



Program Directory for IBM Tools Base for z/OS

V01.06.00

Program Number 5655-V93

FMID HAHN160

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 24.

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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 Tools Base for z/OS. This publication refers to IBM Tools Base for z/OS as Tools Base.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for Tools Base.
- 3.0, “Program Support” on page 7 describes the IBM support available for Tools Base.
- 4.0, “Program and Service Level Information” on page 9 lists the APARs (program level) and PTFs (service level) that have been incorporated into Tools Base.
- 5.0, “Installation Requirements and Considerations” on page 10 identifies the resources and considerations that are required for installing and using Tools Base.
- 6.0, “Installation Instructions” on page 17 provides detailed installation instructions for Tools Base. It also describes the procedures for activating the functions of Tools Base, or refers to appropriate publications.

Before installing Tools Base, 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; then keep them for future reference. Section 3.2, “Preventive Service Planning” on page 7 tells you how to find any updates to the information and procedures in this program directory.

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

Do not use this program directory if you install Tools Base with a SystemPac or 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 Tools Base Description

IBM Tools Base for z/OS, V1.6 (5655-V93) contains the following new functionality, support, and changes:

- Recovery Preparedness Autonomics
 - Together with the separately licensed IBM IMS Recovery Solution Pack, V2.1, Tools Base provides Recovery Preparedness Autonomics capability:

- Information on database image copies and change accumulations are collected by Recovery Sensor of IMS Recovery Solution Pack and are stored in the IMS Tools Knowledge Base repository.
 - New policies and rules are added to detect database image copy and change accumulation needs and allow users to set exception thresholds.
 - Autonomics Director for IMS allows users to view recovery exception notifications in their list of monitored databases for a consolidated view of the issues affecting their IMS databases.
 - Tools Base Autonomics Director can schedule Recovery Sensor jobs and the evaluation of the collected sensor data, and the exception information detected in the evaluation is then stored in the IMS Tools Knowledge Base repository for autonomics processing.
- IMS Autonomics Integrated ISPF
 - Offers an improved ISPF user interface for lists of exceptions that are detected by policy evaluation of Autonomics Director.
 - Provides an exception summary across multiple RECON environments and an exception list for a specific RECON environment.
 - Allows for better sorting and filtering capabilities for both the exception summary and the exception list.

The following two components are no longer delivered as part of IBM Tools Base for z/OS, V1.6. They are made available as follows:

- IBM Tools Customizer for z/OS component (FMID HTCZ110) that was provided with IBM Tools Base for z/OS, V1.5 and earlier releases, is now made available with the separately orderable IBM Tools Customizer for z/OS, V1.1 (5655-TC1).
- The IBM Autonomics for DB2 component provided with IBM Tools Base for z/OS, V1.5 is now made available with the separately licensed DB2 Utilities Solution Pack for z/OS, V3.1(5697-USP).

1.2 Tools Base FMIDs

Tools Base consists of the following FMID:

HAHN160

2.0 Program Materials

An IBM program is identified by a program number. The program number for Tools Base is 5655-V93.

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 Tools Base. 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 17 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for Tools Base in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for Tools Base.

You can refer to the *CBPDO Memo To Users Extension* to see where the files reside on the tape.

Notes:

1. The data set attributes in this table must be used in the JCL of jobs that read the data sets. However, because the data sets are in IEBCOPY unloaded format, their actual attributes might be different.
2. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 1 (Page 1 of 2). Program File Content for Tools Base

Name	ORG	RECFM	RECL	BLK SIZE
SMPMCS	SEQ	FB	80	6400
IBM.HAHN160.F1	PDS	FB	80	8800
IBM.HAHN160.F2	PDS	FB	80	8800
IBM.HAHN160.F3	PDS	U	0	6144
IBM.HAHN160.F4	PDS	FB	80	8800
IBM.HAHN160.F5	PDS	FB	80	8800
IBM.HAHN160.F6	PDS	VB	255	27998

