

Program Directory for

IBM UrbanCode Deploy for z/OS

V07.03.00

Program Number 5725-M54

for Use with
z/OS

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Note

Before using this information and the product it supports, be sure to read the general information under 7.0, “Notices” on page 25.

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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 IBM UrbanCode Deploy for z/OS. This publication refers to IBM UrbanCode Deploy for z/OS as UrbanCode Deploy.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 2 identifies the basic program materials and documentation for UrbanCode Deploy.
- 3.0, “Program Support” on page 4 describes the IBM support available for UrbanCode Deploy.
- 4.0, “Program and Service Level Information” on page 6 lists the APARs (program level) and PTFs (service level) that have been incorporated into UrbanCode Deploy.
- 5.0, “Installation Requirements and Considerations” on page 7 identifies the resources and considerations that are required for installing and using UrbanCode Deploy.
- 6.0, “Installation Instructions” on page 14 provides detailed installation instructions for UrbanCode Deploy. It also describes the procedures for activating the functions of UrbanCode Deploy, or refers to appropriate publications.

1.1 UrbanCode Deploy Description

IBM UrbanCode Deploy is a tool for automating application deployments through your environments. It is designed to facilitate rapid feedback and continuous delivery in agile development while providing the audit trails, versioning and approvals needed in production.

The UrbanCode Deploy agent supports z/OS deployment tasks such as deploying data sets, submitting and monitoring jobs, running TSO/ISPF commands and executing REXX.

1.2 UrbanCode Deploy FMID

UrbanCode Deploy consists of the following FMID:

HRUC730

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2.0 Program Materials

An IBM program is identified by a program number. The program number for UrbanCode Deploy is 5725-M54.

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 UrbanCode Deploy. 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 DVD. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, “Installation Instructions” on page 14 for more information about how to install the program.

Figure 1 describes the program file content for UrbanCode Deploy.

Notes:

1. The data set attributes in this table must be used in the JCL of jobs that read the data sets. However, because the data sets are in IEBCOPY unloaded format, their actual attributes might be different.
2. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 1. Program File Content

Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	6400
IBM.HRUC730.F1	PDS	FB	80	8800
IBM.HRUC730.F2	PDS	VB	255	27998
IBM.HRUC730.F3	PDS	FB	80	27920
IBM.HRUC730.F4	PDS	FB	80	27920
IBM.HRUC730.F5	PDSE	U	0	6144
IBM.HRUC730.F6	PDS	FB	80	8800

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2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for UrbanCode Deploy.

2.3 Program Publications

The following sections identify the basic publications for UrbanCode Deploy.

2.3.1 Optional Program Publications

No optional publications are provided for UrbanCode Deploy.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for UrbanCode Deploy.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 2 during the installation of UrbanCode Deploy.

Figure 2. 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 UrbanCode Deploy.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install UrbanCode Deploy, 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 6.1.16, “Perform SMP/E APPLY” on page 21 for a sample APPLY command.

Once you have received your installation DVD, you should contact the IBM Support Center or use S/390 SoftwareXcel to obtain the latest PSP Bucket information. You can also obtain the latest PSP Bucket information by going to the following Web site:

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

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

For program support, access the Software Support Website at http://www-01.ibm.com/software/support/.

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

Figure 3. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
5725M54	HRUC730	UC DEPLOY 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 4 on page 5 identifies the component IDs (COMPID) for UrbanCode Deploy.

Figure 4. Component IDs

FMID	COMPID	Component Name	RETAIN Release
HRUC730	5725M540Z	UC DEPLOY FOR Z/OS	730

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of UrbanCode Deploy. 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 UrbanCode Deploy.

4.2 Service Level Information

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

Frequently check the UrbanCode Deploy 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 UrbanCode Deploy. 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 UrbanCode Deploy.

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 5. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	V02.01.00 or higher	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 http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

5.2 Target System Requirements

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

UrbanCode Deploy 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.

UrbanCode Deploy has no mandatory installation requisites.

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.

UrbanCode Deploy 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.

Figure 6. Target System Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
5655-DGJ	IBM 64-bit JAVA IBM Semeru Runtime Certified Edition for z/OS, Version 11.0

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.

UrbanCode Deploy has no conditional operational requisites.

