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IBM z/OS V2R2 ServerPac

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Note: Before using this information and the product it supports, read the information in “Notices” on page v.

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Contents

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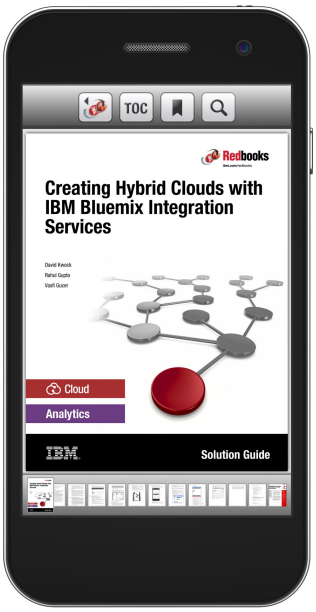

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Preface

This IBM® Redbooks® publication helps you to become familiar with the technical changes that were introduced into the Serverpac area with IBM z/OS® V2R2.

This publication includes the following chapters:

- Chapter 1, “ServerPac” on page 1: Provides a summary of the z/OS V2R2 enhancements.
- Chapter 2, “Order receive” on page 5: Describes the use of HTTPS to receive your order.
- Chapter 3, “Creating a configuration” on page 9: Describes the affect of the SDSF zone change.
- Chapter 4, “Variable Panel updates” on page 13: Describes setting up z/OSMF and the SMF option.
- Chapter 5, “Modifying system layout” on page 17: Describes large file system default allocation, enhanced support for file system merge, enhanced support for SMS managed data sets, and new data set view options.
- Chapter 6, “Installation job changes” on page 31: Describes changes that were made to the create and submit installation jobs functions, which includes z/OSMF configuration, PFA configuration, KC4z configuration, and SMF logstream setup.

This book is one of a series of IBM Redbooks publications that take a modular approach to providing information about the updates that are included with z/OS V2R2. This approach has the following goals:

- Provide modular content
- Group the technical changes into a topic
- Provide a more streamlined way of finding relevant information that is based on the topic

We hope you find this approach useful and we welcome your feedback.

Authors

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1

ServerPac

This chapter provides an overview and summary of changes that were made to ServerPac for V2R2.

This chapter includes the following topics:

1.1 ServerPac overview

ServerPac is one of the entitled offerings that is available to quickly install and customize the IBM z/OS platform software. Customers who are licensed for z/OS can use the ServerPac package. Ordered products are shipped with System Modification Program Extended (SMP/E) that are installed and customized according to the customer environment requirements at installation time.

ServerPac can be ordered by z/OS system or subsystem type. When installed, ServerPac replaces a complete z/OS system or subsystem.

ServerPac is ordered through ShopzSeries or by contacting IBM or your Business Partner. You can select the products that you want included in your system or subsystem from the Product catalog. The ServerPac Product catalog is refreshed monthly to update products that are available or withdrawn from ServerPac in the previous month. Depending on the delivery media that is selected, ServerPac can be downloaded from the Internet or distributed via tape or DVD.

A ServerPac package contains the following components:

- Installation Dialog, order information, target and distribution data sets, and customized software inventories (CSIs)
- Integrated service until the Recommended Service Upgrade (RSU) level
- Unintegrated service delivered RECEIVE only
- HIPER and PRP service delivered APPLY only
- ServerPac: Installing Your Order is customized to your order

Your system must meet the minimum requirements to install your ServerPac. For more information, see *z/OS Planning for Installation* GA32-0890-03. If necessary, you can use the Customized Offerings Driver to satisfy these requirements.

ServerPac Installation Dialog is used to install the ServerPac order. If you do not have a dialog, run LOADRIM Job to create the installation dialog on your divining system.

For Internet delivery orders, you can use the LOADRIMS or LOADRIMH job, which uses FTPS and HTTPS download methods to install the dialog.

For more information about Installation Dialogs, see *ServerPac Using the Installation Dialog*, SA23-2278-02.

After you order is received, you can use the dialog to tailor the configuration to match your system environment. The dialog uses the tailored configuration to generate a customized installation job stream that creates your new target system.

Your order is shipped with the book *ServerPac: Installing Your Order*, which is customized for your order. We suggest that you review the “Planning the installation” section of the book before you start installing of your order.

For more information, see this website:

`http://goo.gl/oSlZYX`

1.2 V2R2 ServerPac enhancements

IBM z/OS V2R2 introduced several ServerPac enhancements, which are described in this section.

1.2.1 Customized offerings driver

You need a driver system to process the ServerPac. If you do not have a driving system or it does not meet the driving system requirements, the Customized Offerings Driver (COD) is a load-and-go system that can be used as a driving system to install your z/OS ServerPac or CBPDO.

Starting with z/OS V2R2, the COD Installation Guide is delivered in PDF format with tape and DVD orders. Printed copies are not shipped with COD order.

COD is shipped with zFS file system in place of HFS. When the COD is initially loaded, the zFS address space starts and the zFS file system is mounted.

1.2.2 HTTPS download support

Added support is available in the CustomPac Installation Dialog to download z/OS orders (CBPDO, ServerPac, and CustomPac directly to z/OS host system by using HTTPS protocol).

1.2.3 SDSF packaging change

ServerPac installs System Display, Search Facility (SDSF), and Base Control Program (BCP) in same zone.

Note: You *do not* have merge options for SDSF in the Create Configuration options menu. Only the option to merge selected JES elements into a BCP zone is available.

1.2.4 Support for SMF Logstream

You have a new option to specify System Management Facility (SMF) Logstream or SYS1.MANx data set when you install z/OS V2R2 by using a full system replacement path. You can use a new variable that was added in the Installation Variable panel to specify the option that you want to use.

