Program Directory for
IBM Security Guardium S-TAP for DB2 on z/OS

V10.0.0
Program Number 5655-STQ

FMIDs HAIFA00, H25F132

for Use with
z/OS

Document Date: August 2015

GI13-3558-00
Note

Before using this information and the product it supports, be sure to read the general information under 7.0, “Notices” on page 28.

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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 Security Guardium S-TAP for DB2 on z/OS. This publication refers to IBM Security Guardium S-TAP for DB2 on z/OS as Guardium S-TAP for DB2.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for Guardium S-TAP for DB2.
- 3.0, “Program Support” on page 6 describes the IBM support available for Guardium S-TAP for DB2.
- 4.0, “Program and Service Level Information” on page 8 lists the APARs (program level) and PTFs (service level) that have been incorporated into Guardium S-TAP for DB2.
- 5.0, “Installation Requirements and Considerations” on page 11 identifies the resources and considerations that are required for installing and using Guardium S-TAP for DB2.
- 6.0, “Installation Instructions” on page 20 provides detailed installation instructions for Guardium S-TAP for DB2. It also describes the procedures for activating the functions of Guardium S-TAP for DB2, or refers to appropriate publications.

Before installing Guardium S-TAP for DB2, 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 6 tells you how to find any updates to the information and procedures in this program directory.

Guardium S-TAP for DB2 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 Guardium S-TAP for DB2 are included on the CBPDO tape.

Do not use this program directory if you install Guardium S-TAP for DB2 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 Guardium S-TAP for DB2 Description

IBM Security Guardium S-TAP for DB2 on z/OS is a software component of the Security Guardium solution that is designed to enable you to capture and deliver database SQL and related activity to a Guardium appliance for processing.

IBM Security Guardium S-TAP for DB2 on z/OS can be employed independently in the mainframe
environment, or integrated with other Security Guardium database security and monitoring components across the enterprise to help enable a more secure centralized audit repository and management point.

IBM Security Guardium S-TAP for DB2 on z/OS V10.0 offers the following features and benefits:

- **Enhanced collection and filtering:**
  - Expanded filters to support database name filtering and wildcarding.
  - Reduced overhead and increased security by eliminating host variable processing when not desired, thus eliminating data externalization.
- **Expanded support to capture and report the CICS Login User ID.** Support is limited to CICS versions TS 4.2, TS 5.1, and TS 5.2.
- **Enhanced collection capacity through the ability to stream events to up to six connected Guardium appliances.**

### 1.2 Guardium S-TAP for DB2 FMIDs

Guardium S-TAP for DB2 consists of the following FMIDs:

<table>
<thead>
<tr>
<th>FMID</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAIFA00</td>
</tr>
<tr>
<td>H25F132</td>
</tr>
</tbody>
</table>

**Note!**

FMID H25F132 contains common code and is shared among multiple IBM DB2 tools and is, therefore, made available with multiple DB2 tools. The parent product for H25F132 is DB2 Change Accumulation for z/OS, V01.03.00 (program number 5655-F55).

When installing one of the tools that require the use of the FEC Common Code, it is highly recommended that FEC be brought up to current maintenance level at the time of installation. If not, unpredictable results may occur.
2.0 Program Materials

An IBM program is identified by a program number. The program number for Guardium S-TAP for DB2 is 5655-STQ.

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 Guardium S-TAP for DB2. 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 20 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for Guardium S-TAP for DB2 in the CBPDO Memo To Users Extension.

Figure 1 describes the program file content for Guardium S-TAP for DB2. 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.

<table>
<thead>
<tr>
<th>Name</th>
<th>ORG</th>
<th>REC</th>
<th>LRE</th>
<th>BLK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPMCS</td>
<td>SEQ</td>
<td>FB</td>
<td>80</td>
<td>6400</td>
</tr>
<tr>
<td>IBM.HAIFA00.F1</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.HAIFA00.F2</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.HAIFA00.F3</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.HAIFA00.F4</td>
<td>PDSE</td>
<td>U</td>
<td>0</td>
<td>6144</td>
</tr>
<tr>
<td>IBM.HAIFA00.F5</td>
<td>PDSE</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
</tbody>
</table>
Figure 2 on page 4 describes the program file content for FEC Common Code.

