IBM

Program Directory for

IBM Sterling

Connect:Direct

for z/OS

V05.02.00

Program Number 5655-X01

FMID HDGA520

for Use with
z/OS V1.12.00 and higher

Document Date: February 2014

GI13-1828-02

> **Note**
>
> Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 27.

Contents

Figures

1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM Sterling Connect:Direct for z/OS. This publication refers to IBM Sterling Connect:Direct for z/OS as Sterling Connect:Direct.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic program materials and documentation for Sterling Connect:Direct.

- 3.0, "Program Support" on page 6 describes the IBM support available for Sterling Connect:Direct.

- 4.0, "Program and Service Level Information" on page 8 lists the APARs (program level) and PTFs (service level) that have been incorporated into Sterling Connect:Direct.

- 5.0, "Installation Requirements and Considerations" on page 11 identifies the resources and considerations that are required for installing and using Sterling Connect:Direct.

- 6.0, "Installation Instructions" on page 20 provides detailed installation instructions for Sterling Connect:Direct. It also describes the procedures for activating the functions of Sterling Connect:Direct, or refers to appropriate publications.

Before installing Sterling Connect:Direct, 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.

Sterling Connect:Direct 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 Sterling Connect:Direct are included on the CBPDO tape.

Do not use this program directory if you install Sterling Connect:Direct 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 Sterling Connect:Direct Description

IBM Sterling Connect:Direct for z/OS is peer-to-peer file-based integration middleware optimized for assured delivery, high-volume and secure data exchange within and between enterprises. It is optimized for high performance and moves files containing any type of data across multiple platforms, disparate file systems, and disparate media.

Sterling Connect:Direct enables business to:

- Move large amounts of data internally and externally

- Share information with business partners

- Schedule business information-related application activities

- Automate data distribution

- Control and audit network activities

- Maintain network security

- Use one common command structure for information management with platform-specific interfaces

1.2 Sterling Connect:Direct FMIDs

Sterling Connect:Direct consists of the following FMID:

HDGA520

2.0 Program Materials

An IBM program is identified by a program number. The program number for Sterling Connect:Direct is 5655-X01.

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.

The program announcement material describes the features supported by Sterling Connect:Direct. 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 Sterling Connect:Direct in the *CBPDO Memo To Users Extension.*

Figure 1 describes the program file content for Sterling Connect:Direct. 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.

Name	ORG	RECFM	LRECL	BLK SIZE
Figure 1 (Page 1 of 2). Program File Content				
SMPMCS	SEQ	FB	80	8800
IBM.HDGA520.F1	PDS	FB	80	8800
IBM.HDGA520.F2	PDSE	U	0	6144
IBM.HDGA520.F3	PDSE	U	0	6144
IBM.HDGA520.F4	PDS	VB	2048	23476
IBM.HDGA520.F5	PDS	FB	80	8800

Figure 1 (Page 2 of 2). Program File Content				
Name	**O R G**	**R E C F M**	**L R E C L**	**BLK SIZE**
IBM.HDGA520.F6	PDS	FB	80	8800
IBM.HDGA520.F7	PDS	FB	80	8800
IBM.HDGA520.F8	PDS	FB	80	8800

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Sterling Connect:Direct.

2.3 Program Publications

The following sections identify the basic publications for Sterling Connect:Direct.

The Sterling Connect:Direct program publications can be found at the Sterling Connect:Direct V05.02.00 Knowledgecenter site at the URL below:

http://www.ibm.com/support/knowledgecenter/SSFGBN_5.2.0/

There are no licensed program publications for Sterling Connect:Direct.

Figure 2 identifies the basic unlicensed program publications for Sterling Connect:Direct. One copy of each of these publications is included when you order the basic materials for Sterling Connect:Direct. 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 2. Basic Material: Unlicensed		
Publication Title	**Form Number**	**Media Format**
IBM Sterling Connect:Direct for z/OS for z/OS Program Directory	GI13-1828-02	http://www.ibm.com/shop/ publications/order/
IBM Sterling Connect:Direct for z/OS Agreements and License Information	GI13-1839-02	http://www.ibm.com/shop/ publications/order/

There are no optional publications provided for Sterling Connect:Direct.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Sterling Connect:Direct.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of Sterling Connect:Direct.