1.2.5 Enhanced SMS support

The following support is available:

- Products that feature a file system size more than 4 GB
- Merge operation if size of the target zFS file system exceeds 4 GB
- Allow SMS data sets that use Automatic Class Selection (ACS) routines
- Extended Addressability without Extended Format for V2R1 Driving System
- Enhanced Modify System Layout (MSL) panel options to review ACS-managed data sets
- Enhanced Global Change command to manage data sets

1.2.6 z/OSMF configuration

z/OSMF is no longer shipped as a separately orderable product with z/OS Base or as Product ServerPac.

Note: z/OSMF V2R2 is part of z/OS V2R2 base.

The z/OSMF configuration process also is now simplified. ServerPac supports this process by providing the following components:

- ServerPac ships an IZUPRM00 member with CPAC.PARMLIB member. This member includes customizable properties that use ServerPac installation Dialog Variables.
- ServerPac ships a sample job IZUMIGRT in CPAC.SAMPLIB. If you are migrating from z/OSMF V1R13 or z/OSMF V2R1, you can use this job to migrate configurations to V2R2. This job creates a IZUPRMxx member by using the configuration values.

1.2.7 KC4z configuration

Provided support includes configuring and setting up the new element KC4z.

Three jobs were added in ServerPac Install Job Panel.

1.2.8 PFA Customization

PFA script AIRSHREP.SH runs in two modes: new and migrate. Starting with z/OS V2R2, running this script is no longer a mandatory migration task. The script is still shipped.

For more information about the changes, see the “Setting up Predictive Failure Analysis” on page 32.

1.2.9 Miscellaneous changes

When you delete an order from the Order List panel, data sets that are related to the deleted order are deleted. A message that informs you of this change is displayed on the Delete confirmation panel.

If the length of the variable value that is entered in the Variable panel CPPP6111 exceeds the maximum allowed length, message CPP0611011E is displayed. You must reduce the length of the variable to complete the update.

2

Order receive

This chapter describes how you can receive an order by using the HTTP Secure download method.

2.1 HTTPS download method

The ability to download ServerPac, CustomPac, and the Custom Built Product Delivery option (CBPDO) by using the HTTP Secure Download method was provided with CustomPac dialogs since November 2014. Options to download by using FTP and FTPS methods are still available with HTTPS.

You can use the SHOPz Connectivity Test to validate that your system can successfully connect and download a test package. The test is available at this website:

https://www.ibm.com/marketing/iwm/iwm/web/preLogin.do?lang=en_US&source=cbct

After the Welcome panel is shown, the Specify Download Method panel is displayed, as shown in Figure 2-1.

```
CPPP61OF  --------- Specify Download Method  --------------------------
COMMAND ==>

 Specify the Download Method you will be using: Standard FTP (FTP),
 Secure FTP (FTPS), or HTTP Secure (HTTPS)
 ==>     (FTP, FTPS, or HTTPS)




           Press Enter to continue or End to cancel
```

Figure 2-1 Specify Download Method panel

Specify HTTPS as your download method.

After specifying HTTPS, the Download Client Information panel is shown in which you are prompted to choose HTTP or SOCKS as the proxy server, as shown in Figure 2-2.

```
CPPP61OD  ------ Download Client Information -------------------------------
COMMAND ==>

Do you need to enter commands to pass through an HTTP or SOCKS Proxy Server?
(Yes or No)
==>

Specify your Java home directory (required)
(for example: /usr/lpp/java/J7.0_64)
==>

Specify the name of the security manager keyring or CERTAUTH virtual keyring or
the keyword javatruststore (required)
(for example: host_userid/ShareableKeyRing or *AUTH*/* or javatruststore)
==>

For further information, review the discussion of the CLIENT (SMPCLNT DD) data
set in the SMP/E Commands manual.


           Press Enter to continue or End to cancel
```

Figure 2-2 Download Client Information panel

After you answer YES to the question regarding passing through an HTTP or SOCKS proxy server, the next panel is displayed to collect HTTP or SOCKS Proxy server information, as shown in Figure 2-3.

```
CPPPEDIF - PD001000 ---------------------------------------- COLUMNS 000 000
COMMAND ==> SCROLL ==> HALF
****** ***************************** Top of Data ******************************
000001 <!-- This section builds the SMPCLNT DD input                         -->
000002 <!--                                                                  -->
000003 <!-- Most HTTPS operations to the remote IBM Server pass through a   -->
000004 <!-- SOCKS, or PROXY Server . If so, then you must identify SOCKS or -->
000005 <!-- PROXY Server information and commands below. When you have      -->
000006 <!-- finished, press End to display and submit the RECEIVE job.      -->
000007 <!--                                                                  -->
000008 <!-- Or, use the CANCEL command to return to the prior panel.        -->
000009 <!--                                                                  -->
000010 <!-- Notes: 1. All tags below are commented out. Remove the          -->
000011 <!-- XML comment start and end tags to specify                        -->
000012 <!-- firewall information.                                           -->
000013 <!-- 2. The tags here are defined by SMP/E. For                      -->
000014 <!-- information about them, see SMP/E Commands.                     -->
000015 <!-- 3. Do not include <CLIENT> tags in this data set.               -->
000016 <!-- They are built automatically by the dialog.                     -->
000017 <!--                                                                  -->
000018 <!-- <HTTPPROXY                                                     -->
000019 <!-- host="host name|host ip address"                                -->
000020 <!-- user="NILPAT"                                                  -->
000021 <!-- pw="NEWPASSWORD'                                               -->
000022 <!-- port="port number"                                             -->
000023 <!-- account="account information">                                -->
000024 <!-- </HTTPPROXY>                                                   -->
000025 <!-- <HTTPSOCKSPROXY                                                -->
000026 <!-- host="host name|host ip address"                                -->
000027 <!-- user="userid"                                                  -->
000028 <!-- pw="password"                                                  -->
000029 <!-- port="port number"                                             -->
000030 <!-- account="account information">                                -->
000031 <!-- </HTTPSOCKSPROXY>                                              -->
000032 <!--                                                                  -->
```

Figure 2-3 Proxy server information panel

If you specify NO, the panel that is shown in Figure 2-3 is not displayed.

