP service updates may be available to facilitate the temporary use of TCP/IP in such a transitory environment. Refer to the section 'Migration Considerations' in the *Program Directory for TCP/IP for z/VM, level 530* for more information.

5.1.5.1.2 Product Changes from Previous z/VM Releases:

You must create a new stand-alone dump tape to use with z/VM V5.3. When you run the HCPSADMP EXEC (reference *z/VM: Guide for Automated Installation and Service* Chapter 4 Step 11, or Chapter 8 Step 15) you must answer YES to the question on 'DO YOU WANT TO CREATE A NEW HCPSDC MODULE?'.   This will create new HCPSDC ASSEMBLE and HCPSDC TEXT files.

If you are currently running a VM version or release prior to z/VM V4.4, then you should take note of the following.

- For TCP/IP, **RESTRICTLOWPORTS** is now active by default in the PROFILE TCPIP, therefore, if appropriate port authorizations have not been provided, applications that rely upon well-known ports (for example, VM-based web servers or remote printing functions such as **lpr**, like with RSCS) are likely to report "Unable to open port(s)" or "Permission denied" conditions.

- Language Environment is at a V4.4 level. Therefore, you **should not** migrate your existing Language Environment to the new z/VM system. If you end up with a mismatch of Language Environment code levels between the minidisks and segments your applications will fail with various errors.

- z/VM Language Environment V4.4 has changed the default values for the runtime options **STACK** and **ALL31**. The new defaults are **STACK=(128K,128K,ANYWHERE,KEEP,512K,128K)** and **ALL31=(ON)** (prior release defaults were STACK=(128K,128K,BELOW,KEEP) and ALL31=(OFF)). This was done in

z/OS Language Environment V1R4, which the new z/VM Language Environment is based off of, in the belief that most, if not all, application programs have been updated to run in AMODE 31. If your application set is predominantly running AMODE 24, then it is recommended you run the CUSTLE EXEC to change the value of the STACK option to BELOW and the value of the ALL31 option to OFF. If you have a small number of application programs running AMODE 24, you can create a local copy of CEEUOPT ASSEMBLE and TEXT with these options changed to their previous defaults and then relink the application programs and include the CEEUOPT TEXT.

The list above is by no means all inclusive, therefore, you should still review the *z/VM:Migration Guide* and product Program Directories for changes that have taken place in this release that would affect migration.

5.1.5.1.3 Packaging Changes for z/VM V5 That Still Apply:

The following items reflect changes that occurred in the packaging of z/VM version 5.

- Changes to the pre-defined CP User Directory entries can be found in the *z/VM: Migration Guide*.

- Spool and paging space has been removed from the System Residence volume and separate volumes for spooling and paging are now required during z/VM installation.

- The 3270 PC File Transfer product (5664-281) is available as part of the z/VM product. Its module, IND$FILE MODULE, is shipped as a sample tool on the system 'S' disk (190).

- DFSMS/VM is no longer included in your z/VM order. It can be ordered as a no-charge feature with the z/VM SDO. DFSMS/VM Kanji can also be ordered the same way.

- The Restricted Source and PL/X Source features are no longer shipped with z/VM but they are available as no-charge downloads from IBM Resource Link. See section 6.1.1.1, "(Optional) Restricted and PL/X Source Installation" on page 21 for more information.

- The RealTime Monitor (RTM) and Performance Reporting Facility (PRF) features are no longer provided on the z/VM System deliverables, nor can they be licensed with z/VM. Performance Toolkit for VM is provided as a replacement for these products.

- z/VM only includes a 64-bit CP module and it is called CPLOAD MODULE. The 32-bit and dual-mode modules are no longer provided.

5.1.5.1.4 Product Parameter File (PPF) Changes

5.1.5.1.4.1 Changes in z/VM V5.3

- The $PPF files, updated in this z/VM release, were changed to use the new PPF variable substitution override function of VMSES/E. $MAINT$ and $VMSYS$ are now used in the $PPF files. These are variables that will get replaced by the values assigned to them in the VMSESE PROFILE file by VMFPPF.

- In z/VM version 5 the PRODIDs are in the format of *v***VM***aaarm*, where *vrm* is the z/VM version, release and modification and *aaa* is an identifier for the component. The following table shows the new file names (PRODIDs) for the $PPF files for the z/VM components and features for z/VM V5.3.

Figure 18. New $PPF File Names

Componet/Feature	$PPF file name and file type
AVS	5VMAVS30 $PPF
CMS	5VMCMS30 $PPF
CP	5VMCPR30 $PPF
Dump Viewing Facility	5VMDVF30 $PPF
GCS	5VMGCS30 $PPF
REXX	5VMREX30 $PPF
TSAF	5VMTSA30 $PPF
VMSES/E	5VMSES30 $PPF
TCPIP	5VMTCP30 $PPF
Performance Toolkit for VM	5VMPTK30 $PPF
DirMaint	5VMDIR30 $PPF
RSCS	5VMRSC30 $PPF
RACF	5VMRAC30 $PPF

Notes:

1. The product parameter file (and PRODID) for Language Environment has not changed; it is still 4VMVMQ40 $PPF. This is because Language Environment did not change in z/VM V5.3; it is still at the V4.4 level.

2. OSA is still at FL440 level and its PRODID is still 4OSASF40.

3. HCD/HCM for z/VM is still at the FL520 level and its PRODID is still 5VMHCD20.

5.1.5.1.4.2 PPF Changes in Previous Releases

- New z/VM Base Component

  Language Environment for z/VM V4.4 is now a base component of z/VM. Its product parameter file is 4VMVMQ40 $PPF. It is included in the ZVM $PPF file. It is serviced using the MAINT user ID. The code resides on MAINT disks that have an address that begins with 4, for example 4B2. It's production build (code) disk is MAINT 19E.

- Shared File System (SFS) Component Names for z/VM Base Components

  All of the base components of z/VM now allow their service disks, apply, delta, local and base, to be in SFS. Each z/VM component $PPF file now has a component override for SFS.

- z/VM Base Component Source Disks

  The source disks 5B4, 394 and 393, for VMSES/E, CP/DV and CMS/REXX, respectfully, have been combined with the component's base disk and therefore, deleted from the component's $PPF file.

- PPF name used for Automated Service

The default PPF used by the automated service commands, SERVICE and PUT2PROD, is SERVP2P. In the SERVP2P $PPF there is a set of component overrides used by the SERVICE command and a set used by the PUT2PROD command. The SERVP2P $PPF overrides the base component in the component or product $PPF file (for example, 5vm*aaa*30 $PPF). If you have created an override to the ZVM $PPF it will not get picked up by SERVP2P $PPF.

If you create a PPF override for the SERVP2P $PPF, you can update the VM SYSSUF file to reflect your PPF override name by issuing the VMFUPDAT SYSSUF command. You want to do this so that your PPF override will be used by the SERVICE and PUT2PROD commands.

