



**Program Directory for
IBM Tivoli Management Services on z/OS**

6.3.2

Program Number 5698-A79

for Use with
z/OS

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Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 33.

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1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM Tivoli Management Services on z/OS. This publication refers to IBM Tivoli Management Services on z/OS as Tivoli Management Services on z/OS.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for Tivoli Management Services on z/OS.
- 3.0, “Program Support” on page 6 describes the IBM support available for Tivoli Management Services on z/OS.
- 4.0, “Program and Service Level Information” on page 8 lists the APARs (program level) and PTFs (service level) that have been incorporated into Tivoli Management Services on z/OS.
- 5.0, “Installation Requirements and Considerations” on page 11 identifies the resources and considerations that are required for installing and using Tivoli Management Services on z/OS.
- 6.0, “Installation Instructions” on page 23 provides detailed installation instructions for Tivoli Management Services on z/OS. It also describes the procedures for activating the functions of Tivoli Management Services on z/OS, or refers to appropriate publications.

Before installing Tivoli Management Services on z/OS, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this program directory; after which, keep the documents for your reference. Section 3.2, “Preventive Service Planning” on page 6 tells you how to find any updates to the information and procedures in this program directory.

Tivoli Management Services on z/OS is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The program directory that is provided in softcopy format on the CBPDO is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for Tivoli Management Services on z/OS are included on the CBPDO.

Do not use this program directory if you install Tivoli Management Services on z/OS with a ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

1.1 Tivoli Management Services on z/OS Description

Tivoli Management Services on z/OS is offered for those customers who want to run the Tivoli Enterprise Monitoring Server component on a z/OS platform. For example, you would order Tivoli Management Services on z/OS if you have purchased IBM Tivoli Monitoring or an OMEGAMON XE distributed product and you want to place a hub or remote Tivoli Enterprise Monitoring Server on z/OS. If you have purchased monitoring agent products that run on z/OS, Tivoli Management Services on z/OS is necessary for the installation, configuration, and operation of the monitoring agents.

Tivoli Management Services on z/OS includes shared components that run on distributed systems and shared components that run on z/OS. The following distributed components are provided on the IBM Tivoli Monitoring Base DVD:

- Tivoli Enterprise Portal
- Tivoli Enterprise Portal Server
- Tivoli Enterprise Monitoring Server

Before installing the distributed components, read *IBM Tivoli Monitoring Installation and Setup Guide*. This program directory gives installation instructions for the z/OS components. For configuration instructions, see the Configuring topics in the OMEGAMON shared documentation at; <http://https://www.ibm.com/docs/en/om-shared?topic=above-configuring>

1.2 Tivoli Management Services on z/OS FMIDs

Tivoli Management Services on z/OS consists of the following FMIDs:

HKDS630
HKCI310
HKLV630

2.0 Program Materials

An IBM program is identified by a program number. The program number for Tivoli Management Services on z/OS is 5698-A79.

Basic Machine-Readable Materials are materials that are supplied under the base license and are required for the use of the product.

The program announcement material describes the features supported by Tivoli Management Services on z/OS. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 23 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for Tivoli Management Services on z/OS in the *CBPDO Memo To Users Extension*.

2.2 Program Publications

The following sections identify the basic publications for Tivoli Management Services on z/OS.

Figure 1 identifies the basic unlicensed publications for Tivoli Management Services on z/OS.

The unlicensed documentation for Tivoli Management Services on z/OS can be found in the IBM Documentation at:

<https://www.ibm.com/docs/en/om-shared>

<i>Figure 1. Basic Material: Unlicensed Publications</i>
Publication Title
<i>What's New</i>
<i>Overview</i>
<i>Getting started</i>
<i>Planning</i>
<i>Installing</i>
<i>Upgrading</i>
<i>Configuring</i>
<i>Scenarios and how-tos</i>
<i>Reference</i>

Prior to installing Tivoli Management Services on z/OS, IBM recommends you review the OMEGAMON shared documentation 6.3.0 Fix Pack 2 and above, **First time deployment guide (FTU installation and tasks)**, the Planning, Configuring, and Configuration Manager topics for general planning and configuration flow. This documentation focuses on the things you will need to know for a successful installation and configuration of this product.

The OMEGAMON shared documentation, and other IBM product documentation can be found at the IBM Documentation URL listed below:

<https://www.ibm.com/docs/en/om-shared>

The **First time deployment guide (FTU installation and configuration tasks)** documentation can be found on the IBM Documentation website at:

<https://www.ibm.com/docs/en/om-shared?topic=guide-ftu-installation-configuration-tasks>

2.3 Program Source Materials

No program source materials or viewable program listings are provided for Tivoli Management Services on z/OS.

2.4 Publications Useful During Installation

You might want to use the publications listed in Figure 2 during the installation of Tivoli Management Services on z/OS.

<i>Figure 2. Publications Useful During Installation</i>	
Publication Title	Form Number
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883

Note: These publications can be found in IBM Documentation. Use a web browser with internet access to refer to: <https://www.ibm.com/docs/en/zos/2.5.0?topic=zos-smpe>

3.0 Program Support

This section describes the IBM support available for Tivoli Management Services on z/OS.

3.1 Program Services

Contact your IBM representative for specific information about available program services.