After the details are specified in the proxy server panel, RECEIVE job control language (JCL) is generated. You can review the JCL to verify that all of the information in the JCL is correct.

After reviewing the JCL, you can submit the JCL to download the order directly to Host.

3

Creating a configuration

This chapter describes SDSF zone change and its affect on the Create the Work Configuration option under CustomPac Installation Dialog Level 27.

This chapter includes the following topics:

3.1 SDSF zone changes

Starting with z/OS V2R2, ServerPac installs System Display and Search Facility (SDSF) into a Base Control Program (BCP) zone instead of a separate zone.

Dialog Level 27.00.00 is enhanced to support this change. This dialog level supports SDSF merge options for the z/OS V2R1 base installation. Because of this change, there is no name that is used for SDSF for z/OS V2R1 that is shipped with z/OS V2R2. Also, z/OS V2R2 base does not include Function Modification Identifier (FMID) for JES2 Support.

3.2 Creating a configuration

For a z/OS V2R2 order, the new JES Element Selection panel is displayed, as shown in Figure 3-1.

```
CPPP6017  ------------ JES Element Selection ( xxxxxxxx ) ---------------------
 COMMAND ==>

 Choose JES elements to be installed:

       JES Elements to Install                  ==> BOTH (JES2, JES3, or BOTH)

 Specify options for merging SMP/E target and DLIB zones:


       Merge JES2 Zones into BCP Zone           ==> N    (Y or N)

       Merge JES3 Zones into BCP Zone           ==> N    (Y or N)

       Merge JES2/JES3 Zones into BCP Zone      ==> N    (Y or N)









     Note: For more information, enter  ? in the command field.
```

Figure 3-1 JES Element Selection panel

If the response to this panel is anything other than JES2, JES3, or BOTH, an Invalid Value message is displayed.

If option JES2 is specified, the JES Element Selection panel is displayed again with the option that you can specify Y if you want to MERGE JES2 into BCP zone, as shown in Figure 3-2.

```
CPPP6017  ------------ JES Element Selection ( xxxxxxxx ) ---------------------
 COMMAND ==>

 Choose JES elements to be installed:

       JES Elements to Install                  ==> JES2 (JES2, JES3, or BOTH)

 Specify options for merging SMP/E target and DLIB zones:


       Merge JES2 Zones into BCP Zone           ==> N    (Y or N)









     Note: For more information, enter  ? in the command field.
```

Figure 3-2 Merge JES2 zones into BCP zone

If option JES3 is specified, the JES Element Selection panel is displayed again with the option that you can specify Y if you want to MERGE JES3 into BCP zone, as shown in Figure 3-3.

```
CPPP6017  ------------ JES Element Selection ( xxxxxxxx ) ---------------------
 COMMAND ==>

 Choose JES elements to be installed:

       JES Elements to Install                  ==> JES3 (JES2, JES3, or BOTH)

 Specify options for merging SMP/E target and DLIB zones:


       Merge JES3 Zones into BCP Zone           ==> N    (Y or N)









     Note: For more information, enter  ? in the command field.
```

Figure 3-3 Merge JES3 zones into BCP zone

If option BOTH is specified, the JES Element Selection panel is displayed again with the option that you can specify Y if you want to MERGE JES2, JES3, or BOTH into BCP zone. If you answer Y to more than one option, you receive an error message. You must specify N to all options or Y to one of the merge options, as shown in Figure 3-4.

```
CPPP6017  ------------ JES Element Selection ( xxxxxxxx ) ---------------------
 COMMAND ==>

 Choose JES elements to be installed:

       JES Elements to Install                  ==> BOTH (JES2, JES3, or BOTH)

 Specify options for merging SMP/E target and DLIB zones:


       Merge JES2 Zones into BCP Zone           ==> N    (Y or N)

       Merge JES3 Zones into BCP Zone           ==> N    (Y or N)

       Merge JES2/JES3 Zones into BCP Zone      ==> N    (Y or N)









     Note: For more information, enter  ? in the command field.
```

Figure 3-4 Merge options

After you specify the wanted options, you can use the **CR** command to create the configuration.

4

Variable Panel updates

This chapter describes the variables for z/OSMF and System Management Facility (SMF) under CustomPac Installation Dialog Level 27.

This chapter includes the following topics:

4.1 z/OSMF variables

Starting with z/OS V2R2, the configuration process for z/OSMF changed. z/OSMF no longer uses the Environment variable and Override file to set z/OSMF parameters.

z/OSMF is now set up by using a PARMLIB member IZUPRMxx. This member is optional and is not required if z/OSMF is set up by using all of the default parameters.