5.1.6 Programming Considerations

z/Architecture® CMS is shipped as a sample program with z/VM V5.3 with **no formal support available**. The z/CMS nucleus and related files are shipped on a new MAINT 990 disk. There is also a ZCMS named saved segment shipped. For z/Architecture CMS details and restrictions, refer to the z/VM Web site at: **www.**ibm.com/servers/eserver/zseries/zvm/related/zcms

6.0 Installation Instructions

6.1 z/VM Base Installation

Installation instructions are contained in the *z/VM: Guide for Automated Installation and Service* or the *z/VM Summary for Automated Installation and Service* included in your z/VM product shipment.

Note: The z/VM System Deliverable is received as part of your SDO (System Delivery Option) Package order. You should review Chapters 1 and 2 in the SDO Program Directory to get an overview of the SDO package. Chapter 2 in the SDO Program Directory will point you to the *z/VM: Guide for Automated Installation and Service* in order to install the z/VM System Deliverable, any z/VM optional features and stacked RSU.

6.1.1.1 (Optional) Restricted and PL/X Source Installation

If you have a need for the z/VM Restricted or PL/X source code you can download it from Resource Link on the internet at:

   www.ibm.com/servers/resourcelink/

You need to have a license for z/VM V5.3 in order to access this source code.

Note: All of the source code needs approximately 157,500 4K blocks (875 cyls on 3390 or 1,260,000 FB-512 blocks) on the VM host. You also need approximately another 198,000 4K blocks (1100 cyls 3390 or 1,584,000 FB-512 blocks) to hold the compacted and de-compacted envelope files.

You will need to register with Resource Link so you can sign in to it. If you are a new user to Resource Link you need to use your IBM ID to sign in to Resource Link. If you do not have an IBM ID you can register for one at:

   www.ibm.com/account/profile

If you are a current Resource Link user you can use your Resource Link user ID until told to use your IBM ID.

Once signed in to Resource Link you need to:

* click on *Tools* on the left navigation

* click on *z/VM and VM/ESA* under the **Software** heading

* click on *Restricted and PL/X Source* under the **z/VM and VM/ESA** heading

* click on *Register for the Restricted and PL/X Source*

First you will be asked to sign in to another server. Use the same user ID and password that you used to sign on to Resource Link.

Next you will be asked to fill out the Restricted and PL/X Source Registration form so that your entitlement to z/VM V5.3 can be verified. This form will ask for your customer number. **The customer number you enter must be the same customer number you used when you ordered z/VM V5.3**. You will also need to provide a phone number where you can be reached in case IBM needs to contact you about your entitlement. Once the form is filled out, click on the submit button. You will receive a confirmation screen with a control identification number. You should make a note of this number, in case you need to call IBM about your registration.

Once you have submitted the registration you should be provided with access within two business days. Once you receive confirmation that you are registered to access the Restricted and PL/X source, you will see a new link on the z/VM version 5 Restricted and PL/X Source web page (the page where you originally clicked on _Register for the Restricted and PL/X Source_). This link says "**If you are already registered and authorized** _access the restricted and PL/X source_. You can click on the _access the restricted and PL/X source_ part of that sentence.

The next web page will display the files that can be downloaded and a pointer to the installation instructions. You may want to review the installation instructions before downloading the files. The installation instructions have information on how to upload the envelope files to the z/VM host including detailed information on the resources you need to increase on z/VM, how to de-compact the envelope files and how to install them on z/VM.

When you click on any one of the downloadable files you will be asked to to review the License Agreement and select either "I agree" or "I disagree". If you select "I agree" you will begin to download the source code, which is stored on the server as tersed (compacted) servlink envelope files. (If you are asked to sign in again, use your same user ID and password.) On the File Download window you should click on the Save button to save the files to your workstation. You will be presented with the License Agreement for each file that you choose to download. You must select "I agree" for each file. After the files are on your workstation you need to follow the installation instructions.

7.0 Service Instructions

The **preferred** method for installing service, preventive (RSU) and CORrective, to z/VM is to use the z/VM automated service procedure (use of the **SERVICE** and **PUT2PROD** commands). The automated service procedure is documented in Part 4 'Service Procedure' in the *z/VM: Guide for Automated Installation and Service* manual. If you choose, you can still use the traditional service procedure documented in the *z/VM: Service Guide*.

Notes:

1. You can use MAINT's 500 disk to hold your electronically delivered service. You should access it as 'C'.

2. VMSES/E uses MAINT's A-disk as a work disk. You must not reduce the size of the A-disk to save space.

3. The "Memo to Users" for each component on an RSU contains information about the service applied to that component; such as APAR/PTF numbers, additional disk requirements, etc.

4. If you are running a SCSI only system, and you have no 3480, 3490 or 3590 tape drives, then you will need to order service on CD-ROM or electronically from ServiceLink in IBMLink, if you have it, or ShopzSeries web site at:

     www.ibm.com/software/ShopzSeries

7.1.1 Additional Place into Production steps for z/Architecture CMS Sample Program

z/Architecture CMS is shipped as a sample program with z/VM version 5 release 3 with no formal support available. The z/Architecture CMS nucleus is shipped as ZCMS LOADDECK. If this file ever gets serviced then there are additional steps to follow in order to place the serviced nucleus into production. Refer to z/VM Web site:

     www.ibm.com/servers/eserver/zseries/zvm/related/zcms

for the additional steps and for additional z/Architecture CMS details and usage.

Appendix A. z/VM APARs Included From Previous Release

A.1 z/VM version 5 release 2 APARs for the VMSES/E component

The following z/VM version 5 release 2 VMSES/E APARs have been included in the z/VM version 5 release 3 base code.

Figure 19. z/VM version 5 release 2 VMSES/E APARs included in z/VM version 5 release 3 Base

VM63870	VM63996	VM63999	VM64064	VM64204

A.2 z/VM version 5 release 2 APARs for the CP component

The following z/VM version 5 release 2 CP APARs have been included in the z/VM version 5 release 3 base code.

Figure 20. z/VM version 5 release 2 CP APARs included in z/VM version 5 release 3 Base

VM63561	VM63630	VM63735	VM63784	VM63785	VM63806	VM63807
VM63808	VM63812	VM63815	VM63823	VM63827	VM63832	VM63837
VM63838	VM63840	VM63841	VM63842	VM63843	VM63845	VM63846
VM63847	VM63850	VM63851	VM63852	VM63853	VM63854	VM63855
VM63856	VM63858	VM63859	VM63860	VM63862	VM63865	VM63866
VM63867	VM63871	VM63872	VM63877	VM63879	VM63881	VM63883
VM63887	VM63888	VM63892	VM63893	VM63895	VM63897	VM63900
VM63902	VM63903	VM63905	VM63906	VM63907	VM63911	VM63913
VM63915	VM63916	VM63917	VM63918	VM63924	VM63925	VM63928
VM63930	VM63931	VM63943	VM63944	VM63945	VM63953	VM63954
VM63956	VM63957	VM63958	VM63959	VM63961	VM63962	VM63964
VM63965	VM63970	VM63971	VM63974	VM63976	VM63978	VM63980
VM63982	VM63983	VM63984	VM63985	VM63987	VM63988	VM63989
VM63990	VM63991	VM63992	VM63994	VM63995	VM63997	VM63998
VM64000	VM64009	VM64013	VM64014	VM64015	VM64017	VM64023
VM64028	VM64029	VM64033	VM64036	VM64037	VM64039	VM64040
VM64041	VM64049	VM64050	VM64051	VM64054	VM64060	VM64063
VM64069	VM64073	VM64075	VM64076	VM64079	VM64083	VM64084
VM64087	VM64098	VM64100	VM64102	VM64103	VM64115	VM64119
VM64121	VM64129	VM64139	VM64143	VM64144	VM64058	VM64068
VM64072	VM64123	VM64141	VM64145	VM64099	VM64012	VM64120
VM64151	VM64042	VM64130	VM64165	VM64122	VM64157	VM64161
VM64174	VM64155	VM64138	VM64173	VM64167	VM64125	VM64154
VM63889	VM64052	VM64133	VM63927	VM64191	VM64185	VM64197
VM64198						