3.2 Preventive Service Planning

Before you install Tivoli Management Services on z/OS, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.PRODUCTINSTALL-REQUIREDSERVICE fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.PRODUCTINSTALL-REQUIREDSERVICE)** operand on the **APPLY CHECK** command. See 6.1.11, “Perform SMP/E APPLY” on page 28 for a sample APPLY command.

If you obtained Tivoli Management Services on z/OS as part of a CBPDO, HOLDDATA is included.

If the CBPDO for Tivoli Management Services on z/OS is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:

<https://esupport.ibm.com/customercare/psearch/search?domain=psp>

You can also use S/390 SoftwareXcel or contact the IBM Support Center to obtain the latest PSP Bucket information.

For program support, access the Software Support Website at <https://www.ibm.com/mysupport/>.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for Tivoli Management Services on z/OS are included in Figure 3.

Figure 3. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
5698A79	HKDS630	Tivoli Enterprise Monitoring Server on z/OS
	HKCI310	Configuration Assistance Tool
	HKLV630	TMS:Engine

3.3 Statement of Support Procedures

Report any problems which you feel might be an error in the product materials to your IBM Support Center. You may be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 4 on page 7 identifies the component IDs (COMPID) for Tivoli Management Services on z/OS.

<i>Figure 4. Component IDs</i>			
FMID	COMPID	Component Name	RETAIN Release
HKDS630	5608A2800	Tivoli Enterprise Monitoring Server on z/OS	630
HKCI310	5608A41CC	Configuration Assistance Tool	310
HKLV630	5608A41CE	TMS:Engine	630

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of Tivoli Management Services on z/OS. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

4.1 Program Level Information

The following APAR fixes against previous releases of components included with Tivoli Management Services on z/OS have been incorporated into this release. They are listed by FMID.

- FMID HKDS630

0A37631 0A38366 0A38500 0A38773 0A38895 0A38896 0A38913 0A38919
0A38922 0A38926 0A38938 0A38946 0A38947 0A38953 0A38962 0A38963
0A38972 0A38974 0A38988 0A38989 0A38990 0A38991 0A38992 0A38993
0A38995 0A38996 0A38997 0A39001 0A39002 0A39011 0A39012 0A39013
0A39017 0A39020 0A39447 0A39630 0A39969 0A40162 0A40409 0A40411
0A40412 0A40422 0A40424 0A40426 0A40427 0A40431 0A40432 0A40435
0A40436 0A40437 0A40438 0A40439 0A40440 0A40443 0A40445 0A40446
0A40450 0A40452 0A40453 0A40459

0A42114 0A42119 0A42123 0A42147 0A42148 0A42152 0A42155 0A42423
0A43232 0A43243 0A43251 0A43260 0A43263 0A43264 0A43265 0A43266
0A43270 0A43271 0A43273 0A43274 0A43275 0A43276 0A43277 0A43278
0A43279 0A43284 0A43285 0A43286 0A43287 0A43289 0A44022 0A44155
0A44915 0A44966 0A44999 0A45080 0A45161 0A45254 0A45619 0A45644
0A45646 0A45650 0A45651 0A45653 0A45672 0A45674 0A45675 0A45676
0A45678 0A45680 0A45754 0A45812 0A45834 0A45836 0A45856 0A46555
0A46557 0A46569 0A46571 0A46572 0A46579 0A46581 0A46583 0A46585
0A46586 0A46587 0A46681 0A46695 0A46708 0A46709 0A46976 0A46983
0A47082 0A47252 0A48065 0A48068 0A48077 0A48081 0A48082 0A48083
0A48096 0A48097 0A48100 0A48102 0A48275 0A48482 0A49237 0A49238
0A49254 0A49255 0A49269 0A49280 0A49282 0A49283 0A49284 0A49285
0A49286 0A49288 0A49760 0A49763 0A49780 0A49879 0A51151 0A51152
0A51183 0A51184 0A51195 0A51238 0A51627 0A51991 0A52181 0A52183
0A52186 0A52202 0A52713 0A53435 0A54969 0A54971 0A55236 0A55408
0A55673 0A56372 0A56379 0A56397 0A56398 0A56399 0A56400 0A56403
0A56407 0A56408 0A56595 0A56596 0A56597 0A56598 0A56862 0A56991
0A57107 0A58117 0A58325 0A58326 0A58812 0A58900 0A59319 0A59320
0A59376 0A59685 0A59686 0A60245 0A60259 0A60364 0A60516 0A60651
0A60653 0A60834 0A60952 0A61140 0A61411 0A61893 0A62146 0A62365
0A62458 0A62760 0A62900 0A63184