The IZUPRM00 member features parameters that can be customized by ServerPac, as shown in Figure 4-1.

```
==> Z/OSMF
    JAVA HOME            D  /usr/lpp/java/J7.1_64
    Z/OSMF ADMIN GRP     D  IZUADMIN
    Z/OSMF ADMIN GID     D  9003
    Z/OSMF USER GRP      D  IZUUSER
    Z/OSMF USER GID      D  9004
    STARTED TASK UID     D  9010
    HTTP TRPT SSLPORT    D  443
    SAF PROFILEPREFIX    D  IZUDFLT
    UNAUTH USER NAME     D  IZUGUEST
    UNAUTH USER UID      D  9011
    Z/OS ADMINGRPNAME    D  IZUSECAD
    Z/OS SEC GROUPGID    D  9006
    UNAUTH USRGRPNAME    D  IZUUNGRP
    UNAUTH USRGRP GID    D  9012
    HOSTNAME             D  *
    Z/OSMF LOGON VAR     D  IBMUSER
```

Figure 4-1 Customizable parameters

If you do not change any of these variables, you can delete IZUPRM00 member from CPAC.PARMLIB.

If you change any of the parameters, job CPPPUPDT replaces the default value with the value that you specified. After running CPPPUPDT, you can review IZUPRM00 in CPAC.PARMLIB and delete the values that were not customized by you.

4.2 Using SMF logstream option

The new variable SMF option was added under the SMF OPTION section. This variable specifies if option LOGSTREAM or DATASET is to be used during a full system Replacement installation.

If you change the option from LOGSTREAM to DATASET after completing the Modify System Layout (MSL) panel, the options after the Variables panel are disabled. You must review and complete all of the options after the Variables panel so that SYS1.MANx data set allocation is complete, as shown in Figure 4-2.

Note: Do not change the option from LOGSTREAM to DATASET after you start running jobs from the Installation menu,

```
==> MVS NEW MISC
     SMF IDENTIFIER       D  MVS1
     SYSNAME              D  CPAC
     SYSPLEX              D  LOCAL
     SYSTEM LOGGER HLQ    D  IXGLOGR
     SMF OPTION           D  DATASET
```

Figure 4-2 Customizable Variable section IBM MVS™ NEW MISC

5

Modifying system layout

This chapter describes the enhancements that were made in the Modify System Layout option, which includes large file system default allocation, enhanced support for file system merge, enhanced support for SMS managed data sets, and new data set view options.

This chapter includes the following topics:

5.1 Large file systems

By default, ServerPac ships the file system data type as zFS. However, with z/OS V2R2 (Dialog level 27), ServerPac ships the file system data type as HFS if the file system size is more than 3.6 GB.

When you enter the Modify System Layout option, you receive the message that is shown in Figure 5-1 if the order is shipped with an HFS file system.

```
CPP0605232I UNIX file system(s) > 3.6 GB are in the order and are allocated as
HFS file system. Please review information in IYO.
```

Figure 5-1 Information message from HFS file system

This message indicates that a large file system is in your order and is allocated as HFS instead of default zFS. You can review the file systems that are shipped as HFS from the view Data Set Type option in the Modify System Layout menu.

You can change the file system type to zFS. Consider allocating it with a Data Class, which allows the size to grow beyond 4 GB.

If you are using the z/OS V2R1 driving system, you can allocate the file system on physical volumes that are not managed by SMS. ServerPac ships a sample job DCZFSEXT in PDS CPAC.DOCLIB. This job creates a data class with extended addressability with no extended format.

If you are using the z/OS V1R13 driving system, you must make the large zFS file system SMS-managed by using data class with extended addressability and extended format.

5.2 Merging file systems

When you merge one or more UNIX file systems into a target zFS file system, ServerPac estimates the target file system size. If the estimated size exceeds 4 GB, the file system must be allocated with a data class with extended addressability.

If the driving system is z/OS V2R1 and above, zFS does not need to be SMS-managed and can be allocated on a physical volume. If the driving system is V1R13, it must be SMS-managed.

Because of this difference, when ServerPac estimates that the merged zFS data set size is exceeding 4 GB, the panel flows for z/OS V1R13 driving system are different than the panel flows for z/OS V2R1 and z/OSV2R2 driving systems.

For more information, see 5.2.1, “V2R1 driving system” and 5.2.2, “V1R13 Driving System”.

5.2.1 V2R1 driving system

When the target zFS file system size is estimated to be greater than 4 GB, panel CPPP60E6 is displayed, as shown in Figure 5-2.

```
CPPP60E6 TST27 -------- Merge Error for OMVS.ROOT        Enter required field
COMMAND ==>

Error: Estimated target zFS file system size is 6.27 GB

 A zFS that is > 4 GB must use a Data Class that supports
 extended addressability with no extended Format and DSORG = LS

To continue with the merge, select one of the following:

 1    Allocate data set by using Data Class with Extended Addressability

 2    Unmerge one or more file systems and reduce total size of files
      systems to less than 4 GB
```

Figure 5-2 Merge error message

You can review the estimated size of target zFS data set and continue merging or reduce the size by selecting to unmerge one or more file systems.

Allocate by using Data Class

If you select option 1, panel CPPP60E7 is displayed in which you can provide a data class name, as shown in Figure 5-3.

```
CPPP60E7 TST27 ------- Specify SMS Classes  ( XXXXXXXXX )
----------------------
COMMAND ==>


      Data Set Name:  OMVS.ROOT


   Data Class         ==>  TESTDC


Specify a Data Class that supports extended addressability with
No Extended Format and Recorg = LS


Press Enter to continue or End to cancel
```

Figure 5-3 Specify SMS Classes panel

After you provide the information about the data class, press Enter and the merge operation completes. You then see the message that is shown in Figure 5-4.

```
CPPO605238I SMS classes updated and the merge request was successful.
```

Figure 5-4 SMS classes message

5.2.2 V1R13 Driving System

When the target zFS file system size is estimated to be greater than 4 GB, panel CPPP60E1 is displayed, as shown in Figure 5-5.

```
CPPP60E1  ------------- Merge Error for  omvs.root      ----------------------

Error: Estimated target zFS file system size is

A zFS that is > 4 GB must be SMS managed and use an SMS Data
Class that supports extended addressability.

To continue with the merge, select one of the following:

 1  Change file system(s) to be SMS Managed with a Data Class

 2    Change data set type(s) to HFS

 3    Unmerge one or more file systems and reduce total size of files
      systems to less than 4 GB
```

Figure 5-5 Merge error message

You can review the estimated size of the target zFS data set and choose one of the three available options.

