Program Directory for

IBM DB2 V9 for z/OS Value Unit Edition

V09.01.00

Program Number 5697-P12

FMID HDDA211

for Use with
z/OS with zNALC

Document Date: February 2008

GI10-8781-00

Note!

Before using this information and the product it supports, be sure to read the general information under 7.0, “Notices” on page 22.

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Contents

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1.0 Introduction

This Program Directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of z/OS Application Connectivity to DB2 for z/OS. This publication refers to z/OS Application Connectivity to DB2 for z/OS as z/OS Application Connectivity.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic and optional program materials and documentation for z/OS Application Connectivity.
- 3.0, “Program Support” on page 6 describes the IBM support available for z/OS Application Connectivity.
- 4.0, “Program and Service Level Information” on page 8 lists the APARs (program level) and PTFs (service level) incorporated into z/OS Application Connectivity.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations required for installing and using z/OS Application Connectivity.
- 6.0, “Installation Instructions” on page 15 provides detailed installation instructions for z/OS Application Connectivity. It also describes the procedures for activating the functions of z/OS Application Connectivity, or refers to appropriate publications.

Before installing z/OS Application Connectivity, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that were supplied with this program in softcopy form as well as this Program Directory and then keep them for future 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.

z/OS Application Connectivity is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory is provided in softcopy form on the CBPDO tape which is identical to the hardcopy form provided with your order. All service and HOLDDATA for z/OS Application Connectivity are included on the CBPDO tape.

Do not use this Program Directory if you are installing z/OS Application Connectivity with a SystemPac or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the Program Directory as required.

1.1 z/OS Application Connectivity Description

The purpose of this product is to give connectivity to remote DB2 systems for 390 and z/OS systems (LPARs) that do not have DB2 for z/OS installed.

For example; it allows an application server, such as WebSphere, to talk to a remote DB2 that is behind a firewall.

While this product can be installed on a system that **does** have DB2 installed, you may already have the same connectivity installed with DB2 (if you have installed JDBC/FMID JDB9912).

Note: If you are using the JDBC installed with DB2 you **must not** use this product in the same JVM (Java Virtual Machine).

Many new features and enhancements have been made for DB2 for z/OS. Among these changes is a new JDBC driver architecture known as the IBM DB2 JDBC Driver. The Driver is architected as an abstract JDBC processor that is independent of driver-type connectivity or target platform (see below for a definition of the four JDBC driver connectivity types). The IBM DB2 JDBC Driver is an architecture-neutral JDBC driver for distributed and local DB2 access.

Since the Driver has a unique architecture as an abstract JDBC state machine, it does not fall into the conventional driver-type categories as defined by Sun. For the Driver as an abstract machine, driver types become connectivity types.

This abstract JDBC machine architecture is independent of any particular JDBC driver-type connectivity or target platform, allowing for both all-Java connectivity (Type 4) or JNI-based connectivity (Type 2) in a single driver. A single driver instance is loaded by the driver manager for both Type 4 and Type 2 implementations. Type 2 and 4 connections may be made (simultaneously if desired) using this single driver instance. A common driver reduces behavioral differences when switching between the various connectivity types.

Platform specifics are abstracted to the lowest layers, so differences between the various DB2 operating system platforms are also minimized.

This release of the JDBC Driver implements JDBC 3.0 and supports all-Java remote connectivity (Type 4) including XA Distributed Transactionsvia the JTA (Java Transaction API) for DB2 V7 z/OS and OS/390 , DB2 V8 z/OS, and DB2 9 for z/OS, which is based on open distributed protocol known as Distributed Relation Database Architecture (DRDA) for cross-platform access to DB2.

1.2 z/OS Application Connectivity FMIDs

z/OS Application Connectivity consists of the following FMID:

HDDA211

2.0 Program Materials

An IBM program is identified by a program number. The program number for z/OS Application Connectivity is 5697-P12.

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 z/OS Application Connectivity. 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 magnetic tape or downloadable files. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, “Installation Instructions” on page 15 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for z/OS Application Connectivity can be found in the *CBPDO Memo To Users Extension*.

Figure 1. Program File Content

Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	6400
IBM.HDDA211.F1	PDS	FB	80	8800
IBM.HDDA211.F2	PDS	V	255	6106
IBM.HDDA211.F3	PDS	V	255	6106
IBM.HDDA211.F4	PDS	V	255	6106

2.2 Optional Machine-Readable Material

The distribution medium for this program is magnetic tape or downloadable files.

