



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

V09.00.00

Program Number 5655-STR

FMIDs HAIF900, H25F132

for Use with  
z/OS

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GI13-2067-00

**Note**

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

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## 1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM InfoSphere Guardium S-TAP for DB2 on z/OS. This publication refers to IBM InfoSphere 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 and optional 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 18 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.

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### 1.1 Guardium S-TAP for DB2 Description

InfoSphere Guardium S-TAP for DB2 on z/OS is a software component of the InfoSphere Guardium solution. that provides for the capture and delivery of IMS DL/I and related activity to a Guardium appliance for processing.

You can employ InfoSphere Guardium S-TAP for DB2 independently in the mainframe environment only,

or integrate it with other InfoSphere Guardium database security and monitoring components across the enterprise to enable a more secure centralized audit repository and management point.

InfoSphere Guardium S-TAP for DB2, V9.0 includes support for:

- Capture of all database activities on DB2 for z/OS by privileged users, mainframe-resident applications, and network clients, including those connecting via services such as JDBC or DB2 Connect.
- Capture of critical operations such as DML, DDL, and GRANTS.
- Direct streaming of audit data from z/OS process to a networked Guardium appliance to support near real-time reporting.
- Flexible filtering of which events should be captured to help manage data volume and performance overhead.
- Centralized interaction through the Guardium appliance.
- Simplified installation and deployment, and a reduced number of started tasks, through the use of the Guardium appliance interface rather than a Windows GUI.
- Greater resilience against network and appliance outages through the use of the Failover and Spillfile features, along with Policy Persistence, to enable audit data collection to continue in the event of an appliance outage.
- Significant performance improvements over the V8.1 product release, including:
  - Up to 47% reduction of overhead for non-audited workloads.
  - TCO reduction through the use of zIIP processors (when available) for many auditing tasks.

---

## 1.2 Guardium S-TAP for DB2 FMIDs

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

HAIF900  
H25F132

**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.

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## 2.0 Program Materials

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

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

The program announcement material describes the features supported by Guardium S-TAP for DB2. Ask your IBM representative for this information if you have not already received a copy.

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### 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 18 for more information about how to install the program.

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.

**Note:**

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*

<b>Name</b>	<b>O R G</b>	<b>R E C F M</b>	<b>L R E C L</b>	<b>BLK SIZE</b>
SMPMCS	SEQ	FB	80	6400
IBM.HAIF900.F1	PDS	FB	80	8800
IBM.HAIF900.F2	PDS	FB	80	8800
IBM.HAIF900.F3	PDS	FB	80	8800
IBM.HAIF900.F4	PDSE	U	0	6144
IBM.HAIF900.F5	PDSE	FB	80	8800

Figure 2 describes the program file content for FEC Common Code.

Figure 2. Program File Content for - FEC Common Code

Name	O R G	R E C F M	L R E C L	BLK SIZE
SMPMCS	SEQ	FB	80	3120
IBM.H25F132.F1	PDS	FB	80	8800
IBM.H25F132.F2	PDS	FB	80	8800
IBM.H25F132.F3	PDS	FB	80	8800
IBM.H25F132.F4	PDSE	U	0	6144
IBM.H25F132.F5	PDS	VB	255	27998
IBM.H25F132.F6	PDS	FB	80	8800

## 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 and optional publications for Guardium S-TAP for DB2.

### 2.3.1 Basic Program Publications

Figure 3 identifies the basic unlicensed program publications for Guardium S-TAP for DB2. One copy of each of these publications is included when you order the basic materials for Guardium S-TAP for DB2. Additional copies can be obtained from the IBM Publications Website at URL: <http://www.ibm.com/shop/publications/order/> Contact your IBM representative for further assistance.

Figure 3. Basic Material: Unlicensed Publications

Publication Title	Form Number
License Information	G113-2064

e licensees of the basic material by ordering the 7xxx feature number.

Figure 4 identifies the basic unlicensed or licensed publications that are not available in hardcopy format, but are available through the internet or other media for Guardium S-TAP for DB2.



*Figure 4. Basic Material: Other Unlicensed or Licensed Publications*

<b>Publication Title</b>	<b>Form Number</b>	<b>Media Format</b>
IBM InfoSphere Guardium S-TAP for DB2 on z/OS User's Guide	SC27-4467	<a href="http://www.ibm.com/software/data/db2imstools/library.html">http://www.ibm.com/software/data/db2imstools/library.html</a>

## 2.3.2 Optional Program Publications

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

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## 2.4 Program Source Materials

No program source materials or viewable program listings are provided for Guardium S-TAP for DB2.