Allocate to be SMS managed

If you select option 1, panel CPPP60E3 is displayed to collect SMS information, as shown in Figure 5-6.

```
CPPP60E3 TST27 ------- Specify SMS Classes  ( XXXXXXXX ) ----------------------
COMMAND ==>


      Data Set Name:  OMVS.ROOT


   Data Class          ==> DCVSAMEX

   Management Class    ==>

   Storage Class       ==> SMSTCLAS


Specify a Data Class that supports extended addressability.
The SMS Classes specified must be defined to SMS.
Leave blank to indicate the data set is managed by ACS routines.


               Press Enter to continue or End to cancel
```

Figure 5-6 Specify SMS Classes panel for V1R13 Driving System

After you provide the necessary SMS information and press Enter, the Merge operation completes. An information message is then displayed, as shown Figure 5-7.

```
CPP06052001 Data Set merge request successful
```

Figure 5-7 Successful merge message

Changing data set type to HFS

If you select option 2, the target zFS file system is converted to HFS and the merge request is successful.

Unmerging one or more file systems

If you select to unmerge one or more file systems, the Candidate list is displayed, as shown in Figure 5-8.

```
CPPP60E5 TST27 --------- Modify System Layout  ( XXXXXXXX )  Row 1 to 15 of 15
COMMAND ==>                                                    SCROLL ==> CSR


CPPO605231E Deselect one or more data sets from merge candidate list.
Merge Component Data Sets for: OMVS.ROOT
Press F3 to continue.

Line Commands:(Information Unmerge)


S   Data Set Name                                 DS Type Size in GB/MB
-   ---------------------------------------- ------- --------------------
  * OMVS.ZE22G1.ROOT.ZFS                        ZFS     10.60 GB
    OMVS.ZE22G1.SIGYROOT.ZFS                    ZFS     2.28 MB
    OMVS.ZE22G1.SINGZFS.ZFS                     ZFS     31.99 MB
    OMVS.ZE22G1.SIXMHFS.ZFS                     ZFS     1.14 GB
    OMVS.ZE22G1.JAVA31M1.ZFS                    ZFS     637.55 MB
    OMVS.ZE22G1.JAVA64M1.ZFS                    ZFS     775.42 MB
    OMVS.ZE22G1.JV31V71.ZFS                     ZFS     562.14 MB
    OMVS.ZE22G1.JV64V71.ZFS                     ZFS     684.02 MB
    OMVS.ZE22G1.JV31V80.ZFS                     ZFS     585.76 MB
    OMVS.ZE22G1.JAVA64V8.ZFS                    ZFS     719.82 MB
    OMVS.ZE22G1.V7R1M0.MQROOT.ZFS               ZFS     364.10 MB
    OMVS.ZE22G1.NETVHFS.ZFS                     ZFS     12.94 MB
    OMVS.ZE22G1.SIZUROOT.ZFS                    ZFS     593.37 MB
    OMVS.ZE22G1.SIBMROOT.ZFS                    ZFS     3.04 MB
    OMVS.ZE22G1.TIVOLI.ZFS                      ZFS     135.58 MB
*******************************Bottom of Data********************************
```

Figure 5-8 Modify System Layout panel

After you unmerge one or more file systems, the Target file system is estimated and panel CPPP60E5 is displayed again if the estimated size is still greater than 4 GB.

After the target data set size is reduced below 4 GB, the merge request is completed. The message that is shown in Figure 5-9 is displayed.

```
CPPO605200I Data Set merge request successful
```

Figure 5-9 Successful merge message

5.3 Enhanced support for SMS classes

Starting with z/OS V2R2 Dialog Level 27, ServerPac supports data set allocation by using Storage, Data, and Management classes.

You can assign SMS classes to data sets by using one of the following methods:

- **`CH SMS`** global command: You can use the **`CH SMS`** command to assign or change SMS classes to eligible data sets:
  - `CH SMS SC`: Change Storage Class of data sets
  - `CH SMS DC`: Change Data Class of data sets
  - `CH SMS MC`: Change Data Class of data sets

  For more information about these commands, see *ServerPac Using the Installation Dialog*, SA23-2278-02.
- Data Set Attribute panel: As shown in Figure 5-10, fields that are used to assign Data and Management classes are added to the Data Set Attribute panel. Data classes can be assigned to any data set. Storage and Management class fields are available for SMS-managed data sets only.

```
CPPP6O5D TST27 ---- Data Set Attributes 1 of 2 ( XXXXXXXXX )
-------------------
COMMAND ==>

  Data set Name ==> AOP.AAOPEXEC
   Shipped Name  :  AOP.AAOPEXEC
  Data Set Type ==> PDS  (PDS or PDSE)       Shipped  :  PDS
Data Set Element Type  :  DLIB
             Category  :  DLIB
       Logical Volume ==> SMDOO6             Shipped  :  DLBOO6
          SMS Managed ==> Yes   (Yes or No)

        Storage Class  :  SMSDCLAS  (Blank if managed by ACS routines)
           Data Class  :
     Management Class  :

       Primary Tracks ==> 5                  Shipped  :  5
     Secondary Tracks ==> 1                  Shipped  :  1
     Directory Blocks ==> 10                 Shipped  :  10
   Product, Element, or Feature :  INFOPRINT SERVER
```

Figure 5-10 Data Set Attributes panel

5.4 Support for using ACS routines

Use one of the following methods to allocate SMS-managed data sets by using ACS routines:

- **CH SMS** global command: You can use **CH SMS SC source** command to assign or change SMS classes to set of eligible data sets; for example, CH SMS SMS SC TESTSC *.

