Program Directory for
IBM 64-bit SDK for z/OS, Java Technology Edition

V7.R1.M0
Program Number 5655-W44

FMID s HJVB710

for Use with
z/OS V1.12 or higher

Document Date: January 2014

GI11-9829-01
Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 25.

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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 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1. This publication refers to IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 as IBM 64-bit SDK for z/OS, Version 7 Release 1.

The Program Directory contains the following sections:

- **2.0, “Program Materials” on page 3** identifies the basic and optional program materials and documentation for IBM 64-bit SDK for z/OS, Version 7 Release 1.

- **3.0, “Program Support” on page 5** describes the IBM support available for IBM 64-bit SDK for z/OS, Version 7 Release 1.

- **4.0, “Program and Service Level Information” on page 7** lists the APARs (program level) and PTFs (service level) that have been incorporated into IBM 64-bit SDK for z/OS, Version 7 Release 1.

- **5.0, “Installation Requirements and Considerations” on page 9** identifies the resources and considerations that are required for installing and using IBM 64-bit SDK for z/OS, Version 7 Release 1.

- **6.0, “Installation Instructions” on page 17** provides detailed installation instructions for IBM 64-bit SDK for z/OS, Version 7 Release 1. It also describes the procedures for activating the functions of IBM 64-bit SDK for z/OS, Version 7 Release 1, or refers to appropriate publications.

Before installing IBM 64-bit SDK for z/OS, Version 7 Release 1, 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 5** tells you how to find any updates to the information and procedures in this Program Directory.

IBM 64-bit SDK for z/OS, Version 7 Release 1 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 IBM 64-bit SDK for z/OS, Version 7 Release 1 are included on the CBPDO tape.

Do not use this program directory if you install IBM 64-bit SDK for z/OS, Version 7 Release 1 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 IBM 64-bit SDK for z/OS, Version 7 Release 1 Description

The IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 product is IBM's port of Oracle's Java Software Development Kit (SDK) to the z/OS zSeries platform. The IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 product at the SDK 7 level is certified as a fully compliant Java product. IBM has successfully executed the Java Certification Kit (JCK) provided by Oracle.

The IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 is operational within the z/OS Version 1 Release 12 operating system or later, and z/OS Version 2 Release 1 operating system. It provides a Java execution environment equivalent to that available on any other server platform.

For more information about the IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 product, as well as general information about Java, visit our web site at:


1.2 IBM 64-bit SDK for z/OS, Version 7 Release 1 FMIDs

IBM 64-bit SDK for z/OS, Version 7 Release 1 consists of the following FMID:

   HJVB710
2.0 Program Materials

An IBM program is identified by a program number. The program number for IBM 64-bit SDK for z/OS, Version 7 Release 1 is 5655-W44.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature numbers, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature numbers, and are not required for the product to function.

The program announcement material describes the features supported by IBM 64-bit SDK for z/OS, Version 7 Release 1. 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 IBM 64-bit SDK for z/OS, Version 7 Release 1 in the CBPDO Memo To Users Extension.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for IBM 64-bit SDK for z/OS, Version 7 Release 1.

2.3 Program Publications

The following sections identify the basic and optional publications for IBM 64-bit SDK for z/OS, Version 7 Release 1.

2.3.1 Basic Program Publications

No basic publications are provided for IBM 64-bit SDK for z/OS, Version 7 Release 1. Information about the IBM 64-bit SDK for z/OS, Version 7 Release 1 product is available at our web site


2.3.2 Optional Program Publications

No optional publications are provided for IBM 64-bit SDK for z/OS, Version 7 Release 1.
2.4 Program Source Materials

No program source materials or viewable program listings are provided for IBM 64-bit SDK for z/OS, Version 7 Release 1.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 1 during the installation of IBM 64-bit SDK for z/OS, Version 7 Release 1. To order copies, contact your IBM representative or visit the IBM Publications Center at http://www-05.ibm.com/e-business/linkweb/publications/servlet/pbi.wss