A.3 z/VM version 5 release 2 APARs for the DVF component

The following z/VM version 5 release 2 APARs have been included in the z/VM version 5 release 3 base code.

Figure 21. z/VM version 5 release 2 DVF APARs included in z/VM version 5 release 3 Base

VM63919

A.4 z/VM version 5 release 2 APARs for the CMS component

The following z/VM version 5 release 2 CMS APARs have been included in the z/VM version 5 release 3 base code.

Figure 22. z/VM version 5 release 2 CMS APARs included in z/VM version 5 release 3 Base

VM63819	VM63825	VM63830	VM63834	VM63836	VM63874	VM63875
VM63876	VM63890	VM63894	VM63904	VM63910	VM63912	VM63921
VM63933	VM63935	VM63936	VM64008	VM64011	VM64053	VM64056
VM64057	VM64067	VM64070	VM64085	VM64088	VM64132	VM64135
VM64169	VM64176	VM64134				

A.5 z/VM version 5 release 2 APARs for the VM/REXX component

There are no z/VM version 5 release 2 APARs for REXX included in the z/VM version 5 release 3 base code.

A.6 z/VM version 5 release 2 APARs for the GCS component

There are no z/VM version 5 release 2 APARs for GCS included in the z/VM version 5 release 3 base code.

A.7 z/VM version 5 release 2 APARs for the TSAF component

There are no z/VM version 5 release 2 APARs for TSAF included in the z/VM version 5 release 3 base code.

A.8 z/VM version 5 release 2 APARs for the AVS component

The following z/VM version 5 release 2 APARs have been included in z/VM version 5 release 3 base code.

Figure 23. z/VM version 5 release 2 AVS APARs included in z/VM version 5 release 3 Base

VM64092	VM64118

A.9 APARS for the Language Environment component

A.9.1 Language Environment for z/VM V4.4 APARs

Language Environment V4.4 as shipped on z/VM V5.3 is at the RSU 0702 service level plus PTFs UM31923 and UM32009.

Appendix B. z/VM Inclusion of FINs

In addition to the APARs identified in Appendix A, "z/VM APARs Included From Previous Release," z/VM version 5 release 3 includes the following FINs (Fixed In Next Release) that were reported against previous releases. In some cases, an APAR was opened and closed with a closing code of FIN.

B.1 VM FINs or Requirements for all components

The following VM FINs or Requirements have been included in the z/VM version 5 release 3 base code.

Figure 24 (Page 1 of 2). VM FINs included in z/VM version 5 release 3 Base

Internal Problem ID	FIN APAR or Requirement	Description
Base code	MR1126025746	Enable z/VM to generate "gratuitous ARP" when ARP takeover occurs
Base code	MR1022036221	Allow use of the TRACERTE command without requiring special authorization
Base code	MR0628062936	Provide virtual switch support for Link Aggregation Control Protocol (LACP) of IEEE 802.3ad
Base code	MR1031036453	Allow deleting a device and link on TCPIP
Base Code	MR1024054319	Display PTF applied and put into production dates from the SERVICE EXEC
Base Code	MR042604374	Provide support for SMTP IPMAILERNAME statement
Base Code	MR0725052955	Provide an option on SET OBSERVER COMMAND for no display
Base Code	MR0209054947	Allow user identifiers to be used unambiguously as SMTP nicknames
Base Code	MR00076228	Allow RSCS AUTH command to be dynamic
Base Code	MR00074907	Allow RSCS AUTH command to be dynamic
Base Code	MR112102599	Allow RSCS AUTH command to be dynamic
Base Code	MR0924024650	Allow RSCS AUTH command to be dynamic
Base Code	MR0531051830	Provide z/VM support of zAAP specialty processors
Base Code	MR0329054435	Provide specification of COMMTYPE ANY in TELNETPARMS
Base Code	MR0512051655	Provide external interface to return server model and serial number
Base Code	MR0504057612	Support multiple targets with z/VM CP FLASHCOPY command
Base Code	MR0204055238	Provide a query command to obtain FLASHCOPY status
Base Code	MR061405463	Reduce time for hardware response messages and provide quicker responses to the CP FLASHCOPY command
Base Code	MR0227042533	Provide improvements to the LOGON command
Base Code	MR0406052249	Provide improvements to the LOGON command
Base Code	MR00064226	Provide a CP SET RESERVE equivalent in the CP directory
Base Code	MR1229065142	Allow the definition a RACF® user ID which cannot be revoked due to excessive invalid password attempts
Base Code	MR1117064811	Ability for Standalone dump to dynamically determine the IPL tape device and write that dump to that device

Figure 24 (Page 2 of 2). VM FINs included in z/VM version 5 release 3 Base

Internal Problem ID	FIN APAR or Requirement	Description
2T0R790	N/A	Documentation change to explain VSWITCH Discards
2T0R785	VM64046	A Q CPLOAD AFTER SHUTDOWN SHOWS NEW MODULE AS ACTIVE
2T0R673	VM64065	DASD HW Problem causes VARY HANGS and ABEND SXA004
2T0R164	N/A	Xstore average age calculation skewed high by PGMBK PGOUT miscounts
2T0Q647	N/A	Update HELP for FINIS RC=6
2T0Q598	N/A	QUERY PENDING COMMANDS gets HTT001 abend
2T0Q484	N/A	Need consistent error if not enough storage for DVD INSTALL
2T0Q220	N/A	Comments in HCPGAL and HCPGALPL conflict
2T0Q138	N/A	MACLIB command doesn't recognize mixed-case macro/mend statements
2T0Q118	VM63715	Abend STL023 occurring when reflecting adapter virtual interrupt
2T0P999	N/A	Shutdown progress messages should be time stamped
2T0P519	N/A	DTCPIN0014E UNKNOWN HOSTXXXX (Resolver uses only 6 DOMAINSEARCH entries)
2T0M849	N/A	SYSTEM VIRTUAL pages marked PGSERROR leading to HTS001/PTS001 abends
2T0Q376	N/A	Message VMF2104I needs better User Response
2T0Q910	N/A	VMFINFO Part Service Level Query output not correct for loadlib part
2T0R888	N/A	PUT2PROD SEND command failure
2T0R023	N/A	VMFINFO VMFINF2233I message not meaningful on build requirement query
2T0S064	N/A	UTILITY and MIGLINK share same message numbers but different msg text

Appendix C. z/VM Object Code Only Modules

Object Code Only modules are distributed only in object code form. No source program materials are available for these modules.