  The command is shown in Figure 5-11.

```
CPPP605D TST27 ---- Data Set Attributes 1 of 2 ( XXXXXXXX ) -------------------
COMMAND ==>                                                  SCROLL ==> CSR
GLOBAL Change - Candidate List                Change: Attribute

Primary Commands:(? SET Locate Find Next Previous SORT CANcel)
   Line Commands:(eXclude)

                       (Old)                  DS        P.Volume/ Seq Logical
S Data Set Name        (New)                  Type  SMS STORCLAS  No. Volume
- ---------------------------------------- ----- --- --------- --- -------
  AOP.AAOPEXEC                             PDS   Y   TESTSC        SMD006
  AOP.AAOPEXEC                             PDS   Y   *ACS*         SMD006
  ---------------------------------------- ----- --- --------- --- -------
****************************** Bottom of data ********************************
```

Figure 5-11 CH SMS command

  For more information about this command, see *ServerPac Using the Installation Dialog*, SA23-2278-02.

- Data Set Attribute Panel: As shown in Figure 5-12 on page 25, you can assign a data set by using ACS routines. Ensure that the Keep the Storage Class field is blank.

```
CPPP605D TST27 ---- Data Set Attributes 1 of 2 ( XXXXXXXXX )
-------------------
COMMAND ==>

  Data set Name ==> AOP.AAOPEXEC
   Shipped Name  :  AOP.AAOPEXEC
  Data Set Type ==> PDS  (PDS or PDSE)       Shipped  :  PDS
Data Set Element Type  :  DLIB
             Category  :  DLIB
       Logical Volume ==> SMD006             Shipped  :  DLB006
          SMS Managed ==> Yes   (Yes or No)

        Storage Class  :            (Blank if managed by ACS routines)
           Data Class  :
     Management Class  :

       Primary Tracks ==> 5                  Shipped  :  5
     Secondary Tracks ==> 1                  Shipped  :  1
     Directory Blocks ==> 10                 Shipped  :  10









   Product, Element, or Feature :  INFOPRINT SERVER
```

Figure 5-12 Data Set Attributes panel

- You can use Modify System Layout View Physical Volume summary and select **Row for Storage Class**. Change the Storage class value to a new value, as shown in Figure 5-13.

```
CPPP605Q TST27 -------- Modify System Layout ( XXXXXXXXXX )
--------------------
COMMAND ==>

ASSIGN a Storage Class


      STORAGE CLASS    :  TESTSC




      NEW STORAGE CLASS  ==> TESTSC

      The STORCLAS you specify must be defined to SMS, or left blank to
      indicate that the data set is managed by ACS routines.
```

Figure 5-13 Modify System Layout panel

5.5 New data set view options

Two new views (SMS ACS and SMS Classes) were added in the Select Data Set View panel, as shown in Figure 5-14.

```
CPPP6O5R TST27 -------- Select Data Set View ( BAOOO213 ) - Row 26 to 35 of 35
 COMMAND ==>                                                  SCROLL ==> CSR

 Select a Data Set List View:

 Primary Commands:(?)
    Line Commands:(Select)

  S  Display          Data Set List Description
  -  --------------  ------------------------------------------------------
     SMS ACS          Whether data set is managed by ACS routines (Yes or No)
     SMS Classes      SMS Data Class, Storage Class and Management Class
     SMS-Eligible     Whether data set may be SMS-managed (Yes or No)
     SMS-Managed      Whether data set is SMS-managed (Yes or No)
     SMS-Required     Whether data set must be SMS-managed (Yes or No)
     SST              Subsystem Type (MVS, CICS, DB2, IMS, NCP)
     Tracks           Current Data Set Size in Tracks
     TVOL             Special target volume placement (FIRST or LAST)
     Unit             Assigned Unit
     Volume Number    Volume Sequence Number (Tnn, Dnn, and Bnn)
 ******************************Bottom of Data*********************************
```

Figure 5-14 Select Date View panel

5.5.1 SMS ACS VIEW

Use this view to review SMS-managed data sets to check whether they are ACS controlled. Figure 5-15 shows the panel when you select the SMS ACS option.

```
CPPP6O5S TST27 ------ Select Values to Display ( XXXXXXXXX ) -- Row 1 to 2 of 2
 COMMAND ==>                                                  SCROLL ==> CSR

 Select list for: SMS ACS

 Select values for which data sets are to be listed and press Enter

 Primary Commands:(?)
    Line Commands:(Select SS)

    S   Values
    --  ----------------------------------------
    SS  No
    SS  Yes
 ******************************Bottom of Data*********************************
```

Figure 5-15 Select Values to Display panel

Figure 5-16 shows the Data Set List panel.

```
CPPP605U TST27 ---------- Data Set List ( XXXXXXXX ) --------- Row 1 to 2 of 2
 COMMAND ==>                                                   SCROLL ==> CSR

 Data Set List for: SMS ACS

 Primary Commands:(? SET Locate Find Next Previous SORT CHange OFile OList
                  FindComp)
    Line Commands:(Merge eXpand Conflict Unmerge Select Insert Delete)


Physical
 S Data Set Name                                Selected Value          Volume
 - ---------------------------------------- ----------------------
--------
   AOP.AAOPEXEC                                 Yes                     *ACS*
   AOP.AAOPHFS                                  No                      *SMS*
 ******************************Bottom of Data*********************************
```

Figure 5-16 Data Set List panel

5.5.2 SMS Classes View

You can use this view to review SMS classes that are used to allocate data sets. You can review data sets by selecting one or all of the classes by using the **block** command.