5.2.2.3 Toleration/Coexistence Requisites:

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

UrbanCode Deploy 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.

UrbanCode Deploy has no negative requisites.

5.2.3 DASD Storage Requirements

UrbanCode Deploy libraries can reside on all supported DASD types.

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

Figure 7 (Page 1 of 2). Total DASD Space Required by UrbanCode Deploy

Library Type	Total Space Required in 3390 Trks
Compressed Binaries	3850 Tracks
Expanded Installation Files	4700 Tracks

Figure 7 (Page 2 of 2). Total DASD Space Required by UrbanCode Deploy

Library Type	Total Space Required in 3390 Trks
Target	150 Tracks
Distribution	4710 Tracks
File System(s)	
HFS or zFS	8200 Tracks

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 6.1.12, “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, except for SBUZAUTH and ABUZAUTH which 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 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, except for SBUZAUTH.
   - UrbanCode Deploy requires that the SMPLTS data set must be a PDSE. If your existing SMPLTS is a PDS, you will need to allocate a new PDSE and copy your existing SMPLTS into it and then change the SMPLTS DDDEF entry to indicate the new PDSE data set.

The following figures describe the target and distribution libraries and file system paths required to install UrbanCode Deploy. The storage requirements of UrbanCode Deploy 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. Storage Requirements for UrbanCode Deploy Target Libraries

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SBUZAUTH	APF Modules	ANY	U	PDSE	U	0	35	NA
SBUZEXEC	EXEC	ANY	U	PDS	FB	80	20	1
SBUZJCL	Install JCL	ANY	U	PDS	FB	80	10	5
SBUZMENU	Messages	ANY	U	PDS	FB	80	5	10
SBUZSAMP	Samples	ANY	U	PDS	FB	80	40	15

Figure 9. UrbanCode Deploy File System Paths

DDNAME	TYPE	Path Name
SBUZA001	N	/usr/lpp/IBM/ucd/v7.3.0/IBM/

Figure 10. Storage Requirements for UrbanCode Deploy Distribution Libraries

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
ABUZAUTH	U	PDSE	U	0	35	NA
ABUZEXEC	U	PDS	FB	80	20	1
ABUZHFS	U	PDS	VB	8796	3000	5
ABUZJCL	U	PDS	FB	80	10	5
ABUZMENU	U	PDS	FB	80	5	10
ABUZSAMP	U	PDS	FB	80	40	15

The following figures list additional data sets that are required for the installation of UrbanCode Deploy.

Figure 11. Storage Requirements for UrbanCode Deploy - Additional Installation Data Sets

Data Set Name	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
hlq.IBM.HRUC730.F1.BIN	U	PS	FB	80	10	n/a
hlq.IBM.HRUC730.F2.BIN	U	PS	FB	80	3000	n/a
hlq.IBM.HRUC730.F3.BIN	U	PS	FB	80	15	n/a
hlq.IBM.HRUC730.F4.BIN	U	PS	FB	80	4	n/a
hlq.IBM.HRUC730.F5.BIN	U	PS	FB	80	30	n/a
hlq.IBM.HRUC730.F6.BIN	U	PS	FB	80	10	n/a
hlq.IBM.HRUC730.SMPMCS	U	PS	FB	80	2	n/a

5.3 FMIDs Deleted

Installing UrbanCode Deploy 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 UrbanCode Deploy 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

UrbanCode Deploy has no special considerations for the target system.

PDSE Considerations:

UrbanCode Deploy uses the "partitioned data set extended" or PDSE format for the SBUZAUTH target library. There are some operational differences between PDS and PDSE data sets. The PDS format may be shared by more than one z/OS system and no special precautions are necessary. However the PDSE format may only be shared by z/OS systems which are part of a sysplex or which are connected using Global Resource Serialization (are in a GRS complex). If z/OS systems share use of a PDSE data set outside of a sysplex or GRS environment, you may experience severe problems when the data set is updated. This is due to the fact that PDSE directory information is cached in storage, and when the data set is updated from one system the other system(s) have no knowledge of the update, and their cached directory information will be incorrect.

You must take care not to share the SBUZAUTH data set between z/OS systems unless they are in a sysplex or are connected in a GRS complex. If you need to share the content of the SBUZAUTH data set, a separate copy must be created for each z/OS 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 UrbanCode Deploy.