<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM SMP/E for z/OS User's Guide</td>
<td>SA22-7773</td>
</tr>
<tr>
<td>IBM SMP/E for z/OS Commands</td>
<td>SA22-7771</td>
</tr>
<tr>
<td>IBM SMP/E for z/OS Reference</td>
<td>SA22-7772</td>
</tr>
<tr>
<td>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</td>
<td>GA22-7770</td>
</tr>
<tr>
<td>IBM Online Library: Software Products DVD Collection</td>
<td>SK3T-4271</td>
</tr>
<tr>
<td>z/OS Information Roadmap</td>
<td>SA22-7500</td>
</tr>
</tbody>
</table>
3.0 Program Support

This section describes the IBM support available for IBM 64-bit SDK for z/OS, Version 7 Release 1.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install IBM 64-bit SDK for z/OS, Version 7 Release 1, 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 6.1.8, “Perform SMP/E APPLY” on page 19 for a sample APPLY command.

Although SW, HW, and functional PSP Buckets might have overlap, review all that apply to this package to ensure that you identify all the known service that is required for your installation of this package.

If you obtained IBM 64-bit SDK for z/OS, Version 7 Release 1 as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IBM 64-bit SDK for z/OS, Version 7 Release 1 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:


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 IBM 64-bit SDK for z/OS, Version 7 Release 1 are included in Figure 2.
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 3 identifies the component IDs (COMPID) for IBM 64-bit SDK for z/OS, Version 7 Release 1.

<table>
<thead>
<tr>
<th>FMID</th>
<th>COMPID</th>
<th>Component Name</th>
<th>RETAIN Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>HJVB710</td>
<td>620700104</td>
<td>64-Bit SDK for z/OS Java Technology Edition</td>
<td>710</td>
</tr>
</tbody>
</table>
4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IBM 64-bit SDK for z/OS, Version 7 Release 1. 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 IBM 64-bit SDK for z/OS, Version 7 Release 1 have been incorporated into this release. They are listed by FMID.

- FMID HJVB710
  
  PM92865 PM99212 PM99213

4.2 Service Level Information

No PTFs against this release of IBM 64-bit SDK for z/OS, Version 7 Release 1 have been incorporated into the product package.

Frequently check the IBM 64-bit SDK for z/OS, Version 7 Release 1 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-RequiredService) 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 IBM 64-bit SDK for z/OS, Version 7 Release 1. 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 IBM 64-bit SDK for z/OS, Version 7 Release 1.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements
IBM 64-bit SDK for z/OS, Version 7 Release 1 invokes UNIX shell scripts during installation. The userid under which the job executes, must have the following:

- UID(0) or READ access or higher to the BPX.SUPERUSER facility class
- be connected to a group that has a GID
- have READ access or higher to the BPX.FILEATTR.PROGCTL and BPX.FILEATTR.APF and BPX.FILEATTR.SHARELIB facility classes
- have WRITE access to the "usr/lpp/java/J7.1_64" and "usr/lpp/java/J7.1_64/IBM" paths

### 5.2 Target System Requirements

This section describes the environment of the target system required to install and use IBM 64-bit SDK for z/OS, Version 7 Release 1.

IBM 64-bit SDK for z/OS, Version 7 Release 1 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.
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.

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.

IBM 64-bit SDK for z/OS, Version 7 Release 1 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 5. Target System Mandatory Installation Requisites

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name</th>
<th>Minimum VRM</th>
<th>Minimum Service Level will satisfy these APARs</th>
<th>Included in the shipped product?</th>
</tr>
</thead>
<tbody>
<tr>
<td>5694-A01</td>
<td>z/OS</td>
<td>V1.12.00 or higher</td>
<td>N/A</td>
<td>No</td>
</tr>
</tbody>
</table>

### Figure 6. Target System Mandatory Operational Requisites

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name and Minimum VRM/Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5694-A01</td>
<td>z/OS V1.12.0 or higher</td>
</tr>
<tr>
<td>5694-A01</td>
<td>z/OS V1.13.00 or higher</td>
</tr>
<tr>
<td>5650-ZOS</td>
<td>z/OS V2.1.0</td>
</tr>
</tbody>
</table>

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.

