IBM

Program Directory for

z/VM

version 6 release 2

Program Number 5741-A07

for Use with
z/VM V6.2

Document Date: December 2011

GI11-4348-00

> **Note!**
>
> Before using this information and the product it supports, be sure to read the general information under "Notices" on page 35.

Contents

Figures

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 6 release 2. 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 20 provides information regarding the installation process for z/VM.

- 7.0, "Service Instructions" on page 22 provides information regarding the service process for z/VM.

- Appendix A, "z/VM APARs Included From Previous Release" on page 23 lists the APARs and PTFs incorporated into z/VM.

- Appendix B, "z/VM Inclusion of Requirements and FINS" on page 26 lists the requirement, FIN APARs and FIN PITS problem records incorporated into z/VM.

- Appendix C, "z/VM Object Code Only Modules" on page 27 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 6 release 2 is 5741-A07.

The program announcement material describes the features supported by z/VM version 6 release 2. 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 V6.2 - Accelerate the journey to smarter computing with multi-system virtualization and virtual server mobility* Software Announcement for information about ordering z/VM version 6 release 2 and its features. This announcement can be found using the links under the heading 'Summary of News and Updates' on the z/VM home page:

www.vm.ibm.com

The distribution media for the z/VM System Deliverable is 3590 tape cartridge, 3592 tape cartridge, DVD or electronic internet delivery. The DVD and electronic deliverables are a binary image and not in DDR format. The tapes, DVD and electronic delivery support installation of z/VM to 3390 DASD, models 3 and 9. The DVDs and electronic delivery also support installation to FCP-attached IBM System Storage SCSI disks or equivalent.

Note: Electronic internet delivery of the z/VM operating system (z/VM System Deliverable) and any IBM z/VM Licensed Products is only available when ordered through ShopzSeries at url:

www.ibm.com/software/ShopzSeries

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

See section 6.0, "Installation Instructions" on page 20 for more information about how to install the program.

2.2 National Language Support (NLS)

The distribution medium for NLS is 3590 tape cartridge, 3592 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 V6.2 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 does not come as part of the z/VM system deliverable. It is an optionally orderable free feature of the z/VM V6.2 SDO. DFSMS/VM is not packaged as SSI ready. For information on installing DFSMS in an SSI environment refer to the DFSMS web page at url:

   www.vm.ibm.com/related/dfsms/

The z/VM Restricted Source feature and the PL/X Source feature are not shipped with the z/VM system 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 V6.2

Entitlement will be verified when you request this source code. After your verification, 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 20.

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 6 release 2.

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 6 release 2. For additional copies of any publication, visit the IBM Publications Center at their World Wide Web site:

   www.ibm.com/shop/publications/order

or the z/VM Information Center web site:

   http://publib.boulder.ibm.com/infocenter/zvm/v6r2/index.jsp

Figure 1. Basic Material: Publications for z/VM - New Editions

Publication Title	Form Number
z/VM: Installation Guide	GC24-6246
z/VM: License Information	GC24-6200

Figure 2 identifies the informal shipped documentation for z/VM. One copy of the associated publication is included with your z/VM V6.2 order for any priced feature that you order.

Figure 2. Basic Material: Informal Documentation

Publication Title	Form Number
Memo to Users IBM z/VM Single System Image Feature	GI11-9807
Memo to Users IBM Performance Toolkit for VM™	GI11-9808
Memo to Users IBM Directory Maintenance Facility for z/VM	GI11-9809
Memo to Users IBM Remote Spooling Communications Subsystem (RSCS) Networking for z/VM	GI11-9810
Memo to Users IBM RACF® Security Server for z/VM	GI11-9811

Figure 3 identifies the informal documentation for z/VM and the priced features of z/VM. The program directories are softcopy only.

Figure 3 (Page 1 of 2). Basic Material: Informal Documentation

Publication Title	Form Number
Program Directory for z/VM	GI11-4348
Program Directory for TCP/IP for z/VM	GI11-4350
Program Directory for Open Systems Adapter Support Facility Feature	GI11-9805

Figure 3 (Page 2 of 2). Basic Material: Informal Documentation

Publication Title	Form Number
Program Directory for Hardware Configuration Definition and Hardware Configuration Manager for z/VM	GI11-9804
Program Directory for Environmental Record Editing and Printing (EREP)	GI10-8140-01
Program Directory for Device Support Facilities ICKDSF	GI10-4514-02
RSU Stacked Tape Memo	GI11-4349
Program Directory for Performance Toolkit for VM	GI11-4351
Program Directory for Directory Maintenance Facility for z/VM	GI11-9801
Program Directory for Remote Spooling Communications Subsystem (RSCS) Networking for z/VM	GI11-9802
Program Directory or RACF® Security Server for z/VM	GI11-9803

