z/OS 3.1 IBM Education Assistant

Solution Name: z/OS 3.1 Installation Highlights

Solution Element(s): z/OS 3.1 Product

July 2023

Agenda

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- Presentation Overview
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- Driving & Target System Requirements
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Trademarks

- See url http://www.ibm.com/legal/copytrade.shtml for a list of trademarks.

- Additional Trademarks:
  - None

Objectives

- Understand how to install z/OS 3.1 using z/OSMF portable software instance (ServerPac).
  - Element(s)/Component(s): z/OS (5655-ZOS) with ServerPac (5751-CS9)

Presentation Overview

- Who (Audience)
  - z/OS system programmers who install z/OS 3.1 as a z/OSMF portable software instance (ServerPac)
- What (Solution)
  - z/OSMF portable software instance exploitation for the installation of z/OS 3.1 and any z/OS program products ordered on Shopz.
  - z/OSMF Software Management deployment operation supports creating a new master catalog, merging datasets, along with all existing customization capabilities (data set names, placement, indirect cataloging, and other tasks)
  - z/OSMF Workflows for software configuration for products in z/OSMF portable software instance.
- Wow (Benefit / Value, Need Addressed)
  - The z/OS system programmer can install z/OS using a common packaging format, aligned with other leading z/OS platform software vendors, that is simpler to install and configure in a guided and helpful graphic user interface.

Installation - Documentation

- Planning for z/OS 3.1 installation
  - Review installation and upgrade documentation
    - z/OS 3.1 Planning for Installation (GA32-0890)
    - z/OS 3.1 Upgrade Workflow
    - z/OS 3.1 Program Directory for CBPDO install
  - Review Preventative Service Planning (PSP) bucket for z/OS 3.1
    - UPGRADE is ZOS31. SUBSETs can be found in the z/OS 3.1 Program Directory
  - Review applicable hardware PSP buckets
    - z/OS 3.1 Upgrade Workflow identifies the hardware PSP Buckets

Installation - Upgrade & Coexistence Considerations

- z/OS 3.1 is supported for coexistence, fallback, and upgrade with z/OS V2R5 and z/OS V2R4

- Coexistence and fallback PTFs must be installed on lower z/OS systems which coexist with z/OS 3.1
  - Use the REPORT MISSINGFIX command with a FIXCAT (fix category) of IBM.Coexistence.z/OS.3.1 after receiving the latest HOLDDATA to identify PTFs for the lower z/OS releases
    - Note: The naming convention has changed for FIXCAT to remove the ‘V’ & ‘R’. (example: instead of V3R1, it is now 3.1)

Driving System Software Dependencies

- Driving system requirements (system on which installation is done)
  - The driving system requirements for installing z/OS 3.1 are as follows:
    - z/OS V2R4 or higher, plus the PTFs that are identified with the following SMP/E Fixcat
      - IBM.DrivingSystem-RequiredService
    - Use the SMP/E REPORT FIXCAT command to verify that all required PTFs are installed on your driving system. An example of that command is:
      - SET BDY(GLOBAL).
      - REPORT MISSINGFIX ZONES(DRVTARG)
      - FIXCAT(IBM.DrivingSystem-RequiredService).
    - Package Signing PTFs will be included in the driving system SMPE FIXCAT

- z/OS 3.1 Planning for Installation describes the driving system requirements

Target System Software Dependencies PT1

- Install required service for IBM products
  - Use the REPORT MISSINGFIX command and use FIXCAT(IBM.TargetSystem-RequiredService.z/OS.3.1) to identify required PTFs that must be installed
    - Note: The naming convention has changed for FIXCAT to remove the ‘V’ & ‘R’. (example: instead of V3R1, it is now 3.1)

- If you are upgrading from an earlier release of z/OS, you can use the product levels on z/OS 3.1 that you used on your prior z/OS release. The product levels must be still service-supported, with the following
  - Exceptions:
    - If you are using any of the products in Appendix B ‘IBM middleware and application products that require a specific version to run on z/OS 3.1’, you must use the product levels shown.
    - If you are using any of the functions in Appendix B ‘Functions of z/OS 3.1 that require specific z/OS optional features or IBM products’, and those functions have dependencies on IBM middleware or application products, you must use the product levels shown (or later).

