IBM

Program Directory for

IBM MQ Managed File Transfer

for z/OS

Long Term Support Release

V9.0.0

Program Number 5655-MF9

HMF9900

for use with
z/OS

Document Date: December 2016

Note

Before using this information and the product it supports, be sure to read the general information under Appendix D, "Notices" on page 33.

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 MQ Managed File Transfer for z/OS. This publication refers to IBM MQ Managed File Transfer for z/OS as MQ Managed File Transfer.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic program materials and documentation for MQ Managed File Transfer.

- 3.0, "Program Support" on page 5 describes the IBM support available for MQ Managed File Transfer.

- 4.0, "Program and Service Level Information" on page 7 lists the APARs (program level) and PTFs (service level) that have been incorporated into MQ Managed File Transfer.

- 5.0, "Installation Requirements and Considerations" on page 9 identifies the resources and considerations that are required for installing and using MQ Managed File Transfer.

- 6.0, "Installation Instructions" on page 17 provides detailed installation instructions for MQ Managed File Transfer. It also describes the procedures for activating the functions of MQ Managed File Transfer, or refers to appropriate publications.

Before installing MQ Managed File Transfer, 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 5 tells you how to find any updates to the information and procedures in this program directory.

MQ Managed File Transfer 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 MQ Managed File Transfer are included on the CBPDO tape.

Do not use this program directory if you install MQ Managed File Transfer 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 MQ Managed File Transfer Description

MQ Managed File Transfer provides a managed file transfer solution, based on the IBM MQ transport, for moving files between IT systems without the need for programming. This product moves files in a reliable, secure, and auditable manner and enables file transfers to be fully-automated including scheduled and triggered transfers.

MQ Managed File Transfer has two types of release; a Long Term Support Release (LTSR) and a Continuous Delivery Release. The differences between these two are documented in detail at http://www.ibm.com/support/knowledgecenter/SSFKSJ_9.0.0/com.ibm.mq.pla.doc/q004715_.htm

This program directory describes installation of the FMIDs associated with the Long Term Support Release.

1.2 MQ Managed File Transfer FMIDs

MQ Managed File Transfer consists of the following FMID:

HMF9900

2.0 Program Materials

An IBM program is identified by a program number. The program number for MQ Managed File Transfer is 5655-MF9.

Basic Machine-Readable Materials are materials that are supplied for the use of the product.

The program announcement material describes the features supported by MQ Managed File Transfer. 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 17 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for MQ Managed File Transfer in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for MQ Managed File Transfer.

Name	O R G	R E C F M	L R E C L	BLK SIZE
SMPMCS	SEQ	FB	80	3120
IBM.HMF9900.F1	PDSE	FB	80	32720
IBM.HMF9900.F2	PDSE	V	32000	32004
IBM.HMF9900.F3	PDSE	FB	80	32720

Figure 1. Program File Content

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for MQ Managed File Transfer.

2.3 Program Publications

The following sections identify the basic publications for MQ Managed File Transfer.

Figure 2 on page 4 identifies the basic unlicensed publications for MQ Managed File Transfer. Those that are in softcopy format publications can be obtained from the IBM Publications Center website at http://www.ibm.com/shop/publications/order/.

Figure 2. Basic Material: Unlicensed		
Publication Title	**Form Number**	**Media Format**
Program Directory for IBM MQ Managed File Transfer for z/OS v9.0.	GI13-3389	IBM Publications Center
IBM MQ Managed File Transfer for z/OS v9.0 License Information DVD	GC34-7354	DVD

2.4 Program Source Materials

No program source materials or viewable program listings are provided for MQ Managed File Transfer.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of MQ Managed File Transfer.

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/

Additionally, MQ Managed File Transfer v9.0.0 documentation is published in IBM Knowledge Center, which can be viewed from a web browser with Internet access at http://www.ibm.com/support/knowledgecenter/SSFKSJ_9.0.0/com.ibm.mq.helphome.v90.doc/WelcomePagev9r0.htm.

