IBM

Program Directory for

IBM DB2 Administration Solution Pack for z/OS

V03.01.00

Program Number 5697-ASP

for Use with
z/OS

Document Date: December 2016

GI13-4647-00

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 26.

Contents

Figures

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 DB2 Administration Solution Pack for z/OS. This publication refers to IBM DB2 Administration Solution Pack for z/OS as DB2 Administration Solution Pack.

Additionally, this publication refers to:

- IBM DB2 Administration Tool for z/OS as DB2 Administration Tool
- IBM DB2 Object Comparison Tool for z/OS as DB2 Object Comparison Tool
- IBM DB2 Table Editor for z/OS as DB2 Table Editor
- IBM DB2 Cloning Tool for z/OS as DB2 Cloning Tool

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 6 identifies the basic program materials and documentation for DB2 Administration Solution Pack.

- 3.0, "Program Support" on page 9 describes the IBM support available for DB2 Administration Solution Pack.

- 4.0, "Program and Service Level Information" on page 11 lists the APARs (program level) and PTFs (service level) that have been incorporated into DB2 Administration Solution Pack.

- 5.0, "Installation Requirements and Considerations" on page 12 identifies the resources and considerations that are required for installing and using DB2 Administration Solution Pack.

- 6.0, "Installation Instructions" on page 19 provides detailed installation instructions for DB2 Administration Solution Pack. It also describes the procedures for activating the functions of DB2 Administration Solution Pack, or refers to appropriate publications.

Before installing DB2 Administration Solution Pack, 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 9 tells you how to find any updates to the information and procedures in this program directory.

DB2 Administration Solution Pack 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 DB2 Administration Solution Pack are included on the CBPDO tape.

Do not use this program directory if you install DB2 Administration Solution Pack 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.

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1.1 DB2 Administration Solution Pack Description

IBM DB2 Administration Solution Pack for z/OS, V3.1 (5697-ASP) offers features, functions, and processes that DBAs can use to more effectively and efficiently manage DB2 environments. Delivered capabilities can help DBAs to more easily complete tasks associated with object management, change management, application management, and configuration management.

DB2 Administration Solution Pack for z/OS is composed of the following tools and components:

- **IBM DB2 Administration Tool for z/OS V12.1** enables you to manage the tasks that keep DB2 performing at peak levels. It offers a comprehensive set of functions that helps your DB2 personnel manage their DB2 environments efficiently and effectively, including:

    – Providing in-depth catalog navigation by:

        - Displaying and interpreting objects in the DB2 catalog

        - Executing dynamic SQL statements

    – Integration with other separately available DB2 Tools to simplify the task process flow:

        - DB2 Table Editor

        - DB2 SQL Performance Analyzer

        - DB2 High Performance Unload

        - DB2 Cloning Tool

        - The DSM-based implementation of the configuration management function

    – Adding summary reports that give an overview on complex data changes and data migration

- **IBM DB2 Object Comparison Tool for z/OS V12.1** helps maximize system availability by keeping production and testing database environments running in parallel. It offers the following benefits:

    – Simplifies the process of comparing objects and their dependents from different sources

    – Synchronizes sources

    – Consistently keeps production databases in step with those for testing and development

Enhancements in DB2 Administration Tool for z/OS, V12.1 and DB2 Object Comparison Tool for z/OS, V12.1 include:

    – Change management

        - The ability to overwrite the RESTRICT ON DROP attribute for tables.

        - The ability to verify that the attributes for objects that are being changed are valid on their system and to report any incorrect attribute values, as well as to stop the process if errors are found.

        - The ability to analyze and run a multitarget change using the batch interface for invoking change management functions (CM Batch).

- The ability to produce a report containing affected object counts when analyzing a multitarget change.

- The ability to enable changes to table spaces and indexes to generate new ADMIN ALTER statements that reflect the intended change and are stored in the change management database.

- The ability to produce a report containing statement totals when running a multitarget change.

- The ability to format change statements when registering a change using ALT.

– IBM DB2 Analytics Accelerator (the Accelerator)

- The ability to have granular control over accelerator objects (add, delete, or load operations) during alter, compare, and change management scenarios.

- The ability to restore distribution and organization keys associated with accelerated tables when corresponding DB2 tables are dropped and re-created.

- The ability to work with AOTs in Catalog Navigation, including DDL and GEN, and to use the panels to create an AOT.

– DB2 12 support

- New columns or new values for existing columns in DB2 12 catalog tables.

- New type of partitioned-by range (UTS)

- Temporal enhancements

- Advanced triggers

- Array global variables

- New built-in functions

- Enhancements to the MERGE statement

- Unqualified references to transition variables

– DB2 Tools integration

- The ability to edit DB2 High Performance Unload for z/OS (HPU) parameters using panels

- Support through Data Server Manager for GEN (re-engineering DDL) and CM Batch functions

– Usability

- A new RUNSTATS option that enables users to minimize RUNSTATS and only run RUNSTATS if a table is created or an index is changed.