- FMID HKCI310

0A09405 0A09526 0A09527 0A09528 0A09529 0A09530 0A09531 0A09532

0A11476 0A12143 0A13234 0A13523 0A14355 0A14857 0A15487 0A16208
0A16882 0A16900 0A17915 0A18174 0A18712 0A19099 0A19387 0A19573
0A19840 0A19894 0A20404 0A20419 0A20490 0A20529 0A21440 0A21580
0A21585 0A23865 0A24039 0A25134 0A25649 0A26188 0A26981 0A27782
0A28829 0A29001 0A29410 0A30376 0A30575 0A30882 0A32122 0A32126
0A34091 0A34442 0A35009 0A35415 0A37159 0A37250 0A38375 0A38937
0A39386 0A39626 0A39890 0A40035 0A40072 0A40196 0A40649 0A41710
0A42733 0A43392 0A43859 0A44054 0A44620 0A45024 0A46184 0A46749
0A46817 0A47937 0A48678 0A49893 0A50912 0A51503 0A51755 0A52888
0A53974 0A54852 0A54854 0A54925 0A56017 0A56325 0A58363 0A58439
0A58518 0A58817 0A58861 0A59012 0A59214 0A59433 0A59463 0A59623
0A59848 0A59910 0A60002 0A60006 0A60163 0A60190 0A60209 0A60210
0A60244 0A60460 0A60518 0A60562 0A60708 0A60759 0A60827 0A61187
0A61383 0A61403 0A61515 0A61601 0A61776 0A61810 0A61872 0A61959
0A61993 0A62001 0A62125 0A62185 0A62230 0A62294 0A62358 0A62486
0A62526 0A62643 0A62792 0A62832 0A62833 0A63060 0A63103

- FMID HKLV630

0A37475 0A38066 0A38898 0A38899 0A38909 0A38950 0A38973 0A38994
0A39016 0A39019 0A39557 0A40434 0A40441 0A40442 0A40444

0A42112 0A42121 0A42136 0A42137 0A42139 0A42141 0A43246 0A43247
0A43252 0A43258 0A44192 0A44344 0A44517 0A45647 0A45649 0A45681
0A45719 0A46343 0A46553 0A46573 0A46577 0A46580 0A46689 0A47320
0A47891 0A47950 0A48069 0A48075 0A48103 0A48104 0A48851 0A49131
0A49242 0A49243 0A49273 0A49586 0A49717 0A50042 0A50525 0A50935
0A51153 0A51155 0A51630 0A52184 0A52203 0A52242 0A54026 0A54506
0A54564 0A54672 0A54794 0A54964 0A54979 0A55564 0A55598 0A55674
0A55918 0A55920 0A56223 0A56351 0A56352 0A56381 0A56404 0A56795
0A56797 0A56834 0A56904 0A56915 0A56990 0A57039 0A57043 0A57069
0A57649 0A57874 0A58163 0A58164 0A58502 0A58631 0A59036 0A59289
0A59389 0A59708 0A59709 0A59929 0A60178 0A60324 0A60427 0A60445
0A60765 0A60806 0A61138 0A61892 0A62349 0A62724

4.2 Service Level Information

PTFs containing APAR fixes against this release of Tivoli Management Services on z/OS have been incorporated into this product package. For a list of included PTFs, examine the ++VER statement in the product's SMPMCS.

Frequently check the Tivoli Management Services on z/OS PSP Bucket for HIPER and SPECIAL attention PTFs against all FMIDs that you must install. You can also receive the latest HOLDDATA, then add the **FIXCAT(IBM.PRODUCTINSTALL-REQUIRESERVICE)** operand on your **APPLY CHECK** command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating Tivoli Management Services on z/OS. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.
The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.
- *Target system*: the system on which the program is configured and run.
The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.
- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install Tivoli Management Services on z/OS.

5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

5.1.2 Programming Requirements

Figure 5. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	2.4 or higher	N/A	No

Note: SMP/E is a requirement for Installation and is an element of z/OS.

Note: Installation might require migration to new z/OS releases to be service supported. See <https://www.ibm.com/support/lifecycle/>.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Tivoli Management Services on z/OS.

Tivoli Management Services on z/OS installs in the z/OS (Z038) SREL.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

5.2.2 Programming Requirements

5.2.2.1 Installation Requisites

Installation requisites identify products that are required and *must* be present on the system or products that are not required but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product. These products are specified as PREs or REQs.

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	2.4 or higher	N/A	No

Note: Installation might require migration to new releases to obtain support. See <https://www.ibm.com/support/lifecycle/>

Conditional installation requisites identify products that are *not* required for successful installation of this product but can resolve such things as certain warning messages at installation time. These products are specified as IF REQs.

Tivoli Management Services on z/OS has no conditional installation requisites.

5.2.2.2 Operational Requisites

Operational requisites are products that are required and *must* be present on the system or products that are not required but *should* be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions.

Program Number	Product Name and Minimum VRM/Service Level
5650-ZOS	z/OS 2.4 or higher

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions but are required at run time for this product to operate specific functions. These products are specified as IF REQs.

The self-describing agent (SDA) support provided in this release requires JRE for this optional capability.

Figure 8. Target System Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
Any one of the following:	
5655-DGG	IBM Developer Kit for Java for z/OS (31 bit) 8.0
5655-DGH	IBM Developer Kit for Java for z/OS (64 bit) 8.0

Note: Installation might require migration to new releases to obtain support. See <https://www.ibm.com/support/lifecycle/>

5.2.2.3 Toleration/Coexistence Requisites

Toleration/coexistence requisites identify products that must be present on sharing systems. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD environment at different time intervals.

Tivoli Management Services on z/OS has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites

Negative requisites identify products that must *not* be installed on the same system as this product.

Tivoli Management Services on z/OS has no negative requisites.

5.2.3 DASD Storage Requirements

Tivoli Management Services on z/OS libraries can reside on all supported DASD types.

Figure 9 lists the total space that is required for each type of library.