2.3 Program Publications

The following sections identify the basic and optional publications for z/OS Application Connectivity.

2.3.1 Basic Program Publications

Figure 2 identifies the basic unlicensed program publications for z/OS Application Connectivity. One copy of each of these publications is included when you order the basic materials for z/OS Application Connectivity. For additional copies, contact your IBM representative.

Figure 2. Basic Material: Unlicensed Publications

Publication Title	Form Number
z/OS Application Connectivity for z/OS Program Directory	GI10-8781

Figure 3 identifies the basic unlicensed or licensed publications that are not available in hardcopy form, but are available through the internet or other media for z/OS Application Connectivity.

Figure 3. Basic Material: Other Unlicensed or Licensed Publications

Publication Title	Form Number	How Available
Application Programming Guide and Reference for Java V9	SC18-9842	See note below data/db2imstools/library.html

Note: Unlicensed Publications can be found at either of the following Web addresses:

`http://publib.boulder.ibm.com/infocenter/imzic`

or

`http://www.ibm.com/software/db2zos/v9books.html`

Publications are available in PDF and BookManager formats on CD-ROM and on DVD on the next release of software product libraries:

- *z/OS Software Products Collection, SK3T-4270*
- *z/OS and Software Products DVD Collection, SK3T-4271** requires a DVD drive in DVD-9 (single-sided, dual-layer) format

2.3.2 Optional Program Publications

No optional publications are provided for z/OS Application Connectivity.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for z/OS Application Connectivity.

2.5 Publications Useful During Installation

The publications listed in Figure 4 may be useful during the installation of z/OS Application Connectivity. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web at:
http://www.ibm.com/shop/publications/order

Figure 4. Publications Useful During Installation

Publication Title	Form Number
IBM SMP/E for z/OS User's Guide	SA22-7773
IBM SMP/E for z/OS Commands	SA22-7771
IBM SMP/E for z/OS Reference	SA22-7772
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA22-7770

3.0 Program Support

This section describes the IBM support available for z/OS Application Connectivity.

3.1 Program Services

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

3.2 Preventive Service Planning

Before installing z/OS Application Connectivity, it is VERY IMPORTANT that you review the current Preventive Service Planning (PSP) information. The PSP buckets maintain current lists (which have been identified since the package was created) of any recommended or required service for this package's installation. This includes software PSP information that contains HIPER, and/or required PTFs against the base release.

While there can be overlap between SW, HW and functional PSP buckets, reviewing all that apply to this package will ensure that you identify any known service required for your installation of this package.

If you obtained z/OS Application Connectivity as part of a CBPDO, there is HOLDDATA included on the PDO.

If the CBPDO for z/OS Application Connectivity is more than two weeks old when you install it, you should contact the IBM Support Center, use S/390 SoftwareXcel to obtain the current "PSP Bucket" or obtain the current PSP from the Web at https://techsupport.services.ibm.com/server/390.psp390

For program support, access the Software Support Web site at http://www-3.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 z/OS Application Connectivity are:

Figure 5. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
DB2910	HDDA211	z/OS Application Connectivity to DB2 for z/OS

3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will advise how you should submit any needed information or documentation.

Figure 6 on page 7 identifies the component IDs (COMPID) for z/OS Application Connectivity.

Figure 6. Component IDs

FMID	COMPID	Component Name	RETAIN Release
HDDA211	5740XYR08	z/OS Application Connectivity to DB2 for z/OS	211

4.0 Program and Service Level Information

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

4.1 Program Level Information

4.2 Service Level Information

No PTFs against this release of z/OS Application Connectivity have been incorporated into the product tape.

Over time it is HIGHLY recommended that you frequently check the z/OS Application Connectivity PSP bucket for HIPER and SPECIAL Attention PTFs against all FMID(s) which should be installed.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating z/OS Application Connectivity. The following terminology is used:

- *Driving system*: the system used to install the program.

  The program may have specific operating system or product level requirements for utilizing processes such as binder or assembly utilities during the install.

- *Target system*: the system on which the program is intended to run.

  The program may have specific product level requirements such as needing access to another product's library for link-edits that may directly affect the elements during the install or for its basic or enhanced operation. These requirements may be mandatory or optional.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should 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.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.
- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to 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 z/OS Application Connectivity.