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 Adobe® Portable Document Format (PDF) or BookManager® format with z/VM. z/VM publications, except Program Directories, are also available in the z/VM Information Center web site:

http://publib.boulder.ibm.com/infocenter/zvm/v6r2/index.jsp

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 several products that run on z/VM. The *IBM Online Library: z/VM Collection* DVD contains all of the IBM libraries (unlicensed books only) that are available in PDF or 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 PDF. One copy of the *IBM Online Library: z/VM Collection on DVD* is shipped automatically with the z/VM product at no additional charge. Figure 4 identifies the z/VM softcopy displayable feature and order number for the online library collection DVD media. Use the order number shown if you need to order additional copies (for a fee).

Figure 4. Optional Material: Softcopy Displayable

Publication Title	Feature Number	Order Number
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/vm/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 5 identifies the optional unlicensed program publications for z/VM that have new editions.

Figure 5 (Page 1 of 2). Optional Material: Publications for z/VM - New Editions

Publication Title	Form Number
z/VM: General Information	GC24-6193
z/VM: Service Guide	GC24-6247
z/VM: Getting Started with Linux™ on System z®	SC24-6194
z/VM: CMS Callable Services Reference	SC24-6165
z/VM: CMS Commands and Utilities Reference	SC24-6166
z/VM: CP Planning and Administration	SC24-6178
z/VM: CP Commands and Utilities Reference	SC24-6175
z/VM: I/O Configuration	SC24-6198
z/VM: CP Messages and Codes	GC24-6177
z/VM: CMS and REXX/VM Messages and Codes	GC24-6161
z/VM: Other Components Messages and Codes	GC24-6207
z/VM: VMSES/E Introduction and Reference	GC24-6243
z/VM: Performance	SC24-6208
z/VM: Program Management Binder for CMS	SC24-6211
z/VM: Migration Guide	GC24-6201
z/VM: System Operation	SC24-6233
z/VM: CP Programming Services	SC24-6179
z/VM: Group Control System	SC24-6196
z/VM: VM Dump Tool	GC24-6242
z/VM: Systems Management Application Programming	SC24-6234
z/VM: TCP/IP Diagnosis Guide	GC24-6235
z/VM: TCP/IP LDAP Administration Guide	SC24-6236

Publication Title	Form Number
z/VM: TCP/IP Messages and Codes	GC24-6237
z/VM: TCP/IP Planning and Customization	SC24-6238
z/VM: TCP/IP Programmer's Reference	SC24-6239
z/VM: TCP/IP User's Guide	SC24-6240
z/VM: Running Guest Operating Systems	SC24-6228
z/VM: Connectivity	SC24-6174
z/VM: Saved Segments Planning and Administration	SC24-6229
z/VM: Secure Configuration Guide	SC24-6230
z/VM: CMS Application Development Guide	SC24-6162
z/VM: CMS File Pool Planning, Administration, and Operation	SC24-6167
z/VM: CMS Application Development Guide for Assembler	SC24-6163
z/VM: CMS Planning and Administration	SC24-6171
z/VM: CMS Macros and Functions Reference	SC24-6168
z/VM: CMS User's Guide	SC24-6173
z/VM: CP Exit Customization	SC24-6176
z/VM: Glossary	GC24-6195
z/VM: OpenExtensions Callable Services Reference	SC24-6203
z/VM: REXX/VM Reference	SC24-6221
z/VM: Diagnosis Guide	GC24-6187
z/VM: Language Environment® User's Guide	SC24-6199
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 Debugging Guide	SA22-7560
z/OS MVS® Program Management: Advanced Facilities	SA22-7644
z/OS MVS® Program Management: User's Guide and Reference	SA22-7643
z/OS: Language Environment Run-Time Messages	SA22-7566
z/OS: Language Environment Writing Interlanguage Communication Applications	SA22-7563
z/OS and z/VM: Hardware Configuration Manager User's Guide	SC33-7989
z/OS and z/VM: Hardware Configuration Definition Messages	SC33-7986
Device Support Facilities: User's Guide and Reference	GC35-0033
Environmental Record Editing and Printing Program (EREP): Reference	GC35-0152

Figure 6 identifies the optional unlicensed program publications for z/VM that do not have new editions.