IBM 64-bit SDK for z/OS, Version 7 Release 1 has no conditional operational requisites.

**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.

IBM 64-bit SDK for z/OS, Version 7 Release 1 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.

IBM 64-bit SDK for z/OS, Version 7 Release 1 has no negative requisites.

5.2.3 DASD Storage Requirements

IBM 64-bit SDK for z/OS, Version 7 Release 1 libraries can reside on all supported DASD types.

Figure 7 lists the total space that is required for each type of library.

<table>
<thead>
<tr>
<th>Library Type</th>
<th>Total Space Required in 3390 Trks</th>
<th>File System Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>4622</td>
<td></td>
</tr>
<tr>
<td>File System(s)</td>
<td>9750</td>
<td>IBM 64-bit SDK for z/OS, Version 7 Release 1 file system</td>
</tr>
</tbody>
</table>

Notes:

1. 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.

2. 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.

   For more information about the names and sizes of the required data sets, see 6.1.5, “Allocate SMP/E Target and Distribution Libraries” on page 18.

3. Abbreviations used for the file system path type are as follows.

   N  New path, created by this product.
X  Path created by this product, but might already exist from a previous release.
P  Previously existing path, created by another product.

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 LNKLST.
   - These data sets are not required to be APF-authorized.

The following figures describe the target and distribution libraries and file system paths required to install IBM 64-bit SDK for z/OS, Version 7 Release 1. The storage requirements of IBM 64-bit SDK for z/OS, Version 7 Release 1 must be added to the storage required by other programs that have data in the same library or path.

**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 8. Storage Requirements for IBM 64-bit SDK for z/OS, Version 7 Release 1 Target Libraries**

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Target Volume</th>
<th>T(E)</th>
<th>Y(O)</th>
<th>P(R)</th>
<th>R(C)</th>
<th>L(E)</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROCLIB</td>
<td>PROC</td>
<td>TVOL1</td>
<td>E</td>
<td>P</td>
<td>D</td>
<td>S</td>
<td>L</td>
<td>80</td>
<td>2</td>
</tr>
<tr>
<td>SAJVSMP1</td>
<td>Sample</td>
<td>TVOL2</td>
<td>S</td>
<td>P</td>
<td>D</td>
<td>S</td>
<td>L</td>
<td>80</td>
<td>2</td>
</tr>
<tr>
<td>SAMPLIB</td>
<td>Sample</td>
<td>TVOL2</td>
<td>E</td>
<td>P</td>
<td>D</td>
<td>S</td>
<td>L</td>
<td>80</td>
<td>2</td>
</tr>
<tr>
<td>SIEALNKE</td>
<td>LMOD</td>
<td>TVOL1</td>
<td>E</td>
<td>P</td>
<td>D</td>
<td>S</td>
<td>L</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

---

Installation Requirements and Considerations 13
If you are installing into a zone other than the z/OS zone, you will need to allocate separate libraries for PROCLIB, SAMPLIB, SIEALNKE, APROCLIB, ASAMPLIB, and AIEALNKE. You will need to define new DDDEFs for these libraries also. You can model the libraries and DDDEFs after the ones in the z/OS zone.

If you plan to install IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 in the same libraries as IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1, the storage requirements for both products must be added together when allocating the target and distribution libraries.

### 5.3 FMIDs Deleted

No FMIDs are deleted by this product.

### 5.4 Special Considerations

IBM 64-bit SDK for z/OS, Version 7 Release 1 has no special considerations for the target system.

For service installation, please be aware that service installs may replace all files in the Java HFS or zFS directory. Before installing service, ensure any modified files are saved.