C.1 VMSES/E Object Code Only Modules

There are no OCO modules for VMSES/E in z/VM version 5 release 3 base.

C.2 CP Object Code Only Modules

The following CP Object Code Only modules are ASSEMBLE source files.

Figure 25. CP OCO Assemble Modules

HCPACL	HCPALC	HCPALE	HCPALM	HCPAPJ	HCPARP	HCPASI
HCPASM	HCPASN	HCPBIE	HCPBOT	HCPCBI	HCPCCG	HCPCCM
HCPCCN	HCPCCO	HCPCCY	HCPCWB	HCPDGE	HCPDMV	HCPDMW
HCPESS	HCPFOB	HCPGDT	HCPGLP	HCPGMC	HCPHMS	HCPHPM
HCPHPV	HCPHTT	HCPIDX	HCPIOT	HCPIOX	HCPIPM	HCPIPN
HCPIPP	HCPIPX	HCPIPY	HCPIQD	HCPIQE	HCPIQQ	HCPIQR
HCPKAE	HCPKAI	HCPKAP	HCPKAQ	HCPKAR	HCPKAU	HCPKEY
HCPKFC	HCPKFF	HCPKFK	HCPKFL	HCPKFR	HCPKFV	HCPKII
HCPLDF	HCPLLN	HCPLFP	HCPLFS	HCPLLT	HCPLLX	HCPMCB
HCPMCH	HCPMCI	HCPMEO	HCPMEP	HCPMFA	HCPMFB	HCPMFC
HCPMFE	HCPMFF	HCPMFG	HCPMFH	HCPMFI	HCPMFJ	HCPMFK
HCPMFL	HCPMFM	HCPMFN	HCPMFO	HCPMFP	HCPMFQ	HCPMFR
HCPMFT	HCPMFU	HCPMFV	HCPMFW	HCPMFX	HCPMFY	HCPMFZ
HCPMF1	HCPMF2	HCPMIX	HCPMPA	HCPMPC	HCPMPX	HCPMVP
HCPOFI	HCPPAB	HCPPCB	HCPPCD	HCPPCM	HCPPCR	HCPPCS
HCPPCV	HCPPCW	HCPPCX	HCPPTY	HCPPTZ	HCPRFG	HCPRFI
HCPRID	HCPRQU	HCPSAS	HCPSAT	HCPSDP	HCPSDQ	HCPSDU
HCPSDV	HCPSEA	HCPSED	HCPSEI	HCPSEW	HCPSGF	HCPSIT
HCPSWA	HCPSWB	HCPSWC	HCPSWD	HCPSWI	HCPSWM	HCPSWP
HCPSWR	HCPSWS	HCPSWU	HCPSYE	HCPTER	HCPTES	HCPTGD
HCPTGF	HCPTGR	HCPTPO	HCPTPS	HCPTPT	HCPTPX	HCPTRD
HCPTRF	HCPTRI	HCPTRP	HCPTRR	HCPTRW	HCPTRX	HCPTXO
HCPTZI	HCPVAI	HCPVAP	HCPVAQ	HCPVAT	HCPVLC	HCPVNS
HCPVOP	HCPVOU	HCPVPD	HCPVQA	HCPVQB	HCPVQE	HCPVQF
HCPVQG	HCPVQO	HCPVQP	HCPVQQ	HCPVQR	HCPVQS	HCPVQT
HCPVQU	HCPWAT	HCPWAU	HCPWCI	HCPWED	HCPWIS	HCPWKY
HCPWLB	HCPWLG	HCPWPR	HCPWRU	HCPWRW	HCPWSA	HCPWSI
HCPWVS	HCPWZD	HCPXDS	HCPXPG	HCPXSC	HCPXSM	HCPYCI
HCPZMG	HCPZMI	HCPZMX	HCPZSI			

The following CP Object Code Only modules are PL/X source files.

Figure 26. CP OCO PL/X Modules

HCPADQ	HCPAMR	HCPAST	HCPA2F	HCPCCS	HCPCDM	HCPCDR
HCPCDT	HCPCIO	HCPCM2	HCPCM3	HCPCM4	HCPCM5	HCPCUP
HCPDDP	HCPDDQ	HCPDD1	HCPDEX	HCPDMC	HCPDUF	HCPDUP
HCPGIS	HCPGRB	HCPHCD	HCPHDS	HCPHSE	HCPHSR	HCPICP
HCPIDF	HCPIGA	HCPKFM	HCPMDF	HCPMDP	HCPMD1	HCPMD2
HCPMD3	HCPMD4	HCPMD5	HCPMOG	HCPMTS	HCPMXD	HCPMXW
HCPMXX	HCPMXY	HCPNFC	HCPNTP	HCPQDD	HCPQDE	HCPQED
HCPQTZ	HCPQVO	HCPQVW	HCPSTR	HCPSVI	HCPTAM	HCPTPP
HCPTTR	HCPTUP	HCPTZF	HCPTZO	HCPTZS	HCPTZT	HCPVAR
HCPVDU						

The following CP Object Code Only modules are C source files.

Figure 27. CP OCO C Modules

HCPCRR	HCPSZB	HCPSZD	HCPSZE	HCPSZG	HCPSZJ	HCPSZK
HCPSZL	HCPSZM	HCPSZN	HCPSZO	HCPSZQ	HCPSZR	HCPSZT
HCPSZW	HCPSZX	HCPSZY	HCPSZZ			

C.3 DVF Object Code Only Modules

The following DVF Object Code Only modules are ASSEMBLE source files.

Figure 28. DVF OCO Assemble Modules

HCSAMP	HCSCLR	HCSCVT	HCSDMR	HCSDTA	HCSFRD	HCSFRI
HCSHEX	HCSIDT	HCSINT	HCSLOC	HCSMPA	HCSMPN	HCSMTA
HCSPMA	HCSUPA	HCSUPAA	HCSUPAB	HCSUPAE	HCSUME	HCSUMEA
HCSUMEB	HCSUMEE					

The following DVF Object Code Only modules are PL/X source files.