Figure 3. Publications Useful During Installation		
Publication Title	**Form Number**	**Media Format**
IBM SMP/E for z/OS User's Guide	SA22-7773	http://www.ibm.com/shop/ publications/order/
IBM SMP/E for z/OS Commands	SA22-7771	http://www.ibm.com/shop/ publications/order/
IBM SMP/E for z/OS Reference	SA22-7772	http://www.ibm.com/shop/ publications/order/
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA22-7770	http://www.ibm.com/shop/ publications/order/

3.0 Program Support

This section describes the IBM support available for Sterling Connect:Direct.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install Sterling Connect:Direct, 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 23 for a sample APPLY command

If you obtained Sterling Connect:Direct as part of a CBPDO, HOLDDATA is included.

If the CBPDO for Sterling Connect:Direct 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 Sterling Connect:Direct are included in Figure 4

Figure 4. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
STRCD520	HDGA520	Sterling Connect:Direct for z/OS

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 5 on page 7 identifies the component IDs (COMPID) for Sterling Connect:Direct.

Figure 5. Component IDs

FMID	COMPID	Component Name	RETAIN Release
HDGA520	5655X0100	Sterling Connect:Direct	520

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of Sterling Connect:Direct. 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 Sterling Connect:Direct have been incorporated into this release. They are listed by FMID.

- FMID HDGA520

PM38541	PM44948	PM55831
PM40291	PM45199	PM55936
PM40298	PM45261	PM56125
PM40302	PM45404	PM56406
PM40322	PM45473	PM58415
PM40709	PM45474	PM58619
PM40750	PM45475	PM58760
PM40753	PM45477	PM58805
PM40755	PM46169	PM58862
PM40864	PM46170	PM59333
PM40873	PM46184	PM59569
PM40884	PM46189	PM59732
PM40897	PM46262	PM59735
PM41232	PM46263	PM60098
PM41234	PM46267	PM61548
PM41241	PM46362	PM61580
PM41905	PM46513	PM61606
PM43899	PM47625	PM61625
PM43900	PM49390	PM61800
PM43901	PM53548	PM61845
PM44373	PM53693	PM62012
PM44547	PM53772	PM62033
PM44633	PM53776	PM62083
PM44644	PM53902	PM62097
PM44665	PM53956	PM62204
PM44672	PM54011	PM62484
PM44726	PM54250	PM62881
PM44730	PM54338	PM62885
PM44751	PM54430	PM63421
PM44900	PM54433	PM64055
PM44940	PM54449	PM64138

PM64291	PM74766	PM84620
PM64419	PM74860	PM84771
PM64594	PM75140	PM84907
PM64617	PM75266	PM85174
PM64770	PM75353	PM85420
PM65227	PM75359	PM86583
PM65328	PM75524	PM87016
PM66136	PM75562	PM87370
PM66202	PM75990	PM87402
PM66231	PM75994	PM88117
PM66274	PM76228	PM88225
PM66280	PM76532	PM88710
PM66802	PM76844	PM88899
PM66816	PM77336	PM88979
PM67387	PM77384	PM89027
PM67573	PM77521	PM89029
PM67955	PM77748	PM89046
PM68430	PM77776	PM89178
PM68511	PM78297	PM89251
PM68652	PM78538	PM89264
PM68772	PM78836	PM89274
PM68793	PM78843	PM89744
PM69238	PM78971	PM90473
PM69258	PM79316	PM91578
PM69570	PM79819	PM91878
PM69737	PM79856	PM92484
PM70032	PM79872	PM92534
PM70137	PM80070	PM92916
PM70474	PM80153	PM92979
PM70666	PM80170	PM93410
PM70721	PM80221	PM93772
PM70917	PM80546	PM93847
PM71344	PM81175	PM93918
PM71390	PM81256	PM94179
PM71438	PM81358	PM94314
PM71634	PM81482	PM94388
PM71724	PM82210	PM94837
PM72202	PM82464	PM94841
PM72513	PM82632	PM94843
PM73245	PM82645	PM95367
PM73509	PM82651	PM96175
PM73540	PM83036	PM96548
PM73717	PM83037	PM96640
PM74265	PM83846	PM96991
PM74484	PM83880	PM97516
		PM97657

PM98232	PM99134	PI05353
PM98300	PM99274	PI05423
PM98342	PM99491	PI05438
PM98487	PI04779	PI05827
PM99086	PI05086	PI05528
PM99115	PI05238	PI06212
PM99121	PI05352	PI07512

4.2 Service Level Information

No PTFs against this release of Sterling Connect:Direct have been incorporated into the product package.