Figure 9. Total DASD Space Required by Tivoli Management Services on z/OS

Library Type	Total Space Required in 3390 Trks
Target	6245
Distribution	6241

Notes:

1. If you are installing into an existing environment that has the data sets in Figure 12 on page 17 and Figure 13 on page 17 already allocated, ensure sufficient disk space and directory blocks are available to support the requirement listed. This might require you to reallocate some data sets to avoid x37 abends.

2. For non-RECFM U data sets, IBM recommends using system-determined block sizes for efficient DASD utilization. For RECFM U data sets, IBM recommends using a block size of 32760, which is most efficient from the performance and DASD utilization perspective.
3. Abbreviations used for data set types are shown as follows.

- U** Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.
- S** Shared data set, allocated by this product and used by this product and other products. To determine the correct storage needed for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.
- E** Existing shared data set, used by this product and other products. This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old release and reclaim the space that was used by the old release and any service that had been installed. You can determine whether these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

For more information about the names and sizes of the required data sets, see 6.1.8, "Allocate SMP/E Target and Distribution Libraries" on page 27.

4. All target and distribution libraries listed have the following attributes:
 - The default name of the data set can not be changed.
 - The default block size of the data set can be changed.
 - The data set can not be merged with another data set that has equivalent characteristics.
 - The data set can be either a PDS or a PDSE, with some exceptions. If the value in the "ORG" column specifies "PDS", the data set must be a PDS. If the value in "DIR Blks" column specifies "N/A", the data set must be a PDSE.
5. All target libraries listed have the following attributes:
 - These data sets can be SMS-managed, but they are not required to be SMS-managed.
 - These data sets are not required to reside on the IPL volume.
 - The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.
6. All target libraries that are listed and contain load modules have the following attributes:
 - These data sets can not be in the LPA, with some exceptions. If the data set should be placed in the LPA, see the Special Considerations section below.
 - These data sets can be in the LNKLST except for TKANMODR and TKANMODS.
 - These data sets are not required to be APF-authorized, with some exceptions. If the data set must be APF-authorized, see the Special Considerations section below.

If you are installing into an existing environment, ensure the values used for the SMP/E work data sets reflect the minimum values shown in Figure 10 on page 16. Check the corresponding DDDEF entries in all zones because use of values lower than these can result in failures in the installation process. Refer to the SMP/E manuals for instructions on updating DDDEF entries.

Figure 10. Storage Requirements for SMP/E Work Data Sets

Library DDNAME	T Y P E	O R G A N I Z A T I O N	R E C O R D S	L E N G T H	Prim No. of 3390 Trks	Sec No. of 3390 Trks	No. of DIR Blks
SMPWRK1	S	PDS	FB	80	150	150	220
SMPWRK2	S	PDS	FB	80	150	150	220
SMPWRK3	S	PDS	FB	80	300	600	1320
SMPWRK4	S	PDS	FB	80	150	150	220
SMPWRK6	S	PDS	FB	80	300	1500	660
SYSUT1	S	SEQ	--	--	75	75	0
SYSUT2	S	SEQ	--	--	75	75	0
SYSUT3	S	SEQ	--	--	75	75	0
SYSUT4	S	SEQ	--	--	75	75	0

If you are installing into an existing environment, ensure the current SMP/E support dataset allocations reflect the minimum values shown in Figure 11. Check the space and directory block allocation and reallocate the data sets, if necessary.

Figure 11. Storage Requirements for SMP/E Data Sets

Library DDNAME	T Y P E	O R G A N I Z A T I O N	R E C O R D S	L E N G T H	Prim No. of 3390 Trks	Sec No. of 3390 Trks	No. of DIR Blks
SMPLTS	S	PDSE	U	0	15	150	N/A
SMPMTS	S	PDS	FB	80	15	150	220
SMPPTS	S	PDSE	FB	80	300	1500	N/A
SMPSCDS	S	PDS	FB	80	15	150	220
SMPSTS	S	PDS	FB	80	15	150	220

Figure 12 on page 17 and Figure 13 on page 17 describe the target and distribution libraries that will be allocated by this product's install jobs or that will be required for installation. The space requirements reflect what is specified in the allocation job or the space that this product will require in existing libraries.

Additional tables are provided to show the specific space required for libraries that are used by each FMID. See 5.2.4, “DASD Storage Requirements by FMID” on page 18 for more information.

The storage requirements of Tivoli Management Services on z/OS must be added to the storage required by other programs having data in the same library or path.

Figure 12. Storage Requirements for Tivoli Management Services on z/OS Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
TKANCMD	Parm	Any	S	PDS	FB	80	19	88
TKANCUS	CLIST	Any	S	PDS	FB	80	1446	1320
TKANDATV	Data	Any	S	PDS	VB	6160	1016	132
TKANHENU	Help	Any	S	PDS	FB	80	25	880
TKANMAC	Macro	Any	S	PDS	FB	80	4	44
TKANMOD	LMOD	Any	S	PDS	U	0	231	880
TKANMODL	LMOD	Any	S	PDS	U	0	2383	660
TKANMODP	LMOD	Any	S	PDSE	U	0	2	N/A
TKANMODS	LMOD	Any	S	PDS	U	0	6	220
TKANPAR	Parm	Any	S	PDS	FB	80	81	88
TKANPENU	Panel	Any	S	PDS	FB	80	96	3080
TKANPKGI	Data	Any	S	PDS	FB	80	65	88
TKANSAM	Sample	Any	S	PDS	FB	80	678	176
TKANSQL	SQL	Any	S	PDS	FB	80	3	88
TKCIINST	CLIST	Any	S	PDS	FB	80	119	132
TKNSLOCL	Data	Any	S	PDS	VB	6160	71	88