Examples:

---

**Figure 9. IBM 64-bit SDK for z/OS, Version 7 Release 1 File System Paths**

<table>
<thead>
<tr>
<th>DDNAME</th>
<th>T</th>
<th>Y</th>
<th>P</th>
<th>E</th>
<th>Path Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAJV17L</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>/usr/lpp/java/J7.1_64/IBM</td>
</tr>
</tbody>
</table>

**Figure 10. Storage Requirements for IBM 64-bit SDK for z/OS, Version 7 Release 1 Distribution Libraries**

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>T</th>
<th>Y</th>
<th>R</th>
<th>L</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAJVSMP1</td>
<td>U</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>AAJVHFS</td>
<td>U</td>
<td>PDS</td>
<td>VB</td>
<td>256</td>
<td>4605</td>
<td>2</td>
</tr>
<tr>
<td>APROCLIB</td>
<td>E</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>ASAMPLIB</td>
<td>E</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>AIEALNKE</td>
<td>E</td>
<td>PDSE</td>
<td>U</td>
<td>0</td>
<td>10</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note:** If you are installing into a zone other than the z/OS zone, you will need to allocate separate libraries for PROCLIB, SAMPLIB, SIEALNKE, APROCLIB, ASAMPLIB, and AIEALNKE. You will need to define new DDDEFs for these libraries also. You can model the libraries and DDDEFs after the ones in the z/OS zone.
• The JCE Unlimited Strength Jurisdiction Policy files may need to be copied from the /demo/jce/policy-files/unrestricted directory to the /lib/security directory to change to unrestricted mode of use.

• The java.security and java.policy files in the /lib/security directory may need to be restored or updated after the installation of service if modifications have been made.
6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of IBM 64-bit SDK for z/OS, Version 7 Release 1.

Please note the following points:

- If you want to install IBM 64-bit SDK for z/OS, Version 7 Release 1 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.

- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing IBM 64-bit SDK for z/OS, Version 7 Release 1

6.1.1 SMP/E Considerations for Installing IBM 64-bit SDK for z/OS, Version 7 Release 1

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of IBM 64-bit SDK for z/OS, Version 7 Release 1.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 11. 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.

<table>
<thead>
<tr>
<th>Subentry</th>
<th>Value</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSSPACE</td>
<td>800,500,100</td>
<td></td>
</tr>
<tr>
<td>PEMAX</td>
<td>SMP/E Default</td>
<td>IBM recommends using the SMP/E default for PEMAX.</td>
</tr>
</tbody>
</table>

6.1.3 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install IBM 64-bit SDK for z/OS, Version 7 Release 1:
You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.4, “Perform SMP/E RECEIVE” on page 18) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 12 on page 17 to find the appropriate relfile data set.

### 6.1.4 Perform SMP/E RECEIVE

If you have obtained IBM 64-bit SDK for z/OS, Version 7 Release 1 as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the IBM 64-bit SDK for z/OS, Version 7 Release 1 FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

### 6.1.5 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job AJVLALC to allocate the SMP/E target and distribution libraries for IBM 64-bit SDK for z/OS, Version 7 Release 1. Consult the instructions in the sample job for more information.

If you plan to install IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 in the same libraries as IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1, the storage requirements for the target and distribution libraries in sample job AJVLALC must be increased to allow the installation of both products in the same libraries.

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

### 6.1.6 Allocate File system Paths

The target system HFS or zFS data set must be mounted on the driving system when running the sample AJVLMKD job since the job will create paths in the HFS or zFS.

Before running the sample job to create the paths in the file system, you must ensure that OMVS is active on the driving system and that the target system’s HFS or zFS file system is mounted to the driving system. zFS must be active on the driving system if you are installing IBM 64-bit SDK for z/OS, Version 7 Release 1 into a file system that is zFS.

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Job Type</th>
<th>Description</th>
<th>RELFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJVLALC</td>
<td>ALLOCATE</td>
<td>Sample job to allocate target and distribution libraries</td>
<td>IBM.HJVB710.F2</td>
</tr>
<tr>
<td>AJVLMKD</td>
<td>MKDIR</td>
<td>Sample job to invoke the supplied AJVLMKDR EXEC to allocate file system paths</td>
<td>IBM.HJVB710.F2</td>
</tr>
<tr>
<td>AJVLDDD</td>
<td>DDDEF</td>
<td>Sample job to define SMP/E DDDEFs</td>
<td>IBM.HJVB710.F2</td>
</tr>
<tr>
<td>AJVLHFS</td>
<td>HFSALLOC</td>
<td>Sample HFS allocate job</td>
<td>IBM.HJVB710.F2</td>
</tr>
<tr>
<td>AJVLZFS</td>
<td>ZFSALLOC</td>
<td>Sample ZFS allocate job</td>
<td>IBM.HJVB710.F2</td>
</tr>
</tbody>
</table>