Figure 6. Optional Material: Publications for z/VM - Not New Editions

Publication Title	Form Number
z/VM: Dump Viewing Facility	GC24-6191
z/VM: XEDIT Command and Macro Reference	SC24-6244
z/VM: XEDIT User's Guide	SC24-6245
z/VM: CMS Application Multitasking	SC24-6164
z/VM: CMS Pipelines Reference	SC24-6169
z/VM: CMS Pipelines User's Guide	SC24-6170
z/VM: CMS Primer	SC24-6172
z/VM: Virtual Machine Operation	SC24-6241
z/VM: Enterprise Systems Architecture/Extended Configuration Principles of Operation	SC24-6192
z/VM: CPI Communications User's Guide	SC24-6180
z/VM: OpenExtensions POSIX Conformance Document	GC24-6205
z/VM: OpenExtensions User's Guide	SC24-6206
z/VM: Reusable Server Kernel Programmer's Guide and Reference	SC24-6220
z/VM: REXX/VM User's Guide	SC24-6222
z/VM: OpenExtensions Advanced Application Programming Tools	SC24-6202
z/VM: OpenExtensions™ Command Reference	SC24-6204
z/OS IBM Tivoli® Directory Server Plug-in Reference for z/OS	SA76-0148
Network Job Entry: Formats and Protocols	SA22-7539
CMS/TSO Pipelines: Author's Edition	SL26-0018
Common Programming Interface Communications Reference	SC26-4399
Common Programming Interface Resource Recovery Reference	SC31-6821
Environmental Record Editing and Printing Program (EREP): User's Guide	GC35-0151

Note: The CP and CMS control block information is not 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 7 and Figure 8 identify the optional unlicensed program publications for OSA/SF for VM.

Figure 7. Optional Material: OSA/SF Publications - New Editions

Publication Title	Form Number
zEnterprise™ System, System z10™, System z9® and eServer™ zSeries®: Open Systems Adapter-Express Customer's Guide and Reference	SA22-7935
zEnterprise™ System, System z10™, System z9® and eServer™ zSeries®: Open Systems Adapter-Express3 Integrated Console Controller Dual-Port User's Guide	SA23-2226

Figure 8. Optional Material: OSA/SF Publications - Not New Editions

Publication Title	Form Number
System z9 and eServer zSeries 890 and 990: Systems Adapter-Express Integrated Console Controller User's Guide	SA22-7990
System z: Open Systems Adapter-Express Integrated Console Controller 3215 Support	SA23-2247

Figure 9 identifies the optional unlicensed program publications for DFSMS/VM FL221.

Figure 9. Optional Material: DFSMS/VM Publications - New Editions

Publication Title	Form Number
z/VM: DFSMS/VM Removable Media Services	SC24-6185

Figure 10 identifies the optional unlicensed program publications for DFSMS/VM FL221.

Figure 10. Optional Material: DFSMS/VM Publications - Not New Editions

Publication Title	Form Number
z/VM: DFSMS/VM Customization	GC24-6181
z/VM: DFSMS/VM Messages and Codes	GC24-6183
z/VM: DFSMS/VM Diagnosis Guide	GC24-6182
z/VM: DFSMS/VM Planning Guide	SC24-6184
z/VM: DFSMS/VM Storage Administration	SC24-6186

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

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 should check the current individual product RSU level. If you are not at the current product RSU level then you should order the z/VM Stacked RSU, UM97620. Refer to the following z/VM RSU internet site:

   www.vm.ibm.com/service/rsu/stk620.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:

   www.vm.ibm.com/service

Note: You can click on 'Notify me' in the left navigation area of the z/VM RSU page and complete the form that is displayed so that you will be notified whenever the stk620.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 11 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 11.

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

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Figure 11. PSP Upgrade and Subset ID - z/VM

Upgrade	Subset	RETAIN® Release
ZVM620	CP	620
ZVM620	DVF	620
ZVM620	GCS	620
ZVM620	CMS	620
ZVM620	TSAF	620
ZVM620	VMSES	620
ZVM620	REXX	620
ZVM620	AVS	620
ZVM620	LE	620
ZVM620	yynnRSU	RSU
TCPIP620	VM620	620
TCPIP620	yynnRSU	RSU
VMOSASF440	OSASF	440
VMOSASF440	yynnRSU	RSU
ZVMHCD620	ZVMHCD/620	620
ZVMHCD620	yynnRSU	RSU
VMPTK620	PTK/620	620
VMPTK620	yynnRSU	RSU
DIRM620	DIRM/620	620
DIRM620	yynnRSU	RSU
RACFVM620	RACF620	620
RACFVM620	yynnRSU	RSU
RSCS620	RSCS/620	620
RSCS620	yynnRSU	RSU
DFSMSVM221	SMS221	221
ICKDSF017	CMS0H14	H14
EREP350	VMEREP/350	500

3.2 Statement of Support Procedures

With z/VM you are entitled to support under the basic warranty for z/VM. You should 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.