Please note the following points:

- If you want to install UrbanCode Deploy 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.
- You have to complete the installation of USS files by following the below documentation.

  http://www.ibm.com/support/knowledgecenter/SS4GSP_7.3.0/com.ibm.udeploy.install.doc/topics/agentInstall.html

6.1 Installing UrbanCode Deploy

6.1.1 SMP/E Considerations for Installing UrbanCode Deploy

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

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 12. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

Figure 12. SMP/E Options Subentry Values

Subentry	Value	Comment
DSSPACE	(1500,1500,1500)	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

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6.1.3 Overview of the installation steps

Overview of steps required to install IBM UrbanCode Deploy for z/OS.

1. Upload sample JCL from the client
2. Expand the sample jcl file by using the TSO Receive command
3. Sample Jobs
4. Run the job to allocate sequential data sets that the FTP step will use
5. Upload the compressed RELFILES and SMPMCS from the client
6. Expand the RELFILEs by running the sample job, BUZEXPND
7. Create SMP/E Environment (optional)
8. Perform SMP/E RECEIVE
9. Allocate SMP/E target and distribution libraries
10. Create ZFS file system (optional)
11. Allocate file system paths
12. Create DDDEF entries
13. Perform SMP/E APPLY
14. Perform SMP/E ACCEPT

6.1.4 Upload Sample JCL from the client

On the client, there is a file containing sample installation JCL. This sample JCL contains a member (BUZSEQAL) that will allocate the sequential data sets on z/OS for the compressed RELFILEs and SMPMCS contained on the client and other members to perform the SMP/E processing. Perform the following steps to upload it from the client to z/OS:

1. Allocate a data set on z/OS to use as the target of the upload. You can do this by creating a data set with the characteristics from the job below or by submitting the job below. if you choose to submit the following job you need to make the following updates:
   a. Add a job card and modify the parameters to meet your site's requirements before submitting.
   b. **hlq** will be the high level qualifier you choose to use for this data set.
   c. (Optionally) Replace vvvvvv with the volser you choose to use for this data set.

```
//ALLOC    EXEC PGM=IEFBR14
//*
//JCLBIN   DD DSN=hlq.IBM.HRUC730.SMPEJOBS.BIN,
//            DISP=(NEW,CATLG,DELETE),
//            DSORG=PS,
//            RECFM=FB,
//            LRECL=80,
//            BLKSIZE=6160,
//*            VOL=SER=vvvvvv,
//            UNIT=SYSALLDA,
//            SPACE=(TRK,(15,1))
```

2. Upload the sample jcl file in binary format from the client to this z/OS data set. If the client is attached to a Windows system, you can use FTP from a command prompt to upload the file. In the sample dialog shown below, commands or other information entered by the user are in bold, and the following values are assumed:

Figure 13. User Entered Values

User enters:	**Values**
mvsaddr	TCP/IP address or hostname of the z/OS system
tsouid	Your TSO user ID
tsopw	Your TSO password
d:	Your client drive
hlq	High-level qualifier you used for the data set you allocated in the job above

```
C:\>ftp mvsaddr
Connected to mvsaddr.
220-FTPD1 IBM FTP CS V2R2 at mvsaddr, 05:10:00 on 2018-09-14.
220 Connection will close if idle for more than 5 minutes.

User (mvsaddr:(none)): tsouid

331 Send password please.
Password: tsopw
230 tsouid is logged on.  Working directory is "tsouid.".

ftp> cd ..
250 " "is the working directory name prefix.

ftp> cd hlq
250 "hlq." is the working directory name prefix.

ftp> binary
200 Representation type is Image:
```

```
ftp> put d:\HRUC730\IBM.HRUC730.F1.BIN 'hlq.IBM.HRUC730.SMPEJOBS.BIN'
200 Port request OK.
125 Storing data set hlq.IBM.HRUC730.SMPEJOBS.BIN
250 Transfer completed successfully.
ftp: 197280 bytes sent in 1.18Seconds 164.27Kbytes/sec.

ftp> quit
221 Quit command received. Goodbye.
```

6.1.5 Expand the sample jcl file by using the TSO Receive command:

```
RECEIVE INDA('hlq.IBM.HRUC730.SMPEJOBS.BIN')
```

When prompted on the TSO receive command, use the appropriate DSNAME as listed below:

```
DS('hlq.IBM.HRUC730.SMPEJOBS')
```

6.1.6 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install UrbanCode Deploy. The RELFILEs will be prefixed with the high level qualifier ("hlq" in table below) used when the files are "received". The jobs are contained in the sample JCL data set **hlq**.IBM.HRUC730.SMPEJOBS that was uploaded.