- The ability for users to generate a CM batch job with various options specified when using the RN/RNO and AN/ANO line commands against a multitarget change.

- The ability to preserve menu options on the system catalog panel ADB21 across multiple interactions.

- The ability to ignore fields for a subset of objects during a Compare.

- **IBM DB2 Table Editor for z/OS V4.5** is a multipurpose table-editing environment that offers DBAs, developers, and the entire enterprise direct update and data creation operations on DB2 for z/OS databases from Java, ISPF, or Microsoft Windows-based user interfaces.

- **IBM DB2 Cloning Tool for z/OS V3.2** can make it easy to clone a DB2 subsystem or DB2 table spaces. DB2 Cloning Tool for z/OS can also be used to clone non-DB2 volumes. Traditional cloning and refresh methods are time consuming, use large amounts of host processing resources, and when copying DB2 systems, require a separate LPAR to house the copy. Today's storage-based fast replication technologies provide services to copy DB2 data without using host CPU or I/O resources. DB2 Cloning Tool for z/OS leverages these technologies to make the cloning process faster and to help reduce the costs of cloning and refreshing data.

  - DB2 subsystem cloning: DB2 Cloning Tool for z/OS integrates storage system volume fast-replication and automation to clone entire DB2 subsystems within the same or a shared LPAR. DB2 Cloning Tool for z/OS renames the data sets, updates the volume identifiers, and manages the DB2 metadata to enable the data to be used by a cloned DB2 subsystem quickly.

  - DB2 table space refresh: DB2 Cloning Tool for z/OS integrates storage system data set fast-replication and automation to refresh table and index spaces within the same or to a different DB2 instance. DB2 Cloning Tool for z/OS copies the data quickly and automatically translates the object IDs that differ between source and target subsystems.

  - Fast replication support: The fast replication copy services outlined here can be used to create the volume copies used for DB2 system clones or to create the data set copies used for table space and index space refreshes. A storage blade represents fast replication copy services invoked directly by DB2 Cloning Tool for z/OS. DB2 Cloning Tool for z/OS executes the DFSMSdss blade to issue IBM FlashCopyor STK SnapShot copy commands either by volume or by data set. When cloning DB2 systems or table spaces that reside on EMC DASD, DB2 Cloning Tool uses the EMC API to invoke TimeFinder/Clone to copy the data either by volume or by data set. When cloning DB2 subsystems that reside on EMC DASD and use TimeFinder/Mirror, or that reside on Hitachi Storage Systems, an appropriate replication process is performed before DB2 Cloning Tool cloning automation is invoked and a list of copied storage volumes are passed to DB2 Cloning Tool for use in later processing steps.

- **DB2 Configuration Manager for z/OS, V4.1.2**, a DSM-based feature, enables you to build an inventory of DB2 for z/OS data servers and clients, and manage their configurations through a centralized host.

  The web-based architecture of Data Server Manager provides a more streamlined interface to help quickly build a DB2 for z/OS data server and client inventory for configuration problem determination and migration planning. You can also continually enforce best practice configuration settings to avoid outages and receive automated alerts regarding deviations to help aid in compliance.

  New in this release is support for DB2 12 as well as licensing improvements and database management improvements like feature validation thatenable you to validate access to certain database objects needed by the configuration management function available in this solution.

1.2 DB2 Administration Solution Pack FMIDs

DB2 Administration Solution Pack consists of the following FMIDs:

- IBM DB2 Administration Solution Pack for z/OS:
    HDAM310
- IBM DB2 Administration Tool for z/OS:
    H0IHC10
- IBM DB2 Object Comparison Tool for z/OS:
    H25GC10
- IBM DB2 Table Editor for z/OS:
    H25K150
- IBM DB2 Cloning Tool for z/OS:
    HCKZ320

2.0 Program Materials

An IBM program is identified by a program number. The program number for DB2 Administration Solution Pack is 5697-ASP.

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 DB2 Administration Solution Pack. 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 19 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for DB2 Administration Solution Pack in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for DB2 Administration Solution Pack. 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. Program File Content - DB2 Administration Solution Pack - HDAM310				
Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	6400
IBM.HDAM310.F1	PDS	FB	80	8800
IBM.HDAM310.F2	PDS	FB	80	8800

To view the Program File Content of the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

• Publication number GI13-4642 for DB2 Administration Tool

- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for DB2 Administration Solution Pack.

2.3 Program Publications

The following sections identify the basic publications for DB2 Administration Solution Pack.