<table>
<thead>
<tr>
<th>Name</th>
<th>Form</th>
<th>Media Format</th>
<th>License Type</th>
<th>Block Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM.H25F132.F1</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.H25F132.F2</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.H25F132.F3</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.H25F132.F4</td>
<td>PDSE</td>
<td>U</td>
<td>0</td>
<td>6144</td>
</tr>
<tr>
<td>IBM.H25F132.F5</td>
<td>PDS</td>
<td>VB</td>
<td>255</td>
<td>27998</td>
</tr>
<tr>
<td>IBM.H25F132.F6</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
</tbody>
</table>

### 2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Guardium S-TAP for DB2.

### 2.3 Program Publications

The following sections identify the basic publications for Guardium S-TAP for DB2.

Figure 3 identifies the basic unlicensed publications for Guardium S-TAP for DB2. Those that are in softcopy format publications can be obtained from the IBM Publications Center website at http://www.ibm.com/shop/publications/order/.

<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
<th>Media Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Information</td>
<td>GI13-3555</td>
<td></td>
</tr>
</tbody>
</table>

No optional publications are provided for Guardium S-TAP for DB2.

### 2.4 Program Source Materials

No program source materials or viewable program listings are provided for Guardium S-TAP for DB2.
2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 4 on page 5 during the installation of Guardium S-TAP for DB2.

<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
<th>Media Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</td>
<td>GA32-0883</td>
<td><a href="http://www.ibm.com/shop/publications/order/">http://www.ibm.com/shop/publications/order/</a></td>
</tr>
</tbody>
</table>
3.0 Program Support

This section describes the IBM support available for Guardium S-TAP for DB2.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install Guardium S-TAP for DB2, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.ProductInstall-RequiredService fix category in SMP/E to ensure you have all the recommended service installed. Use the FIXCAT(IBM.ProductInstall-RequiredService) operand on the APPLY CHECK command. See 6.1.11, “Perform SMP/E APPLY” on page 24 for a sample APPLY command.

If you obtained Guardium S-TAP for DB2 as part of a CBPDO, HOLDDATA is included.

If the CBPDO for Guardium S-TAP for DB2 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 Guardium S-TAP for DB2 are included in Figure 5.

<table>
<thead>
<tr>
<th>UPGRADE</th>
<th>SUBSET</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655STQ</td>
<td>HAIFA00</td>
<td>IBM Security Guardium S-TAP for DB2 on z/OS</td>
</tr>
<tr>
<td>5655F55</td>
<td>H25F132</td>
<td>FEC Common Code</td>
</tr>
</tbody>
</table>

Figure 5. PSP Upgrade and Subset ID
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 6 on page 7 identifies the component IDs (COMPID) for Guardium S-TAP for DB2.

| FMID    | COMPID   | Component Name                          | RETAIN Release |
|---------|----------|-----------------------------------------|----------------|----------------|
| HAIFA00 | 5655STP00| IBM Security Guardium S-TAP for DB2 on z/OS | A00            |
| H25F132 | 5655F5504| FEC Common Code                         | 132            |

Figure 6. Component IDs
4.0 Program and Service Level Information

This section identifies the program and relevant service levels of Guardium S-TAP for DB2. 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 Guardium S-TAP for DB2 have been incorporated into this release. They are listed by FMID.