Frequently check the Sterling Connect:Direct PSP Bucket for HIPER and SPECIAL attention PTFs against all FMIDs that you must install. You can also receive the latest HOLDDATA, then add the **FIXCAT(IBM.ProductInstall-RequiredService)** operand on your APPLY CHECK command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating Sterling Connect:Direct. 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 Sterling Connect:Direct.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements

Figure 6. Driving System Software Requirements				
Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
Any **one** of the following:				
5694-A01	z/OS	V01.12.00	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.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Sterling Connect:Direct.

Sterling Connect:Direct installs in the z/OS (Z038) 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 7 (Page 1 of 2). Target System Mandatory Installation Requisites				
Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
Any **one** of the following:				

Figure 7 (Page 2 of 2). Target System Mandatory Installation Requisites				
Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5694-A01	z/OS	V1.12.00 or higher	N/A	No
5650-ZOS	z/OS	V2.01.00	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.

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.

Sterling Connect:Direct 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 8. Target System Mandatory Operational Requisites	
Program Number	Product Name and Minimum VRM/Service Level
Any **one** of the following:	
5694-A01	z/OS V01.12.00 or higher
5850-ZOS	z/OS V2.01.00

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.

Figure 9 (Page 1 of 2). Target System Conditional Operational Requisites		
Program Number	Product Name and Minimum VRM/Service Level	Function
Any **one** of the following for zFBA Support at z/OS levels below:		

Figure 9 (Page 2 of 2). Target System Conditional Operational Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5694-A01	z/OS V01.13.00 at PTF level UA70714 (FMID HBB7780)	zFBA Support
5694-A01	z/OS V01.13.01 at PTF level UA70716 (FMID HBB7790)	zFBA Support
5850-ZOS	z/OS V2.01.00 at PTF level UA70715 (FMID JABB778H)	zFBA Support
Any **one** of the following for TLS1.2 Support:		
5694-A01	z/OS V01.13.00 at PTF level UA66870 and UA66872	TLS1.2 Support
5850-ZOS	z/OS V2.01.00	TLS1.2 Support
For NSA Suite B Support:		
5850-ZOS	z/OS V2.01.00	NSA Suite B Support
For zEDC Express Accelerator Support:		
---	zEC12 GA2 or zBC12 Server with zEDC Express Accelerator	zEDC Express Accelerator Support
5850-ZOS	z/OS V2.01.00 with APAR OA43256 (open)	zEDC Express Accelerator Support
Microcode Level Support:		
---	For DS/8700 and DS/8800 the fixes will be available in Release 6.3SP5 or higher	For DS8700, MCL 76.31.63.0 or higher For DS8S8800, MCL 86.31.78.0 or higher
---	For DS/8870 the fixes will be available in Release 7.1.5 or higher	For DS8870, MCL 87.10.97.0 or higher
For EAV, Extended Address Volume Support		
---	Requires IBM System Storage DS8000 Series with release 4.0 licensed internal code	Extended Address Volume Suppor
Any **one** of the following for CICS Interface:		
5655-M15	CICS TS for z/OS V3.01.00 or higher	CICS Interface
5655-S97	CICS TS for z/OS V4.01.00 or higher	CICS Interface
5655-Y04	CICS TS for z/OS V5.01.00 or higher	CICS Interface
5722-DFJ	CICS TS for z/OS Value Unit Edition V5.01.00	CICS Interface

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.

Sterling Connect:Direct 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.

Sterling Connect:Direct has no negative requisites.

5.2.3 DASD Storage Requirements

Sterling Connect:Direct libraries can reside on all supported DASD types.

Figure 10 lists the total space that is required for each type of library.

Figure 10. Total DASD Space Required by Sterling Connect:Direct		
Library Type	**Total Space Required in 3390 Trks**	**File System Description**
Target	3800	Target Datasets
Distribution	3800	Distribution Datasets

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 6.1.6, "Allocate SMP/E Target and Distribution Libraries" on page 23.

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 as listed, but are NOT interchangeable. They must be created as listed.

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.
- Data sets required to be APF-authorized in order to execute are SDGACICS and SDGALINK. All others are not required to be APF-authorized.