Figure 5-17 shows output of the **block** command from the SMS classes view.

```
CPPP605S TST27 ------ Select Values to Display ( BAOO0213 ) -- Row 1 to 3 of 3
 COMMAND ==>                                                   SCROLL ==> CSR

 Select list for: SMS Classes

 Select values for which data sets are to be listed and press Enter

 Primary Commands:(?)
    Line Commands:(Select SS)

    S   Values
    --  ---------------------------------------
    ss  Data Class
        Management Class
    ss  Storage Class
 ******************************Bottom of Data*********************************
```

Figure 5-17 Output of block command

Figure 5-18 shows the Data Set List panel.

```
CPPP605U TST27 ---------- Data Set List ( BA000213 ) --------- Row 1 to 4 of 4
 COMMAND ==>                                                  SCROLL ==> CSR

 Data Set List for: SMS Classes

 Primary Commands:(? SET Locate Find Next Previous SORT CHange OFile OList
                  FindComp)
    Line Commands:(Merge eXpand Conflict Unmerge Select Insert Delete)


Physical
 S Data Set Name                              Selected Value          Volume
 - ------------------------------------------ ----------------------
--------
AOP.AAOPEXEC                                Data Class              TESTDC
   AOP.AAOPEXEC                                Storage Class           TESTSC
   AOP.AAOPEXEC                                Management Class        TESTMC
   AOP.AAOPHFS                                  Storage Class           TESTSC
```

Figure 5-18 Data Set List for SMS Classes view

5.6 Configuration error messages

Configuration error messages are shown only when you exit the Modify System Layout panel, as shown in Figure 5-19.

```
CPPP6058 TST27 ---------------------------------------------------------------
 COMMAND ==>




                                  Warning!
                           Configuration Problem Found

                Press ENTER to return to Modify System Layout.
                Press END or RETURN to save the current values and exit.




 Problem Type                 What to do:
 --------------------------   -----------------------------------------------
 Physical Volume              See Physical Volume Summary Display for more
info
```

Figure 5-19 Configuration error message

In previous dialog levels, the data set length was validated when you defined the System Specific Aliases (SSA). Starting in Dialog level 27, the data set name is validated again if the data set name is changed after the SSA is defined. Also, if the length of data set and SSA exceeds the allowable limit, the error message that is shown in Figure 5-20 is displayed.

```
CPPO6O5225E Data set name is TOO long. This data set will be allocated with SSA
TEST1, which limits the data set to 38 characters.
```

Figure 5-20 Error message

During the merge operation, a warming message is displayed if the attribute of the target data set is changed, as shown in Figure 5-21.

```
CPPP6O5226W Target data set will be SMS managed after the merge.
```

Figure 5-21 Warning message

6

Installation job changes

This chapter describes changes that were made to the create and submit installation jobs functions, which includes z/OSMF configuration, PFA configuration, KC4z configuration, and SMF logstream setup.

This chapter includes the following topics:

6.1 Setting up SMFPRM member

You must set up our SMF configuration according to your needs.

The Job SMFPRM is added to set up SMPRM00 member in CPAC.PARMLIB under section PRE_IPL JOB and ACTIONS. Depending on the option that you entered in the variable SMF OPTION, this job prepares the SMFPRM00 member that is included in CPAC.PARMLIB with the required definitions of SMF option.

If you selected the LOGSTREAM option, SMFPRM00 member includes the definitions that are needed for Logstream.

If you selected the DATASET option, SMFPRM00 member includes definitions that are needed for DATASET.

Note: You do not see the variable SMF OPTION from the installation Jobs menu when you use the line command V against the job SMFPRM. The variable is not displayed because it should not be changed after ALLOCDS job is run.

6.2 Setting up Predictive Failure Analysis

ServerPac provides Job HBB77A0M to run Predictive Failure Analysis (PFA) migration script `AIRSHREP.sh`. Starting with z/OS V2R2, running this script is not a mandatory migration task. This script is included as a tool to delete data, if required. Also, the PFA started task migrates PFA data from earlier releases when it is started for the first time.

The following changes are made to the job HBB77A0M to support the new functions of the script:

- Step to run script `AIRSHREP.sh` is commented. If you want to delete the data from previous releases, uncomment the step and run the script with parameter “New”.

  If you run the script with Parameter “migrate”, the script runs with no error; however, no action is taken. The following message is displayed in job output:

  ```
  All migration will occur when PFA starts and this option is no longer required.
  ```

- If the PFA INI file is not in the `/etc/PFA` directory, it is copied from the sample directory.
- The PFA INI file is customized in the `/etc/PFA` directory.

6.3 z/OSMF configuration

Starting in z/OS V2R2, z/OSMF is a base element of z/OS and z/OSMF V2R2 is not orderable as a product ServerPac. The z/OSMF configuration process is now simplified. Configuration script `izusetup.sh` is no longer required to set up z/OSMF V2R2. The default configuration values are shipped in a sample member SYS1.SAMPLIB(IZUPRM00). If you find these values to be sufficient for your environment, you can quick start z/OSMF server.