- FMID H35A110

  PK30215   PK35724   PK35748   PK41496   PK44959
  PK31162   PK36872   PK37835   PK41781   PK44990
  PK34792   PK34319   PK38139   PK41784   PK36262
  PK34333

- FMID H35A210

  PK57792   PK68434   PK73234   PK80038   PK87165
  PK58099   PK69364   PK73496   PK80737   PK87215
  PK60632   PK69554   PK73504   PK81292   PK88385
  PK61403   PK69640   PK73658   PK81407   PK88619
  PK62164   PK69644   PK74280   PK81854   PK88621
  PK62752   PK69645   PK74304   PK81858   PK88621
  PK63430   PK70054   PK74314   PK81955   PK89212
  PK64099   PK70267   PK74381   PK82242   PK89761
  PK64319   PK70270   PK74470   PK82335   PK89892
  PK64653   PK70287   PK74481   PK82541   PK90894
  PK65883   PK70348   PK74715   PK82776   PK90896
  PK65961   PK70453   PK74722   PK82786   PK91105
  PK66095   PK70791   PK75351   PK83053   PK91109
  PK66179   PK71422   PK75814   PK83490   PK91406
  PK66518   PK71874   PK75827   PK83584   PK91565
  PK66879   PK71975   PK75920   PK83780   PK91627
  PK66951   PK72249   PK76688   PK84266   PK92441
  PK67009   PK72396   PK77147   PK84387   PK92768
  PK67029   PK72454   PK77439   PK84513   PK93105
  PK67344   PK72570   PK77585   PK85654   PK93548
  PK67976   PK72574   PK77859   PK85971   PK94042
  PK68133   PK73122   PK78252   PK86432   PK94674
  PK68206   PK73134   PK78931   PK86499   PK94908
  PK68375   PK73233   PK79522   PK86514   PK95513
PK96155  PM02437  PM07579  PM13557  PM19215
PK96277  PM02512  PM07772  PM13635  PM19254
PK96355  PM02752  PM09245  PM14375  PM19339
PK96541  PM02869  PM10564  PM15105  PM19771
PK96613  PM03192  PM10771  PM15141  PM19865
PK98981  PM03937  PM10906  PM15979  PM19991
PK98986  PM04303  PM11639  PM16785  PM21263
PK99351  PM04317  PM11822  PM17154  PM22238
PK99371  PM04377  PM11852  PM17744  PM22418
PM00608  PM05004  PM12254  PM18285  PM23526
PM00744  PM05321  PM12926  PM18572  PM23878
PM00904  PM05624  PM13004  PM18635
PM02143  PM06855  PM13417  PM19207

• FMID HAIF810

PM28715  PM35090  PM42509  PM54041  PM62936
PM28942  PM35319  PM43185  PM54405  PM63294
PM29309  PM35689  PM43720  PM54407  PM63306
PM29825  PM35710  PM44689  PM54871  PM63495
PM29829  PM35881  PM44841  PM54950  PM65857
PM30002  PM36316  PM44848  PM55802  PM59821
PM30379  PM36421  PM45013  PM55906  PM60328
PM30662  PM36545  PM45460  PM56214  PM60337
PM30753  PM36629  PM45649  PM56651  PM60338
PM31182  PM37089  PM45838  PM56815  PM60539
PM31327  PM37671  PM46095  PM57084  PM60734
PM31855  PM38312  PM46475  PM57227  PM61222
PM32663  PM38631  PM46788  PM58587  PM61315
PM33165  PM38976  PM47360  PM59821  PM61502
PM33181  PM39091  PM48210  PM60328  PM61948
PM33187  PM39099  PM48848  PM60337  PM62895
PM33369  PM39112  PM49546  PM60338  PM62936
PM33587  PM39570  PM50759  PM60539  PM63294
PM33673  PM40103  PM51139  PM60734  PM63306
PM33895  PM40636  PM52030  PM61222  PM63495
PM34436  PM41188  PM52118  PM61315  PM64590
PM34442  PM41216  PM52436  PM61502  PM66469
PM34475  PM41461  PM53286  PM61948  PM67097
PM34970  PM42334  PM53612  PM62895  PM67674

• FMID HAIF900

PM73447  PM75124  PM75889  PM76945  PM78277
PM74196  PM75219  PM76198  PM77756  PM78302
PM74726  PM75401  PM76504  PM77876  PM78897
4.2 Service Level Information

No PTFs against this release of Guardium S-TAP for DB2 have been incorporated into the product package.