Figure 1 (Page 2 of 2). Program File Content for Tools Base

Name	O R G	R E C F M	L R E C L	BLK SIZE
IBM.HAHN160.F7	PDS	FB	80	8800
IBM.HAHN160.F8	PDS	FB	80	8800
IBM.HAHN160.F9	PDS	FB	80	8800
IBM.HAHN160.F10	PDS	FB	4096	24576
IBM.HAHN160.F11	PDS	FB	80	8800
IBM.HAHN160.F12	PDS	FB	80	8800
IBM.HAHN160.F13	PDS	FB	80	8800
IBM.HAHN160.F14	PDS	FB	80	8800
IBM.HAHN160.F15	PDS	FB	80	8800
IBM.HAHN160.F16	PDS	FB	80	8800
IBM.HAHN160.F17	PDS	FB	80	8800
IBM.HAHN160.F18	PDS	FB	80	8800
IBM.HAHN160.F19	PDS	FB	80	8800
IBM.HAHN160.F20	PDS	FB	80	8800
IBM.HAHN160.F21	PDS	FB	80	8800

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Tools Base.

2.3 Program Publications

The following sections identify the basic publications for Tools Base.

Figure 2 identifies the basic unlicensed publications for Tools Base. Those that are in softcopy format publications can be obtained from the IBM Publications Center website at:
<http://www.ibm.com/shop/publications/order/>

Figure 2. Basic Material: Unlicensed

Publication Title	Form Number	Media Format
IBM Tools Base for z/OS License Information	GC19-2899	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM Tools Base for z/OS Configuration Guide for IMS	SC19-4370	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM Tools Base for z/OS IMS Tools Common Services User	SC19-4371	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM Tools Base for z/OS IMS Tools Knowledge Base User	SC19-4372	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM Tools Base for z/OS IMS Hardware Data Compression Extended User	SC19-4373	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM Tools Base for z/OS Policy Services User	SC19-4374	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM Tools Base for z/OS Distributed Access Infrastructure User	SC19-4375	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM Tools Base for z/OS Autonomics Director User	SC19-4376	http://www.ibm.com/support/docview.wss?uid=swg27020942

2.3.1 Optional Program Publications

No optional publications are provided for Tools Base.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Tools Base.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of Tools Base.

Figure 3 (Page 1 of 2). Publications Useful During Installation

Publication Title	Form Number	Media Format
IBM SMP/E for z/OS User's Guide	SA23-2277	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS Commands	SA23-2275	http://www.ibm.com/shop/publications/order/

Figure 3 (Page 2 of 2). Publications Useful During Installation

Publication Title	Form Number	Media Format
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883	http://www.ibm.com/shop/publications/order/

3.0 Program Support

This section describes the IBM support available for Tools Base.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install Tools Base, 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 6.1.10, "Perform SMP/E APPLY" on page 20 for a sample APPLY command.

If you obtained Tools Base as part of a CBPDO, HOLDDATA is included.

If the CBPDO for Tools Base 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:

<http://www14.software.ibm.com/webapp/set2/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 <http://www-01.ibm.com/software/support/>.

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 Tools Base are included in Figure 4

Figure 4. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
5655V93	HAHN160	Tools Base

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 5 on page 8 identifies the component IDs (COMPID) for Tools Base.

<i>Figure 5. Component IDs</i>			
FMID	COMPID	Component Name	RETAIN Release
HAHN160	5655V9300	Tools Base	160

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of Tools Base. 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 Tools Base have been incorporated into this release. They are listed by FMID.

- FMID HAHN150

PI20938	PI37091	PI44625	PI53687	PI56201
PI26352	PI37616	PI45230	PI54679	PI57662
PI27756	PI38787	PI45400	PI55325	PI57662
PI32166	PI39915	PI45400	PI56201	PI58342
PI33394	PI42869	PI47583	PI56201	PI58401
PI33704	PI43338	PI48640	PI56201	PI61681
PI34329	PI43438	PI50575	PI56201	PI62712
PI35988	PI43826	PI50759	PI56201	PI62856
PI36493	PI43986	PI52196	PI56201	PI64296
PI36501				

4.2 Service Level Information

No PTFs against this release of Tools Base have been incorporated into the product package.