With the IBM z/VM Single System Image Feature you are entitled to support under the basic warranty for z/VM. You should note that the Software Subscription and Support for the VMSSI feature is **automatically** added to your order. This provides zSeries service to which you are likely accustomed. If you do not want the z/VM Software Subscription and Support for this feature 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 12 identifies the component IDs (COMPID), Retain Release and Field Engineering Service Numbers (FESN) for z/VM.

Figure 12 (Page 1 of 2). Component IDs and Field Engineering Numbers

Retain				
COMPID	**Release**	**Component Name**	**PRODID**	**FESN**
568411201	620	CMS	6VMCMS20	0460181
568411202	620	CP	6VMCPR20	0460647
568411204	620	AVS	6VMAVS20	0460648
568411205	620	REXX™	6VMREX20	0460185
568411206	620	TSAF	6VMTSA20	0460186
568411208	620	DVF	6VMDVF20	0460188
568411209	620	VMSES/E	6VMSES20	0460646
568411211	620	GCS	6VMGCS20	0460191
568411220	620	LE	6VMLEN20	0410741
568819802	620	LE COBOL RTL	6VMLEN20	0562227
568819803	620	LE PL/I RTL	6VMLEN20	0562228
568411201	A62	CMS JAPANESE KANJI	6VMCMS20	0460181
568411202	A62	CP JAPANESE KANJI	6VMCPR20	0460647
568411204	A62	AVS JAPANESE KANJI	6VMAVS20	0460648
568411205	A62	REXX JAPANESE KANJI	6VMREX20	0460185
568411206	A62	TSAF JAPANESE KANJI	6VMTSA20	0460186
568411208	A62	DVF JAPANESE KANJI	6VMDVF20	0460188

Figure 12 (Page 2 of 2). Component IDs and Field Engineering Numbers

Retain				
COMPID	**Release**	**Component Name**	**PRODID**	**FESN**
568411209	A62	VMSES/E JAPANESE KANJI	6VMSES20	0460646
568411211	A62	GCS JAPANESE KANJI	6VMGCS20	0460191
568411220	A62	LE JAPANESE KANJI	6VMLEN20	0410741
568819802	A62	LE COBOL RTL JAPANESE KANJI	6VMLEN20	0562227
568819803	A62	LE PL/I RTL JAPANESE KANJI	6VMLEN20	0562228

For your convenience, Figure 13 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 13. Component IDs and Field Engineering Numbers

Retain				
COMPID	**Release**	**Component Name**	**PRODID**	**FESN**
568411219	620	HCD/HCM for z/VM	6VMHCD20	0409974
565510400	440	OSA/SF for VM	4OSASF40	0401298
5735FAL00	620	TCP/IP for z/VM	6VMTCP20	0461035
568411218	620	Performance Toolkit for VM	6VMPTK20	0408274
5749DVH00	620	DirMaint™	6VMDIR20	6415301
576700201	620	RACF	6VMRAC20	6700201
568409601	620	RSCS	6VMRSC20	0401165
565899201	H14	ICKDSF	5684042J	5499201
565426001	500	EREP VM	$5654260	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 6 release 1 APARs, which are fixed in z/VM version 6 release 2, are listed in Appendix A, "z/VM APARs Included From Previous Release" on page 23 of this document.

4.2 Service Level Information

EREP V3.5 is at SDO service level SDO-1100 available December 2011 and ICKDSF V1.17 is at the SDO service level ESO-1108 available August 2011.

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 applicable. (If you install a higher level RSU then the products may be at a higher level.)

Figure 14. Feature/Component RSU Levels GA System Deliverable

Product Name	Release Level	RSU Level
OSA/SF for VM	FL 440	0902

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 6 release 2 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 **UM97620**.

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 6 release 2. These products are already installed on the z/VM System Deliverables.

Figure 15. Products Required for z/VM version 6 release 2

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 V6.2 Software Announcement for information on obtaining a license for these products.

Figure 16. Features or Products Requiring a License

Product/Feature Name	Product Level	Product Number
z/VM Single System Image Feature	620	5741-A07
Performance Toolkit for VM	620	5741-A07
DirMaint	620	5741-A07
RACF Security Server	620	5741-A07
RSCS	620	5741-A07

5.1.2 DASD Storage Requirements

Figure 17 identifies the DASD required to install z/VM version 6 release 2.

