Program Directory for
IBM Operational Decision Manager for z/OS
Continuous Delivery

V08.10.04

Program Number 5655-Y31

FMID HBR8A00

for Use with
z/OS

Document Date: June 2020

GI11-9607-04

Note

Before using this information and the product it supports, be sure to read the general information under Appendix D, “Notices” on page 29.

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1.0 Introduction

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

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for ODM.
- 3.0, “Program Support” on page 5 describes the IBM support available for ODM.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) that have been incorporated into ODM.
- 5.0, “Installation Requirements and Considerations” on page 8 identifies the resources and considerations that are required for installing and using ODM.
- 6.0, “Installation Instructions” on page 16 provides detailed installation instructions for ODM. It also describes the procedures for activating the functions of ODM, or refers to appropriate publications.

Before installing ODM, 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.

ODM 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 ODM are included on the CBPDO.

Do not use this program directory if you install ODM 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 ODM Description

ODM for z/OS provides a comprehensive set of capabilities that enable Business and IT functions to work together collaboratively for authoring, maintaining and deploying decision logic that is critical to business systems.

ODM for z/OS brings powerful rule application development and execution functionality to mainframe systems, greatly improving policy change management and automated decision making.

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ODM drives critical applications and enables operational decisions to be automated. ODM facilitates the ability to move from manually coding rules to service-based rule execution as part of a progressive application modernization strategy.

1.2 ODM FMID

ODM consists of the following FMID:

HBR8A00

2.0 Program Materials

An IBM program is identified by a program number. The program number for ODM is 5655-Y31.

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 ODM. 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 16 for more information about how to install the program.

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

2.2 Program Publications

The following sections identify the basic publications for ODM.

No basic publications are provided for ODM.

No optional publications are provided for ODM.

2.3 Program Source Materials

No program source materials or viewable program listings are provided for ODM.

2.4 Publications Useful During Installation

You might want to use the publications listed in Figure 1 during the installation of ODM.

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Figure 1. Publications Useful During Installation

Publication Title	Form Number	Media Format
IBM SMP/E for z/OS User's Guide	SA23-2277	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS Commands	SA23-2275	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS Reference	SA23-2276	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA32-0883	http://www.ibm.com/shop/publications/order/

3.0 Program Support

This section describes the IBM support available for ODM.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install ODM, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.PRODUCTINSTALL-REQUIREDSERVICE fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.PRODUCTINSTALL-REQUIREDSERVICE)** operand on the **APPLY CHECK**command. See 6.1.11, “Perform SMP/E APPLY” on page 21 for a sample APPLY command

If you obtained ODM as part of a CBPDO, HOLDDATA is included.

If the CBPDO for ODM 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://www.ibm.com/support/customercare/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://wwww.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 ODM are included in Figure 2.

Figure 2. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
ODM8A0	HBR8A00	ODM for z/OS

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3.3 Statement of Support Procedures

Report any problems which you feel might be an error in the product materials to your IBM Support Center. You may be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 3 on page 6 identifies the component IDs (COMPID) for ODM.

Figure 3. Component IDs

FMID	COMPID	Component Name	RETAIN Release
HBR8A00	5655Y3100	ODM for z/OS	8A0

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of ODM. 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

No APARs have been incorporated into ODM.

4.2 Service Level Information

No PTFs against this release of ODM have been incorporated into the product package.

Frequently check the ODM 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.

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5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating ODM. 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 ODM.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements

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Figure 4. 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	V02.02.00	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 V03.06.00.

Note: Installation might require migration to new z/OS releases to be service supported. See https://www-01.ibm.com/software/support/lifecycle/index_z.html.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use ODM.

ODM 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 5. 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	v02.02.00 or higher	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.

ODM 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.

ODM has no mandatory operational requisites.

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.

Please refer to the following web page for the latest operational requisite product information for ODM.
http://www-01.ibm.com/support/docview.wss?uid=swg27023067

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. p.ODM 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 6. Target System Negative Requisites

Program Number	Product Name and Minimum VRM/Service Level
5655-Y31	ODM for z/OS V08.10.02

5.2.3 DASD Storage Requirements

ODM libraries can reside on all supported DASD types.