Frequently check the Tools Base 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 Tools Base. 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 Tools Base.

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 6. 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	V02.01.00	N/A	No

Note: SMP/E is a requirement for Installation and is an element of z/OS but can also be ordered as a separate product, 5655-G44, minimally V03.06.00.

Note: Installation might require migration to new z/OS releases to be service supported. See http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Tools Base.

Tools Base installs in the DBS (P115) 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.

Tools Base has no mandatory installation requisites.

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.

Tools Base 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.

Figure 7. Target System Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
Any one of the following:	
5635-A03	IMS V12
5655-DSQ	IMS Database Value Unit Edition, V12, with PTF UK93908
5655-TM1	IMS Transaction Manager Value Unit Edition, V12
5635-A04	IMS V13
5655-DSM	IMS Database Value Unit Edition, V13
5655-TM2	IMS Transaction Manager Value Unit Edition, V13
5635-A05	IMS V14
5655-DSE	IMS Database Value Unit Edition, V14
5655-TM3	IMS Transaction Manager Value Unit Edition, V14

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.

Figure 8. Target System Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5655-ISR	IBM IMS Recovery Solution Pack Tool for z/OS, V02.01.00 or higher	Recovery Preparedness Autonomics
5655-TAC	IBM Management Console for IMS and DB2 for z/OS, V01.01.00 or higher	Support of web user interface for IMS Autonomics

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.

Tools Base 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.

Tools Base has no negative requisites.

5.2.3 DASD Storage Requirements

Tools Base libraries can reside on all supported DASD types.

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

Library Type	Total Space Required in 3390 Trks
Target	1753 tracks
Distribution	2300 tracks

Notes:

1. Depending on maintenance applied, the stated DASD space requirements may not be sufficient and data set allocations may need to be increased over time to match the needs of your environment.
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 20.

4. All target and distribution libraries listed have the following attributes:

- The default name of the data set can be changed.
- The default block size of the data set can be changed.
- The data set can be merged with another data set that has equivalent characteristics.
- The data set can be either a PDS or 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 be in the LPA, but they are not required to be in the LPA.
- These data sets can be in the LNKLIST.
- Target libraries SAILINK, SFOILOAD, SGLXLOAD, SDYXLOAD, and SHKTLOAD must be APF-authorized.

The following figures describe the target and distribution libraries required to install Tools Base. The storage requirements of Tools Base must be added to the storage required by other programs that have data in the same library.

Note: Use the data in these tables to determine which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Figure 10 (Page 1 of 2). Storage Requirements for Tools Base Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SAIIBASE	SAMPLE	Any	U	PDS	FB	80	17	2
SAIIEXEC	EXEC	Any	U	PDS	FB	80	11	2
SAIIGENU	DATA	Any	U	PDS	VB	255	225	5
SAILINK	LMOD	Any	U	PDS	U	0	60	30
SAIISAMP	SAMPLE	Any	U	PDS	FB	80	5	3
SFOILOAD	LMOD	Any	U	PDS	U	0	26	20
SGLXLOAD	LMOD	Any	U	PDS	U	0	38	20
SGLXMACS	MACRO	Any	U	PDS	FB	80	5	3

Figure 10 (Page 2 of 2). Storage Requirements for Tools Base 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
SGLXSAMP	SAMPLE	Any	U	PDS	FB	80	5	3
SHCOCEXE	EXEC	Any	U	PDS	FB	80	10	3
SHCODATA	DATA	Any	U	PDS	FB	4096	10	3
SHCOLMOD	LMOD	Any	U	PDS	U	0	76	10
SHCOMENU	MESSAGE	Any	U	PDS	FB	80	5	3
SHCOPENU	PANEL	Any	U	PDS	FB	80	10	4
SHCOSAMP	SAMPLE	Any	U	PDS	FB	80	15	3
SHCOSENU	SKEL	Any	U	PDS	FB	80	6	3
SHKTCEXE	EXEC	Any	U	PDS	FB	80	150	5
SHKTCLIB	CLIST	Any	U	PDS	FB	80	5	2
SHKTLOAD	LMOD	Any	U	PDS	U	0	753	125
SHKTMENU	MESSAGE	Any	U	PDS	FB	80	50	15
SHKTPENU	PANEL	Any	U	PDS	FB	80	225	60
SHKTSAMP	SAMPLE	Any	U	PDS	FB	80	14	5
SHKTTENU	TABLE	Any	U	PDS	FB	80	2	2
SHKTTMPL	DATA	Any	U	PDS	FB	80	30	3