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## 2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 5 during the installation of Guardium S-TAP for DB2. To order copies, contact your IBM representative or visit the IBM Publications Center at: <http://www.ibm.com/shop/publications/order/>

*Figure 5. Publications Useful During Installation*

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

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## 3.0 Program Support

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

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### 3.1 Program Services

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

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### 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 6.1.10, "Perform SMP/E APPLY" on page 22 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:

<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 Guardium S-TAP for DB2 are included in Figure 6

*Figure 6. PSP Upgrade and Subset ID*

UPGRADE	SUBSET	Description
5655STR	HAIF900	IBM InfoSphere Guardium S-TAP for DB2 on z/OS
5655F55	H25F132	FEC Common Code

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### 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 7 on page 7 identifies the component IDs (COMPID) for Guardium S-TAP for DB2.

<i>Figure 7. Component IDs</i>			
<b>FMID</b>	<b>COMPID</b>	<b>Component Name</b>	<b>RETAIN Release</b>
HAIF900	5655STP00	IBM InfoSphere Guardium S-TAP for DB2 on z/OS	900
H25F132	5655F5504	FEC Common Code	132

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## 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.

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### 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	PM58587
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

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## 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 **FIXCAT(IBM.PRODUCTINSTALL-REQUIRESERVICE)** operand on your APPLY CHECK command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.

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## 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

Figure 8. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
Any <b>one</b> of the following:				
5694-A01	z/OS	V01.11.00	N/A	No
5655-G44	IBM SMP/E for z/OS	V03.05.00	N/A	No

**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](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 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.



Figure 9. Target System Mandatory Installation Requisites				
Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
N/A	FEC Common Code	FMID H25F132 at current service level	N/A	No

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

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.

Figure 10. Target System Mandatory Operational Requisites	
Program Number	Product Name and Minimum VRM/Service Level
Any <b>one</b> of the following	
5635-DB2	DB2 for z/OS V09.01.00
5605-DB2	DB2 for z/OS V10.01.00
Any <b>one</b> of the following	
5697-P12	DB2 VUE for z/OS V09.01.00
5697-P31	DB2 VUE for z/OS V10.01.00
Any <b>one</b> of the following	
5655-N97	DB2 Utilities Suite for z/OS V9.1.0 If running DB2 V9 plus APAR PM12819
5655-V41	DB2 Utilities Suite for z/OS V10.1.0 If running DB2 V10 plus APAR PM12819

**Note:** DB2 APAR PM63606 is required for enhanced filtering performance to be available.

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

<i>Figure 11. Total DASD Space Required by Guardium S-TAP for DB2</i>	
<b>Library Type</b>	<b>Total Space Required in 3390 Trks</b>
Target	7096 tracks for Guardium S-TAP for DB2 96 tracks for FEC Common Code
Distribution	7096 tracks for Guardium S-TAP for DB2 97 tracks for FEC Common Code

### Note:

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 21.

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

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

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

- The default name of the data set can be changed.
- The default block size of the data set can be changed.
- The data set can be merged with another data set that has equivalent characteristics.
- The data set can be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

- These data sets can be SMS-managed, but they are not required to be SMS-managed.
- These data sets are not required to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

6. All target libraries that are listed and contain load modules have the following attributes:

- These data sets can be in the LPA, but they are not required to be in the LPA.
- These data sets can be in the LNKLIST.
- 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 12. Storage Requirements for Guardium S-TAP for DB2 Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SADHBASE	Sample	Any	U	PDS	FB	80	6	3
SADHDBRM	Macro	Any	U	PDS	FB	80	10	3
SADHLOAD	LMOD	Any	U	PDSE	U	0	3790	n/a
SADHSAMP	Sample	Any	U	PDS	FB	80	25	50

Figure 13. Storage Requirements for FEC Common Code Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SFECLOAD	LMOD	any	S	PDS	U	0	42	20
SFECSAMP	Sample	any	S	PDS	FB	80	6	2
SFECPENU	Panel	any	S	PDS	FB	80	36	15
SFECMENU	MSG	any	S	PDS	FB	80	6	5
SFECDBRM	Macro	any	S	PDS	FB	80	6	5