Figure 2 identifies the basic unlicensed publications for DB2 Administration Solution Pack. 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 DB2 Administration Tool for z/OS Program Directory	GI13-4642	http://www.ibm.com/shop/publications/order/
IBM DB2 Object Comparison Tool for z/OS Program Directory	GI13-4643	http://www.ibm.com/shop/publications/order/
IBM DB2 Table Editor for z/OS Program Directory	GI10-8401	http://www.ibm.com/shop/publications/order/
IBM DB2 Cloning Tool for z/OS Program Directory	GI10-8910	http://www.ibm.com/shop/publications/order/
IBM DB2 Administration Solution Pack for z/OS License Information	GC27-9108	http://www.ibm.com/shop/publications/order/

To view the unlicensed publications of the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

2.4 Program Source Materials

No program source materials or viewable program listings are provided for DB2 Administration Solution Pack.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of DB2 Administration Solution Pack.

Figure 3. 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/
IBM SMP/E for z/OS Reference	SA23-2276	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA32-0883	http://www.ibm.com/shop/publications/order/

3.0 Program Support

This section describes the IBM support available for DB2 Administration Solution Pack.

3.1 Program Services

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

3.2 Preventive Service Planning

The Preventive Service Planning (PSP) information for DB2 Administration Solution Pack (HDAM310) is listed below.

To review the Preventive Service Planning (PSP) information for the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

Before you install DB2 Administration Solution Pack, 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 22 for a sample APPLY command.

If you obtained DB2 Administration Solution Pack as part of a CBPDO, HOLDDATA is included.

If the CBPDO for DB2 Administration Solution Pack 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 DB2 Administration Solution Pack are included in Figure 4

Figure 4. PSP Upgrade and Subset ID for DB2 Administration Solution Pack		
UPGRADE	**SUBSET**	**Description**
5697ASP	HDAM310	DB2 Administration Solution Pack

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.

To identify the component IDs (COMPID) for the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

Figure 5 identifies the component IDs (COMPID) for DB2 Administration Solution Pack (HDAM310).

Figure 5. Component IDs for DB2 Administration Solution Pack			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
HDAM310	5697DAM00	DB2 Administration Solution Pack	310

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of DB2 Administration Solution Pack. 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

To view the list of APAR fixes against the previous releases of the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

No APARs have been incorporated into DB2 Administration Solution Pack (HDAM310).

4.2 Service Level Information

To view the list of PTFs against the previous releases of the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

No PTFs against this release of DB2 Administration Solution Pack (HDAM310) have been incorporated into the product package.

Frequently check the DB2 Administration Solution Pack 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 DB2 Administration Solution Pack. 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 DB2 Administration Solution Pack.

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 or higher	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 DB2 Administration Solution Pack.

DB2 Administration Solution Pack (HDAM310) installs in the DBS (P115) SREL.

To view the SRELs of the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

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.

DB2 Administration Solution Pack (HDAM310) 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.

DB2 Administration Solution Pack (HDAM310) has no conditional installation requisites.

To review the Installation Requisites of the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

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 for DB2 Administration Solution Pack (HDAM310)	
Program Number	**Product Name and Minimum VRM/Service Level**
Any **one** of the following:	
5655-V93	IBM Tools Base for z/OS V01.05.00* - HTCZ110 (IBM Tools Customizer for z/OS)
5655-TC1	IBM Tools Customizer for z/OS V01.01.00*
Any **one** of the following:	
5605-DB2	DB2 for z/OS V10.01.00
5697-P31	DB2 for z/OS Value Unit Edition V10.01.00
5615-DB2	DB2 for z/OS V11.01.00
5697-P43	DB2 for z/OS Value Unit Edition V11.01.00
5650-DB2	DB2 for z/OS V12.01.00
5770-AF3	DB2 for z/OS Value Unit Edition V12.01.00

Note: *FMID HTCZ110, which is delivered either with IBM Tools Base for z/OS V01.05.00 or earlier, or, IBM Tools Customizer for z/OS, is required to customize DB2 Administration Solution Pack. Both IBM Tools Base for z/OS V01.05.00 and IBM Tools Customizer for z/OS are no-charge products that must be separately ordered.

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.

DB2 Administration Solution Pack (HDAM310) has no conditional operational requisites.

To review the Operational Requisites of the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

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.

DB2 Administration Solution Pack 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.

DB2 Administration Solution Pack has no negative requisites.

5.2.3 DASD Storage Requirements

DB2 Administration Solution Pack libraries can reside on all supported DASD types.

To review the individual DASD Storage Requirements of each of the products that constitute DB2 Administration Solution Pack, refer to the Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

Figure 8 lists the total space that is required for each type of library, for DB2 Administration Solution Pack (HDAM310).

Figure 8. Total DASD Space Required by DB2 Administration Solution Pack (HDAM310)	
Library Type	**Total Space Required in 3390 Trks**
Target	20
Distribution	20

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.