Figure 29 (Page 1 of 2). DVF OCO Modules

HCSACC	HCSACF	HCSADD	HCSADI	HCSADM	HCSADP	HCSADV
HCSAMX	HCSASF	HCSASI	HCSASW	HCSBLC	HCSBLD	HCSBLE
HCSBLF	HCSBLI	HCSBLP	HCSBLS	HCSCDT	HCSCFP	HCSCMP
HCSCMS	HCSCOM	HCSCPA	HCSCPR	HCSCPU	HCSCSP	HCSCST
HCSCVP	HCSC2D	HCSDFP	HCSDFR	HCSDID	HCSDIR	HCSDIS
HCSDSA	HCSDSC	HCSDSG	HCSDSI	HCSDSM	HCSDSP	HCSDSR
HCSDSS	HCSDST	HCSDSX	HCSDVS	HCSDXC	HCSDXI	HCSDXT
HCSD2C	HCSEDA	HCSEDB	HCSEDE	HCSEDF	HCSEDH	HCSEDI
HCSEDJ	HCSEDS	HCSEQU	HCSEXR	HCSFDS	HCSFOR	HCSFRE

Figure 29 (Page 2 of 2). DVF OCO Modules

HCSFTV	HCSGET	HCSGPA	HCSGPP	HCSGPV	HCSGSO	HCSGTR
HCSHLP	HCSHSA	HCSHSB	HCSHSC	HCSHSD	HCSHSE	HCSHSF
HCSHSG	HCSLMOVE	HCSLMP	HCSLOD	HCSMAP	HCSMIM	HCSMLK
HCSMNP	HCSMOD	HCSMPP	HCSMPR	HCSMPS	HCSMPT	HCSMSG
HCSMSG2	HCSMSR	HCSMVS	HCSNMP	HCSNOT	HCSPAR	HCSPCM
HCSPFN	HCSPID	HCSPMP	HCSPOP	HCSPRC	HCSPRI	HCSPRN
HCSPRO	HCSPRP	HCSPRT	HCSPRY	HCSPUP	HCSPVD	HCSQUI
HCSRAB	HCSRCB	HCSRCM	HCSRDB	HCSRDM	HCSRDS	HCSRED
HCSRER	HCSRIB	HCSRIF	HCSRIG	HCSRIH	HCSRII	HCSRIJ
HCSRIK	HCSRIO	HCSRIT	HCSRIX	HCSRIZ	HCSRSR	HCSSAV
HCSSCD	HCSSCI	HCSSCQ	HCSSCR	HCSSDF	HCSSEL	HCSSHV
HCSSIO	HCSSNP	HCSSPF	HCSSPT	HCSSRC	HCSSRS	HCSSRU
HCSSTA	HCSSUB	HCSSYD	HCSSYM	HCSSYP	HCSS5U	HCSTBS
HCSTCD	HCSTES	HCSTOD	HCSTPF	HCSTRA	HCSTRC	HCSTRD
HCSTRM	HCSTRP	HCSTRR	HCSTRS	HCSTRT	HCSTSA	HCSTSC
HCSTSD	HCSTSF	HCSTSG	HCSTSK	HCSTSM	HCSTSO	HCSTSP
HCSTSS	HCSTST	HCSTSV	HCSTSX	HCSUPPER	HCSVCI	HCSVDF
HCSVFI	HCSVFT	HCSVLF	HCSVMD	HCSVMF	HCSVML	HCSVMT
HCSVMU	HCSVRG	HCSVRP	HCSVTE	HCSVUI	HCSVUT	HCSXED
HCSX2C						

C.4 CMS Object Code Only Modules

The following CMS Object Code Only modules are ASSEMBLE source files.

Figure 30. CMS OCO Assemble Modules

AMQERROR	DMSBAESW	DMSBXBLD	DMSBXBTC	DMSBXBVS	DMSBXPAL	DMSBXPCL
DMSBXPCS	DMSBXPDS	DMSBXPGM	DMSBXPIA	DMSBXPST	DMSBXSIS	DMSBXS18
DMSICP	DMSINV	NM_BIND	RXMQVCLT	RXMQVLIT	UAMQMSGT	

The following CMS Object Code Only modules are PL/X source files.

Figure 31 (Page 1 of 4). CMS OCO PL/X Modules

AMQZASMA	AMQZASM0	AMQZASM1	AMQZASM2	AMQZASM3	AMQZASM4	AMQZASM5
AMQZASM6	AMQZASM7	AMQZASM8	AMQZASM9	DMSBAEC1	DMSBAEJ1	DMSBAEO1
DMSBAET1	DMSBAIE1	DMSBAIE2	DMSBAIS0	DMSBAIX0	DMSBAI00	DMSBAXC1
DMSBAXI1	DMSBAXO1	DMSBAXP1	DMSBAXR1	DMSBAXSD	DMSBAXS1	DMSBAXS2
DMSBAXWD	DMSBCC00	DMSBCILK	DMSBCILS	DMSBCMEX	DMSBCOPC	DMSBCOPP
DMSBCOPS	DMSBCPLS	DMSBKEI0	DMSBKTIO	DMSBLCLX	DMSBLCL0	DMSBLCL9
DMSBLDRL	DMSBLINT	DMSBLMSG	DMSBLPOF	DMSBLRLC	DMSBLSV0	DMSBXBD0
DMSBXMSG	DMSBXNUC	DMSBXPDE	DMSBXPSC	DMSBXSHS	DMSBXS1B	DMSBXS13
DMSBXS14	DMSBXS28	DMSBXS40	DMSBXS63	DMSBX1CH	DMSBX1CL	DMSBX1FT
DMSBX1LN	DMSBX1OP	DMSBX1RE	DMSBX1ST	DMSBX1WR	DMSBX2WX	DMSJMD
DMSJSD	DMSRXR	DMSZCTRC	DMSZEDAT	DMSZEDCM	DMSZEDEX	DMSZEDFN
DMSZEDSK	DMSZEEHT	DMSZEFAI	DMSZEGAI	DMSZEGA2	DMSZEGHA	DMSZEGHC