Figure 14. Storage Requirements for Guardium S-TAP for DB2 Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AADHBASE	U	PDS	FB	80	6	3
AADHDBRM	U	PDS	FB	80	10	3
AADHLOAD	U	PDSE	U	0	3790	n/a
AADHSAMP	U	PDS	FB	80	25	50

Figure 15. Storage Requirements for FEC Common Code Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AFECLOAD	S	PDS	U	0	41	20
AFECSAMP	S	PDS	FB	80	6	2
AFECPENU	S	PDS	FB	80	38	15
AFECMENU	S	PDS	FB	80	6	5
AFECDBRM	S	PDS	FB	80	6	5

### 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.

If you install Guardium S-TAP for DB2 into the same target and distribution zones where H35A210 (IBM DB2 Audit Management Expert for z/OS) was previously installed, the existing SAMP lib datasets defined by H35A210 will need to be reallocated with a larger number of directory blocks. Failure to do this will result in APPLY and ACCEPT jobs failing with an RC=12 when run without the CHECK option.

**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 DELETFMID command. See the SMP/E Commands book for details.

### 5.4 Special Considerations

#### FEC Common Code

##### FMID H25F132 Considerations:

It is strongly recommended to install all the DB2 tools that share the same common code FMID into the same SMP/E target and distribution zones. Several of the DB2 tools will be delivering common code, shipping the same FMID. You will only be required to install the common code FMID once. If you use different SMP/E target and distribution zones, you will have to install and maintain multiple instances of the same FMID, which will increase your maintenance and DASD requirements.

---

## 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 16. 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 16. SMP/E Options Subentry Values*

<b>Subentry</b>	<b>Value</b>	<b>Comment</b>
DSSPACE	(200,200,500)	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

### 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:

- SCEEBND2
- SCEECPP
- SCEELIB
- SCEELKED
- SCEELKEX
- SCEEOBJ
- SCSFMOD0
- CSSLIB
- SISpload
- SDSNLOAD

**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:

<i>Figure 17. Sample Installation Jobs</i>			
Job Name	Job Type	Description	RELFILE
ADHALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set <b>(Optional)</b>	IBM.HAIF900.F3
ADHALB	SMP/E	Sample job to allocate SMP/E data sets <b>(Optional)</b>	IBM.HAIF900.F3
ADHWRECV	RECEIVE	Sample RECEIVE job	IBM.HAIF900.F3
ADHRECE1	RECEIVE	Sample RECEIVE job for FEC Common Code	IBM.HAIF900.F3
ADHWALOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HAIF900.F3
ADHALLO1	ALLOCATE	Sample job to allocate target and distribution libraries for FEC Common Code	IBM.HAIF900.F3
ADHWDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HAIF900.F3
ADHDDDE1	DDDEF	Sample job to define SMP/E DDDEFs for FEC Common Code	IBM.HAIF900.F3
ADHWAPLY	APPLY	Sample APPLY job	IBM.HAIF900.F3
ADHWACPT	ACCEPT	Sample ACCEPT job	IBM.HAIF900.F3

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.7, “Perform SMP/E RECEIVE” on page 21) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 17 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=*
//TAPEIN DD DSN=IBM.HAIF900.F3,UNIT=tunit,
// VOL=SER=volser,LABEL=(x,SL),
// DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.HAIF900.F3,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jcl-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(primary,secondary,dir))
//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.fmid.Fy 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 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.

You can also choose to edit and submit sample job ADHRECEV 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:**

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.

**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 ADHALLOC to allocate 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:**

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.

## 6.1.9 Create DDDEF Entries

Edit and submit sample job ADHDDDEF 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:**

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.

## 6.1.10 Perform SMP/E APPLY

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)) .
..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.

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 ADHACCEP 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 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 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.

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## 6.2 Activating Guardium S-TAP for DB2

The publication *IBM InfoSphere Guardium S-TAP for DB2 on z/OS User's Guide, SC27-4467* contains the step-by-step procedures to activate the functions of Guardium S-TAP for DB2.

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very satisfied	<----->				very dissatisfied	not applicable
1	2	3	4	5	N	

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of Program Directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of Program Directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
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Ease of getting the system into production after installation	1	2	3	4	5	N

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