Figure 11 (Page 1 of 2). Storage Requirements for Tools Base 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
AAIIBASE	U	PDS	FB	80	17	2
AAIIEC	U	PDS	FB	80	11	2
AAIIGENU	U	PDS	VB	255	225	5
AAIILINK	U	PDS	U	0	1500	260
AAIISAMP	U	PDS	FB	80	5	3
AGLXMACS	U	PDS	FB	80	5	3
AGLXSAMP	U	PDS	FB	80	5	3
AHCOCEXE	U	PDS	FB	80	10	3

Figure 11 (Page 2 of 2). Storage Requirements for Tools Base 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
AHCDATA	U	PDS	FB	4096	10	3
AHCOMENU	U	PDS	FB	80	5	3
AHCOPENU	U	PDS	FB	80	10	4
AHCOSAMP	U	PDS	FB	80	15	3
AHCOSENU	U	PDS	FB	80	6	3
AHKTCEXE	U	PDS	FB	80	150	5
AHKTCLIB	U	PDS	FB	80	5	2
AHKTMENU	U	PDS	FB	80	50	15
AHKTPENU	U	PDS	FB	80	225	60
AHKTSAMP	U	PDS	FB	80	14	5
AHKTTENU	U	PDS	FB	80	2	2
AHKTTMPL	U	PDS	FB	80	30	3

5.3 FMIDs Deleted

Installing Tools Base 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 Tools Base 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 book for details.

5.4 Special Considerations

Note: The IMS Batch Terminal Simulator Plug-in for Eclipse (delivered with Tools Base) can be used with an Eclipse development environment, such as IBM Rational Developer for System z and Debug Tool. Using Eclipse, application developers can run and test IMS applications from the Eclipse development environment, which helps reduce the amount of z/OS specific knowledge that an application developer requires to test IMS applications. The Plug-in requires the Distributed Access Infrastructure component delivered with Tools Base for z/OS.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of Tools Base.

Please note the following points:

- If you want to install Tools Base into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMP/CSI 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.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing Tools Base

6.1.1 SMP/E Considerations for Installing Tools Base

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of Tools Base.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 12. 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.

<i>Figure 12. SMP/E Options Subentry Values</i>		
Subentry	Value	Comment
DSSPACE	(200,200,500)	
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 SMP/E CALLLIBS Processing

Tools Base, FMID HAHN160, uses the CALLLIBS function that is provided in SMP/E to resolve external references during installation. When Tools Base is installed, ensure that DDDEFs exist for the following libraries:

- CSSLIB

Note: CALLLIBS uses the previous DDDEFs only to resolve the link-edit for Tools Base. These data sets are not updated during the installation of Tools Base.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install Tools Base:

<i>Figure 13. Sample Installation Jobs for Tools Base</i>			
Job Name	Job Type	Description	RELFILE
AIIALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set (Optional)	IBM.HAHN160.F2
AIIALB	SMP/E	Sample job to allocate SMP/E data sets (Optional)	IBM.HAHN160.F2
AIIRECEV	RECEIVE	Sample RECEIVE job	IBM.HAHN160.F2
AIIALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HAHN160.F2
AIIDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HAHN160.F2
AIIAPPLY	APPLY	Sample APPLY job	IBM.HAHN160.F2
AIIACCEP	ACCEPT	Sample ACCEPT job	IBM.HAHN160.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.7, “Perform SMP/E RECEIVE” on page 20) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 13 to find the appropriate relfile data sets.

