



Program Directory for IBM Z Platform for Apache Spark

Version 1 Release 1

Program Number 5698-SPK

FMID HSPK130

for Use with
z/OS V2.3 or higher

Document Date: June 2022

GI13-5806-00

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 23.

Contents

1.0 Introduction	1
1.1 IBM Z Platform for Apache Spark Description	1
1.2 IBM Z Platform for Apache Spark FMID	2
2.0 Program Materials	3
2.1 Basic Machine-Readable Material	3
2.2 Program Publications	3
2.3 Program Source Materials	3
2.4 Publications Useful During Installation	4
3.0 Program Support	5
3.1 Program Services	5
3.2 Preventive Service Planning	5
3.3 Statement of Support Procedures	6
4.0 Program and Service Level Information	7
4.1 Program Level Information	7
4.2 Service Level Information	7
5.0 Installation Requirements and Considerations	9
5.1 Driving System Requirements	9
5.1.1 Machine Requirements	9
5.1.2 Programming Requirements	9
5.2 Target System Requirements	10
5.2.1 Machine Requirements	10
5.2.2 Programming Requirements	10
5.2.2.1 Installation Requisites	10
5.2.2.2 Operational Requisites	11
5.2.2.3 Toleration/Coexistence Requisites	11
5.2.2.4 Incompatibility (Negative) Requisites	11
5.2.3 DASD Storage Requirements	12
5.3 FMIDs Deleted	14
5.4 Special Considerations	14
6.0 Installation Instructions	15
6.1 Installing IBM Z Platform for Apache Spark	15
6.1.1 SMP/E Considerations for Installing IBM Z Platform for Apache Spark	15
6.1.2 SMP/E Options Subentry Values	15
6.1.3 Sample Jobs	16
6.1.4 Perform SMP/E RECEIVE	16
6.1.5 Copy, edit and submit sample job AFKISALC	16
6.1.6 Copy, edit and submit sample job AFKISMKD	16

6.1.7 Copy, edit and submit sample job AFKISDDD	17
6.1.8 Perform SMP/E APPLY	17
6.1.9 Perform SMP/E ACCEPT	20
6.1.10 Run REPORT CROSSZONE	21
6.2 Activating IBM Z Platform for Apache Spark	21
6.3 Product Customization	21
7.0 Notices	23
7.1 Trademarks	23
Reader's Comments	27

Figures

1. Basic Material: Licensed Publications	3
2. Publications Useful During Installation	4
3. PSP Upgrade and Subset ID	5
4. Component IDs	6
5. Driving System Software Requirements	10
6. Target System Mandatory Installation Requisites	10
7. Target System Mandatory Operational Requisites	11
8. Total DASD Space Required by IBM Z Platform for Apache Spark	12
9. Storage Requirements for IBM Z Platform for Apache Spark Target Libraries	13
10. IBM Z Platform for Apache Spark File System Paths	14
11. Storage Requirements for IBM Z Platform for Apache Spark Distribution Libraries	14
12. SMP/E Options Subentry Values	15
13. Sample Installation Jobs	16
14. Sample SMP/E APPLY Job	19
15. Sample SMP/E ACCEPT Job	20

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 Z Platform for Apache Spark. This publication refers to IBM Z Platform for Apache Spark as IBM Z Platform for Apache Spark.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for IBM Z Platform for Apache Spark.
- 3.0, “Program Support” on page 5 describes the IBM support available for IBM Z Platform for Apache Spark.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) that have been incorporated into IBM Z Platform for Apache Spark.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations that are required for installing and using IBM Z Platform for Apache Spark.
- 6.0, “Installation Instructions” on page 15 provides detailed installation instructions for IBM Z Platform for Apache Spark. It also describes the procedures for activating the functions of IBM Z Platform for Apache Spark, or refers to appropriate publications.

Before installing IBM Z Platform for Apache Spark, 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; after which, keep the documents for your reference. Section 3.2, “Preventive Service Planning” on page 5 tells you how to find any updates to the information and procedures in this program directory.

IBM Z Platform for Apache Spark is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The program directory that is provided in softcopy format on the CBPDO is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for IBM Z Platform for Apache Spark are included on the CBPDO.

Do not use this program directory if you install IBM Z Platform for Apache Spark with a ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

1.1 IBM Z Platform for Apache Spark Description

The IBM Z Platform for Apache Spark offers an Apache Spark distribution of the open source, in-memory processing engine that is designed for big data. It provides IBM z/OS clients with the ability to combine the benefits of Apache Spark with the advantage of analyzing business-critical data in place, with no data movement.