3.0 Program Support

This section describes the IBM support available for MQ Managed File Transfer.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install MQ Managed File Transfer, 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 MQ Managed File Transfer as part of a CBPDO, HOLDDATA is included.

If the CBPDO for MQ Managed File Transfer 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/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 MQ Managed File Transfer are included in Figure 4.

Figure 4. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
MQMMFT	HMF9900	MQ Managed File Transfer

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 6 identifies the component IDs (COMPID) for MQ Managed File Transfer.

Figure 5. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
HMF9900	5655MF900	MQ Managed File Transfer	900

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of MQ Managed File Transfer. 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 MQ Managed File Transfer have been incorporated into this release. They are listed by FMID.

- FMID HMF9900

PI41128	IT12173	IT08894
PI44756	IT12728	IT13688
IT13261	IT09880	IT13143
IT13097	IT09871	IT14509
IT13069	IT07693	IT14176

4.2 Service Level Information

No PTFs against this release of MQ Managed File Transfer have been incorporated into the product package.

Frequently check the MQ Managed File Transfer 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 MQ Managed File Transfer. 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 MQ Managed File Transfer.

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:				
5650-ZOS	z/OS	V2.1.0 or higher	N/A	No
5655-G44	IBM SMP/E for z/OS	V3.5.0	N/A	No

Note: SMP/E is a requirement for Installation and is an element of z/OS but can also be ordered as a separate product, 5655-G44, minimally V03.05.00.

Note: Installation might require migration to new z/OS releases to be service supported.

See http://www.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 MQ Managed File Transfer.

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. 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	V2.1.0 or higher	N/A	No

Note: Installation might require migration to new z/OS releases to be service supported. See http://www.ibm.com/systems/z/os/zos/support/zos_eos_dates.html. Please refer to the following web page for the latest operational requisite product information for IBM MQ Managed File Transfer for z/OS v9.0. http://www.ibm.com/support/docview.wss?uid=swg27047751.

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.

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:	
5655-R36	IBM WebSphere MQ for z/OS V7.1.0
5655-W97	IBM WebSphere MQ for z/OS V8.0.0
5655-MQ9	IBM MQ for z/OS V9.0.0
Any **one** of the following:	
5655-W44	IBM 64-bit SDK for z/OS, Java Technology Edition Version 7
5655-W43	IBM 31-bit SDK for z/OS, Java Technology Edition Version 7

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.

MQ Managed File Transfer has no conditional operational requisites.

The recommened way of running MQ Managed File Transfer is by using the JZOS launcher "The JZOS functionality now included in IBM SDK for z/OS, Java Technology Edition (and other z/OS Java products) consists of batch launcher capabilities, system services, and file I/O capabilities."

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.

MQ Managed File Transfer 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.

Figure 9. Target System Negative Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5655-MF9	IBM MQ Managed File Transfer for z/OS Continous Delivery Release V9.0.1 or higher

5.2.3 DASD Storage Requirements

MQ Managed File Transfer 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 MQ Managed File Transfer		
Library Type	**Total Space Required in 3390 Trks**	**File System Description**
Target	20	
Distribution	5272	
File System	430 MB	

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, "Allocate SMP/E Target and Distribution Libraries" on page 20.

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 LNKLST.
- These data sets are not required to be APF-authorized.

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
SMPWRK1	E	PDS	FB	80	200	20
SMPWRK2	E	PDS	FB	80	100	20
SMPWRK3	E	PDS	FB	80	9000	150
SMPWRK4	E	PDS	FB	80	100	20
SMPWRK6	E	PDS	FB	80	5000	700
SYSUT1	E	SEQ	-	-	9000	-
SYSUT2	E	SEQ	-	-	100	-
SYSUT3	E	SEQ	-	-	100	-
SYSUT4	E	SEQ	-	-	100	-

Figure 11. Storage Requirements for SMP/E Work Data Sets

The following table provides an estimate of the storage needed in the SMP/E data sets for MQ Managed File Transfer. You must add the estimates to those of any other programs and service that you install to determine the total additional storage requirements.