Figure 11 (Page 1 of 2). Storage Requirements for SMP/E Data Sets						
Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SMPLTS	E	PDSE	U	0	150	-
SMPMTS	E	PDS	FB	80	150	100
SMPPTS	E	PDSE	FB	80	900	-

Figure 11 (Page 2 of 2). Storage Requirements for SMP/E Data Sets						
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**
SMPSCDS	E	PDS	FB	80	150	100
SMPSTS	E	PDS	FB	80	150	100

The following figures describe the target and distribution libraries and file system paths required to install Sterling Connect:Direct. The storage requirements of Sterling Connect:Direct 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 (Page 1 of 2). Storage Requirements for Sterling Connect:Direct 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**
SDGACICS	LMOD	ANY	U	PDSE	U	0	268	-
SDGACNTL	Sample	ANY	U	PDS	FB	80	7	10
SDGADATA	Data	ANY	U	PDS	VB	2048	151	20
SDGAISPC	Clist	ANY	U	PDS	FB	80	81	20
SDGAJCL	Sample	ANY	U	PDS	FB	80	9	20
SDGALINK	LMOD	ANY	U	PDSE	U	0	2334	-
SDGAMAC	MACRO	ANY	U	PDS	FB	80	135	40
SDGAMAP	Data	ANY	U	PDS	FB	80	51	40
SDGAMENU	PNL	ANY	U	PDS	FB	80	12	50
SDGAMIB	Sample	ANY	U	PDS	VB	256	15	10
SDGAMSGS	MSGS	ANY	U	PDS	FB	80	30	50
SDGAOPLS	Sample	ANY	U	PDS	FB	80	4	20
SDGAPARM	Sample	ANY	U	PDS	FB	80	6	20
SDGAPENU	PNL	ANY	U	PDS	FB	80	135	200
SDGAPROC	PROC	ANY	U	PDS	FB	80	15	50
SDGAPROF	Sample	ANY	U	PDS	FB	80	2	7

Figure 12 (Page 2 of 2). Storage Requirements for Sterling Connect:Direct 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
SDGASAMP	Sample	ANY	U	PDS	FB	80	302	50
SDGASENU	PNL	ANY	U	PDS	FB	80	5	15
SDGATRP	Sample	ANY	U	PDS	VB	256	15	10

Figure 13. Storage Requirements for Sterling Connect:Direct 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
ADGACICS	U	PDSE	U	0	268	-
ADGACNTL	U	PDS	FB	80	7	10
ADGADATA	U	PDS	VB	2048	151	20
ADGAISPC	U	PDS	FB	80	81	20
ADGAJCL	U	PDS	FB	80	9	20
ADGALINK	U	PDSE	U	0	2334	-
ADGAMAC	U	PDS	FB	80	135	40
ADGAMAP	U	PDS	FB	80	51	40
ADGAMENU	U	PDS	FB	80	12	50
ADGAMIB	U	PDS	VB	256	15	10
ADGAMSGS	U	PDS	FB	80	30	50
ADGAOPLS	U	PDS	FB	80	4	20
ADGAPARM	U	PDS	FB	80	6	20
ADGAPENU	U	PDS	FB	80	135	200
ADGAPROC	U	PDS	FB	80	15	50
ADGAPROF	U	PDS	FB	80	2	7
ADGASAMP	U	PDS	FB	80	302	50
ADGASENU	U	PDS	FB	80	5	15
ADGATRP	U	PDS	VB	256	15	10

5.3 FMIDs Deleted

Installing Sterling Connect:Direct 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 Sterling Connect:Direct 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
*.

Sterling Connect:Direct has no special considerations for the target system.

Even though you can install Sterling Connect:Direct into any SMP/E environment, it is HIGHLY recommended to install into a separate environment. This is to avoid the possibility of any collisions with other products.

Before you start using Sterling Connect:Direct, check the Release Notes for the latest information on implementing this version, and refer to the *IBM Sterling Connect:Direct for z/OS Configuration Guide* for step-by-step instructions on how to customize the product for your environment.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of Sterling Connect:Direct.

Please note the following points:

- If you want to install Sterling Connect:Direct 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 Sterling Connect:Direct

6.1.1 SMP/E Considerations for Installing Sterling Connect:Direct

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of Sterling Connect:Direct.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 14. 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 14. SMP/E Options Subentry Values		
Subentry	**Value**	**Comment**
DSSPACE	2500,100,300	This is the minimum allocation for SMPTLIB data, any larger value is acceptable.
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 Sterling Connect:Direct:

Figure 15. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
DGASMPE (Optional)	DEFINE SMP/E	Sample job to create SMP/E environment	IBM.HDGA520.F1
DGARECVE	RECEIVE	Sample RECEIVE job	IBM.HDGA520.F1
DGAALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HDGA520.F1
DGADDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HDGA520.F1
DGAAPPLY	APPLY	Sample APPLY job	IBM.HDGA520.F1
DGAACCPT	ACCEPT	Sample ACCEPT job	IBM.HDGA520.F1

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.5, "Perform SMP/E RECEIVE" on page 22) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 15 on page 20 to find the appropriate relfile data set.