1.2 IBM Z Platform for Apache Spark FMID

IBM Z Platform for Apache Spark consists of the following FMID:

HSPK130

2.0 Program Materials

An IBM program is identified by a program number. The program number for IBM Z Platform for Apache Spark is 5698-SPK.

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 IBM Z Platform for Apache Spark. 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 15 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for IBM Z Platform for Apache Spark in the *CBPDO Memo To Users Extension*.

2.2 Program Publications

The following sections identify the basic publications for IBM Z Platform for Apache Spark.

Figure 1 identifies the basic licensed program publications for IBM Z Platform for Apache Spark.

Publication Title	Form Number	Media Format
<i>IBM Z Platform for Apache Spark Program Directory</i>	GI13-5806-00	Electronic
<i>IBM Z Platform for Apache Spark License Information</i>	GI13-5807-00	Electronic
<i>IBM Z Platform for Apache Spark System Messages</i>	GI13-5808-00	Electronic
<i>IBM Z Platform for Apache Spark Installation and Customization Guide</i>	GI13-5809-00	Electronic

2.3 Program Source Materials

No program source materials or viewable program listings are provided for IBM Z Platform for Apache Spark.

2.4 Publications Useful During Installation

You might want to use the publications listed in Figure 2 on page 4 during the installation of IBM Z Platform for Apache Spark.

<i>Figure 2. Publications Useful During Installation</i>	
Publication Title	Form Number
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883

Note: These publications can be found in IBM Documentation. Use a web browser with internet access to refer to: <https://www.ibm.com/docs/en/zos/2.5.0?topic=zos-smpe>

3.0 Program Support

This section describes the IBM support available for IBM Z Platform for Apache Spark.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install IBM Z Platform for Apache Spark, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.PRODUCTINSTALL-REQUIREDSERVICE fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.PRODUCTINSTALL-REQUIREDSERVICE)** operand on the **APPLY CHECK** command. See 6.1.8, “Perform SMP/E APPLY” on page 17 for a sample APPLY command.

If you obtained IBM Z Platform for Apache Spark as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IBM Z Platform for Apache Spark 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.ibm.com/support/>.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for IBM Z Platform for Apache Spark are included in Figure 3.

Figure 3. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
ZOSSPARK	HSPK130	IBM Z Platform for Apache Spark

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 4 on page 6 identifies the component IDs (COMPID) for IBM Z Platform for Apache Spark.

<i>Figure 4. Component IDs</i>			
FMID	COMPID	Component Name	RETAIN Release
HSPK130	5655-AAB01	IBM Z Platform for Apache Spark	130

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IBM Z Platform for Apache Spark. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

4.1 Program Level Information

The following APAR fixes against previous releases of IBM Z Platform for Apache Spark have been incorporated into this release. They are listed by FMID.

- FMID HSPK130

No APARs have been incorporated.

4.2 Service Level Information

No PTFs against this release of IBM Z Platform for Apache Spark have been incorporated into the product package.

Frequently check the IBM Z Platform for Apache Spark 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.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating IBM Z Platform for Apache Spark. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.
The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.
- *Target system*: the system on which the program is configured and run.
The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.
- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install IBM Z Platform for Apache Spark.

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 5. 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	V02.03.00 or higher	N/A	No

Note: SMP/E is a requirement for Installation and is an element of z/OS.

Note: Installation might require migration to new z/OS releases to be service supported. See <https://www.ibm.com/support/lifecycle/>

5.2 Target System Requirements

This section describes the environment of the target system required to install and use IBM Z Platform for Apache Spark.

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 6. Target System Mandatory Installation Requisites

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	V02.03.00 or higher	N/A	No

Note: Installation might require migration to new releases to obtain support. See <https://www.ibm.com/support/lifecycle/>

Conditional installation requisites identify products that are *not* required for successful installation of this product but can resolve such things as certain warning messages at installation time. These products are specified as IF REQs.

IBM Z Platform for Apache Spark 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.

<i>Figure 7. Target System Mandatory Operational Requisites</i>	
Program Number	Product Name and Minimum VRM/Service Level
5650-ZOS	z/OS V02.03.00 or higher
5655-DGH	IBM 64-bit SDK for z/OS, Java Technology Edition Version 8, Service Refresh 6
	Bourne Again Shell (Bash 4.2.54) from Rocket Software

Note: Installation might require migration to new releases to obtain support. See <https://www.ibm.com/support/lifecycle/>

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions but are required at run time for this product to operate specific functions. These products are specified as IF REQs.

IBM Z Platform for Apache Spark has no conditional operational requisites.