Figure 13 (Page 1 of 2). Storage Requirements for Tivoli Management Services on z/OS Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
DKANCMD	S	PDS	FB	80	19	88
DKANCUS	S	PDS	FB	80	1446	1320
DKANDATV	S	PDS	VB	6160	1016	132

Figure 13 (Page 2 of 2). Storage Requirements for Tivoli Management Services on z/OS Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
DKANHENU	S	PDS	FB	80	25	880
DKANMAC	S	PDS	FB	80	4	44
DKANMOD	S	PDS	U	0	230	880
DKANMODL	S	PDS	U	0	2382	660
DKANMODP	S	PDSE	U	0	2	N/A
DKANMODS	S	PDS	U	0	6	220
DKANPAR	S	PDS	FB	80	81	88
DKANPENU	S	PDS	FB	80	96	3080
DKANPKGI	S	PDS	FB	80	63	88
DKANSAM	S	PDS	FB	80	678	176
DKANSQL	S	PDS	FB	80	3	88
DKCIINST	S	PDS	FB	80	119	132
DKNSLOCL	S	PDS	VB	6160	71	88

5.2.4 DASD Storage Requirements by FMID

The tables in this section can help determine the specific space required for components not already installed in an existing environment. There is a table for each FMID included with the product.

Figure 14 (Page 1 of 2). Storage Requirements for HKDS630 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
TKANCUS	CLIST	Any	S	PDS	FB	80	132	88
TKANDATV	Data	Any	S	PDS	VB	6160	884	17
TKANMAC	Macro	Any	S	PDS	FB	80	1	2
TKANMOD	LMOD	Any	S	PDS	U	0	192	2
TKANMODL	LMOD	Any	S	PDS	U	0	1869	14
TKANMODP	LMOD	Any	S	PDSE	U	0	2	N/A
TKANMODS	LMOD	Any	S	PDS	U	0	3	5

Figure 14 (Page 2 of 2). Storage Requirements for HKDS630 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
TKANPAR	Parm	Any	S	PDS	FB	80	1	2
TKANPKGI	Data	Any	S	PDS	FB	80	9	2
TKANSAM	Sample	Any	S	PDS	FB	80	7	4
TKANSQL	SQL	Any	S	PDS	FB	80	2	2
TKNSLOCL	Data	Any	S	PDS	VB	6160	62	38
DKANCUS			S	PDS	FB	80	132	88
DKANDATV			S	PDS	VB	6160	884	17
DKANMAC			S	PDS	FB	80	1	2
DKANMOD			S	PDS	U	0	192	2
DKANMODL			S	PDS	U	0	1868	14
DKANMODP			S	PDS	U	0	2	1
DKANMODS			S	PDS	U	0	3	5
DKANPAR			S	PDS	FB	80	1	2
DKANPKGI			S	PDS	FB	80	9	2
DKANSAM			S	PDS	FB	80	7	4
DKANSQL			S	PDS	FB	80	3	2
DKNSLOCL			S	PDS	VB	6160	62	38

Figure 15 (Page 1 of 2). Storage Requirements for HKCI310 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
TKANCMD	Parm	Any	S	PDS	FB	80	16	8
TKANCUS	CLIST	Any	S	PDS	FB	80	1126	784
TKANMOD	LMOD	Any	S	PDS	U	0	9	4
TKANPAR	Parm	Any	S	PDS	FB	80	69	10
TKANPKGI	Data	Any	S	PDS	FB	80	31	2
TKANSAM	Sample	Any	S	PDS	FB	80	564	33
TKCIINST	Sample	Any	S	PDS	FB	80	104	94

Figure 15 (Page 2 of 2). Storage Requirements for HKCI310 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
DKANCMD			S	PDS	FB	80	16	8
DKANCUS			S	PDS	FB	80	1126	784
DKANMOD			S	PDS	U	0	8	7
DKANPAR			S	PDS	FB	80	69	10
DKANPKGI			S	PDS	FB	80	31	2
DKANSAM			S	PDS	FB	80	564	33
DKCIINST			S	PDS	FB	80	104	94

Figure 16 (Page 1 of 2). Storage Requirements for HKLV630 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
TKANCMD	Parm	Any	S	PDS	FB	80	1	2
TKANHENU	Help	Any	S	PDS	FB	80	22	28
TKANMAC	Macro	Any	S	PDS	FB	80	3	2
TKANMODL	LMOD	Any	S	PDS	U	0	204	153
TKANMODS	LMOD	Any	S	PDS	U	0	3	4
TKANPAR	Parm	Any	S	PDS	FB	80	1	3
TKANPENU	Panel	Any	S	PDS	FB	80	84	53
TKANPKGI	Data	Any	S	PDS	FB	80	15	2
TKANSAM	Sample	Any	S	PDS	FB	80	19	6
DKANCMD			S	PDS	FB	80	1	2
DKANHENU			S	PDS	FB	80	22	28
DKANMAC			S	PDS	FB	80	3	2
DKANMODL			S	PDS	U	0	204	131
DKANMODS			S	PDS	U	0	3	4
DKANPAR			S	PDS	FB	80	1	3
DKANPENU			S	PDS	FB	80	84	53
DKANPKGI			S	PDS	FB	80	15	2

Figure 16 (Page 2 of 2). Storage Requirements for HKLV630 Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
DKANSAM			S	PDS	FB	80	19	6

5.3 FMIDs Deleted

Installing Tivoli Management Services on z/OS might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the ++VER statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install Tivoli Management Services on z/OS into separate SMP/E target and distribution zones.