You can also copy the sample installation jobs from the tape or product files by submitting the following job. Depending on your distribution medium, use either the //TAPEIN or the //FILEIN DD statement and comment out or delete the other statement. Before you submit the job, add a job card and change the lowercase parameters to uppercase values to meet the requirements of your site.

```
//STEP1    EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//*************************************************************
//* Make the //TAPEIN DD statement below active if you install*
//* from a CBPDO tape or if you install from a product tape   *
//* received outside the CBPDO process.                       *
//*************************************************************
//TAPEIN   DD DSN=IBM.HDGA520.F1,UNIT=tunit,
//         VOL=SER=volser,LABEL=(x,SL),
//         DISP=(OLD,KEEP)
//*************************************************************
//* Make the //FILEIN DD statement below active for          *
//* downloaded DASD files.                                   *
//*************************************************************
//FILEIN   DD DSN=IBM.HDGA520.F1,UNIT=SYSALLDA,DISP=SHR,
//         VOL=SER=filevol
//OUT      DD DSNAME=jcl-library-name,
//         DISP=(NEW,CATLG,DELETE),
//         VOL=SER=dasdvol,UNIT=SYSALLDA,
//         SPACE=(TRK,(5,5,5))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
    COPY INDD=xxxxIN,OUTDD=OUT
/*
```

See the following information to update the statements in the previous sample:

TAPEIN:
  tunit is the unit value that matches the product package.
  volser is the volume serial that matches the product package.
  x is the tape file number that indicates the location of the data set name on the tape.
  See the documentation that is provided by CBPDO for the location of IBM.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.

6.1.4 Allocate and Initialize the SMP/E Data Sets (Optional)

You can install Sterling Connect:Direct in the same SMP/E zone as z/OS V1.12.0 (or later), or in a different zone.

- If you install into existing SMP/E data sets, ensure that you have enough space.

- If you plan to install into an existing zone, the cluster should have already been allocated and primed. You can go on to the next step to perform an SMP/E RECEIVE.

- To install into a new zone, edit and submit sample job DGASMPE to define and prime a new SMP/E CSI cluster. Consult the instructions in the sample job for more information.

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

6.1.5 Perform SMP/E RECEIVE

If you have obtained Sterling Connect:Direct as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the Sterling Connect:Direct FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit sample job DGARECVE to perform the SMP/E RECEIVE for Sterling Connect:Direct. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: This job should end with RC=0.

Note: Please note that if the installation data sets have been loaded to a cataloged data set with an HLQ other than IBM.fmid, then the SMP/E RECEIVE SELECT command must change the HLQ by specifying the RFPREFIX(hlq) parameter as below:

```
RECEIVE SELECT(HDGA520) RFPREFIX(hlq) .
```

6.1.6 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job DGAALLOC to allocate the SMP/E target and distribution libraries for Sterling Connect:Direct. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: This job should end with RC=0.

6.1.7 Create DDDEF Entries

Edit and submit sample job DGADDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Sterling Connect:Direct. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: This job should end with RC=0.

6.1.8 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job DGAAPPLY to perform an SMP/E APPLY CHECK for Sterling Connect:Direct. Consult the instructions in the sample job for more information.

   Perform an SMP/E APPLY CHECK for Sterling Connect:Direct.

   The latest HOLDDATA is available through several different portals, including http://service.software.ibm.com/holdata/390holdata.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 the quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs. If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX command and specify Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

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

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

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

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

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

6.1.9 Perform SMP/E ACCEPT

Edit and submit sample job DGAACCPT to perform an SMP/E ACCEPT CHECK for Sterling Connect:Direct. Consult the instructions in the sample job for more information.

Perform an SMP/E ACCEPT CHECK for Sterling Connect:Direct.

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.

6.1.10 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 Sterling Connect:Direct, 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 Sterling Connect:Direct

The Sterling Connect:Direct program publications can be found at the Sterling Connect:Direct V05.02.00 Knowledgecenter site at the URL below:

http://www.ibm.com/support/knowledgecenter/SSFGBN_5.2.0/

The publication *IBM Sterling Connect:Direct for z/OS Configuration Guide*, contains the necessary information to customize and use Sterling Connect:Direct.

Before you start using Sterling Connect:Direct, check the Release Notes for the latest information on implementing this version, and then refer to the *IBM Sterling Connect:Direct for z/OS Configuration Guide* for step-by-step instructions on how to customize the product for your environment.

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