You can also copy the sample installation jobs from the tape or product files by submitting the following job. Depending on your distribution medium, use either the //TAPEIN or the //FILEIN DD statement and comment out or delete the other statement. 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
//SYSPRINT DD SYSOUT=*
//*****
//* Make the //TAPEIN DD statement below active if you install*
//* from a CBPDO tape by uncommenting the DD statement below. *
//*****
//*TAPEIN DD DSN=IBM.HAHN160.F2,UNIT=tunit,
//* VOL=SER=volser,LABEL=(x,SL),
//* DISP=(OLD,KEEP)
//*****
//* Make the //TAPEIN DD statement below active if you install*
//* from a product tape received outside the CBPDO process *
//* (using the optional SMP/E RECEIVE job) by uncommenting *
//* the DD statement below. *
//*****
```

```

/*TAPEIN DD DSN=IBM.HAHN160.F2,UNIT=tunit,
/* VOL=SER=AHN160,LABEL=(3,SL),
/* DISP=(OLD,KEEP)
/*****
/* Make the //FILEIN DD statement below active for *
/* downloaded DASD files. *
/*****
/*FILEIN DD DSN=IBM.HAHN160.F2,UNIT=SYSALLDA,DISP=SHR,
/* VOL=SER=filevol
//OUT DD DSNAME=jcl-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(20,10,5))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=xxxxIN,OUTDD=OUT
/*

```

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

TAPEIN:

tunit is the unit value that matches the product package.

volser is the volume serial that matches the product package.

x is the tape file number that indicates the location of the data set name on the tape.

See the documentation that is provided by CBPDO for the location of IBM.HAHN160.F2, on the tape.

FILEIN:

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.

SYSIN:

xxxxIN is either TAPEIN or FILEIN depending on your input DD statement.

6.1.5 Allocate SMP/E CSI (Optional)

If you are using an existing CSI, do not execute this job.

If you are allocating a new SMP/E data set for this install, edit and submit sample job AIIALA to allocate the SMP/E data set for Tools Base. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.6 Initialize CSI zones (Optional)

If you are using an existing CSI, do not execute this job.

Edit and submit sample job AIIALB to initialize SMP/E zones for Tools Base. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.7 Perform SMP/E RECEIVE

If you have obtained Tools Base as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the Tools Base 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 sample job AIIRECEV to perform the SMP/E RECEIVE for Tools Base. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.8 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job AIIALLOC to allocate the SMP/E target and distribution libraries for Tools Base. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.9 Create DDDEF Entries

Edit and submit sample job AIIDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Tools Base. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.10 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job AIIAPPLY to perform an SMP/E APPLY CHECK for Tools Base. 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:

- a. 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.

- b. 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),HOLDFIXCAT) .
..any other parameters documented in the program directory
```

This method is the 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.

2. After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job(s) 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.

Expected Return Codes and Messages from APPLY CHECK: You will receive a return code of 0 if this job runs correctly.

Expected Return Codes and Messages from APPLY: You will receive a return code of 0 if this job runs correctly.

6.1.11 Perform SMP/E ACCEPT

Edit and submit sample job AIIACCEP to perform an SMP/E ACCEPT CHECK for Tools Base. 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 only *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 book for details.

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.

Expected Return Codes and Messages from ACCEPT CHECK: You will receive a return code of 0 if this job runs correctly.

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: You will receive a return code of 0 if this job runs correctly.

6.1.12 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command identifies requisites for products that are installed in separate zones. This command also creates APPLY and ACCEPT commands in the SMPPUNCH data set. You can use the APPLY and ACCEPT commands to install those cross-zone requisites that the SMP/E REPORT CROSSZONE command identifies.

After you install Tools Base, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

For more information about REPORT CROSSZONE, see the SMP/E manuals.

6.2 Activating Tools Base

6.2.1 Product Customization

The publication *IBM Tools Base for z/OS Configuration Guide for IMS* (SC19-4370) contains the necessary information to customize and use Tools Base.

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