Figure 31 (Page 2 of 4). CMS OCO PL/X Modules

DMSZEGHN	DMSZEGHT	DMSZEGH2	DMSZEGH3	DMSZEGNI	DMSZEGSN	DMSZEGSP
DMSZEOPN	DMSZERIN	DMSZERMQ	DMSZERQD	DMSZERQU	DMSZERSN	DMSZERSR
DMSZESHT	DMSZESMT	DMSZESRT	DMSZETRR	DMSZLOCK	DMSZPTON	DMSZSPRN
DMSZUNLO	DMS2AE	DMS2CA	DMS2CB	DMS2CC	DMS2CD	DMS2CE
DMS2LA	DMS2TA	DMS2TB	DMS2TC	DMS2TD	DMS2TE	DMS2TF
DMS2TG	DMS2TR	DMS2TX	DMS3AA	DMS3AB	DMS3AC	DMS3AD
DMS3AE	DMS3AF	DMS3AG	DMS3AH	DMS3AI	DMS3AJ	DMS3AK
DMS3AL	DMS3AM	DMS3AN	DMS3AO	DMS3AP	DMS3AQ	DMS3AR
DMS3AS	DMS3AT	DMS3AU	DMS3AV	DMS3AW	DMS3AX	DMS3AY
DMS3AZ	DMS3BA	DMS3BB	DMS3BC	DMS3BD	DMS3BE	DMS3BF
DMS3BG	DMS3BH	DMS3BI	DMS3BJ	DMS3BK	DMS3BL	DMS3BM
DMS3BN	DMS3BO	DMS3BP	DMS3BQ	DMS3BR	DMS3BS	DMS3BT
DMS3BU	DMS3BV	DMS3BW	DMS3BX	DMS3BY	DMS3BZ	DMS3CA
DMS3CB	DMS3CC	DMS3CD	DMS3CE	DMS3CF	DMS3CG	DMS3CH
DMS3CI	DMS3CJ	DMS3CK	DMS3CL	DMS3CM	DMS3CN	DMS3CS
DMS3CZ	DMS3DA	DMS3DB	DMS3DC	DMS3DD	DMS3DE	DMS3DF
DMS3DW	DMS3DX	DMS3EZ	DMS3GL	DMS3GM	DMS3LA	DMS3LB
DMS3LC	DMS3LF	DMS3MF	DMS3NA	DMS3NB	DMS3NC	DMS3ND
DMS3NE	DMS3NF	DMS3N1	DMS3N2	DMS3N3	DMS3N4	DMS3N5
DMS3N6	DMS3N7	DMS3N8	DMS3N9	DMS3OF	DMS3ON	DMS3OR
DMS3RA	DMS3RB	DMS3RC	DMS3RD	DMS3RE	DMS3RF	DMS3RU
DMS3RV	DMS3RW	DMS3SB	DMS3SC	DMS3SM	DMS3SN	DMS3SP
DMS3SR	DMS3TA	DMS3TB	DMS3TC	DMS3TD	DMS3TE	DMS3TF
DMS3TG	DMS3TH	DMS3TI	DMS3TO	DMS3TP	DMS3TQ	DMS3TR
DMS3UP	DMS3VA	DMS3VB	DMS3VC	DMS3VD	DMS3VE	DMS3WM
DMS3WR	DMS3XG	DMS3XH	DMS3XL	DMS3XM	DMS3XP	DMS3XU
DMS3XX	DMS3XZ	DMS4AA	DMS4AB	DMS4AC	DMS4AD	DMS4AE
DMS4AF	DMS4AG	DMS4AH	DMS4AI	DMS4AJ	DMS4AK	DMS4AL
DMS4AM	DMS4AN	DMS4AO	DMS4AP	DMS4AQ	DMS4AR	DMS4AS
DMS4AT	DMS4AU	DMS4AV	DMS4AW	DMS4AX	DMS4AY	DMS4AZ
DMS4BA	DMS4BB	DMS4BC	DMS4BD	DMS4BE	DMS4BF	DMS4BG
DMS4BH	DMS4BI	DMS4BJ	DMS4BK	DMS4BL	DMS4BM	DMS4BN
DMS4BO	DMS4BP	DMS4BQ	DMS4BR	DMS4BS	DMS4BT	DMS4BU
DMS4BV	DMS4BW	DMS4BX	DMS4BY	DMS4CI	DMS4CJ	DMS4CK
DMS4CL	DMS4CN	DMS4DB	DMS4DC	DMS4DD	DMS4DE	DMS4DF
DMS4DH	DMS4DI	DMS4DJ	DMS4DK	DMS4DL	DMS4DM	DMS4DN
DMS4DO	DMS4DP	DMS4DQ	DMS4DR	DMS4DS	DMS4DT	DMS4DU
DMS4DV	DMS4DW	DMS4DX	DMS4DY	DMS4DZ	DMS4EA	DMS4EB
DMS4EC	DMS4ED	DMS4EE	DMS4EF	DMS4EG	DMS4EH	DMS4EX
DMS4EY	DMS4EZ	DMS4FA	DMS4FB	DMS4FD	DMS4FE	DMS4FG
DMS4FH	DMS4FI	DMS4FJ	DMS4FK	DMS4FL	DMS4FM	DMS4FO
DMS4FP	DMS4FR	DMS4GA	DMS4GB	DMS4GD	DMS4GE	DMS4GH
DMS4GI	DMS4GJ	DMS4GK	DMS4GL	DMS4GM	DMS4GN	DMS4GO
DMS4GP	DMS4GQ	DMS4GR	DMS4GS	DMS4GT	DMS4GW	DMS4GY
DMS4GZ	DMS4HA	DMS4HC	DMS4HZ	DMS4JA	DMS4JB	DMS4JC
DMS4JD	DMS4JE	DMS4JF	DMS4JG	DMS4JH	DMS4JI	DMS4JJ
DMS4JK	DMS4JL	DMS4JS	DMS4KA	DMS4KB	DMS4KC	DMS4KD
DMS4KE	DMS4KF	DMS4KH	DMS4KI	DMS4KJ	DMS4KK	DMS4KM
DMS4KO	DMS4KP	DMS4KR	DMS4LA	DMS4LB	DMS4LC	DMS4LD