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 7. Driving System Software Requirements	
Program Number	**Product Name and Minimum VRM/Service Level**
Any **one** of the following:	
5694-A01	z/OS V01.07.00 or later
5655-G44	IBM SMP/E for z/OS V03.03.00 or later

5.2 Target System Requirements

This section describes the environment of the target system required to install and use z/OS Application Connectivity.

z/OS Application Connectivity 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: An installation requisite is defined as a product that is required and **must** be present or one that is not required but **should** be present on the system for the successful installation of this product.

A mandatory installation requisite identifies products that are required, without exception, or this product **will not install** on your system. This includes products specified as PREs or REQs.

z/OS Application Connectivity has no mandatory installation requisites.

A conditional installation requisite identifies products that are **not** required for successful install but may resolve such things as certain warning messages at installation time. They include products that are specified as IF REQs.

z/OS Application Connectivity has no conditional installation requisites.

5.2.2.2 Operational Requisites: An operational requisite is defined as a product that is required and **must** be present or a product that is not required but **should** be present on the system in order for this product to operate all or some of its functions.

A mandatory operational requisite identifies products that are required, without exception, or this product **will not operate** its basic function unless the requisite is met. This includes products specified as PREs or REQs.

Figure 8. Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5694-A01	z/OS V01.07.00 or later
Any **one** of the following:	
5697-P12	DB2 9 for z/OS Value Unit Edition
5635-DB2	DB2 9 for z/OS
5697-N29	DB2 8 for z/OS Value Unit Edition
5625-DB2	DB2 for z/OS Version 8
5675-DB2	DB2 UDB Server for z/OS V7
Any **one** of the following:	
5655-I56	IBM Developer Kit for OS/390, Java 2 Technology Edition SDK V01.04.00 ;br.(SDK1.4.2), with APAR PK07987.
5655-N99	IBM 64-bit SDK for z/OS V5
5655-N98	IBM 31-bit SDK for z/OS V5
5655-R32	IBM 64-bit SDK for z/OS V6
5655-R31	IBM 31-bit SDK for z/OS V6

Note: For a completed list of DB2s to which connectivity is supported, please review the README file found at: /usr/lpp/jcct4v3/samples/README.

A conditional operational requisite identifies products that are **not required** for the basic function but are needed at run time for this product to utilize specific functions. They may include products specified as IF REQs.

To use DatabaseMetaData, specific z/OS APARs must be installed. Please review the README found at: /usr/lpp/jcct4v3/samples/README for more information on these z/OS APARs.

5.2.2.3 Toleration/Coexistence Requisites:

A toleration/coexistence requisite is defined as a product that must be present on a sharing system. 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 at different time intervals.

z/OS Application Connectivity has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites:

A negative requisite identifies products that must *not* be installed on the same system as this product.

z/OS Application Connectivity has no negative requisites.

5.2.3 DASD Storage Requirements

z/OS Application Connectivity libraries can reside on all supported DASD types. The values below are for 3390 DASD.

Figure 9 on page 12 lists the total space required for each type of library.

Figure 9. Total DASD Space Required by z/OS Application Connectivity

Library Type	Total Space Required in 3390 Trks
Target	28 tracks
Distribution	205 tracks
HFS or zFS	7272 512k-blocks

Notes:

1. IBM recommends use of system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a block size of 32760, which is the most efficient from a performance and DASD utilization perspective.
2. Abbreviations used for the data set type are:

   U Unique data set, allocated by this product and used only by this product. To determine the correct storage needed for this data set, this table provides all required information; no other tables (or Program Directories) need to be referenced for the data set size.

   S Shared data set, allocated by this product and used by this product and others. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to 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 others. This data set is NOT allocated by this product. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set 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 one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not 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 on the names and sizes of the required data sets, please refer to 6.1.7, “Allocate SMP/E Target and Distribution Libraries” on page 18.
3. Abbreviations used for the HFS or zFS Path type are:

   N New path, created by this product.

X Path created by this product, but may 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 may be changed.
   - The default block size of the data set may be changed.
   - The data set may be merged with another data set that has equivalent characteristics.
   - The data set may be either a PDS or a PDSE.
5. All target libraries listed have the following attributes:
   - The data set may be SMS-managed.
   - It is not required for the data set to be SMS-managed.
   - It is not required for the data set to reside on the IPL volume.
   - The values in the "Member Type" column are not necessarily the actual SMP/E element types identified in the SMPMCS.
6. All target libraries listed which contain load modules have the following attributes:
   - The data set may be in the LPA.
   - It is not required for the data set to be in the LPA.
   - The data set may be in the LNKLST.
   - It is not required for the data set to be APF-authorized.