5.2.2.3 Toleration/Coexistence Requisites: Toleration/coexistence requisites identify products that must be present on sharing systems. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD environment at different time intervals.

IBM Z Platform for Apache Spark has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites: Negative requisites identify products that must *not* be installed on the same system as this product.

IBM Z Platform for Apache Spark has no negative requisites.

5.2.3 DASD Storage Requirements

IBM Z Platform for Apache Spark libraries can reside on all supported DASD types.

Figure 8 on page 12 lists the total space that is required for each type of library.

<i>Figure 8. Total DASD Space Required by IBM Z Platform for Apache Spark</i>		
Library Type	Total Space Required in 3390 Trks	Description
Target	3	
Distribution	6213	
File System(s)	12705	IBM Z Platform for Apache Spark file system

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 6.1.5, “Copy, edit and submit sample job AFKISALC” on page 16.

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, with some exceptions. If the value in the "ORG" column specifies "PDS", the data set must be a PDS. If the value in "DIR Blks" column specifies "N/A", the data set must be 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 not be in the LPA, with some exceptions. If the data set should be placed in the LPA, see the Special Considerations section below.
- These data sets can be in the LNKLST. If so, see the Special Considerations section below.
- These data sets are not required to be APF-authorized, with some exceptions. If the data set must be APF-authorized, see the Special Considerations section below.

The following figures describe the target and distribution libraries and file system paths required to install IBM Z Platform for Apache Spark. The storage requirements of IBM Z Platform for Apache Spark 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 9. Storage Requirements for IBM Z Platform for Apache Spark 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
SAFKSAMP	SAMP	TVOL2	U	PDS	FB	80	3	2

Figure 10. IBM Z Platform for Apache Spark File System Paths

DDNAME	T Y P E	Path Name
SAFKSPFS	N	/usr/lpp/IBM/zspark/IBM

Figure 11. Storage Requirements for IBM Z Platform for Apache Spark 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
AAFKSAMP	U	PDS	FB	80	3	2
AAFKSPFS	U	PDS	VB	256	6210	2

5.3 FMIDs Deleted

Installing IBM Z Platform for Apache Spark will not result in the deletion of other FMIDs since this is the first release of the product.

5.4 Special Considerations

IBM Z Platform for Apache Spark has no special considerations for the target system.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of IBM Z Platform for Apache Spark.

Please note the following points:

- If you want to install IBM Z Platform for Apache Spark into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.
- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing IBM Z Platform for Apache Spark

6.1.1 SMP/E Considerations for Installing IBM Z Platform for Apache Spark

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of IBM Z Platform for Apache Spark.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 12. 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.

Subentry	Value	Comment
DSSPACE	Existing target CSI value.	IBM suggests using your existing target system CSI's DSSPACE value.
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install IBM Z Platform for Apache Spark:

Figure 13. Sample Installation Jobs

Job Name	Job Type	Description	SMPTLIB Data Set
AFKISALC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HSPK130.F2
AFKISMKD	MKDIR	Sample job to invoke the supplied AFKMKDIR EXEC to allocate file system paths	IBM.HSPK130.F2
AFKISDDD	DDDEF	Sample job to define SMP/E DDDEFS	IBM.HSPK130.F2
AFKISZFS	ALLOCATE	Sample job to allocate ZFS	IBM.HSPK130.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.4, “Perform SMP/E RECEIVE” on page 16) then copy the jobs from the SMPTLIB data sets to a work data set for editing and submission. See Figure 13 to find the appropriate data set.

6.1.4 Perform SMP/E RECEIVE

If you have obtained IBM Z Platform for Apache Spark as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the IBM Z Platform for Apache Spark FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO. You will receive a return code of 0 if this job runs correctly.

6.1.5 Copy, edit and submit sample job AFKISALC

Copy, edit and submit sample job AFKISALC to allocate the SMP/E target and distribution libraries for IBM Z Platform for Apache Spark. 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 Copy, edit and submit sample job AFKISMKD

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

Before running the sample job to create the paths in the file system, you must ensure that OMVS is active on the driving system and that the target system's HFS or zFS file system is mounted to the driving system. zFS must be active on the driving system if you are installing IBM Z Platform for Apache Spark into a file system that is zFS.

If you plan to install IBM Z Platform for Apache Spark into a new HFS or zFS file system, you must create the mountpoint and mount the new file system to the driving system for IBM Z Platform for Apache Spark.

If your installation is using a ZFS, copy, edit and submit sample job AFKISZFS to allocate the file system for IBM Z Platform for Apache Spark. Consult the instructions in the sample job for more information.