Note: These FMIDs are not automatically deleted from the Global Zone. If you want to delete these FMIDs from the Global Zone, use the SMP/E REJECT NOFMID DELETEFMID command. See the SMP/E Commands documentation for details.

5.4 Special Considerations

To effectively manage a suite of products with common components, you can install products into shared zones of a consolidated software inventory (CSI). Space requirements are reduced by installing products into shared CSI zones avoiding the duplication when different target zones, distribution zones, and data sets are used. Sharing a common set of zones also allows SMP/E to automatically manage IFREQ situations that exist across product components.

If you intend to share a Tivoli Enterprise Monitoring Server on z/OS with other products, use shared CSI zones so product configuration sets up the runtime environment correctly.

Note: Reduce the time required for installation, configuration, and maintenance by utilizing the IBM Z Monitoring Configuration Manager for configuration (besides the still supported PARMGEN configuration tool).

Consider the following items when using shared CSI zones.

- You must specify the same high-level qualifier for the target and distribution libraries as the other products in the same zones for the configuration tool to work correctly.
- If you install a product into an existing CSI that contains a previous version of the same product, SMP/E deletes the previous version during the installation process. To maintain multiple product versions concurrently, they must be installed into separate CSI zones.
- If you install into an existing environment, you might need to remove data set references from the installation jobs to avoid errors because the data sets already exist.
- If you are installing into an existing environment that has the data sets already allocated, ensure sufficient space and directory blocks are available to support the requirement listed in the DASD tables. This might require you to reallocate some data sets to avoid x37 abends.

The PSP bucket will have the most current information and must be reviewed before installation.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of Tivoli Management Services on z/OS.

Please note the following points:

- If you want to install Tivoli Management Services on z/OS into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.
- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.

6.1 Installing Tivoli Management Services on z/OS

6.1.1 SMP/E Considerations for Installing Tivoli Management Services on z/OS

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of Tivoli Management Services on z/OS.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 17. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

Subentry	Value	Comment
DSSPACE	300,1200,1200	Use 1200 directory blocks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 SMP/E CALLLIBS Processing

Tivoli Management Services on z/OS does not use the CALLLIBS function.

6.1.4 Installation Job Generator Utility

A utility is available to generate the necessary installation jobs for this product and others that might be included in the product package deliverable. Be aware that not all products are supported at this time and maintenance might be required to get the latest updates for the Job Generator product selection table. It is recommended you use this job generation utility to create a set of jobs to install the product package when installing into an existing environment rather than using the sample jobs provided for each product.

The job generation utility is delivered in the z/OS Installation and Configuration Tool component of the Tivoli Management Services on z/OS product, which is a requisite of this product. This utility is enhanced through the maintenance stream so there could be an issue if it is invoked from an environment without the latest maintenance. Ensure the latest maintenance is installed for the components of this product to get the latest updates for the Job Generator product selection table.

If you are installing for the first time into a new environment and don't have an existing environment available to invoke this utility, you must use the sample jobs for the Tivoli Management Services on z/OS product and install it first. This will install the FMID containing the job generation utility and the latest maintenance. Then you can invoke the utility from the target library TKANCUS to install other products in the package.

The job generation utility can be invoked from the SMP/E target library with the low-level qualifier of TKANCUS, launch the utility by using ISPF option 6 and entering the following command.

```
ex '&gbl_target_hilev.TKANCUS'
```

Select "SMP/E-install z/OS products with Install Job Generator (JOBGEN)" from the z/OS Installation and Configuration Tool main menu.

You can use the online help available as a tutorial to become familiar with the utility and its processes.

6.1.4.1 Introduction to the Job Generator

The job generation utility creates a set of jobs to define a SMP/E environment (CSI and supporting data sets), allocate product libraries (target and distribution zone data sets and DDDEFS), and install the products (RECEIVE APPLY ACCEPT). You can use these jobs to create a totally new environment or to install the products into an existing CSI.

Processing Steps

- The jobs are generated from a series of ISPF interactive panels and ISPF file tailoring.
- The initial step is selection of the product mix. The set of products will determine any additions to the basic set of values needed to create the JCL.

Note: Install Job Generator (JOBGEN) output library: You can specify the Install Job Generator (JOBGEN) output library during the PARMGEN "KCIJPCFG Set up/Refresh PARMGEN work environment" configuration processing to reuse parameter values such as the jobcard and CSI values related to CALLLIBS and USS install directory override data.

Process Log

- One of the members of the generated job library is KCIJGLOG, which is the process log.
- This member shows the generating parameters and internal lists that were used to create the batch jobs.
- It also indicates which jobs were actually produced and need to be run. Note that the RECEIVE, APPLY, and ACCEPT jobs are always generated even if the selected products are already in the target CSI. In that case, the jobs install additional maintenance when available.