Figure 31 (Page 3 of 4). CMS OCO PL/X Modules

DMS4LE	DMS4LF	DMS4LG	DMS4LH	DMS4LI	DMS4LJ	DMS4LK
DMS4LL	DMS4LM	DMS4LN	DMS4LO	DMS4LP	DMS4LQ	DMS4LR
DMS4LS	DMS4LT	DMS4LU	DMS4LV	DMS4LW	DMS4LX	DMS4LY
DMS4NA	DMS4NB	DMS4NC	DMS4ND	DMS4NE	DMS4NF	DMS4NG
DMS4NH	DMS4NI	DMS4NJ	DMS4NK	DMS4NL	DMS4NM	DMS4NO
DMS4NP	DMS4NQ	DMS4NR	DMS4NS	DMS4NT	DMS4NU	DMS4NV
DMS4NW	DMS4NX	DMS4ON	DMS4OP	DMS4OQ	DMS4OR	DMS4OS
DMS4OT	DMS4OU	DMS4PA	DMS4PB	DMS4PC	DMS4PD	DMS4PF
DMS4PG	DMS4PI	DMS4QA	DMS4QB	DMS4QC	DMS4QD	DMS4QE
DMS4QF	DMS4QG	DMS4QH	DMS4QJ	DMS4QK	DMS4QL	DMS4QM
DMS4QN	DMS4QO	DMS4QP	DMS4QQ	DMS4QR	DMS4QS	DMS4QX
DMS4QY	DMS4QZ	DMS4RA	DMS4RB	DMS4RC	DMS4RD	DMS4RE
DMS4RF	DMS4RG	DMS4RH	DMS4RI	DMS4RJ	DMS4RL	DMS4RM
DMS4RN	DMS4RX	DMS4RY	DMS4RZ	DMS4SB	DMS4SR	DMS4SS
DMS4SU	DMS4UA	DMS4UB	DMS4UE	DMS5AA	DMS5BA	DMS5BB
DMS5BC	DMS5BD	DMS5BE	DMS5BF	DMS5BG	DMS5BH	DMS5BI
DMS5BJ	DMS5BK	DMS5BM	DMS5BT	DMS5CA	DMS5CB	DMS5CC
DMS5CD	DMS5CE	DMS5CF	DMS5CP	DMS5CS	DMS5CV	DMS5CX
DMS5DA	DMS5DB	DMS5DC	DMS5DD	DMS5DE	DMS5DF	DMS5DG
DMS5DH	DMS5DI	DMS5DK	DMS5DS	DMS5DT	DMS5DU	DMS5FA
DMS5FB	DMS5FC	DMS5FD	DMS5FE	DMS5FF	DMS5GA	DMS5GB
DMS5GC	DMS5GD	DMS5GM	DMS5GN	DMS5GO	DMS5GR	DMS5HA
DMS5HB	DMS5HC	DMS5HE	DMS5IA	DMS5IB	DMS5IC	DMS5ID
DMS5IE	DMS5IF	DMS5IG	DMS5IL	DMS5IN	DMS5IP	DMS5JE
DMS5MA	DMS5MB	DMS5MT	DMS5MU	DMS5MV	DMS5NA	DMS5NB
DMS5NC	DMS5ND	DMS5NE	DMS5NF	DMS5PQ	DMS5PR	DMS5PS
DMS5PT	DMS5PW	DMS5PX	DMS5PY	DMS5PZ	DMS5QA	DMS5QB
DMS5QE	DMS5SB	DMS5SC	DMS5SD	DMS5SE	DMS5SF	DMS5SH
DMS5SI	DMS6LA	DMS6LB	DMS6LC	DMS6LD	DMS6LE	DMS6LF
DMS6LG	DMS6LH	DMS6LI	DMS6LJ	DMS6LK	DMS6LL	DMS6LM
DMS6LN	DMS6LO	DMS6LP	DMS6LQ	DMS6SA	DMS6SB	DMS6SC
DMS6SD	DMS6SE	DMS6SF	DMS6SG	DMS6SH	DMS6SI	DMS6SJ
DMS6SK	DMS6SL	DMS6SM	DMS6SN	DMS6SO	DMS6SP	DMS6SQ
DMS6SR	DMS6SS	DMS6ST	DMS6SU	DMS6SV	DMS7AA	DMS7AB
DMS7AC	DMS7AD	DMS7AE	DMS7AF	DMS7AG	DMS7AH	DMS7AI
DMS7AJ	DMS7AK	DMS7AL	DMS7AM	DMS7AN	DMS7AO	DMS7AP
DMS7AQ	DMS7AS	DMS7AT	DMS7AU	DMS7AV	DMS7AW	DMS7AX
DMS7BA	DMS7BB	DMS7BC	DMS7BD	DMS7BE	DMS7BI	DMS7BJ
DMS7BK	DMS7BR	DMS7BS	DMS7BX	DMS7BY	DMS7CC	DMS7CD
DMS7CE	DMS7CF	DMS7CG	DMS7CH	DMS7CI	DMS7CL	DMS7CP
DMS7CR	DMS7CS	DMS7CT	DMS7CU	DMS7CW	DMS7CX	DMS7CY
DMS7CZ	DMS7DA	DMS7DB	DMS7DC	DMS7DD	DMS7DE	DMS7DF
DMS7DG	DMS7DH	DMS7DI	DMS7LF	DMS7MC	DMS7MF	DMS7NH
DMS7RA	DMS7RB	DMS7RC	DMS7RD	DMS7RE	DMS7SI	DMS7SM
DMS7TA	DMS7TC	DMS7TD	DMS7TE	DMS7TF	DMS7TG	DMS7TI
DMS7TJ	DMS7TN	DMS7TP	DMS7TQ	DMS7TR	DMS7TS	DMS7TU
DMS7TV	DMS7TW	DMS7TX	DMS7TY	DMS7TZ	DMS7VC	DMS7WC
DMS7WU	DMS8BA	DMS8BB	DMS8BC	DMS8BD	DMS8BE	DMS8BF
DMS8BG	DMS8BH	DMS8BI	DMS8BJ	DMS8BK	DMS8BL	DMS8BM

Figure 31 (Page 4 of 4). CMS OCO PL/X Modules

DMS8BN	DMS8BO	DMS8BP	DMS8BQ	DMS8BR	DMS8BS	DMS8BT
DMS8BU	DMS8BV	DMS8BW	DMS8BX	DMS8BY	DMS8BZ	DMS8CC
DMS8CE	DMS8CF	DMS8CG	DMS8CH	DMS8CI	DMS8CJ	DMS8CL
DMS8CR	DMS8CS	DMS8CU	DMS8CW	DMS8CX	DMS8CY	DMS8CZ
DMS8C1	DMS8C2	DMS8C3	DMS8C4	DMS8DA	DMS8DB	DMS8DC
DMS8DD	DMS8DE	DMS8FX	DMS8GC	DMS8GD	DMS8GG	DMS8GM
DMS8GZ	DMS8G9	DMS8LI	DMS8LM	DMS8LS	DMS8LU	DMS8LX
DMS8LY	DMS8LZ	DMS8L1	DMS8L2	DMS8L3	DMS8L4	DMS8L5
DMS8L6	DMS8L7	DMS8L8	DMS8OV	DMS8VU	IEWBODEF	RXMQVBAK
RXMQVBDL	RXMQVBGO	RXMQVBMD	RXMQVBOD	RXMQVBPO	RXMQVBRO	RXMQVBXH
RXMQVEPA	RXMQVEVT	RXMQVGET	RXMQVHXT	RXMQVINQ	RXMQVMGO	RXMQVMMD
RXMQVMOD	RXMQVMPO	RXMQVPUT	RXMQVQSI	RXMQVSET	RXMQVSYC	RXMQVTMM

The following CMS Object Code Only modules are C source files.