If the table indicates that the SMPLTS data set must be a PDSE and your existing SMPLTS is a PDS, you must allocate a new PDSE and copy your SMPLTS into it; then change the SMPLTS DDDEF entry to indicate the new PDSE data set.

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
SMPPTS	E	PDS	FB	80	8000	80

Figure 12 (Page 1 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	8000	80
SMPMTS			E	PDS	FB	80	8000	80
SMPSTS			E	PDS	FB	80	8000	80

Figure 12 (Page 2 of 2). Storage Requirements for SMP/E Data Sets

The following figures describe the target and distribution libraries and file system paths required to install MQ Managed File Transfer. The storage requirements of MQ Managed File Transfer 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.

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
SBFGINST	PROC	ANY	U	PDSE	FB	80	10	N/A
SBFGCMDS	SAMP	ANY	U	PDSE	FB	80	10	N/A

Figure 13. Storage Requirements for MQ Managed File Transfer Target Libraries

DDNAME	T Y P E	Path Name
SBFGHFSB	N	/usr/lpp/mqmfte/V9R0M0/IBM/

Figure 14. MQ Managed File Transfer File System Paths

Figure 15. Storage Requirements for MQ Managed File Transfer 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
ABFGINST	U	PDSE	FB	80	10	N/A
ABFGHFSB	U	PDSE	VB	32000	5252	N/A
ABFGSAMP	U	PDSE	FB	80	10	N/A

The following figures list data sets that are not used by SMP/E, but are required for MQ Managed File Transfer to run.

5.3 FMIDs Deleted

Installing MQ Managed File Transfer 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 MQ Managed File Transfer 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

MQ Managed File Transfer 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 MQ Managed File Transfer.

Please note the following points:

- If you want to install MQ Managed File Transfer 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 MQ Managed File Transfer

6.1.1 SMP/E Considerations for Installing MQ Managed File Transfer

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of MQ Managed File Transfer.

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.

Subentry	Value	Comment
DSSPACE	100,100,800	
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

Figure 16. SMP/E Options Subentry Values

6.1.3 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install MQ Managed File Transfer:

The sample installation jobs are sorted by name into an order in which to run them in sequence (after editing) to install MQ Managed File Transfer. The exact order in which to run the jobs is not absolutely critical. Running the jobs in either the sequence they are listed in the list below or in the text of this chapter is acceptable.

Appendix B, "Automated Customization of Installation JCL" on page 29 highlights an automated way to customize the installation of MQ Managed File Transfer.

Figure 17. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
BFGASYSJ	SMP/E	(Optional) Customize the sample installation JCL.	IBM.HMF9900.F1
BFGBGBLZ	GZONE	(Optional) Create a new SMP/E Consolidated Software Inventory (CSI) GLOBAL zone.	IBM.HMF9900.F1
BFGCTGTZ	TZONE	Define SMP/E TARGET zones to CSI created by BFGBGBLZ job.	IBM.HMF9900.F1
BFGDDISZ	DZONE	Define SMP/E DISTRIBUTION zones to CSI created by BFGBGBLZ job.	IBM.HMF9900.F1
BFGEALOC	ALLOCATE	Allocate the TARGET and DISTRIBUTION libraries.	IBM.HMF9900.F1
BFGFAZFS	ALLOMTZFS	Allocate and mount zFS data set.	IBM.HMF9900.F1
BFGGMKEX	MKDIR	Run the BFGZMKDR EXEC job to create file system paths for MQ Managed File Transfer.	IBM.HMF9900.F1
BFGHDDEF	DDDEF	Define SMP/E DDDEFs for MQ Managed File Transfer.	IBM.HMF9900.F1
BFGIRECV	RECEIVE	Perform SMP/E RECEIVE for installation.	IBM.HMF9900.F1
BFGJAPLY	APPLY	Apply base and maintenance.	IBM.HMF9900.F1
BFGKACPT	ACCEPT	Accept base and maintenance.	IBM.HMF9900.F1

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.9, "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 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 statement 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.HMF9900.F1,UNIT=tunit,
//         VOL=SER=volser,LABEL=(x,SL),
//         DISP=(OLD,KEEP)
//FILEIN   DD DSN=IBM.HMF9900.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,(11,1,3))
//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.HMF9900.F1 on the tape.