6.1.4.2 Product Selection

You can select one or more products from a table that will determine the set of FMIDs to install. You must select at least one product and you should always select the appropriate version of the IBM Tivoli Management Services on z/OS product (5698-A79). This will install the necessary FMIDs and maintenance for a new environment but also ensure any requisite maintenance will be processed when installing into an existing environment.

The selection table contains information about all of the supported products and might contain entries for products that you do not have or do not wish to install. Select only those products that are available in the package delivered and that you want to install.

6.1.4.3 Installing into an existing CSI

When the high-level qualifiers point to an existing environment, the job generation utility eliminates the jobs that allocate and initialize the CSI.

The job generation utility suppresses the creation of libraries that already exist in the target environment. Instead, the generator creates a job to determine whether sufficient space is available for any additional data to be installed into the libraries.

The member KCIJGANL is generated to report on the available space for each of the existing libraries that will have new data. However, KCIJGANL cannot check for the maintenance stream requirements.

The space analyzer function is very helpful in identifying data set space issues that might cause X37 abends during APPLY and ACCEPT processing.

6.1.4.4 Job Generator - Update Command

The job generation utility was enhanced to allow dynamic additions to the product table. The UPDATE routine is used to obtain additional data for products that are available but not yet included in the installation job generator table, KCIDJG00.

You must have the product RELFILES available on DASD in order to run this routine and all components of the product must be available. After a successful run, the output of this routine will replace the KCIDJG00 member of the work data set. If you make multiple changes to the data member be sure to save the original member as a backup.

Note: Not all products qualify for inclusion in the job generator process. Refer to the online help for more information about this facility.

6.1.5 Sample Jobs

If you choose not to use the installation job generator utility documented in the previous section, you can use the sample jobs that were created for Tivoli Management Services on z/OS. This will require you to research and tailor each of the jobs accordingly.

The sample installation jobs in Figure 18 are provided as part of the product to help you install Tivoli Management Services on z/OS.

<i>Figure 18. Sample Installation Jobs</i>			
Job Name	Job Type	Description	SMPTLIB Data Set
KDSJ1SMA	Optional	Sample job to create new SMP/E support files	IBM.HKDS630.F13
KDSJ2SMI	Optional	Sample job to create and prime a new SMP/E CSI	IBM.HKDS630.F13
KDSJ3ALO	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HKDS630.F13
KDSJ4DDF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HKDS630.F13
KDSJ5REC	RECEIVE	Sample RECEIVE job	IBM.HKDS630.F13
KDSJ6APP	APPLY	Sample APPLY job	IBM.HKDS630.F13
KDSJ7ACC	ACCEPT	Sample ACCEPT job	IBM.HKDS630.F13

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.10, “Perform SMP/E RECEIVE” on page 28) then copy the jobs from the SMPTLIB data sets to a work data for editing and submission.

You can also copy the sample installation jobs from the product files by submitting the following job. Before you submit the job, add a job card and change the lowercase parameters to uppercase values to meet the requirements of your site.

```
//STEP1 EXEC PGM=IEBCOPY,REGION=4M
//SYSPRINT DD SYSOUT=*
//IN DD DSN=IBM.HKDS630.F13,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jc1-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(10,2,5))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=IN,OUTDD=OUT
SELECT MEMBER=(KDSJ1SMA,KDSJ2SMI,KDSJ3ALO,KDSJ4DDF,KDSJ5REC)
```

```
SELECT MEMBER=(KDSJ6APP,KDSJ7ACC)
/*
```

See the following information to update the statements in the previous sample:

IN:

filevol is the volume serial of the DASD device where the downloaded files reside.

OUT:

jcl-library-name is the name of the output data set where the sample jobs are stored.

dasdvol is the volume serial of the DASD device where the output data set resides.

6.1.6 Create New SMP/E Support Files - Optional

If you do not want to install into an existing environment, you can create a new environment. To allocate new SMP/E support data sets for Tivoli Management Services on z/OS installation, edit and submit the generated allocation job KCIJGSMA or edit and submit sample job KDSJ1SMA. Consult the instructions in the job for more information.

Expected Return Codes and Messages: 0

6.1.7 Create New SMP/E CSI - Optional

If you do not want to install into an existing environment, you can create a new environment. To allocate a new SMP/E CSI and prime it for Tivoli Management Services on z/OS installation, edit and submit the generated allocation job KCIJGSMI or edit and submit sample job KDSJ2SMI. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: 0

6.1.8 Allocate SMP/E Target and Distribution Libraries

Edit and submit the generated job KCIJGALO to allocate the SMP/E target and distribution libraries for Tivoli Management Services on z/OS.

If you are not using the generated allocation job, select the sample job KDSJ3ALO. Edit and submit it after making appropriate changes for your environment. Consult the instructions in the sample job for more information. Consider the following issues before submitting the job.

- If you are installing into an existing environment, you might have to remove lines for data sets that already exist.
- If you are installing into an existing environment that has the data sets already allocated, ensure sufficient space and directory blocks are available to support the requirement listed in the DASD tables. This might require you to reallocate some data sets to avoid x37 abends.

Expected Return Codes and Messages: 0

6.1.9 Create DDDEF Entries

Edit and submit the generated job KCIJGDDF to create DDDEF entries for the SMP/E target and distribution libraries for Tivoli Management Services on z/OS.

If you are not using the generated job, select the sample job KDSJ4DDF. Edit and submit it after making appropriate changes for your environment. Consult the instructions in the sample job for more information. If you are installing into an existing environment, you might have to remove lines for data sets that already exist.