Frequently check the Guardium S-TAP for DB2 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 \texttt{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 Guardium S-TAP for DB2. 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 Guardium S-TAP for DB2.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements
5.2 Target System Requirements

This section describes the environment of the target system required to install and use Guardium S-TAP for DB2.

Guardium S-TAP for DB2 installs in the DBS (P115) SREL.

5.2.1 Machine Requirements

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

5.2.2 Programming Requirements

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

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

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.

<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>V01.13.00</td>
<td>N/A</td>
<td>No</td>
</tr>
<tr>
<td>5650-ZOS</td>
<td>z/OS</td>
<td>V02.01.00</td>
<td>N/A</td>
<td>No</td>
</tr>
</tbody>
</table>
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.

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.

Guardium S-TAP for DB2 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. These products are specified as PREs or REQs.

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name and Minimum VRM/Service Level</th>
<th>Included in the shipped product?</th>
</tr>
</thead>
<tbody>
<tr>
<td>5639-OLC</td>
<td>DB2 Data Access Common Collector for z/OS V01.01.00</td>
<td>No</td>
</tr>
</tbody>
</table>

Any one of the following

- 5635-DB2 DB2 for z/OS V09.01.00
- 5605-DB2 DB2 for z/OS V10.01.00
- 5615-DB2 DB2 for z/OS V11.01.00

Any one of the following

- 5697-P12 DB2 VUE for z/OS V09.01.00
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.

Guardium S-TAP for DB2 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.

Guardium S-TAP for DB2 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.

Guardium S-TAP for DB2 has no negative requisites.

**5.2.3 DASD Storage Requirements**

Guardium S-TAP for DB2 libraries can reside on all supported DASD types.

Figure 10 lists the total space that is required for each type of library.
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 6.1.9, “Allocate SMP/E Target and Distribution Libraries” on page 24.

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.

![Figure 10. Total DASD Space Required by Guardium S-TAP for DB2](image)
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 Guardium S-TAP for DB2. The storage requirements of Guardium S-TAP for DB2 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 11. Storage Requirements for Guardium S-TAP for DB2 Target Libraries**

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Target Volume</th>
<th>T Y O R E L R No. of Trks</th>
<th>No. of Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SADHBASE</td>
<td>Sample</td>
<td>Any</td>
<td>U PDS FB 80 6</td>
<td>3</td>
</tr>
<tr>
<td>SADHDBRM</td>
<td>Macro</td>
<td>Any</td>
<td>U PDS FB 80 10</td>
<td>3</td>
</tr>
<tr>
<td>SADHLOAD</td>
<td>LMOD</td>
<td>Any</td>
<td>U PDSE U 0 3790</td>
<td>n/a</td>
</tr>
<tr>
<td>SADHSAMP</td>
<td>Sample</td>
<td>Any</td>
<td>U PDS FB 80 25</td>
<td>50</td>
</tr>
</tbody>
</table>
### Figure 12. Storage Requirements for FEC Common Code Target Libraries

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Target Volume</th>
<th>T Y O P R E G M</th>
<th>L R E C F C</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFECLOAD</td>
<td>LMOD</td>
<td>any</td>
<td>S</td>
<td>PDS</td>
<td>U</td>
<td>0</td>
</tr>
<tr>
<td>SFECsamp</td>
<td>Sample</td>
<td>any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>SFECpenu</td>
<td>Panel</td>
<td>any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>SFECMenu</td>
<td>MSG</td>
<td>any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>SFECDBRM</td>
<td>Macro</td>
<td>any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
</tbody>
</table>

### Figure 13. Storage Requirements for Guardium S-TAP for DB2 Distribution Libraries

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>T Y O P R E G M</th>
<th>L R E C F C</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>AADHBASE</td>
<td>U</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>AADHDBRM</td>
<td>U</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>AADHLOAD</td>
<td>U</td>
<td>PDSE</td>
<td>U</td>
<td>0</td>
</tr>
<tr>
<td>AADHSAMP</td>
<td>U</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
</tbody>
</table>