Figure 7 on page 11 lists the total space that is required for each type of library.

Figure 7. Total DASD Space Required by ODM

Library Type	Total Space Required in 3390 Trks	Description
Target	256	Target libraries
Distribution	22274	Distribution libraries
File System	2000 MB	ODM for z/OS Unix System Services Components

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, “Prepare the Installation Environment” on page 18.

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 value in the "Member Type" column specifies "LPA", it is advised to place the data set in the LPA.
   - These data sets can be in the LNKLST.
   - These data sets are not required to be APF-authorized, with some exceptions. If the value in the "Member Type" column specifies "APF", the data set must be APF-authorized.

:

The following figures describe the target and distribution libraries and file system paths required to install ODM. The storage requirements of ODM 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 8 (Page 1 of 2). Storage Requirements for ODM Target Libraries

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SHBRAUTH	LMOD	ANY	U	PDSE	U	0	29	N/A
SHBRCICS	LMOD	ANY	U	PDSE	U	0	19	N/A
SHBRCOBC	DATA	ANY	U	PDSE	FB	80	10	N/A

Figure 8 (Page 2 of 2). Storage Requirements for ODM Target Libraries

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SHBRCOBS	DATA	ANY	U	PDSE	FB	80	10	N/A
SHBREXEC	SAMP	ANY	U	PDSE	FB	80	10	N/A
SHBRIMS	LMOD	ANY	U	PDSE	U	0	10	N/A
SHBRINST	SAMP	ANY	U	PDSE	FB	80	10	N/A
SHBRJCL	SAMP	ANY	U	PDSE	FB	80	54	N/A
SHBRLOAD	LMOD	ANY	U	PDSE	U	0	21	N/A
SHBRPARM	SAMP	ANY	U	PDSE	FB	496	13	N/A
SHBRPLIC	DATA	ANY	U	PDSE	FB	80	10	N/A
SHBRPLIS	DATA	ANY	U	PDSE	FB	80	10	N/A
SHBRPROC	SAMP	ANY	U	PDSE	FB	80	10	N/A
SHBRWASC	SAMP	ANY	U	PDSE	VB	496	10	N/A
SHBRWLPC	SAMP	ANY	U	PDSE	VB	496	10	N/A
SHBRXLCH	DATA	ANY	U	PDSE	FB	80	10	N/A
SHBRXLCS	DATA	ANY	U	PDSE	FB	80	10	N/A

Figure 9 (Page 1 of 2). ODM File System Paths

DDNAME	TYPE	Path Name
SHBRBND	N	/usr/lpp/zDM/V8R10MX/IBM/

Figure 9 (Page 2 of 2). ODM File System Paths

DDNAME	TYPE	Path Name
SHBRIBM	N	/usr/lpp/zDM/V8R10MX/IBM/

Figure 10. Storage Requirements for ODM Distribution Libraries

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
AHBRCOBC	U	PDSE	FB	80	10	N/A
AHBRCOBS	U	PDSE	FB	80	10	N/A
AHBREXEC	U	PDSE	FB	80	10	N/A
AHBRIBM	U	PDSE	VB	32000	21687	N/A
AHBRINST	U	PDSE	FB	80	10	N/A
AHBRJCL	U	PDSE	FB	80	54	N/A
AHBRMOD	U	PDSE	U	0	37	N/A
AHBRPARM	U	PDSE	FB	496	13	N/A
AHBRPLIC	U	PDSE	FB	80	10	N/A
AHBRPLIS	U	PDSE	FB	80	10	N/A
AHBRPROC	U	PDSE	FB	80	10	N/A
AHBRSCR	U	PDSE	VB	32000	10	N/A
AHBRWASC	U	PDSE	VB	496	10	N/A
AHBRWLPC	U	PDSE	VB	496	10	N/A
AHBRXLCH	U	PDSE	FB	80	10	N/A
AHBRXLCS	U	PDSE	FB	80	10	N/A

5.3 FMIDs Deleted

Installing ODM 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 ODM 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

ODM 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 ODM.