You can set up the necessary security profiles by using the sample security jobs that are included in SYS1.SAMPLIB. For more information, see *IBM z/OSMF Management Facility Configuration Guide*, SC27-8419.

Because of these changes, ServerPac removed jobs to set z/OSMF configuration parameters and run the `izusetup.sh` script. If you are using IBM Resource Access Control Facility (RACF®), the profiles that are needed for basic configuration are set up by the RACFTGT job.

The process that is used to set up z/OSMF by using ServerPac is described next.

6.4 First-time configuration

ServerPac features member IZUPRM00 in PDS CPAC.PARMLIB. This member includes z/OSMF properties that can be customized in ServerPac. These properties are shipped with default values. You can override the values by changing the values in the Variable Panel CPPP61111 – Installation Variables section in z/OSMF.

Installation Job CPPUPDT replaces the default values with the values that are specified in Installation variables. You can review the IZUPRM00 member after running CPPUPDT. If you are using default values for all properties, you can delete the member from CPAC.PARMLIB.

6.4.1 Migrating from earlier release

Complete the following steps to migrate properties from the z/OSMF installation:

1. ServerPac ships a sample job IZUMIGRT in PDS CPAC.SAMPLIB. Copy the job to PDS and change it per the instructions that are provided in the job.
2. Run this job to migrate properties from the configuration to the IZUPRMxx member. You can run the sample job after completing the RESTORE job. The file systems of the z/OSMF release must be mounted.
3. After running the job, review the IZUPRMxx member that was created to see the migrated properties.

After you create the IZUPRMxx member, complete the following steps:

1. Run RACFTGT to create the profiles that are needed for basic z/'OSMF configuration.
2. Run HSMA220C to set up the TCP/IP port.
3. ServerPac mounts the User file system on `/var/zosmf`. Ensure that z/OSMF started the task USER and GROUP have owner access to this directory.
4. If you changed default value for z/OSMF User file system mount point or want z/OSMF to read the IZUPRMxx member, you must update the COMMNDXX member with the new **START** command.

   For example, if the User file system is mounted on `/var/v2r2/zosmf` and you want the z/OSMF server to read IZUPRM00 and IZUPRM01 from the PARMLIB library, you can use following command:

   ```
   START IZUSVR1,USERDIR='/var/v2r2/zosmf',IZUPRM='00,01'
   ```

5. Start the z/OSMF server by starting IZUANG1 and then, IZUSVR1.

6.5 Setting up IBM Knowledge Center for z/OS

IBM Knowledge Center for z/OS (KC4z) is a new element that was added to the z/OS base starting with z/OS V2R2. It is a Java based application that is deployed by the IBM WebSphere® Liberty Profile that is included with the z/OSMF base element.

By using IBM Knowledge Center for z/OS, you can display, browse, and search content in a manner that is similar to IBM Knowledge Center on the IBM Support Site. For more information, see *IBM Knowledge Center for z/OS Configuration and User Guide*, SC27-6805-00.

ServerPac allocates the following File Systems and inserts mount points for each file system in the BPXPRMFS member that is stored in CPAC.PARMLIB:

- HKC.HKCDATFZ: `/sharedapps/kc4z/data`
- HKC.HKCCHGFZ: `/sharedapps/kc4z/servers`
- HKC.HKCLOGFZ: `/var/kc4z`

RACFTGT completes the necessary RACF setup for KC4z.

Complete the following configuration tasks by running the following new job that is added to set up KC4z:

- HKZC100C: Create target subdirectories.
- HKXZ100D: Copy sample configuration files from the IBM Knowledge Center Installation directory.

After all of the jobs are run, you can verify the installation by following the instructions in the DOC job titles “Verify IBM Knowledge Center installation”. After Knowledge Center is successfully installed, you can add content to Knowledge Center for z/OS by following instructions that are provided in *BM Knowledge Center for z/OS Configuration and User Guide*, SC27-6805-00.

After the installation is verified, you can customize the configuration files by using the instructions that are provided in the DOC job CUSTOMIZE configuration files.

Related publications

The publications that are listed in this section are considered particularly suitable for a more detailed discussion of the topics that are covered in this book.

IBM Redbooks

The following IBM Redbooks publications provide more information that is related to the z/OS V2R2 updates. Note that some publications that are referenced in this list might be available in softcopy only:

- *IBM z/OS V2R2: JES2, JES3, and SDSF*, SG24-8287
- *IBM z/OS V2R2: Security*, SG24-8288
- *IBM z/OS V2R2: Storage Management and Utilities*, SG24-8289
- *IBM z/OS V2R2: Availability Management*, SG24-8290
- *IBM z/OS V2R2: Performance*, SG24-8292
- *IBM z/OS V2R2: Operations*, SG24-8305
- *IBM z/OS V2R2: Diagnostics*, SG24-8306
- *IBM z/OS V2R2: Sysplex*, SG24-8307
- *IBM z/OS V2R2: Unix Systems Services*, SG24-8310
- *IBM z/OS V2R2: User Interfaces*, SG24-8311
- *IBM z/OS V2R2: ServerPac*, SG24-8500
- *Server Time Protocol Planning Guide*, SG24-7280

You can search for, view, download, or order these documents and other Redbooks, Redpapers, Web Docs, draft and additional materials, at the following website:

ibm.com/redbooks

Other publications

The following publications are also relevant as further information sources:

- *ServerPac using the Installation (Dialog Level: 27)*, SA29-2278
- *z/OS V2R2 Planning for Installation*, GA32-0890
- *z/OS V2R2 Migration*, GA32-0889
- *IBM Knowledge Center for z/OS Configuration and User Guide*, SC27-6805

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