Figure 14. Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
BUZSEQAL	SMP/E	Sample job to allocate sequential data sets for FTPing the product data sets into	hlq.IBM.HRUC730.F1
BUZEXPND	SMP/E	Sample job to expand the RELFILEs	hlq.IBM.HRUC730.F1
BUZSMPE	SMP/E	Sample job to create an SMP/E environment **(Optional)**	hlq.IBM.HRUC730.F1
BUZRECV	RECEIVE	Sample SMP/E RECEIVE job	hlq.IBM.HRUC730.F1
BUZALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	hlq.IBM.HRUC730.F1
BUZZFS	ALLOMZF	Sample job to allocate, create mountpoint, & mount zFS data sets **(Optional)**	hlq.IBM.HRUC730.F1
BUZISMKD	MKDIR	Sample job to invoke the supplied BUZMKDIR EXEC to allocate file system paths	hlq.IBM.HRUC730.F1
BUZDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	hlq.IBM.HRUC730.F1
BUZAPPLY	APPLY	Sample SMP/E APPLY job	hlq.IBM.HRUC730.F1
BUZACCPT	ACCEPT	Sample SMP/E ACCEPT job	hlq.IBM.HRUC730.F1

6.1.7 Run the job to allocate sequential data sets that the FTP step will use

Edit and submit sample job **BUZSEQAL** in the **hlq**.IBM.HRUC730.SMPEJOBS data set to allocate data sets on z/OS to be used during the upload process. Use the instructions in the sample job for information on changes required.

Expected Return Codes and Messages: RC=0

6.1.8 Upload the compressed RELFILES and SMPMCS from the client

Upload the files in binary format from the client to the z/OS data set. If the client is a Windows system, you can use FTP from a command prompt to upload the files:

```
C:\>ftp mvsaddr
Connected to mvsaddr.
220-FTPD1 IBM FTP CS V2R2 at mvsaddr, 05:13:09 on 2018-09-14.
220 Connection will close if idle for more than 5 minutes.

User (mvsaddr:(none)): tsouid

331 Send password please.
Password: tsopw
230 tsouid is logged on.  Working directory is "tsouid.".

ftp> cd ..
250 "" is the working directory name prefix.

ftp> cd hlq
250 "hlq." is the working directory name prefix.

ftp> binary
200 Representation type is Image

ftp> prompt
Interactive mode Off.

ftp> mput d:\HRUC730\IBM.HRUC730.F*
200 Port request OK.
125 Storing data set hlq.IBM.HRUC730.F1.BIN
250 Transfer completed successfully.
ftp: 197280 bytes sent in 1.18Seconds 164.27Kbytes/sec.
200 Port request OK.
125 Storing data set hlq.IBM.HRUC730.F2.BIN
250 Transfer completed successfully.
ftp: 100199360 bytes sent in 37.64Seconds 2071.00Kbytes/sec.
200 Port request OK.
125 Storing data set hlq.IBM.HRUC730.F3.BIN
```

```
250 Transfer completed successfully.
ftp: 515920 bytes sent in 1.65Seconds 289.15Kbytes/sec.
200 Port request OK.
125 Storing data set hlq.IBM.HRUC730.F4.BIN
250 Transfer completed successfully.
ftp: 40960 bytes sent in 0.49Seconds 79.02Kbytes/sec
200 Port request OK.
125 Storing data set hlq.IBM.HRUC730.F5.BIN
250 Transfer completed successfully.
ftp: 962960  bytes sent in 2.66Seconds 455.97Kbytes/sec.
200 Port request OK.
125 Storing data set hlq.IBM.HRUC730.F6.BIN
250 Transfer completed successfully.
ftp: 23600 bytes sent in 0.46Seconds 50.45Kbytes/sec.

ftp> put d:\HRUC730\IBM.HRUC730.SMPMCS
200 Port request OK.
125 Storing data set hlq.IBM.HRUC730.SMPMCS
250 Transfer completed successfully.
ftp: 6560 bytes sent in 0.29Seconds 20.83Kbytes/sec.


ftp> quit
221 Quit command received. Goodbye.
```

6.1.9 Expand the RELFILEs by running the sample job, BUZEXPND:

Edit and submit sample job BUZEXPND to expand the RELFILEs. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.10 Allocate SMP/E CSI (Optional)

If you are using an existing CSI, do not execute this job.