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

Figure 17. DASD Requirements for System Residence, Work, Spool and Page

DASD Type	Number of DASD	Reason
3390-Mod 3 (3339 cylinders)	8 for non-SSI or 8 plus four more for each additional member for an SSI	if you select to load to minidisk
	7 for non-SSI or 7 plus four more for each additional member for an SSI	if you select to load to SFS Note that if you load to both minidisk and SFS you will need either seven or eight volumes for first system or member
3390-Mod 9 (10017 cylinders)	5 for non-SSI or 5 plus three more for each additional member for an SSI	if you select to load to minidisk or SFS
FBA	5 - 6GB to 10GB SCSI Disk	if you select to load to SFS Note that SCSI disk install is non-SSI only

5.1.3 Media/Tape Drive Requirements

The following devices are supported:

- 3590 tape
- 3592 tape
- DVD
- electronic delivery

Notes:

1. 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.

2. Both DVD and electronic delivery require access to the Hardware Management Console (HMC) or a Windows™ or Linux™ FTP server

5.1.4 Hardware Requirements

For installation hardware requirements make sure you review the appropriate 'Review and understand the requirements' section in the *z/VM: Installation Guide*. **This is especially important if you will be installing from DVD**.

For z/VM product hardware requirements refer to the 'Hardware and storage requirements' section in the *z/VM: General Information*.

5.1.5 Software Program Requirements

For z/VM software program requirements refer to the 'Software (program) requirements' section in the *z/VM: General Information*.

5.1.6 Programming and Migration Considerations

5.1.6.1 Migration Considerations

The *z/VM:General Information*, *CP Planning and Administration* Part 5 'Single System Image Clusters Planning and Administration', *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.

5.1.6.1.1 System Support Task:

You must create a new stand-alone dump tape to use with z/VM V6.2. When you run the HCPSADMP EXEC (reference *z/VM: Installation Guide*, Chapter 11 Step 1) 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.

5.1.6.1.2 VMSES/E Packaging Changes

 • The following are the new file identifiers for the source product parameter files ($PPF)

Figure 18. New $PPF File Names

Componet/Feature	$PPF file name and file type
AVS	6VMAVS20 $PPF
CMS	6VMCMS20 $PPF
CP	6VMCPR20 $PPF
Dump Viewing Facility	6VMDVF20 $PPF
GCS	6VMGCS20 $PPF
REXX	6VMREX20 $PPF
TSAF	6VMTSA20 $PPF
VMSES/E	6VMSES40 $PPF
Language Environment	6VMLEN20 $PPF
TCPIP	6VMTCP20 $PPF
HCD/HCM for z/VM	6VMHCD20 $PPF
Performance Toolkit for VM	6VMPTK20 $PPF
DirMaint	6VMDIR20 $PPF
RSCS	6VMRSC20 $PPF
RACF	6VMRAC20 $PPF

Notes:

1. OSA is still at FL440 level with a PRODID of 4OSASF40.

- The default PPF used to service all components and features of z/VM 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, 6vm*aaa*20 $PPF). If you have created an override to the ZVM $PPF it will not be included in the SERVP2P $PPF. You should change your PPF override to override all the appropriate components in the SERVP2P $PPF file instead of the ZVM $PPF file.

- The SERVP2P PPF is now used instead of the ZVM PPF to build the shipped z/VM segments.

- All pre-installed components and features serviced using then MAINT620 user ID instead of MAINT or the product/feature user ID.

- VMPSFS is the new default shared file system (SFS) file pool used instead of VMSYS for the base component service disks. VMSYS is still used by the byte file system and by the SSL and LDAP servers.

- If you have created a PPF override, you can update the VM SYSSUF file to reflect your PPF override name by issuing the VMFUPDAT SYSSUF command. You must do this so that your PPF override will be used by the SERVICE, PUT2PROD and LOCALMOD commands.

- Placing the z/VM base components and pre-installed features into production is now done by moving just the serviced objects to the production disk rather than copying the entire test build disk to the corresponding production disk.

6.0 Installation Instructions

6.1 z/VM Base Installation

Installation instructions are contained in the *z/VM: Installation Guide* 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: Installation Guide* in order to install the z/VM System Deliverable, the stacked RSU and any z/VM optional features.

For information on tailoring the z/VM component customizable files refer to the appropriate z/VM component (CP, CMS, VMSES, LE, etc) publications.