FILEIN:
> **filevol** is the volume serial of the DASD device where the downloaded files reside.

OUT:
> **jcl-library-name** is the name of the output data set where the sample jobs are stored.
> **dasdvol** is the volume serial of the DASD device where the output data set resides.

SYSIN:
> **xxxxIN** is either TAPEIN or FILEIN depending on your input DD statement.

Customize each of the sample jobs listed in Figure 17 on page 18. Each sample job contains comments with specific instructions for customization.

6.1.4 Prepare the installation environment

6.1.4.1 Global zone: If you are installing into an existing global zone, check that:

- The PEMAX option entry is set to 9999, or left to default.
- The DSSPACE options entry specifies at least 800 directory blocks.

If you are installing into a new global zone, edit and submit sample job BFGBGBLZ to create a new SMP/E global zone for MQ Managed File Transfer. Ensure that the JOB statement is valid for your system. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: BFGBGBLZ has a number of steps, all of which should complete with a return code of 0.

If any of the return codes is not 0, inspect the job output to determine what caused the problem and correct it, then rerun the job from the step that failed.

6.1.4.2 Target and distribution zones: If you need to create new target and distribution zones for MQ Managed File Transfer, edit and submit the following sample jobs:

- BFGCTGTZ to create a new target zone.
- BFGDDISZ to create a new distribution zone.

Ensure in each case that the JOB statement is valid for your system. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: 0

Both jobs consist of a number of steps, all of which should complete with a return code of 0.

If any of the return codes is not 0, inspect the job output to determine what caused the problem, correct it, and then rerun the job from the step that failed.

6.1.5 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job BFGEALOC to allocate the SMP/E target and distribution libraries for MQ Managed File Transfer. Consult the instructions in the sample job for more information.

Make sure the data sets are allocated on the required volumes.

Expected Return Codes and Messages:

You will receive a return code of 0 if this job runs correctly.

6.1.6 Allocate, create and mount ZFS Files

This job allocates, creates a mountpoint, and mounts zFS data sets.

If you plan to install MQ Managed File Transfer into a new z/OS UNIX file system, you can edit and submit the optional BFGFAZFS job to perform the following tasks:

- Create the z/OS UNIX file system
- Create a mountpoint
- Mount the z/OS UNIX file system on the mountpoint

Consult the instructions in the sample job for more information.

The recommended z/OS UNIX file system type is *zFS*. The recommended mountpoint is */usr/lpp/mqmfte/V9R0M0*.

Before running the sample job to create the z/OS UNIX file system, you must ensure that OMVS is active on the driving system. zFS must be active on the driving system if you are installing MQ Managed File Transfer into a file system that is zFS.

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.

```
MOUNT FILESYSTEM('#dsn')
 MOUNTPOINT('/usr/lpp/mqmfte/V9R0M0')
 MODE(RDRW)         /* can be MODE(READ) */
 TYPE(ZFS) PARM('AGGRGROW') /* zFS, with extents */
```

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

> **#dsn** is the name of the data set holding the z/OS UNIX file system.
> **/usr/lpp/mqmfte/V9R0M0** is the name of the mountpoint where the z/OS UNIX file system will be mounted.

Expected Return Codes and Messages:

You will receive a return code of 0 if this job runs correctly.

6.1.7 Allocate File System Paths

The target system file system data set must be mounted on the driving system when running the sample BFGGMKEX job since the job will create paths in the 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 file system is mounted to the driving system. zFS must be active on the driving system if you are installing MQ Managed File Transfer into a file system that is zFS.

If you plan to install MQ Managed File Transfer into a new file system, you must create the mountpoint and mount the new file system to the driving system for MQ Managed File Transfer.

The recommended mountpoint is */usr/lpp/mqmfte/V9R0M0*.

Edit and submit sample job BFGGMKEX to allocate the file system paths for MQ Managed File Transfer. 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.