The following figures describe the target and distribution libraries and HFS or zFS paths required to install z/OS Application Connectivity. The storage requirements of z/OS Application Connectivity must be added to the storage required by other programs having data in the same library or path.

Note: The data in these tables should be used when determining 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. Storage Requirements for z/OS Application Connectivity Target Libraries

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SDDABASE	Sample	Any	U	PDS	FB	80	28	30

Figure 11 (Page 1 of 2). z/OS Application Connectivity HFS or zFS Paths

DDNAME	TYPE	Path Name
SDDABIN	N	/usr/lpp/jcct4v3/bin/IBM

Figure 11 (Page 2 of 2). z/OS Application Connectivity HFS or zFS Paths

DDNAME	TYPE	Path Name
SDDACLAS	N	/usr/lpp/jcct4v3/classes/IBM
SDDASAMP	N	/usr/lpp/jcct4v3/samples/IBM

Figure 12. Storage Requirements for z/OS Application Connectivity Distribution Libraries

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
ADDABASE	U	PDS	FB	80	28	30
ADDABIN	U	PDS	VB	256	4	10
ADDACLAS	U	PDS	VB	256	166	31
ADDASAMP	U	PDS	VB	256	7	31

The following figures list data sets that are not used by SMP/E, but are required for z/OS Application Connectivity to execute.

5.3 FMIDs Deleted

Installing z/OS Application Connectivity may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not wish to delete these FMIDs at this time, you must install z/OS Application Connectivity into separate SMP/E target and distribution zones.

Note: These FMIDs will not automatically be deleted from the Global Zone. Consult the SMP/E manuals for instructions on how to do this.

5.4 Special Considerations

You can install z/OS Application Connectivity on an LPAR that has DB2 for z/OS and OS/390 but you cannot **use** z/OS Application Connectivity and the JDBC/SQLJ feature of DB2 for z/OS and OS/390 simultaneously.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of z/OS Application Connectivity.

Please note the following:

- If you want to install z/OS Application Connectivity 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.
- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing z/OS Application Connectivity

6.1.1 SMP/E Considerations for Installing z/OS Application Connectivity

This release of z/OS Application Connectivity is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 13. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

Figure 13. SMP/E Options Subentry Values

SUB-ENTRY	Value	Comment
DSSPACE	(200,200,500)	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install z/OS Application Connectivity:

Figure 14. Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
DDAALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set **(Optional)**	IBM.HDDA211.F1
DDAALB	SMP/E	Sample job to allocate SMP/E data sets **(Optional)**	IBM.HDDA211.F1
DDARECEV	RECEIVE	Sample RECEIVE job	IBM.HDDA211.F1
DDAALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HDDA211.F1
DDAISMKD	MKDIR	Sample job to invoke the supplied DDAISMKT EXEC to allocate HFS or zFS paths	IBM.HDDA211.F1
DDADDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HDDA211.F1
DDAAPPLY	APPLY	Sample APPLY job	IBM.HDDA211.F1
DDAACCEP	ACCEPT	Sample ACCEPT job	IBM.HDDA211.F1

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 14 on page 15 to find the appropriate relfile data set.

You may also choose to copy the jobs from the tape or product files by submitting the job below. Use either the //TAPEIN or the //FILEIN DD statement, depending on your distribution medium, and comment out or delete the other statement. Add a job card and change the lowercase parameters to uppercase values to meet your site's requirements before submitting.

```
//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.HDDA211.F1,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.HDDA211.F1,UNIT=tunit,
//*         VOL=SER=DDA211,LABEL=(2,SL),
//*         DISP=(OLD,KEEP)
//*************************************************************
//* Make the //FILEIN DD statement below active for           *
//* downloaded DASD files.                                    *
```

```
//*************************************************************
//*FILEIN   DD DSN=IBM.HDDA211.F1,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
/*
```

In the sample above, update the statements as noted below:

If using TAPEIN:
- **tunit** is the unit address where the product tape is mounted
- **volser** is the volume serial matching the product tape
- **x** is the tape file number where the data set name is on the tape
- Refer to the documentation provided by CBPDO to see where IBM.HDDA211.F1 is on the tape.