Please note the following points:

- If you want to install ODM 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 ODM

6.1.1 SMP/E Considerations for Installing ODM

Installing ODM into a new set of SMP/e zones, including SMPCSI, target, distribution, and zFS data sets allows independent maintenance of ODM, z/OS and other systems. This Program Directory provides sample jobs and instructions to create such an SMP/e environment.

All installations steps must be run from a user ID that is defined to UNIX systems Services, and has the following attributes:

- UID(0), READ access or higher to the BPX.SUPERUSER facility class.
- READ access or higher to the BPX.FILEATTR.PROGCTL and BPX.FILEATTR.APF and BPX.FILEATTR.SHARELIB facility classes.

READ access can be achieved using the following command:

PERMIT BPX.FILEATTR.PROGCTL ID(<SMPE_ID>) ACCESS(READ) CLASS(FACILITY)

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of ODM.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 11. 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.

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Figure 11. SMP/E Options Subentry Values		
Subentry	**Value**	**Comment**
DSSPACE	(1000,1000,800)	These are the minimum required values
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 SMP/E CALLLIBS Processing

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

- CSSLIB
- SCEEBND2
- SCEELIB
- SCEELKED

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

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install ODM These sample installation jobs are sorted by into an order in which to run them in sequence (after editing) to install ODM. The exact order in which to run the jobs is not absolutely critical. Running the jobs in either the sequence the are listed in the table below or in the text of this chapter is acceptable:

Figure 12 (Page 1 of 2). Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
HBRASYSJ	CUSTOMIZE	Sample job to customize the sample JCL	IBM.HBR8A00.F2
HBRBGZON	GLOBAL ZONE	Sample job to create an SMP/E Global Zone	IBM.HBR8A00.F2
HBRCTZON	TARGET ZONE	Sample job to create an SMP/E Target Zone	IBM.HBR8A00.F2
HBRDDZON	DIST ZONE	Sample job to create an SMP/E Distribution Zone	IBM.HBR8A00.F2
HBRE0ALO	ALLOCATE	Sample job to allocate target and distribution libraries (FMID HBR8A00)	IBM.HBR8A00.F2
HBRFAZFS	ALLOMZFS	Sample job to create a zFS file system	IBM.HBR8A00.F2
HBRGMKEX	MKDIR	Sample job to invoke the supplied BRUZMKDR EXEC to allocate file system paths	IBM.HBR8A00.F2
HBRH0DDF	DDDEF	Sample job to define SMP/E DDDEFs (FMID HBR8A00)	IBM.HBR8A00.F2

Figure 12 (Page 2 of 2). Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
HBRI0REC	RECEIVE	Sample RECEIVE job	IBM.HBR8A00.F2
HBRJAPLY	APPLY	Sample APPLY job	IBM.HBR8A00.F2
HBRKACPT	ACCEPT	Sample ACCEPT job	IBM.HBR8A00.F2
HBRZMKDR	REXX	REXX EXEC to create the necessary ZFS directories for the Unix System Services components	IBM.HBR8A00.F2
HBRZSYSR	REXX	REXX program to customize the installation JCL called by the sample JCL &PDASYSJ.	IBM.HBR8A00.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.10, “Perform SMP/E RECEIVE” on page 21) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 12 on page 17 to find the appropriate relfile data set.