If you are allocating a new SMP/E data set for this install, edit and submit sample job BUZSMPE to allocate the SMP/E data sets for

UrbanCode Deploy. 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.

6.1.11 Perform SMP/E RECEIVE

You can also choose to edit and submit sample job BUZRECV to perform the SMP/E RECEIVE. 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.

6.1.12 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job BUZALLOC to allocate the SMP/E target and distribution libraries for UrbanCode Deploy. 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.

6.1.13 Allocate, create and mount ZFS Files (Optional)

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

If you plan to install UrbanCode Deploy into a new z/OS UNIX file system, you can edit and submit the optional BUZZFS job to perform the following tasks:

- Create the z/OS UNIX file system
- Create a mount point
- 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 mount point is */usr/lpp/IBM/ucd/v7.3.0*.

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 UrbanCode Deploy 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('#zfsdsn')
 TYPE(ZFS) PARM('AGGRGROW') /* zFS, with extents */
 MODE(RDRW)                 /* can be MODE(READ) */
 MOUNTPOINT('/usr/lpp/IBM/ucd/v7.3.0')
```

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

#zfsdsn is the name of the data set holding the z/OS UNIX file system.
/usr/lpp/IBM/ucd/v7.3.0 is the name of the mount point 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.

6.1.14 Allocate File System Paths

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

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

If you plan to install UrbanCode Deploy into a new HFS or zFS file system, you must create the mountpoint and mount the new file system to the driving system for UrbanCode Deploy.

The recommended mountpoint is */usr/lpp/IBM/ucd/v7.3.0*.

Edit and submit sample job BUZISMKD to allocate the HFS or zFS paths for UrbanCode Deploy. 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.

6.1.15 Create DDDEF Entries

Edit and submit sample job BUZDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for UrbanCode Deploy. 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.

6.1.16 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job BUZAPPLY to perform an SMP/E APPLY CHECK for UrbanCode Deploy. 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),HOLDFIXCAT) .
 ..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.

6.1.17 Perform SMP/E ACCEPT

Edit and submit sample job BUZACCPT to perform an SMP/E ACCEPT CHECK for UrbanCode Deploy. 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.

6.1.18 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 UrbanCode Deploy, 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.

6.1.19 INSTALLING USS COMPONENT

The SMP/E INSTALLATION MOUNTS zFS file that has the USS installer. Please note that this is only an installer and not the actual agent. To upgrade or install the USS part of the agent, install-agent.sh have to be run from the agent installer directory. Any number of agents can be installed using this installer, with all of them pointing to same MVS target datasets of this SMP/E installation.

USS INSTALLATION IS IN-PLACE UPGRADE. Backup the USS MOUNT POINT where the AGENT is installed (AGENT_HOME) and do the in-place upgrade. To Rollback, mount the backed up USS mount point.

If the SMP/E installation was done on new MVS datasets, then in every agent AGENT_HOME/mvs/dataset.properties file needs to be changed to point to new hlq. Also the ISPF.conf file in AGENT_HOME/conf/toolkit/ISPF.conf (or whatever is the ispf config file in the environment) needs to be updated to point to new hlq.

Existing agents have to be always upgraded. A new agent cannot be installed and replace an existing agent.

Refer to this Knowledge Center page for the details on USS installation.

http://www.ibm.com/support/knowledgecenter/SS4GSP_7.3.0/com.ibm.udeploy.install.doc/topics/agentInstall.html

6.2 Activating UrbanCode Deploy

Refer to UrbanCode Deploy Knowledge Center to complete the configuration tasks.

http://www.ibm.com/support/knowledgecenter/SS4GSP_7.3.0/com.ibm.udeploy.doc/ucd_version_welcome.html

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