**Figure 12. Sample Installation Jobs**
If you plan to install IBM 64-bit SDK for z/OS, Version 7 Release 1 into a new HFS or zFS file system, you must create the mountpoint and mount the new file system to the driving system for IBM 64-bit SDK for z/OS, Version 7 Release 1.

The recommended mountpoint is `usr/lpp/java/J7.1_64`.

If your installation is using an HFS, edit and submit sample job `AJVLHFS` to allocate the file system for IBM 64-bit SDK for z/OS, Version 7 Release 1. Consult the instructions in the sample job for more information.

If your installation is using a zFS, edit and submit sample job `AJVLZFS` to allocate the file system for IBM 64-bit SDK for z/OS, Version 7 Release 1. Consult the instructions in the sample job for more information.

If you plan to install IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 in the same file system as IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1, the file system storage requirements for the two products must be added together, and the sample job `AJVLHFS` or `AJVLZFS` must be updated to increase the space allocation for the file system.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

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

### 6.1.7 Create DDDEF Entries

Edit and submit sample job `AJVLDDD` to create DDDEF entries for the SMP/E target and distribution libraries for IBM 64-bit SDK for z/OS, Version 7 Release 1. 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 Perform SMP/E APPLY


   The latest HOLDDATA is available through several different portals, including [http://service.software.ibm.com/holdata/390holddata.html](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

```plaintext
APPLY $\{fmid,fmid,...\}$ CHECK
FORFMID($\{fmid,fmid,...\}$
SOURCEID(RSU/c5197)
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 ERRSYSMOSD command to identify unresolved HIPER APARs and any fixing PTFs.

```plaintext
APPLY $\{fmid,fmid,...\}$ CHECK
FORFMID($\{fmid,fmid,...\}$
SOURCEID(RSU/c5197)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
```

This method is the quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMOSD 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 again to perform the APPLY.

Figure 13 shows a sample job that you can use to perform an SMP/E APPLY CHECK for IBM 64-bit SDK for z/OS, Version 7 Release 1.

```gem
//AJVAPLY JOB <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
SET BOUNDARY(targetzone)
APPLY CHECK XZREQ
FORFMID (HJVB710)
SELECT (HJVB710)
GROUPEXTEND(NOAPARS,NOUSERMODS)
FIXCAT(IBM.ProductInstall-RequiredService)
BYPASS(HOLDSYSTEM,
  HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) ./
```

Figure 13. Sample SMP/E APPLY Job

Required Updates

1. Update the job parameters.
2. Replace csiname on the SMPCSI DD statement with your CSI name.
3. Replace targetzone with your target zone name.

**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.

### 6.1.9 Perform SMP/E ACCEPT

Perform an SMP/E ACCEPT CHECK for IBM 64-bit SDK for z/OS, Version 7 Release 1.

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.

```
//AJVACPT JOB <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
  SET BOUNDARY(dlibzone).
  ACCEPT CHECK XZREQ
  FORFMID (HJVB710)
  SELECT (HJVB710)
  GROUPEXTEND(NOAPARS,NOUSERMODS)
  FIXCAT(IBM.ProductInstall-RequiredService)
  BYPASS(HOLDSYSTEM,
        HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .

/*
Figure 14. Sample SMP/E ACCEPT Job

Required Updates

1. Update the job parameters.
2. Replace csiname on the SMPCSI DD statement with your CSI name.
3. Replace dlibzone with your distribution zone name.

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.
6.1.10 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 IBM 64-bit SDK for z/OS, Version 7 Release 1, 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 IBM 64-bit SDK for z/OS, Version 7 Release 1

IBM 64-bit SDK for z/OS, Version 7 Release 1 is fully operational after the SMP/E installation is completed. You do not have to do further customization to activate this function.
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