You can also copy the sample installation jobs from the product files by submitting the following job. 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=*
//IN       DD DSN=IBM.fmid.Fy,UNIT=SYSALLDA,DISP=SHR,
//         VOL=SER=filevol
//OUT      DD DSNAME=jcl-library-name,
//         DISP=(NEW,CATLG,DELETE),
//         VOL=SER=dasdvol,UNIT=SYSALLDA,
//         SPACE=(TRK,(primary,secondary,dir))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
    COPY INDD=IN,OUTDD=OUT
/*
```

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

IN:

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.

6.1.5 Prepare the Installation Environment

6.1.5.1 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 **HBRBGZON** to create a new SMP/E global zone for ODM Ensure that the job card is valid for your system. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: HBRBGZON 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.

6.1.5.2 Target and distribution zones

If you need to create new target and distribution zones for ODM, edit and submit the following sample jobs:

- **HBRCTZON** to create a new target zone.
- **HBRDDZON** to create a new distribution zone.

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

Expected Return Codes and Messages:

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.

6.1.6 Allocate SMP/E Target and Distribution Libraries

Edit and submit the ALLOCATE sample jobs as required to allocate the SMP/E target and distribution libraries for ODM.

- HBRE0ALO allocates libraries for FMID HBR8A00

Consult the instructions in the sample jobs for more information.

If you are migrating from a previous version of ODM for z/OS, please read Appendix B, “Migration Considerations” on page 26 before you start.

6.1.7 Create the UNIX System Services File Systems

Customize and run the HBRFAZFS sample job to define the file system.

Expected Return Codes and Messages: You will receive a return code of 0 if these jobs run correctly.

6.1.8 Allocate File System Paths

Customize the sample job HBRGMKEX to mount the ODM file system and create the target directories needed to install the product.

Important!

Jobs HBRASYSJ, HBRFAZFS, HBRGMKEX and HBRH0DDF use -PathPrefix- to represent a service directory on your driving system. It is assumed that you are mounting ODM zFS data sets under a service directory that already contains the /usr and /usr/lpp directories. If you specify a -PathPrefix- directory that does not contain /usr and usr/lpp subdirectories, you must manually create these subdirectories before running the HBRGMKEX job. If -PathPrefix-/usr/lpp is not a read/write zFS, you must manually create some additional subdirectories as well. See the comments in the HBRGMKEX job for further information.

Run the customized sample job HBRGMKEX under a user ID that has certain system privileges. Refer to 6.1, “Installing ODM” on page 16 for a summary of the privileges that you need to run HBRGMKEX successfully.

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

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.

6.1.9 Create DDDEF Entries

Edit and submit the DDDEF sample jobs as required to create DDDEF entries for the SMP/E target and distribution libraries for ODM.

- HBRH0DDF creates DDDEF entries for FMID HBR8A00

Consult the instructions in the sample jobs for more information.

6.1.10 Perform SMP/E RECEIVE

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

Otherwise edit and submit HBRI0REC to perform the SMP/E RECEIVE for ODM. Consult the instructions in the sample jobs for more information.

Expected Return Codes and Messages: You will receive a return code of 0 from each of these jobs if they run correctly.

6.1.11 Perform SMP/E APPLY

Customize and run the sample job HBRJAPLY to perform an SMP/E APPLY CHECK of the ODM base and service.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass any of the following on the APPLY CHECK: PRE, ID, REQ and IFREQ.This is because 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 two methods to install FMIDs when ++HOLDs for HIPERs exist for the FMIDs that you install:

1. To ensure that all recommended and critical service is installed with the FMIDs, if you are using SMP/E 3.5 or higher and have received the latest HOLDDATA, add the FIXCAT operand to the APPLY command as shown below. If you are using a prior release of SMP/E, add the SOURCEID(HIPER,RSU*) operand to the APPLY command.

   ```
   If using SMP/E V3.5 or higher:
   APPLY S(fmid,fmid,...)
   FORFMID(fmid,fmid,...)
   SOURCEID(RSU*)
   FIXCAT(IBM.ProductInstall-RequiredService)
   GROUPEXTEND .
   If using SMP/E V3.4 or prior:
   APPLY S(fmid,fmid,...)
   FORFMID(fmid,fmid,...)
   SOURCEID(HIPER,RSU*)
   GROUPEXTEND .
   ```

   Some HIPER APARs might not have PTFs available yet. You have to analyze the symptom flags to determine if you want to bypass the specific ERROR HOLDs and continue the installation of the FMIDs.

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

2. To install the FMIDs without regard for the HIPERs, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. In this way, you can install FMIDs even though HIPER ERROR HOLDs against them still exist. Only the HIPER ERROR HOLDs are bypassed. After the FMIDs are installed, run the SMP/E REPORT ERRSYSMODS command to identify missing HIPER maintenance.