6.1.8 Create DDDEF Entries

Edit and submit sample job BFGHDDEF to create DDDEF entries for the SMP/E target and distribution data sets and directories for MQ Managed File Transfer. Make sure the call library DDDEFs point to the corresponding data sets for your z/OS target system. Consult the instructions in the sample job for more information.

Check the job output to verify that all directories have been created.

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

6.1.9 Perform SMP/E RECEIVE

If you have obtained MQ Managed File Transfer as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the MQ Managed File Transfer 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 BFGIRECV to perform the SMP/E RECEIVE for MQ Managed File Transfer. Consult the instructions in the sample job for more information.

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

6.1.10 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job BFGJAPLY to perform an SMP/E APPLY CHECK for MQ Managed File Transfer. Consult the instructions in the sample job for more information.

   The latest HOLDDATA is available through several different portals, including http://service.software.ibm.com/holdata/390holddata.html. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

   You should install the FMIDs regardless of the status of unresolved HIPER or FIXCAT APARs. However, do not deploy the software until the unresolved HIPER and FIXCAT APARs have been analyzed to determine their applicability. That is, before deploying the software either ensure fixing PTFs are applied to resolve all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

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

   Here are sample APPLY commands:

a. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
```

Some HIPER APARs might not have fixing PTFs available yet. You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your environment and if you should bypass the specific ERROR HOLDs in order to continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

b. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist. After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

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

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

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

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

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

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

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

6.1.11 Perform SMP/E ACCEPT

Edit and submit sample job BFGKACPT to perform an SMP/E ACCEPT CHECK for MQ Managed File Transfer. Consult the instructions in the sample job for more information.

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

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

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

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

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

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

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

6.1.12 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 MQ Managed File Transfer, 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.

6.1.13 Cleaning Up Obsolete Data Sets, Paths, and DDDEFs

The following data sets, which were allocated and used by previous releases of this product, are no longer used in this release. You can delete these obsolete data sets after you delete the previous release from your system.

- None

The following file system paths, which were created and used by previous releases of this product, are no longer used in this release. You can delete these obsolete file system paths after you delete the previous release from your system.

- /usr/lpp/mqmfte/V8R0M0/*

The following DDDEF entries, which were created and used by previous releases of this product, are no longer used in this release. You can delete these obsolete DDDEF entries after you delete the previous release from your system.

- ABFGANT
- ABFGCMD
- ABFGJCL
- SBFGANT
- SBFGJCL

6.2 Activating MQ Managed File Transfer

6.2.1 File System Execution

If you mount the file system in which you have installed MQ Managed File Transfer in read-only mode during execution, then you do not have to take further actions to activate MQ Managed File Transfer.

If you have included a mount statement in BPXPRMxx PARMLIB member for this file system, ensure it includes the operand MODE(READ).

To change the file system to read only in Unix System Services, execute the following USS commands:

1. unmount -o immediate *pathname*
2. mount -t zfs -d *destsys* -f *fsname* -r *pathname*

For a detailed explanation of the above commands, refer to the z/OS UNIX System Services Command Reference, listed in Figure 3 on page 4.

