



**Program Directory for  
IBM MQ Advanced for z/OS  
Value Unit Edition  
Continuous Delivery**

V9.2.0

Program Number 5655-AV1

HAV9CD0

for use with  
z/OS

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GI13-4456-00

**Note**

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 19.

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## 1.0 Introduction

IBM MQ Advanced for z/OS VUE V9.2 has two types of release; a Long Term Support (LTS) release and a Continuous Delivery (CD) release. The differences between these two are documented in detail at [http://www.ibm.com/support/knowledgecenter/en/SSFKSJ\\_9.2.0/com.ibm.mq.pla.doc/q004715\\_.htm](http://www.ibm.com/support/knowledgecenter/en/SSFKSJ_9.2.0/com.ibm.mq.pla.doc/q004715_.htm). This program directory describes installation of the FMIDs associated with the Continuous Delivery release.

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 Advanced for z/OS VUE. This publication refers to IBM MQ Advanced for z/OS VUE as IBM MQ Advanced VUE.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 4 identifies the basic program materials and documentation for IBM MQ Advanced VUE.
- 3.0, “Program Support” on page 6 describes the IBM support available for IBM MQ Advanced VUE.
- 4.0, “Program and Service Level Information” on page 8 lists the APARs (program level) and PTFs (service level) that have been incorporated into IBM MQ Advanced VUE.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations that are required for installing and using IBM MQ Advanced VUE.
- 6.0, “Installation Instructions” on page 14 provides detailed installation instructions for IBM MQ Advanced VUE. It also describes the procedures for activating the functions of IBM MQ Advanced VUE, or refers to appropriate publications.

Before installing IBM MQ Advanced VUE, 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 6 tells you how to find any updates to the information and procedures in this program directory.

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

Do not use this program directory if you install IBM MQ Advanced VUE with a SystemPac or ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

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## 1.1 IBM MQ Advanced VUE Description

IBM MQ Advanced VUE is a single offering enabling customers to acquire entitlement to IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition in a single transaction.

IBM MQ Advanced VUE enables z/OS applications to use message queuing to participate in message-driven processing with other IBM MQ enabled applications either on the z/OS platform or other platforms running IBM MQ.

The Managed File Transfer feature of IBM MQ Advanced for z/OS extends the use of IBM MQ to enable files to be packaged as messages and sent over the IBM MQ network, again originating on z/OS, or on other platforms or across a combination of both.

The Advanced Message Security feature of IBM MQ Advanced for z/OS extends IBM MQ by enabling messages flowing over IBM MQ to be encrypted so that the message contents remain secure between sending and receiving applications. These applications can be running on z/OS or other supported platforms and the applications do not require changing to make use of the capabilities of the Advanced Message Security feature

IBM MQ Advanced VUE also includes a Connector Pack component. In earlier versions of IBM MQ Advanced VUE this contained the MQ Bridge to blockchain which allows MQ enabled applications to connect to a Hyperledger Fabric blockchain running in IBM Cloud or on-premises. The Connector Pack component no longer contains the MQ Bridge to blockchain. IBM MQ Advanced VUE provides entitlement to run the MQ Bridge to blockchain, but the bridge must be obtained from an IBM MQ x64 Linux client installation and run on an x64 Linux environment. The bridge can then connect to an IBM MQ Advanced VUE queue manager using a client connection.

From V9.1.5 the Connector Pack component contains the IBM Aspera fasp.io Gateway which can be used to improve the throughput of message channels over high latency, lossy networks.

If you are installing IBM MQ Advanced VUE into a new environment it is not necessary to install the Connector Pack component unless you want to use the fasp.io Gateway.

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## 1.2 IBM MQ Advanced VUE FMIDs

IBM MQ Advanced VUE consists of the following FMIDs:

- HMS9CD0
- JMS9CD1
- JMS9CD2
- JMS9CD3
- JMS9CD4
- JMS9CD5
- JMS9CD6
- JMS9CD7

JMS9CD8  
HAV9CD0

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## 2.0 Program Materials

An IBM program is identified by a program number. The program number for IBM MQ Advanced VUE is 5655-AV1.