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

   This method is the quicker of the two, but requires subsequent review of the REPORT ERRSYSMODS to investigate any HIPERs. If you are running SMP/E V3.5 or higher and have received the latest HOLDDATA, you can also choose to run REPORT MISSINGFIX for Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

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

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

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

Expected Return Codes and Messages from APPLY CHECK: You will receive a return code of 0 if this job runs correctly (or a return code of 4, if any HOLDs are bypassed).

Run the SMP/E APPLY job with a user ID that has certain system privileges; refer to 6.1, “Installing ODM” on page 16 for a summary of the privileges that you need to run the HBRJAPLY successfully.

Expected Return Codes and Messages from APPLY: You will receive a return code of 0 if this job runs correctly (or a return code of 4, if any HOLDs are bypassed).

6.1.12 Perform SMP/E ACCEPT

Edit and submit sample job HBRKACPT to perform an SMP/E ACCEPT CHECK for ODM. Consult the instructions in the sample job for more information.

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

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the

distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

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

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

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

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

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

6.1.13 Run REPORT CROSSZONE

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

After you install ODM, 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.

6.1.14 Cleaning Up Obsolete Data Sets, Paths, and DDDEFs

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.

- -PathPrefix-/usr/lpp/zDM/V8R9M2 and below

6.2 Activating ODM

6.2.1 File System Execution

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

6.3 Product Customization

The publications found at *https://www-01.ibm.com/support/knowledgecenter/SSQP76.* contains the necessary information to customize and use ODM.

Appendix A. Automated install JCL customization

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

Edit HBRASYSJ and follow the instructions in the job to define the values you want to use to tailor the install JCL. The figures in Appendix C, “High-level qualifiers and symbolic parameters.” on page 27 show the values you must tailor and have space for you to record your choices.

Submit HBRASYSJ. Expected return code 0, 1 or 4.

A return code of 1 indicates that JCL has been truncated during editing: truncated members are listed in the HBRASYSJ output. Verify that the JCL has not been invalidated.

A return code of 4 indicates that the JCL has been automatically updated, but there may be some JCL jobs which could not be updated correctly. The HBRASYSJ output will indicate which members may need to be manually updated in order to run correctly.

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Appendix B. Migration Considerations

If you are migrating from previous releases of ODM for z/OS and are installing into the same zones please consider that data set sizes are likely to have changed. It is not expected for this to cause an issue. However if you encounter any issue consult the allocation jobs and adjust the data set sizes as appropriate.

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Appendix C. High-level qualifiers and symbolic parameters.

C.1 High-level qualifiers

Use Figure 13 to plan the high-level qualifiers for the ODM data sets.

Figure 13. High-level qualifiers for data set names

Parameter name in the sample JCL provided	Example value	Your value	Description
-SHLQUAL-	HLQ.SMPE		ODM SMP/E HLQ
-THLQUAL-	HLQ.TLIB		ODM TARGET HLQ
-DHLQUAL-	HLQ.DLIB		ODM DISTBN HLQ

C.2 Symbolic parameters

Use Figure 14 to plan the symbolic parameters for the ODM sample jobs.

Figure 14 (Page 1 of 2). Symbolic parameters

Parameter name in the sample jobs	Example value	Your value	Description
-MOUTPUT-	THQ.TBRUINST		PDS name of modified Installation scripts.
-MINPUT-	DHQ.UBRUINST		PDS name of unmodified Installation scripts.
-SMPVOL-			SMP/E VOLUME
-SMPUNIT-	3390		SMP/E UNIT
-TARVOL-	.		TARGET VOLUME

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Figure 14 (Page 2 of 2). Symbolic parameters

Parameter name in the sample jobs	Example value	Your value	Description
-DISVOL-	.		DISTRIBUTION VOLUME
-GZONECSI-	NEW		GLOBAL ZONE CSI NAME
-TZNAME-	TZONE		TARGET ZONE NAME
-DZNAME-	DZONE		DISTBN ZONE NAME
-PathPrefix-	.		File system target path prefix.
-RELQUAL-			Product Rel File high level qualifier for SMP/E receive job.
-LEQUAL-	CEE		The data set qualifier where language environment is installed.
-CSSQUAL-	SYS1		The data set qualifier where Cross System Services is installed.
-ZFSNAMEA-	HLQ.ZFSA		zFS cluster data set name.
-ZFSVOL-	PACK01		zFS cluster data set disk volume.

Appendix D. Notices

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Reader's Comments

Program Directory for ODM for z/OS, June 2020

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