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 V6.2 in order to access this source code.

Note: To store all the restricted and PL/X source files you will need several hundred cylinders of space. See the installation instructions for the Restricted and PL/X Source at **www.**vm.ibm.com/install/srcinst.html/ for space requirements.

You need to be registered with Resource Link so you can sign in to it to retrieve the source files. 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 version 6.2.0 Restricted and PLX Source*

Next you will be asked to fill out the Restricted and PL/X Source Registration form so that your entitlement to z/VM V6.2 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 V6.2**. 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 6 Restricted and PLX Source web page (the page where you originally clicked on *Register for version 6.2.0 Restricted and PLX Source*). This link says "**If you are already registered and authorized** *access the V6.2.0 Restricted and PLX source*. Click on *access the V6.2.0 Restricted and PLX source*.

The next web page will display the files that can be downloaded and a pointer to the installation instructions. You should 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 install the files on z/VM, how to de-compact the envelope files and the installation instructions.

When you click on any one of the downloadable files you will be asked to to review the License Agreement and select "I agree". When you select "I agree" you will begin to download the source code, which is stored on the server as tersed (compacted) servlink envelope files. 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 *z/VM: Service Guide* contains the instructions for servicing your z/VM system.

Notes:

1. You can use MAINT620's 500 disk to hold your electronically delivered service. You should access it as file mode 'C'.

2. VMSES/E uses MAINT620'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 supported tape drives, then you will need to order service on CD-ROM, DVD or electronically from ServiceLink in IBMLink, if you have it, or from ShopzSeries web site at:

    www.ibm.com/software/ShopzSeries

Appendix A. z/VM APARs Included From Previous Release

A.1 z/VM version 6 release 1 APARs for the VMSES/E component

There are no z/VM version 6 release 1 APARs for VMSES/E included in the z/VM version 6 release 2 base code.

A.2 z/VM version 6 release 1 APARs for the CP component

The following z/VM version 6 release 1 CP APARs have been included in the z/VM version 6 release 2 base code.

Figure 19 (Page 1 of 2). z/VM version 6 release 1 CP APARs included in z/VM version 6 release 2 Base

VM64427	VM64477	VM64527	VM64584	VM64588	VM64592	VM64605
VM64616	VM64629	VM64647	VM64653	VM64656	VM64665	VM64667
VM64670	VM64675	VM64676	VM64678	VM64679	VM64681	VM64683
VM64684	VM64685	VM64686	VM64689	VM64692	VM64693	VM64694
VM64698	VM64701	VM64702	VM64708	VM64709	VM64712	VM64713
VM64714	VM64716	VM64718	VM64720	VM64721	VM64723	VM64725
VM64727	VM64728	VM64729	VM64730	VM64731	VM64733	VM64736
VM64738	VM64743	VM64748	VM64749	VM64752	VM64753	VM64756
VM64763	VM64765	VM64766	VM64767	VM64768	VM64769	VM64772
VM64774	VM64775	VM64776	VM64777	VM64779	VM64780	VM64782
VM64783	VM64784	VM64785	VM64786	VM64787	VM64788	VM64789
VM64790	VM64791	VM64793	VM64794	VM64795	VM64798	VM64800
VM64802	VM64803	VM64804	VM64808	VM64812	VM64814	VM64815
VM64816	VM64817	VM64818	VM64824	VM64826	VM64827	VM64828
VM64830	VM64833	VM64834	VM64836	VM64842	VM64843	VM64845
VM64846	VM64848	VM64850	VM64853	VM64857	VM64858	VM64859
VM64861	VM64862	VM64864	VM64865	VM64866	VM64868	VM64874
VM64875	VM64876	VM64879	VM64881	VM64885	VM64887	VM64891
VM64892	VM64895	VM64900	VM64901	VM64902	VM64903	VM64905
VM64906	VM64913	VM64920	VM64921	VM64922	VM64925	VM64927
VM64938	VM64951	VM64953	VM64954	VM64964	VM64960	VM64967
VM64944	VM64919	VM64847	VM64936	VM64974	VM64832	VM64945
VM64955	VM64968	VM64939	VM64932	VM64959	VM64983	VM64934
VM64706	VM64829	VM64957	VM64992	VM64991	VM64946	VM64969
VM64996	VM64973	VM65020	VM64962	VM64980	VM65017	VM65018
VM64914	VM64915	VM64965	VM64994	VM64995	VM64884	VM64986
VM64998	VM65002	VM64977	VM64548	VM64796	VM65000	VM65014
VM64963	VM65016	VM65001	VM65026	VM64948	VM64943	VM65013
VM65030	VM65039	VM65031	VM64947	VM64995	VM64884	VM64986
VM64998	VM65002	VM64977	VM64548	VM64796	VM65000	VM65014
VM64963	VM65016	VM65001	VM65026	VM64948	VM64943	VM65013