Figure 32 (Page 1 of 2). CMS OCO C Modules

ALLOCENV	AMQCCCXA	AMQCCITA	AMQCCI6A	AMQCCMXA	AMQCDLLA	AMQCERRA
AMQCLIBA	AMQCMEMA	AMQCPRSA	AMQRAFNA	AMQRCDFA	AMQRCMSV	AMQRERRA
AMQREXTA	AMQRFILA	AMQRFPTA	AMQRMSSA	AMQRREQA	AMQRREQB	AMQRSCFA
AMQZSIA0	AMQZSJBX	AMQZUTR0	AR	AWK	AWK0	AWK1
AWK2	AWK3	AWK4	BASE	BASENAME	BC	BC_EXEC
BC_LEX	BC_MAIN	BCXMEM	BUFF	C_CMS	C_MALLOC	C_TEST
CATCLOSE	CATGETS	CATOPEN	CHGRP	CHMOD	CHOWN	CKSUM
CMP	CMSFILE	COMM	COMPRESS	CONFSTR	COPYRITE	CP
CPIO	CPIOFNS	CRCCCITT	CRC16	DAG	DATE	DC
DC_ADD	DC_ARRAY	DC_COM	DC_DIV	DC_ELT	DC_EXP	DC_INPUT
DC_MUL	DC_N	DC_NUM	DC_OP	DC_PARSE	DC_PRINT	DC_REL
DC_SQRT	DC_STACK	DD	DIFF	DIFFH	DIFF1	DIRNAME
DMAKE	DUMP	ECHO	ED0	ED1	ED2	ED3
ENV	EPRINTF	EXPR	FALSE	FEXECVE	FEXECVP	FNMATCH
FNS	FOLD	FSPEC	FUNCS	GENCAT	GETCONF	GETINP
GETOPT	GETPASS	GETUT	GLOB	GREP	GSUCAT	GSUCUT
GSUCXX	GSUC89	GSUFIND	GSUJOIN	GSULINK	GSUPARSE	GSUPASTE
GSUPRNTF	GSUSORT	GSUTIME	HEAD	ICONV	ID	INFER
ISABSNAM	ISWABSNA	ISYES	L_BASE	L_DFA	L_MAIN	L_OUT
LDCONV	LEX	LN	LOCALE	LOGGER	LOGGER2	LOGNAME
LP	LP2	LS	M_ARCOPY	M_ARLOOK	M_ARMEMB	M_ARNEXT
M_ARTOUC	M_AUDMOD	M_BINSRC	M_CESCAP	M_CMDNAM	M_COMP	M_CONFST
M_CRCPOS	M_CUSERI	M_DEC	M_DIRNAM	M_ERROR	M_ERRORR	M_ERRORX
M_ESCAPE	M_FGETS	M_FGETWS	M_FPUTMB	M_FSOPEN	M_FTW	M_FWOPEN
M_GETAUD	M_GROUPL	M_LLOXOP	M_LLOXSE	M_LLOXTY	M_LL0XCL	M_LOCK
M_LOXCLO	M_LOXOPE	M_LOXSEC	M_LOXSTR	M_LOXTYP	M_MALLOC	M_MBSCHR
M_MBSPBR	M_MBSRCH	M_MBSTOW	M_MBSWID	M_MKPARD	M_NAMEMA	M_NLSPAT
M_ORD	M_PATHCA	M_PATHMA	M_PSREAD	M_READDA	M_READMO	M_READNU
M_REALLO	M_SIG	M_STRDUP	M_STRMOD	M_STRMSG	M_SYMBOL	M_TEXT
M_TMPNAM	M_TOPRIN	M_VARIAN	M_WALLOW	M_WCSDUP	M_WCSSET	M_WCSTOM

Figure 32 (Page 2 of 2). CMS OCO C Modules

M_WINSIZ	MACPARSE	MAILDATE	MAIL0	MAIL1	MAIL2	MAIL3
MAIL4	MAIL5	MAIN	MAKE	MAKE_EXP	MKDIR	MKFIFO
MKNOD	MKTEMP	MV	NEWGRP	NM	NMEXESYM	NOHUP
OD	PATH	PATHCHK	PAX	PAXFNS	PERCENT	POPEN
PORT	PR	PS	PUTENV	PWD	QUIT	REG
REGCOMP	REGDOSBA	REGDOSUB	REGERROR	REGEX	REGEXEC	RM
RMDIR	RULES	RULETAB	RULPARSE	SED0	SED1	SED2
SH	SHBLTIN	SHBUF	SHDATE	SHFORK	SHMVS	SHSTAT
SH1	SH2	SH3	SH4	SH5	SH6	SH7
SH8	SH9	SLEEP	SNASTUBS	SSIGNAL	STAT	STRBTOK
STRDSTR	STRDUP	STRING	STRIP	STRSAN	STRTOCOL	STTY
STUBS	SU	SUFFIX	SWAB	SWAW	SYM	SYSINTF
SYSTEM	TAIL	TAR	TARFNS	TEE	TEMPNAM	TOUCH
TR	TRUE	TSMAIL	TTY	ULIMIT	UNAME	UNCOMPRE
UNIQ	UPDATE	VAR	WC	WORDEXP	XARGS	XMEM
Y_CLOSE	Y_CONF	Y_COPYP	Y_ECHO	Y_EPRED	Y_ERROR	Y_EXTERN
Y_GOTO	Y_GRAM	Y_INIT	Y_ITEM	Y_LALIST	Y_LALR	Y_LEX
Y_LLIST	Y_MAIN	Y_MEM	Y_NEWR	Y_NEWSYM	Y_NULL	Y_PRED
Y_PUTD	Y_SET	Y_SETI	Y_SETP	Y_SGEN	Y_SIG	Y_SQUEEZ
Y_STATE	Y_TAB	Y_TGEN	Y_TOPT	Y_TWRITE	Y_USELES	Y_WRAPUP
YYCOMMNT	YYERROR	YYMAIN	YYMAPCH	YYWRAP		

C.5 VM/REXX Object Code Only Modules

There are no OCO modules for VM/REXX in z/VM version 5 release 3 base.

C.6 GCS Object Code Only Modules

There are no OCO modules for GCS in z/VM version 5 release 3 base.

C.7 TSAF Object Code Only Modules

There are no OCO modules for TSAF in z/VM version 5 release 3 base.

C.8 AVS Object Code Only Modules

The following AVS Object Code Only modules are PL/X source files.

Figure 33 (Page 1 of 2). AVS OCO PL/X Modules

AGWACF	AGWACS	AGWACT	AGWCMC	AGWCMD	AGWCMF	AGWCMH

Figure 33 (Page 2 of 2). AVS OCO PL/X Modules

AGWCMJ	AGWCMQ	AGWCTR	AGWDGW	AGWDSP	AGWEOT	AGWFAS
AGWGAB	AGWGGW	AGWGMD	AGWGSP	AGWIIS	AGWINI	AGWIOM
AGWIUE	AGWMGM	AGWOLM	AGWPGT	AGWSET	AGWTIM	AGWTRM
AGWTRS	AGWUSM	AGWVAF	AGWVBC	AGWVCB	AGWVCC	AGWVCP
AGWVDA	AGWVFD	AGWVGB	AGWVIP	AGWVMC	AGWVME	AGWVMF
AGWVMP	AGWVMR	AGWVMS	AGWVMX	AGWVMY	AGWVPS	AGWVRA
AGWVRC	AGWVRM	AGWVRS	AGWVRT	AGWVRX	AGWVTA	AGWVTB
AGWVTC	AGWVTD	AGWVTE	AGWVTF	AGWVTP	AGWVTS	AGWVTT
AGWVTX	AGWZAM	AGWZCV	AGWZDS	AGWZEN	AGWZEX	AGWZGC
AGWZGW	AGWZMA	AGWZMN	AGWZMO	AGWZRS	AGWZSG	AGWZTD
AGWZTE	AGWZTF	AGWZTO	AGWZTR	AGWZTS	CSIYTXEB	

C.9 Language Environment Object Code Only Modules

All of Language Environment is Object Code Only, except for the supplied sample files.

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z/VM version 5 release 3

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

```
┌─ RATING SCALE ──────────────────────────────────────────────────
│   very                            very        not
│ satisfied  <====================>  dissatisfied  applicable
│    1       2       3       4        5              N
│
└──────────────────────────────────────────────────────────────────
```

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of program directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	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
Ease of getting the system into production after installation	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?

__   Yes
__   No

Were the people who did the installation experienced with the installation of VM products?

___ Yes
___ No

If yes, how many years? ___

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

_____

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Please provide the following contact information:

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