You have now installed IBM MQ Managed File Transfer for z/OS. Before you can start to use IBM MQ Managed File Transfer for z/OS, it must be customized. This is described in the Configuring section of the IBM MQ Managed File Transfer product documentation in IBM Knowledge Center.

Appendix A. Service Considerations

The following SMP/E data sets must have the minimum sizes shown to avoid possible problems when applying service.

Figure 18. Global Zone: Minimum Data Set Sizes			
Name	**Primary**	**Secondary**	**Directory**
SMPPTS	8000 tracks	800 tracks	80 directory blocks
SYSUT1	9000 tracks	900 tracks	n/a

Figure 19. Target and Distribution Zones: Minimum Data Set Sizes			
Name	**Primary**	**Secondary**	**Directory**
SMPWRK3	9000 tracks	900 tracks	150 directory blocks
SMPWRK6	5000 tracks	500 tracks	700 directory blocks

Appendix B. Automated Customization of Installation JCL

Automated customization of installation JCL makes tailoring each piece of JCL individually unnecessary, reducing the chances of making a mistake.

Edit BFGASYSJ and follow the instructions in the job to define the values you want to use to tailor the installation JCL. The figures in Appendix C, "High-Level Qualifiers and Symbolic Parameters" on page 31 show the values you must tailor and have space for you to record your choices.

Submit BFGASYSJ. Expected return code 0.

A return code of 4 means that the JCL has been automatically updated, but there may be some JCL jobs which could not be updated correctly. The job output from the automatic update job will indicate which members may require further manual updates to run correctly.

Appendix C. High-Level Qualifiers and Symbolic Parameters

C.1 High-Level Qualifiers

Use Figure 20 to plan the high-level qualifiers for the MQ Managed File Transfer data sets.

Figure 20. High-Level Qualifiers For Data Set Names			
Parameter name in the sample JCL provided	**Example value**	**Your value**	**Description**
-SHLQUAL-	HLQ.SMPE		MQ Managed File Transfer SMP/E HLQ
-THLQUAL-	HLQ.TLIB		MQ Managed File Transfer TARGET HLQ
-DHLQUAL-	HLQ.DLIB		MQ Managed File Transfer DISTBN HLQ

C.2 Symbolic Parameters

Use Figure 21 to plan the symbolic parameters for the MQ Managed File Transfer sample jobs.

Figure 21 (Page 1 of 2). Symbolic Parameters			
Parameter name in the sample jobs	**Example value**	**Your value**	**Description**
-MOUTPUT-	THQ.TBFGINST		PDS name of modified Installation scripts
-MINPUT-	DHQ.UBFGINST		PDS name of unmodified Installation scripts
-SMPVOL-	VOLSER		Disk volume used by SMP/E
-SMPUNIT-	UNITTYPE		Disk unit type used by SMP/E

Parameter name in the sample jobs	Example value	Your value	Description
-TARVOL-	VOLSER		Disk volume serial for target data sets
-DISVOL-	VOLSER		Disk volume serial for distribution data sets
SYSALLDA	3390		Disk unit type for other data sets
-GZONECSI-	GZONE		Global Zone CSI name
-TZNAME-	TZONE		Target Zone CSI name
-DZNAME-	DZONE		Distribution Zone CSI name
-PathPrefix-	/Service		File system target path prefix
-TAPEUNIT-	3590		Tape unit type for SMP/E receive job
-TAPEVOLB-	ZMQMFT		Tape unit type for SMP/E receive job
-ZFSNAME-	ZFSNAME		zFS cluster data set name
-ZFSVOL-	ZFSVOL		zFS cluster data set disk volume

Figure 21 (Page 2 of 2). Symbolic Parameters

Appendix D. Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the

    IBM Director of Licensing
    IBM Corporation
    North Castle Drive
    Armonk, New York 10504-1785
    USA

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

    Intellectual Property Licensing
    Legal and Intellectual Property Law
    IBM Japan, Ltd.
    19-21, Nihonbashi-Hakozakicho, Chuo-ku
    Tokyo 103-8510, Japan

D.1 Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

The following terms are trademarks of other companies as follows:

Java   and all Java-based trademarks and logos are trademarks or registered trademarks of
              Oracle and/or its affiliates
UNIX   is a registered trademark of The Open Group in the United States and other countries

Reader's Comments

Program Directory for IBM MQ Managed File Transfer for z/OS, December 2016

We appreciate your input on this publication. Feel free to comment on the clarity, accuracy, and completeness of the information or give us any other feedback that you might have.

Use one of the following methods to send us your comments:

1. Send an email to idrcf@hursley.ibm.com

2. Use the form on the Web at:

www.ibm.com/software/data/rcf/

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

Include the following information:

- Your name and address

- Your email address

- Your telephone or fax number

- The publication title and order number

- The topic and page number related to your comment

- The text of your comment

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

IBM or any other organizations will only use the personal information that you supply to contact you about the issues that you submit.

Thank you for your participation.

IBM

Printed in USA