Basic Machine-Readable Materials are materials that are supplied under the base license and are required for the use of the product.

The program announcement material describes the features supported by IBM MQ Advanced VUE. Ask your IBM representative for this information if you have not already received a copy.

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### 2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 14 for more information about how to install the program.

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

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### 2.2 Program Publications

The following sections identify the basic publications for IBM MQ Advanced VUE.

Figure 1 identifies the basic unlicensed publications for IBM MQ Advanced VUE. Those that are in softcopy format publications can be obtained from the IBM Publications Center website at <https://www.ibm.com/shop/publications/order>

*Figure 1. Basic Material: Unlicensed Publications*

Publication Title	Form Number	Media Format
<i>IBM MQ Advanced for z/OS VUE V9.2.0 License Information DVD</i>	GC34-7388	DVD-ROM
<i>IBM MQ Advanced for z/OS VUE V9.2.0 Program Directory</i>	GI13-4456	IBM Publications Center

No optional publications are provided for IBM MQ Advanced VUE.

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### 2.3 Program Source Materials

No program source materials or viewable program listings are provided for IBM MQ Advanced VUE.



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## 2.4 Publications Useful During Installation

You might want to use the publications listed in Figure 2 on page 5 during the installation of IBM MQ Advanced VUE.

Additionally, IBM MQ Advanced VUE V9.2.0 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/en/SSFKSJ\\_9.2.0/com.ibm.mq.helphome.v92.doc/WelcomePagev9r2.htm](http://www.ibm.com/support/knowledgecenter/en/SSFKSJ_9.2.0/com.ibm.mq.helphome.v92.doc/WelcomePagev9r2.htm)

*Figure 2. Publications Useful During Installation*

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

**Note:** IBM Publications Center <https://www.ibm.com/shop/publications/order>  
IBM Knowledge Center <https://www.ibm.com/support/knowledgecenter>

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## 3.0 Program Support

This section describes the IBM support available for IBM MQ Advanced VUE.

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### 3.1 Program Services

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

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### 3.2 Preventive Service Planning

Before you install IBM MQ Advanced VUE, 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-REQUIRESERVICE fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.PRODUCTINSTALL-REQUIRESERVICE)** operand on the **APPLY CHECK** command. See 6.2.5, "Perform SMP/E APPLY" on page 16 for a sample APPLY command.

If you obtained IBM MQ Advanced VUE as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IBM MQ Advanced VUE is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:

<http://www14.software.ibm.com/webapp/set2/psearch/search?domain=psp>

You can also use S/390 SoftwareXcel or contact the IBM Support Center to obtain the latest PSP Bucket information.

For program support, access the Software Support Website at <http://www.ibm.com/support/>.

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

*Figure 3 (Page 1 of 2). PSP Upgrade and Subset ID*

UPGRADE	SUBSET	Description
MQMESA	HMS9CD0	IBM MQ for z/OS base program
MQMESA	JMS9CD1	U.S. English language feature
MQMESA	JMS9CD2	Japanese language feature

Figure 3 (Page 2 of 2). PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
MQMESA	JMS9CD3	Simplified Chinese language feature
MQMESA	JMS9CD4	U.S. English (uppercase) language feature
MQMESA	JMS9CD5	French language feature
MQMESA	JMS9CD6	Unix System Services Web Components feature
MQMESA	JMS9CD7	Managed File Transfer feature
MQMESA	JMS9CD8	Unix System Services Components feature
MQMESA	HAV9CD0	Connector Pack

### 3.3 Statement of Support Procedures

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

Figure 4 identifies the component IDs (COMPID) for IBM MQ Advanced VUE.