The space requirements for the file system to install the IBM Z Platform for Apache Spark FMID are shown in the sample job AFKISZFS. You may increase the space requirement for the file system in the sample job to accommodate future growth due to the installation of service.

The recommended mountpoint is `/usr/lpp/IBM/zspark/`.

Copy, edit and submit sample job AFKISMKD to allocate the HFS or zFS paths for IBM Z Platform for Apache Spark. Consult the instructions in the sample job for more information.

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

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

6.1.7 Copy, edit and submit sample job AFKISDDD

Edit and submit sample job AFKISDDD to create DDDEF entries for the SMP/E target and distribution libraries for IBM Z Platform for Apache Spark. Consult the instructions in the sample job for more information.

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

6.1.8 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit the sample APPLY CHECK job shown in Figure 14 on page 19 to perform an APPLY CHECK for IBM Z Platform for Apache Spark. Consult the instructions shown in Figure 14 on page 19 for information about the sample job.

The latest HOLDDATA is available through several different portals, including <http://service.software.ibm.com/holddata/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)) .
..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.

Figure 14 on page 19 shows a sample job that you can use to perform an SMP/E APPLY CHECK for IBM Z Platform for Apache Spark.

```
//SPKAPLY JOB <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
    SET BOUNDARY(targetzone) .
    APPLY CHECK XZREQ
    FORFMID(HSPK130)
    SELECT(HSPK130)
    GROUPEXTEND(NOAPARS,NOUSERMODS)
    FIXCAT(IBM.ProductInstall-RequiredService)
    BYPASS(HOLDSYSTEM,
    HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .
/*
```

Figure 14. Sample SMP/E APPLY Job

Required Updates

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

Note: The GROUPEXTEND operand indicates that SMP/E applies all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

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

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

The XZREQ operand only needs to be specified when cross-zone processing is required. If this operand is specified when there is no zone group set up, the following messages will be received, which are acceptable:

```
GIM50810W THE XZREQ OPERAND WAS SPECIFIED ON THE APPLY
COMMAND BUT SINCE NO ZONES WERE APPLICABLE FOR CROSS-ZONE
REQUISITE CHECKING, THE XZREQ OPERAND WILL BE IGNORED.
```

```
GIM20501I APPLY PROCESSING IS COMPLETE. THE HIGHEST RETURN
CODE WAS 04.
```

6.1.9 Perform SMP/E ACCEPT

Edit and submit the sample ACCEPT CHECK job shown in Figure 15 on page 20 for IBM Z Platform for Apache Spark. 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).

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Figure 15 shows a sample job that you can use to perform an SMP/E ACCEPT CHECK for IBM Z Platform for Apache Spark.

```
//SPKACPT JOB <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
    SET BOUNDARY(dlibzone).
    ACCEPT CHECK XZREQ
    FORFMID(HSPK130)
    SELECT(HSPK130)
    GROUPEXTEND(NOAPARS,NOUSERMODS)
    FIXCAT(IBM.ProductInstall-RequiredService)
    BYPASS(HOLDSYSTEM,
    HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .
/*
```

Figure 15. Sample SMP/E ACCEPT Job

Required Updates

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

Note: The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

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

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

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

The XZREQ operand only needs to be specified when cross-zone processing is required. If this operand is specified when there is no zone group set up, the following messages will be received, which are acceptable:

```
GIM50810W THE XZREQ OPERAND WAS SPECIFIED ON THE ACCEPT
COMMAND BUT SINCE NO ZONES WERE APPLICABLE FOR CROSS-ZONE
REQUISITE CHECKING, THE XZREQ OPERAND WILL BE IGNORED.
```

```
GIM20501I ACCEPT PROCESSING IS COMPLETE. THE HIGHEST RETURN
CODE WAS 04.
```

6.1.10 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command identifies requisites for products that are installed in separate zones. This command also creates APPLY and ACCEPT commands in the SMPPUNCH data set. You can use the APPLY and ACCEPT commands to install those cross-zone requisites that the SMP/E REPORT CROSSZONE command identifies.

After you install IBM Z Platform for Apache Spark, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

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

6.2 Activating IBM Z Platform for Apache Spark

6.3 Product Customization

The publication *IBM Z Platform for Apache Spark* (GI13-5806-00) contains the necessary information to customize and use IBM Z Platform for Apache Spark.

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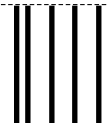


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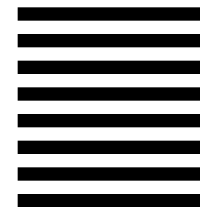
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