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VM65030	VM65039	VM65031	VM64947	VM64961	VM64893	VM64715
VM64970	VM65048	VM65038	VM64975	VM65051	VM64987	VM65059
VM65032						

A.3 z/VM version 6 release 1 APARs for the DVF component

The following z/VM version 6 release 1 DVF APARs have been included in the z/VM version 6 release 2 base code.

Figure 20. z/VM version 6 release 1 DVF APARs included in z/VM version 6 release 2 Base

VM64696

A.4 z/VM version 6 release 1 APARs for the CMS component

The following z/VM version 6 release 1 CMS APARs have been included in the z/VM version 6 release 2 base code.

Figure 21. z/VM version 6 release 1 CMS APARs included in z/VM version 6 release 2 Base

VM64313	VM64673	VM64677	VM64682	VM64687	VM64688	VM64703
VM64704	VM64711	VM64726	VM64735	VM64740	VM64751	VM64799
VM64806	VM64809	VM64813	VM64835	VM64838	VM64840	VM64870
VM64878	VM64888	VM64904	VM64911	VM64917	VM64935	VM64956
VM64988	VM64898	VM64940	VM65003	VM65037		

A.5 z/VM version 6 release 1 APARs for the VM/REXX component

There are no z/VM version 6 release 1 APARs for REXX included in the z/VM version 6 release 2 base code.

A.6 z/VM version 6 release 1 APARs for the GCS component

There are no z/VM version 6 release 1 APARs for GCS included in the z/VM version 6 release 2 base code.

A.7 z/VM version 6 release 1 APARs for the TSAF component

There are no z/VM version 6 release 1 APARs for TSAF included in the z/VM version 6 release 2 base code.

A.8 z/VM version 6 release 1 APARs for the AVS component

There are no z/VM version 6 release 1 APARs for AVS included in the z/VM version 6 release 2 base code.

A.9 z/VM version 5 release 4 APARS for the LE component

The following z/VM version 5 release 4 Language Environment APARs have been included in Language Environment version 6 release 2 base code.

Figure 22. z/VM version 5 release 4 Language Environment APARs included on z/VM version 6 release 2 Base Deliverable

VM64521	VM64522	VM64566	VM64737	VM64739	VM64805	VM64972

Appendix B. z/VM Inclusion of Requirements and FINS

In addition to the APARs identified in Appendix A, "z/VM APARs Included From Previous Release," z/VM version 6 release 2 includes the following officially opened requirements and FIN (Fixed In Next Release) problems 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 6 release 2 base code.

Figure 23. VM FINs included in z/VM version 6 release 2 Base

Internal Problem ID	FIN APAR or Requirement	Description
Base code	MR0312073259	Add Date Time + System ID to Termination Messages
Base code	MR0314115638	z/CMS 64bit addressing
Base code	MR0408104926	Grant different VLAN tag for Virtual NIC on same VSWITCH
Base code	MR0325094433	Pre-Defined NIC to VSWITCH port mapping
Base Code	MR0111082558	Request a VLAN parameter on the NICDEF directory statement
Base Code	MR1215065635	Crypto Guest Compatibility Support
Base Code	MR0115074938	Continuous Guest Move
Base Code	MR0303085525	ISFC Link Redundancy
Base Code	MR0118066848	RACF Protected Userid Attribute on RACF/VM to prohibit Revocation of Server type userids due inactivity
Base Code	MR0621075716	RACF/VM Protected Userid Attribute to protect LogonBy Service Machines from Revocation
Base Code	MR1008082850	Provide query capability for active external security manager (ESM)
Base Code	MR0317061736	Partially satisfies (RRSF) command propagation support
Base Code	MR0526064025	Add IPv6 support to current TCP/IP client and server
2U02769	n/a	TERM TIMESTAMP ON caused SERVICE to fail $TEMPCON A does not exist

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 6 release 2 base.