### Figure 14. Storage Requirements for FEC Common Code Distribution Libraries

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>T Y O P R E G M</th>
<th>L R E C F C</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFECLOAD</td>
<td>S</td>
<td>PDS</td>
<td>U</td>
<td>0</td>
</tr>
<tr>
<td>AFECsamp</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>AFECpenu</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>AFECMenu</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>AFECDBRM</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
</tbody>
</table>
5.3 FMIDs Deleted

Installing Guardium S-TAP for DB2 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 Guardium S-TAP for DB2 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

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

If you intend to install multiple products which require the DB2 Data Access Common Collector for z/OS (5639-OLC) use shared CSI zones.

The installation of Security Guardium S-TAP for DB2 on z/OS requires the DB2 Data Access Common Collector for z/OS (5639-OLC) be installed in the CSI. Refer to the Program Directory for DB2 Data Access Common Collector for z/OS (GI10-8973) for installation instructions of its product components.

Consider the following items when using shared CSI zones.

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

When Security Guardium S-TAP for DB2 on z/OS is used with DB2 Query Monitor for z/OS V3.2 (5655-V42), and later releases or Security Optim Workload Replay for DB2 for z/OS V2.1 (5655-O18), and later releases, they should all be installed in the same CSI target and distribution zones. This ensures the maintenance level of the products and collector components are at a compatible level. If they are installed in different CSI zones, you must check to ensure the maintenance levels of the product and collector component in each zone are at a compatible level.
The PSP bucket will have the most current information and must be reviewed before installation.
6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of Guardium S-TAP for DB2.

Please note the following points:

- If you want to install Guardium S-TAP for DB2 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 Guardium S-TAP for DB2

6.1.1 SMP/E Considerations for Installing Guardium S-TAP for DB2

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of Guardium S-TAP for DB2.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 15. 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>(200,200,500)</td>
<td>3390 DASD tracks</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 SMP/E CALLLIBS Processing

Guardium S-TAP for DB2 uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When Guardium S-TAP for DB2 is installed, ensure that DDDEFs exist for the following libraries:

- CSSLIB
- SISLOAD

Note: CALLLIBS uses the previous DDDEFs only to resolve the link-edit for Guardium S-TAP for DB2. These data sets are not updated during the installation of Guardium S-TAP for DB2.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install Guardium S-TAP for DB2:

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Job Type</th>
<th>Description</th>
<th>RELFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHALA</td>
<td>SMP/E</td>
<td>Sample job to allocate and initialize a new SMP/E CSI data set (Optional)</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHALB</td>
<td>SMP/E</td>
<td>Sample job to allocate SMP/E data sets (Optional)</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHWSMPE</td>
<td>SMP/E</td>
<td>Sample job to delete and reinitialize an existing SMP/E CSI environment (Optional)</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHWRECV</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHRECE1</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for FEC Common Code</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHWALOC</td>
<td>ALLOCATE</td>
<td>Sample job to allocate target and distribution libraries</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHALLO1</td>
<td>ALLOCATE</td>
<td>Sample job to allocate target and distribution libraries for FEC Common Code</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHWDDDF</td>
<td>DDDEF</td>
<td>Sample job to define SMP/E DDDEFs</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHDDDE1</td>
<td>DDDEF</td>
<td>Sample job to define SMP/E DDDEFs for FEC Common Code</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHWAPLY</td>
<td>APPLY</td>
<td>Sample APPLY job</td>
<td>IBM.HAIFA00.F3</td>
</tr>
<tr>
<td>ADHWACPT</td>
<td>ACCEPT</td>
<td>Sample ACCEPT job</td>
<td>IBM.HAIFA00.F3</td>
</tr>
</tbody>
</table>