Expected Return Codes and Messages: 0

6.1.10 Perform SMP/E RECEIVE

If you have obtained Tivoli Management Services on z/OS as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the Tivoli Management Services on z/OS FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit the generated job KCIJGREC or the sample job KDSJ5REC to perform the SMP/E RECEIVE for Tivoli Management Services on z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: 0

6.1.11 Perform SMP/E APPLY

Ensure that you have the latest HOLDDATA, then edit and submit the generated job KCIJGAPP to perform an SMP/E APPLY CHECK for Tivoli Management Services on z/OS.

If you are not using the generated job, select the sample job KDSJ6APP to perform an SMP/E APPLY CHECK. Edit and submit it after making appropriate changes for your environment. Consult the instructions in the sample job for more information.

The latest HOLDDATA is available through several different portals, including <http://service.software.ibm.com/holdata/390holddata.html>. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

You should install the FMIDs regardless of the status of unresolved HIPER or FIXCAT APARs. However, do not deploy the software until the unresolved HIPER and FIXCAT APARs have been analyzed to determine their applicability. That is, before deploying the software either ensure fixing PTFs are applied

to resolve all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the APPLY CHECK. The SMP/E root cause analysis identifies the cause only of *errors* and not of *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings, instead of errors).

Here are sample APPLY commands:

1. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
```

Some HIPER APARs might not have fixing PTFs available yet. You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your environment and if you should bypass the specific ERROR HOLDS in order to continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

2. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist. After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
..any other parameters documented in the program directory
```

This method is quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs. If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX command and specify Fix Category IBM.PRODUCTINSTALL-REQUIREDSERVICE to investigate missing recommended service.

If you bypass HOLDS during the installation of the FMIDs because fixing PTFs are not yet available, you can be notified when the fixing PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

Expected Return Codes and Messages from APPLY CHECK: 0

After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Note: The GROUPEXTEND operand indicates that SMP/E applies all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

If the BYPASS operand is not included in the control statement when processing a PTF with a ++HOLD statement, the job will get a return code of 12 and the following message.

```
GIM30206E command PROCESSING FAILED FOR SYSMOD sysmod.  
          HOLD REASON IDS WERE NOT RESOLVED.
```

Expected Return Codes and Messages from APPLY: 4

You can receive many of the following messages depending on your environment. These messages can be ignored, because they will not affect product execution.

```
GIM23913W LINK-EDIT PROCESSING FOR SYSMOD aaaaaaa  
          WAS SUCCESSFUL FOR MODULE bbbbbbbb IN  
          LMOD cccccccc IN THE dddddddd LIBRARY. THE  
          RETURN CODE WAS ee. DATE yy.ddd -- TIME  
          hh:mm:ss -- SEQUENCE NUMBER nnnnnn --  
          SYSPRINT FILE ffffffff.  
IEW2454W SYMBOL symbol UNRESOLVED. NO AUTOCALL (NCAL) SPECIFIED.
```

After installing new function, you should perform two operations:

1. Create a backup of the updated data sets, including any SMP/E data sets affected, in case something happens to the data sets during the next phase.
2. Do some testing before putting the new function into production.

After you are satisfied that an applied SYSMOD has performed reliably in your target system, you can install it in your distribution libraries using the ACCEPT process.

Another good practice is to accept most SYSMODs, particularly FMIDs, before performing another APPLY process. This provides you the ability to use the RESTORE process of SMP/E and to support the scenario where SMP/E needs to create a new load module from the distribution libraries during the APPLY process.

6.1.12 Perform SMP/E ACCEPT

Edit and submit the generated job KCIJGACC to perform an SMP/E ACCEPT CHECK for Tivoli Management Services on z/OS.

If you are not using the generated job, select the sample job KDSJ7ACC to perform an SMP/E ACCEPT CHECK. Edit and submit it after making appropriate changes for your environment. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the ACCEPT CHECK. The SMP/E root cause analysis identifies the cause of *errors* but not *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands documentation for details.

Expected Return Codes and Messages from ACCEPT CHECK: 0

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Note: The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

If the BYPASS operand is not included in the control statement when processing a PTF with a ++HOLD statement, the job will get a return code of 12 and the following message.

```
GIM30206E command PROCESSING FAILED FOR SYSMOD sysmod.  
        HOLD REASON IDS WERE NOT RESOLVED.
```

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

Expected Return Codes and Messages from ACCEPT: 0

6.2 Activating Tivoli Management Services on z/OS

Prior to activating Tivoli Management Services on z/OS, IBM recommends you review the Quick Start Guide, **First time deployment guide (FTU installation and configuration tasks)**, as well as the Planning and Configuring topics if you have not already done so. This documentation focuses on the things you will need to know for a successful installation and configuration of this product.

Note: Install Job Generator (JOBGEN) output library: You can specify the Install Job Generator (JOBGEN) output library during the PARMGEN "KCIJPCFG Set up/Refresh PARMGEN work environment" configuration processing to reuse parameter values such as the jobcard and CSI values related to CALLLIBS and USS install directory override data.

The *Configuring* documentation contains the step-by-step procedures to activate the functions of Tivoli Management Services on z/OS.

This documentation can be found online at:

<https://www.ibm.com/docs/en/om-shared>

7.0 Notices

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