If using 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 will be stored
- **dasdvol** is the volume serial of the DASD device where the output data set will reside

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

6.1.4 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 DDAALA to allocate the SMP/E data set for z/OS Application Connectivity.

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

6.1.5 Initialize CSI zones (Optional)

Edit and submit sample job DDAALB to initialize SMP/E zones for z/OS Application Connectivity. 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 Perform SMP/E RECEIVE

Having obtained z/OS Application Connectivity as part of a CBPDO, use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the z/OS Application Connectivity FMIDs as well as any service, HOLDDATA, included on the CBPDO tape. For more information, refer to the documentation included with the CBPDO.

6.1.7 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job DDAALLOC to allocate the SMP/E target and distribution libraries for z/OS Application Connectivity. 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 Create DDDEF Entries

Edit and submit sample job DDADDDEF to create DDDEF entries for the SMP/E target and distribution libraries for z/OS Application Connectivity. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 4 and may see the message GIM26501W issued which does not affect product installation.

6.1.9 Perform SMP/E APPLY

1. Ensure you have the latest Enhanced HOLDDATA, then edit and submit sample job DDAAPPLY to perform an SMP/E APPLY CHECK for z/OS Application Connectivity. Consult the instructions in the sample job for more information.

   Enhanced HOLDDATA introduces ERROR HOLDs against FMIDs for HIPER APARs. Prior to installing, you should ensure you have the latest Enhanced HOLDDATA (available at url http://service.software.ibm.com/holdata/390holddata.html). The FMID(s) should be installed regardless of the status of unresolved HIPERs, however, the software should not be deployed until the unresolved HIPERs have been analyzed to determine applicability.

   To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

   There are two methods to complete an FMID installation where ++HOLDs for HIPERs exist for the FMID(s) being installed:

   a. To ensure that all recommended and critical service is installed with the FMID(s), add the SOURCEIDs of PRP, HIPER, and RSU* to the APPLY command. There may be PE or HIPER

APARs that do not have resolving PTFs available yet. You need to analyze the symptom flags to determine if you want to BYPASS the specific ERROR HOLDs and continue the FMID installation.

```
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(PRP,HIPER,RSU*,...)
GROUPEXTEND .
```

This method requires more initial research, but will provide resolution for all HIPERs that have fixes available and are not in a PE chain. There may still be unresolved PEs or HIPERs that will require the use of BYPASS.

b. To install the FMID(s) as it would have been installed prior to Enhanced HOLDDATA, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. This will allow the FMID to be installed even though there are HIPER ERROR HOLDs against it. Note that not all ERROR HOLDs were bypassed, only the HIPER ERROR HOLDs. After the FMID(s) are installed, the SMP/E REPORT ERRSYSMODS command should be run to identify any missing HIPER maintenance.

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

This method is the quicker of the two, but requires subsequent review of the REPORT ERRSYSMODS to investigate any HIPERs.

If you bypass any HOLDs during the installation of the FMID(s) because fixing PTFs were not yet available you can use the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink to be notified when the fixing PTF is available.

2. After you have taken any actions 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 apply 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.

6.1.10 Perform SMP/E ACCEPT

Edit and submit sample job DDAACCEP to perform an SMP/E ACCEPT CHECK for z/OS Application Connectivity. 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 following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis

identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

Once you have taken any actions 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 accept 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 containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will link-edit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will 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.

6.1.11 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command will identify requisites defined for products that have been installed in separate zones. This command will also create APPLY and ACCEPT commands in the SMPPUNCH data set that you can use to install those cross-zone requisites it identifies.

After you have installed z/OS Application Connectivity, 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 describing all the target and distribution libraries to be reported on.

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

6.2 Activating z/OS Application Connectivity

6.2.1 HFS or zFS Execution

If you choose to have the HFS or zFS in which you have installed z/OS Application Connectivity mounted in read-only mode during execution, then no further tasks are required to accomplish this.

The publication *Application Programming Guide and Reference for Java V9, SC18-9842*, contains the step-by-step procedures to activate the functions of z/OS Application Connectivity.

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Program Directory for z/OS Application Connectivity to DB2 for z/OS, February 2008

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```
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satisfied  <====================>  dissatisfied  applicable
    1        2        3        4         5            N
```

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of Program Directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of Program Directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
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