   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 22.

3. 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.

4. 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.

5. 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 required to install DB2 Administration Solution Pack (HDAM310). The storage requirements of DB2 Administration Solution Pack 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.

					R E C F M	L R E C L		
Library DDNAME	**Member Type**	**Target Volume**	**T Y P E**	**O R G**			**No. of 3390 Trks**	**No. of DIR Blks**
SBBVBASE	SAMP	any	U	PDS	FB	80	10	5
SBBVDENU	MSG	any	U	PDS	FB	80	10	5

Figure 9. Storage Requirements for DB2 Administration Solution Pack (HDAM310) Target Libraries

			R E C F M	L R E C L		
Library DDNAME	**T Y P E**	**O R G**			**No. of 3390 Trks**	**No. of DIR Blks**
ABBVBASE	U	PDS	FB	80	10	5
ABBVDENU	U	PDS	FB	80	10	5

Figure 10. Storage Requirements for DB2 Administration Solution Pack (HDAM310) Distribution Libraries

5.3 FMIDs Deleted

Installing DB2 Administration Solution Pack 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 DB2 Administration Solution Pack 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

If you already have standalone installations of any of the products that are contained in DB2 Administration Solution Pack, you do not have to install and customize those products again.

To view the individual Special Considerations of the products that constitute DB2 Administration Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI13-4642 for DB2 Administration Tool

- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of DB2 Administration Solution Pack.

Please note the following points:

- 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 DB2 Administration Solution Pack

6.1.1 SMP/E Considerations for Installing DB2 Administration Solution Pack

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of DB2 Administration Solution Pack.

To review the individual SMP/E installation instructions of each of the products that constitute DB2 Administration Solution Pack, refer to their Program Directories, which are supplied with the product, and follow the instructions in the corresponding section(s).

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

6.1.2 SMP/E Environment

The following sections pertains to the SMP/E installation of DB2 Administration Solution Pack (HDAM310) only.

6.1.3 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.

Figure 11. SMP/E Options Subentry Values		
Subentry	**Value**	**Comment**
DSSPACE	(500,500,500)	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install DB2 Administration Solution Pack:

Figure 12. Sample Installation Jobs - DB2 Administration Solution Pack			
Job Name	**Job Type**	**Description**	**RELFILE**
BBVALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set **(Optional)**	IBM.HDAM310.F1
BBVALB	SMP/E	Sample job to allocate SMP/E data sets **(Optional)**	IBM.HDAM310.F1
BBVRECV	RECEIVE	Sample RECEIVE job	IBM.HDAM310.F1
BBVALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HDAM310.F1
BBVDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HDAM310.F1
BBVAPPLY	APPLY	Sample APPLY job	IBM.HDAM310.F1
BBVACCEP	ACCEPT	Sample ACCEPT job	IBM.HDAM310.F1

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.7, "Perform SMP/E RECEIVE" on page 22) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 12 to find the appropriate relfile data set.

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.HDAM310.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.HDAM310.F1,UNIT=tunit,
//*          VOL=SER=DAM310,LABEL=(2,SL),
//*          DISP=(OLD,KEEP)
//**************************************************************
//* Make the //FILEIN DD statement below active for           *
//* downloaded DASD files.                                    *
//**************************************************************
//*FILEIN   DD DSN=IBM.HDAM310.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
/*
```

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.HDAM310.F1 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 BBVALA to allocate the SMP/E data set for DB2 Administration Solution Pack. 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 BBVALB to initialize SMP/E zones for DB2 Administration Solution Pack. 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 DB2 Administration Solution Pack as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the DB2 Administration Solution Pack 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 BBVRECV to perform the SMP/E RECEIVE for DB2 Administration Solution Pack. 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 BBVALLOC to allocate the SMP/E target and distribution libraries for DB2 Administration Solution Pack. 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 BBVDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for DB2 Administration Solution Pack. 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 BBVAPPLY to perform an SMP/E APPLY CHECK for DB2 Administration Solution Pack. 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 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 BBVACCEP to perform an SMP/E ACCEPT CHECK for DB2 Administration Solution Pack. 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 DB2 Administration Solution Pack, 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 DB2 Administration Solution Pack

6.2.1 Product Customization

DB2 Administration Solution Pack is fully operational after the SMP/E installation is completed. You do not have to do further customization to activate this function.

To activate the individual products that constitute DB2 Administration Solution Pack, refer to the their Program Directories, which are supplied with the product, and follow the instructions in the corresponding section(s).

- Publication number GI13-4642 for DB2 Administration Tool
- Publication number GI13-4643 for DB2 Object Comparison Tool
- Publication number GI10-8401 for DB2 Table Editor
- Publication number GI10-8910 for DB2 Cloning Tool

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