Target System Software Dependencies PT2

- For the specific Java dependencies for each element, see z/OS 3.1 Planning for Installation

- z/OS 3.1 at General Availability (GA) has an overall dependency on:
  - [5655-DGJ] IBM Java SDK for z/OS V11
  - At GA, some functions may still require IBM Java SDK for z/OS V8 31-bit.

- **It is expected that the z/OS 3.1 functions that need Java will move to a higher Java level over the life of z/OS 3.1. Always refer to the current level of the z/OS 3.1 Planning for Installation book for the current information.**

Target System Hardware Dependencies PT1

- Processor requirements: (TradeMarked)
  - IBM z16, z15 (T01 or T02), or z14 (M01 through M05 or ZR1)

- z/OS 3.1 DASD - approximate requirements as of July 2023:
  - Target libraries:
    - z/OS 3.1 - total space required is 10246 3390 cylinders
    - z/OS V2R5 total space required is 11348 3390 cylinders
      - Delta: -1102 3390 cylinders
  - Distribution Libraries:
    - z/OS 3.1 - total space required is 19022 3390 cylinders
    - z/OS V2R5 total space required is 19158 3390 cylinders
      - Delta: -136 3390 cylinders

Target System Hardware Dependencies Pt2

- z/OS 3.1 DASD - approximate requirements:
  - Root file system:
    - z/OS 3.1 - zFS space required is 5555 3390 cylinders (with 90% utilization)
    - z/OS V2R5 zFS space required is 4614 3390 cylinders
      - Delta: +941 3390 cylinders
    - This is approaching the 4GB limit where Extended Addressability Is required.
      - If you merge another filesystem with the root it will require EA if it exceeds 4GB
  - z/OS Font Collection:
    - z/OS V2R5 zFS space required is 2795 3390 cylinders
    - z/OS V2R5 zFS space required is 2649 3390 cylinders
      - Delta: +146 3390 cylinders
  - IBM z/OS Liberty Embedded
    - z/OS 3.1 zFS space required is 2400 3390 cylinders
  - IBM z/OS Container Extensions
    - z/OS 3.1 zFS space required is 5250 3390 cylinders

Overview - Ordering

- Ordering z/OS 3.1
  - Program number 5655-ZOS
  - Order any optional priced or unpriced features that were used with previous z/OS releases
- Key dates
  - z/OS 3.1 General Availability (GA) ordering is planned to begin 09/19/23 on ShopZ
  - z/OS 3.1 General Availability is planned for 09/29/23
- Installation Type
  - z/OS 3.1 ServerPac will only be available as a z/OSMF portable software instance.
  - z/OS 3.1 is also available as a CBPDO.

Overview - Elements Changing in z/OS 3.1

- BCP - Base Control Program
- BINDER
- CIM - Common Interface Model
- COMMSERVER - Communications Server
- CPM - Capacity Provisioning
- DATA GATHERER - z/OS Data Gatherer
- DFSMS - Data Facility Storage Management Subsystem
- DFSORT - Data Facility Sort
- HCD - Hardware Configuration Definition
- HCM - Hardware Configuration Manager
- IOCP - I/O configuration program
- ICSF - Integrated Cryptographic Service Facility
- ISPF - Interactive System Productivity Facility
- ITDS/LDAP - IBM Tivoli Directory Server / Lightweight Directory Access Protocol
- JES2 - Job Entry Subsystem 2
- KC4Z - Knowledge Center for Z
- LE - Language Environment
- NAS/SKRB - Integrated Security Services-Network Authentication Service Base
- NFS - Network File System Server and Client
- OPENSSH - OpenSSH for z/OS
- PKI - Cryptographic Services
- RACF - Resource Access Control Facility
- RMF - Resource Measurement Facility
- SDSF - System Display and Search Facility
- SYSTEM SSL - Cryptographic Services - System SSL Base
- TSOE - Time Sharing Option
- UNICODE
- USSAS - z/OS UNIX System Services Application Services Base
- ZDNN - IBM Z Deep Neural Network
- ZFS - ZFS (includes DSFS)
- ZOSMF - z/OS Management Facility