Figure 4. Component IDs

FMID	COMPID	Component Name	RETAIN Release
HMS9CD0	5655MQ900	IBM MQ for z/OS Base	CD0
JMS9CD1	5655MQ900	IBM MQ for z/OS US English ENU	CD1
JMS9CD2	5655MQ900	IBM MQ for z/OS Japanese JPN	CD2
JMS9CD3	5655MQ900	IBM MQ for z/OS Simplified Chinese CHS	CD3
JMS9CD4	5655MQ900	IBM MQ for z/OS Uppercase English ENP	CD4
JMS9CD5	5655MQ900	IBM MQ for z/OS French FRA	CD5
JMS9CD6	5655MQ900	IBM MQ for z/OS Unix System Services Web Components	CD6
JMS9CD7	5655MQ900	IBM MQ for z/OS Managed File Transfer	CD7
JMS9CD8	5655MQ900	IBM MQ for z/OS Unix System Services Components	CD8
HAV9CD0	5655AV100	IBM MQ for z/OS Connector Pack	CD0

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## 4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IBM MQ Advanced VUE. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

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### 4.1 Program Level Information

No APARs have been incorporated into IBM MQ Advanced VUE.

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### 4.2 Service Level Information

No PTFs against this release of IBM MQ Advanced VUE have been incorporated into the product package.

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

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## 5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating IBM MQ Advanced VUE. 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.

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### 5.1 Driving System Requirements

This section describes the environment of the driving system required to install IBM MQ Advanced VUE.

#### 5.1.1 Machine Requirements

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

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' driving system requirements.

#### 5.1.2 Programming Requirements

Figure 5. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	V2.3.0	N/A	No

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

**Note:** Installation might require migration to new z/OS releases to be service supported. See [https://www.ibm.com/software/support/lifecycle/index\\_z.html](https://www.ibm.com/software/support/lifecycle/index_z.html).

IBM MQ Advanced VUE is installed into a file system (zFS). Before installing IBM MQ Advanced VUE, you must ensure that the target system file system data sets are available for processing on the driving system. OMVS must be active on the driving system and the target system file system data sets must be mounted on the driving system.

If you plan to install IBM MQ Advanced VUE in a zFS file system, this requires that zFS be active on the driving system. Information on activating and using zFS can be found in z/OS Distributed File Service zSeries File System Administration, SC24-5989.

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' programming requirements.

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## 5.2 Target System Requirements

This section describes the environment of the target system required to install and use IBM MQ Advanced VUE.

IBM MQ Advanced VUE installs in the z/OS (Z038) SREL.

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' target system requirements.

### 5.2.1 Machine Requirements

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

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' machine requirements.

### 5.2.2 Programming Requirements

### 5.2.2.1 Installation Requisites

Installation requisites identify products that are required and *must* be present on the system or products that are not required but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product. These products are specified as PREs or REQs.

Figure 6. Target System Mandatory Installation Requisites

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	V2.3.0 or higher	N/A	No
5655-MQ9	IBM MQ for z/OS with FMID JMS9CD8 CD	V9.2.0	N/A	Yes

**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](http://www.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.

IBM MQ Advanced VUE has no conditional installation requisites.

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' 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.

Figure 7 (Page 1 of 2). Target System Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
5650-ZOS	z/OS V2.3.0

Figure 7 (Page 2 of 2). Target System Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
5655-MQ9	IBM MQ for z/OS V9.2.0 CD or higher

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' 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.

IBM MQ Advanced VUE has no conditional operational requisites.

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' conditional operational requisites.

### 5.2.2.3 Toleration/Coexistence Requisites

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

IBM MQ Advanced VUE has no toleration/coexistence requisites.

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' 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 8. Target System Negative Requisites

Program Number	Product Name and Minimum VRM/Service Level
5655-MQ9	IBM MQ for z/OS V9.2.0 LTS

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' incompatibility (negative) requisites.



## 5.2.3 DASD Storage Requirements

IBM MQ Advanced VUE libraries can reside on all supported DASD types.

IBM MQ Advanced VUE installs into the global, target and distribution zones previous created through the installation of IBM MQ for z/OS. There are no additional space requirements for IBM MQ Advanced VUE

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' DASD storage requirements.

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## 5.3 FMIDs Deleted

Installing IBM MQ Advanced VUE 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 IBM MQ Advanced VUE 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 manuals for instructions.

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the FMIDs deleted by the individual products.

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## 5.4 Special Considerations

IBM MQ Advanced VUE has no special considerations for the target system.