C.2 CP Object Code Only Modules

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

Figure 24. CP OCO Assemble Modules

HCPACL	HCPALC	HCPALE	HCPALM	HCPAPJ	HCPARD	HCPARP
HCPASI	HCPASM	HCPASN	HCPBIE	HCPBOT	HCPCBI	HCPCCF
HCPCCG	HCPCCM	HCPCCN	HCPCCO	HCPCCY	HCPCWB	HCPDGE
HCPDGQ	HCPDMV	HCPDMW	HCPESS	HCPFOB	HCPFXR	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	HCPKFL	HCPKFR
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
HCPNET	HCPOFI	HCPPAB	HCPPCB	HCPPCD	HCPPCM	HCPPCQ
HCPPCR	HCPPCS	HCPPCT	HCPPCU	HCPPCV	HCPPCW	HCPPCX
HCPPEB	HCPPTY	HCPPTZ	HCPRFG	HCPRFI	HCPRID	HCPRLP
HCPRLZ	HCPRQU	HCPSAS	HCPSAT	HCPSCM	HCPSDP	HCPSDQ
HCPSDU	HCPSDV	HCPSEA	HCPSED	HCPSEI	HCPSEW	HCPSGF
HCPSIT	HCPSTI	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	HCPWED	HCPWIS
HCPWKY	HCPWLB	HCPWLG	HCPWPR	HCPWRU	HCPWRW	HCPWSA
HCPWSI	HCPWVS	HCPWZD	HCPXDS	HCPXPG	HCPXSC	HCPXSM
HCPZMG	HCPZMI	HCPZMX	HCPZSI			

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

Figure 25. 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	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 26. CP OCO C Modules

HCPCRR	HCPSZB	HCPSZD	HCPSZE	HCPSZG	HCPSZJ	HCPSZK
HCPSZL	HCPSZN	HCPSZO	HCPSZQ	HCPSZR	HCPSZT	HCPSZW
HCPSZX	HCPSZY	HCPSZZ	HCWAIX	HCWAI1	HCWAI2	HCWAI3
HCWAI4	HCWAI5	HCWAI6	HCWAI7	HCWAI8	HCWAI9	HCWA10
HCWA11	HCWA12	HCWA13	HCWA14	HCWA15	HCWA16	HCWA17
HCWA18	HCWA19	HCWA20	HCWA23	HCWA24	HCWA25	HCWCSP
HCWCS1	HCWCS2	HCWCS4	HCWEFS	HCWEF1	HCWFCP	HCWFC1
HCWIOS	HCWIO1	HCWIO2	HCWMPI	HCWPAI	HCWPA1	HCWPA2
HCWPA3	HCWPA4	HCWPA5	HCWPA7	HCWPA8	HCWPER	HCWPSI
HCWPS1	HCWPS2	HCWPS3	HCWSCS	HCWSC1		

C.3 DVF Object Code Only Modules

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

Figure 27. DVF OCO Assemble Modules

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

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

Figure 28 (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

Figure 28 (Page 2 of 2). DVF OCO Modules

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
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	HCSVLF	HCSVRG	HCSVRP	HCSVUI	HCSVUT	HCSXED
HCSX2C						

C.4 CMS Object Code Only Modules

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

Figure 29. 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 30 (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

Figure 30 (Page 2 of 4). CMS OCO PL/X Modules

DMSBXS14	DMSBXS28	DMSBXS40	DMSBXS63	DMSBXS7A	DMSBX1CH	DMSBX1CL
DMSBX1FT	DMSBX1LN	DMSBX1OP	DMSBX1RE	DMSBX1ST	DMSBX1WR	DMSBX2WX
DMSJMD	DMSJSD	DMSRXR	DMSZCTRC	DMSZEDAT	DMSZEDCM	DMSZEDEX
DMSZEDFN	DMSZEDSK	DMSZEEHT	DMSZEFAI	DMSZEGAI	DMSZEGA2	DMSZEGHA
DMSZEGHC	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

Figure 30 (Page 3 of 4). CMS OCO PL/X Modules

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	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

Figure 30 (Page 4 of 4). CMS OCO PL/X Modules

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	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 31 (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	IEWBUCAP
IEWBUCUT	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

Figure 31 (Page 2 of 2). CMS OCO C Modules

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	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 6 release 2 base.

C.6 GCS Object Code Only Modules

There are no OCO modules for GCS in z/VM version 6 release 2 base.

C.7 TSAF Object Code Only Modules

There are no OCO modules for TSAF in z/VM version 6 release 2 base.

C.8 AVS Object Code Only Modules

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

Figure 32. AVS OCO PL/X Modules

AGWACF	AGWACS	AGWACT	AGWCMC	AGWCMD	AGWCMF	AGWCMH
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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│  satisfied  <====================> dissatisfied  applicable
│     1         2       3       4         5             N
│
```

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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

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___   Other - Please specify type:_____

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