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.8, “Perform SMP/E RECEIVE” on page 23) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 16 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.

```plaintext
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=* 
//TAPEIN DD DSN=IBM.HAIFA00.F3,UNIT=tunit, 
// VOL=SER=volser, LABEL=(x,SL), 
// DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.HAIFA00.F3,UNIT=SYSALLDA,DISP=SHR, 
// VOL=SER=filevol
//OUT DD DSN=IBM.HAIFA00.F3,UNIT=SYSALLDA,DISP=SHR, 
// VOL=SER=dasdvol,DISP=(NEW,CATLG,DELETE), 
// SPACE=(TRK,(primary,secondary,dir))
//SYSUT3 DD UNIT=SYSALLDA,DISP=(NEW,CATLG,DELETE), 
// VOL=SER=dasdvol,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.HAIFA00.F3 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 ADHALA to allocate the SMP/E data set for Guardium S-TAP for DB2.

**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)

Edit and submit sample job ADHALB to initialize SMP/E zones for Guardium S-TAP for DB2. 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 Delete an existing SMP/E CSI (Optional)

Edit and submit sample job ADHWSMPE to delete an existing SMP/E CSI environment and then initialize new SMP/E zones and data sets for Guardium S-TAP for DB2. 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 RECEIVE

If you have obtained Guardium S-TAP for DB2 as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the Guardium S-TAP for DB2 FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

Note: FEC Common Code, H25F132, is a mandatory installation and operational requisite for Guardium S-TAP for DB2. If you have already installed FEC Common Code, H25F132, do not receive this FMID again. However, do ensure any existing installation of H25F132 is at the most current maintenance level and UK05748 is applied.

You can also choose to edit and submit sample job ADHWRECV to perform the SMP/E RECEIVE for Guardium S-TAP for DB2. 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.

If you are installing FEC Common Code you can edit and submit sample job ADHRECE1 to perform the SMP/E RECEIVE for FEC Common Code. Consult the instructions in the sample job for more information.

Note: After you receive FEC Common Code you must also receive all current maintenance for FEC Common Code including PTF UK05748. Failure to receive current maintenance can result in errors during the APPLY step for Guardium S-TAP for DB2.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.
6.1.9 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job ADHWALOC to allocate the SMP/E target a distribution libraries for Guardium S-TAP for DB2. 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.

If you are installing FEC Common Code edit and submit sample job ADHALLO1 to allocate the SMP/E target and distribution libraries for FEC Common Code. 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 Create DDDEF Entries

Edit and submit sample job ADHWDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Guardium S-TAP for DB2. 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.

If you are installing FEC Common Code edit and submit sample job ADHDDEF1 to create DDDEF entries for the SMP/E target and distribution libraries for FEC Common Code. 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.

6.1.11 Perform SMP/E APPLY

**Note:** Before you perform SMP/E APPLY for Guardium S-TAP for DB2, ensure the maintenance level for any existing installation of FEC Common Code is current and includes PTF UK05748. If you are installing FEC Common Code as part of the installation of Guardium S-TAP for DB2, ensure you have already received all current maintenance including PTF UK05748.

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job ADHWAPLY to perform an SMP/E APPLY CHECK for Guardium S-TAP for DB2. 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(fm1d,fmid,...) CHECK
   FORFMID(fm1d,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 ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

   APPLY S(fm1d,fmid,...) CHECK
   FORFMID(fm1d,fmid,...)
   SOURCEID(RSU/c5197)
   FIXCAT(IBM.ProductInstall-RequiredService)
   GROUPEXTEND
   BYPASS(HOLDCLASS(HIPER)).
   ..any other parameters documented in the program directory

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

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

### 6.1.12 Perform SMP/E ACCEPT

Edit and submit sample job ADHWACPT to perform an SMP/E ACCEPT CHECK for Guardium S-TAP for DB2. Consult the instructions in the sample job for more information.

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

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands 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.
6.1.13 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 Guardium S-TAP for DB2, 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 Guardium S-TAP for DB2

6.3 Product Customization

Guardium S-TAP for DB2 is fully operational after the SMP/E installation is completed. You do not have to do further customization to activate this function.
7.0 Notices

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Reader's Comments

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