Shopz Ordering Consideration	IFAPRD00 impacts
XML Toolkit program product change: • XML program product **can** be ordered **with** z/OS V2.5 (until EOM) • XML program product **can** be ordered **by itself**, until EOM • XML **cannot** be ordered **with** z/OS 3.1, and Shopz contains an ordering note to explain that it is included in z/OS 3.1 base	No IFAPRDxx impact

DFSMS TVS movement into base:
• No DFSMS TVS feature will be listed on Shop for z/OS 3.1
	In every in 3.1 order (always enabled):
	`FEATURENAME(DFSMSTVS)`
	`STATE(ENABLED)`

Removal of JES3 and BDT:
• No JES3 or BDT features will be listed on Shopz for z/OS 3.1
JES3: HJS77D0, HJS77C0
BDT: HBD6602
BDT: File to File: JBD6201
BDT: SNA NE: JBD6202
	These statements will not appear:
	`FEATURENAME(JES3)`
	`FEATURENAME(BDTFTF)`
	`FEATURENAME(BDTNJE)`

Removal of Alternate Base:
• No Alternate Base feature will be listed on Shopz for z/OS 3.1
• Communications Server Security Level 3 is always eligible for ordering with z/OS 3.1. (Previously, it was not supported/orderable with the Alternate Base.)
	In every in 3.1 order (always enabled):
	`FEATURENAME('TCP/IP BASE')`
	`FEATURENAME('TCP/IP CICS')`
	`FEATURENAME('TCP/IP IMS')`

Removal of Communication Server Security Level 3 separate feature: • Is now merged with the **z/OS Security Level 3** non-priced export-controlled feature.	No IFAPRDxx impact
RMF Restructure – Workload Interaction Correlator (occurred in z/OS V2.5) • Ordering RMF priced feature, also enables Advanced Data Gatherer. Advanced Data Gatherer is available for ordering without RMF. • When ordering RMF or Advanced Data Gatherer, IBM z/OS Workload Interaction Correlator is available for use (without IFAPRD00 enablement). It is also available as a separate priced feature for ordering.	`FEATURENAME(RMF)` will also enable `FEATURENAME(ADV DG)`

IBM Health Checker updates for z/OS 3.1

- SUP_ASVT_ABOVE_16M (New Check)
  - Description:
    - Checks to see whether the residency mode (RMODE), specified for the ASVT control block in the CBLOC parameter of the DIAGxx parmlib member, is the expected value. The default RMODE for the ASVT control block is RMODE 24. The check looks for RMODE 31 for the ASVT control block unless you specify an RMODE of 24 in the RMODE parameter for the check.
  - Reason for check:
    - The suggested RMODE for the ASVT control block is RMODE 31.

- New Related Messages:
  - IEAVEH120I The residency mode (RMODE) of the ASVT control block (macro IHAASVT) is *actual* which matches what is expected.
    - Explanation - CHECK(IBMSUP,SUP_ASVT_ABOVE_16M) determined that the ASVT control block has the correct residency mode (RMODE).
  - IEAVEH121E The residency mode (RMODE) of the ASVT control block (macro IHAASVT) is expected to be *expected* but is *actual*. CHECK(IBMSUP,SUP_ASVT_ABOVE_16M) determined that the ASVT control block does not have the correct residency mode (RMODE).
    - Explanation: CHECK(IBMSUP,SUP_ASVT_ABOVE_16M) determined that the ASVT control block does not have the correct residency mode (RMODE).

- Reference Documentation:
  - See the CBLOC parameter in the DIAGxx parmlib member in *z/OS MVS Initialization and Tuning Reference*.

Summary

- This presentation provided an overview of z/OS 3.1 installation changes.

- To learn about the z/OSMF installation method:

https://www.ibm.com/support/z-content-solutions/serverpac-install-zosmf/

There is a sample portable software instance you can try out now, to learn the process.

- For a complete description of the upgrade actions, use the z/OS 3.1 Upgrade Workflow

Appendix

- Publications
  - z/OS 3.1 Planning for Installation (GA32-0890)

- References
  - z/OS 3.1 Upgrade Workflow