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' special considerations for the target system.

### 5.4.1 SMP/E Considerations

IBM MQ Advanced VUE must be installed into the same SMP/E zones, including SMPCSI, target, distribution, and zFS data sets as IBM MQ for z/OS. This Program Directory provides sample jobs and instructions to do this.

See the Program Directories for IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition for details of the individual products' SMP/E considerations.

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## 6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of IBM MQ Advanced VUE.

Please note the following points:

- 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.

### 6.1.1 SMP/E Considerations for Installing IBM MQ Advanced VUE

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of IBM MQ Advanced VUE.

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## 6.2 Installing IBM MQ Advanced VUE

The installation of IBM MQ Advanced VUE is effected by installing the IBM MQ Advanced for z/OS and IBM MQ for z/OS Value Unit Edition packages included in this offering, and by following the instructions below to install FMID HAV9CD0.

FMID HAV9CD0 must be installed into the same SMP/E zones containing the HMS9CD0 and JMS9CD8 FMIDs. The zones are created when you follow the installation instructions for IBM MQ for z/OS Value Unit Edition. You must complete the installation of IBM MQ for z/OS Value Unit Edition before proceeding with the installation of IBM MQ Advanced VUE by following the instructions below.

Follow the installation instructions in the relevant Program Directory to install each package. Included Program Directories are listed in Figure 9.

*Figure 9. Program Directories included for component packages*

Included Component	Program Directory Number
IBM MQ for z/OS	GI13-4453
IBM MQ Advanced for z/OS	GI13-4455
IBM MQ for z/OS Value Unit Edition	GI13-4454

## 6.2.1 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install IBM MQ Advanced VUE:

The sample installation jobs are sorted by name into an order in which to run them in sequence (after editing) to install IBM MQ Advanced VUE. 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.

Job Name	Job Type	Description	SMPTLIB Data Set
CSQ8A1RC	RECEIVE	Sample RECEIVE job	IBM.HAV9CD0.F2
CSQ8A2AP	APPLY	Sample APPLY job	IBM.HAV9CD0.F2
CSQ8A3AC	ACCEPT	Sample ACCEPT job	IBM.HAV9CD0.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.2.2, “Perform SMP/E RECEIVE” on page 16) then copy the jobs from the SMPTLIB data sets to a work data set for editing and submission. See Figure 10 to find the appropriate 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.HAV9CD0.F2,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jcl-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(11,41,5))
//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.

## 6.2.2 Perform SMP/E RECEIVE

If you have obtained IBM MQ Advanced VUE as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the IBM MQ Advanced VUE 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 CSQ8A1RC to perform the SMP/E RECEIVE for IBM MQ Advanced VUE. 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.

## 6.2.3 Allocate SMP/E Target and Distribution Libraries

All data sets used by IBM MQ Advanced VUE are allocated by other products, so no new allocations are required.

## 6.2.4 Create DDDEF Entries

All DDDEFs used by IBM MQ Advanced VUE are created by other products, so no new DDDEFs are required.

## 6.2.5 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job CSQ8A2AP to perform an SMP/E APPLY CHECK for IBM MQ Advanced VUE. 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/holddata/390holddata.html>. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

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

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

Here are sample APPLY commands:

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

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

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

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

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

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

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

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

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

**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.

## 6.2.6 Perform SMP/E ACCEPT

Edit and submit sample job CSQ8A3AC to perform an SMP/E ACCEPT CHECK for IBM MQ Advanced VUE. 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.

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## 6.3 Product Customization

Information to customize and use IBM MQ Advanced VUE is found in the Installing IBM MQ Advanced for z/OS VUE section of the IBM MQ product documentation in IBM Knowledge Center at [http://www.ibm.com/support/knowledgecenter/en/SSFKSJ\\_9.2.0/com.ibm.mq.ins.doc/q009644\\_.htm](http://www.ibm.com/support/knowledgecenter/en/SSFKSJ_9.2.0/com.ibm.mq.ins.doc/q009644_.htm).

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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".

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## Reader's Comments

### Program Directory for IBM MQ Advanced for z/OS VUE, September 2020

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