Session 9732:
z/OS Software Deployment

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Agenda

- Overview
  - “Software Deployment”
  - “Software Instances”
  - Common “Software Deployment” Scenarios
  - Value of simplifying “Software Deployment”
- IBM’s New z/OSMF Software Deployment task
- Software Deployment “Demonstration”
  - “Clone” existing software to prepare to upgrade a product
- Summary
Software Installation Process Flow

1. Plan what hardware and software products and features are needed or desired
2. Acquire the products and features
   - Order IBM software using ShopzSeries
   - Order hardware and ISV products (as needed)
3. Stage the software
   - Combined with acquisition for electronic distribution
4. Install the software
   - ServerPac (or SystemPac) installation
   - SMP/E installation for CBPDO products or service
5. Customize the software
   - Configure features, override defaults (if necessary)
   - Migrate existing customization and perform required migration actions
   - Install/Connect middleware, ISV code, and applications
6. Test the system
7. Deploy the system
   - To other test systems, then to production systems

Note: Steps can involve multiple people with different responsibilities (roles)
What Is Meant By Software Deployment*

- Software deployment is one step in the end-to-end software installation flow.
- Software deployment is itself a workflow consisting of a number of steps to copy a software instance to another physical location such as another DASD volume.
- The purpose of software deployment is to make software (executable code, configuration files and operational data sets) available for use on a system by users and other programs.

Prior to installing you copy (“clone”) your software and update the copy (not the running software)

Test and Deploy Steps Are Iterative
- May need to deploy before you can test
- May need to test before deploying to a new environment
- May repeat tests and deployment several times

*As defined in this presentation by me, and used by the IBM z/OSMF Software Deployment function
What Is Meant By Software Deployment*

- Can involve
  - Copying a software instance to different volumes or to data sets (or paths) with different names.
    - “Source” software instance -- identifies the software that you want to deploy
    - “Target” software instance -- identifies where you want the software deployed
  - Performing customization tasks to create or update configuration files and operational data sets.
    - Can be performed:
      - prior to software deployment for common configurations,
      - after software deployment for instance specific configuration, or
      - a combination of both
    - When upgrading from a prior level, some of these tasks may be identified as “migration actions”.

*As defined in this presentation by me, and used by the IBM z/OSMF Software Deployment function
Current State of Software Deployment

- For years IBM has left software deployment as an exercise for the user.
- Over time, innovative approaches were developed by our users to deploy a fix, maintenance upgrades, or new releases.
  - Errors occurred, because all the affected parts were not copied; such as
    - Load module aliases, HFS or PDS/PDSE files/members
    - Entire libraries or file systems
- Some users have been reluctant to exploit new technology (for example: zFS) due to required changes to cloning procedures.
- Many users choose not to copy the SMP/E Consolidated Software Inventory (CSI), which makes it hard to have a software inventory of the running system.
  - The absence of a CSI (and other SMP/E data sets) makes it impossible to install maintenance in an emergency.
**Desired State of Software Deployment**

- Clone z/OS images and deploy software more easily and consistently, using a new z/OSMF software deployment task.
- Manage the deployment of **ALL** SMP/E packaged software (IBM, ISV, and user)
- **Codify IBM recommended best practices for software deployment**
  - Copy all affected parts of a software update.
  - Check requisites prior to deployment.
    - Check existing software instances for missing coexistence service
    - Check products that will interact with the deployed target software instance for missing requisites which enable them to run on the new software level
    - Check if the source software instance is missing any SYSMODs for the target environment
  - Check for possible regression of maintenance or USERMODs.
    - Check that the new release has the equivalent service that the software instance being replaced contained.
  - Identify any SYSTEM HOLDs that may need to be resolved in the target environment PRIOR to deployment.
  - Deploy the SMP/E zones with the libraries.
Software Instance
**Software Instance**

- **Definition**: For z/OS platform software, the SMP/E target and distribution zones that are associated with a product set and the target and distribution libraries described by those zones.
  - The SMP/E zones point to the target and distribution libraries
    - DLIB data sets and DLIB zones are optional
  - Non-SMP/E data sets can include:
    - Other runtime libraries
    - Configuration files and operational data sets
    - Non-SMP/E maintained ISV or user libraries
Software Instance …

- Recommendation: Each software instance should contain one or more software products that you install, maintain, backup, recover and deploy as a group.
  - The “z/OS Planning for Installation” book uses the term “product set” for this group of products.

- A number of software instances can be accessible on a z/OS system.
  - When used as a driving system, the target system software instances that will be updated during installation are accessible.
  - A running system contains one or more software instances that are used during software execution.

- Software instances can be shared among one or more z/OS systems in a sysplex, for example:
  - Two z/OS LPARs can be IPLed from the same SYSRES.
  - Two DB2 instances can use the same DB2 libraries.
### Software Instances in a Parallel Sysplex (1 of 2)

#### Environment
- 2 Servers (CPCs)
- 5 z/OS Images (LPARs)
  - Systems 1 – 5

<table>
<thead>
<tr>
<th>System 1</th>
<th>System 2</th>
<th>System 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZOSV1R10</td>
<td>ZOSV1R10P</td>
<td>ZOSV1R10</td>
</tr>
<tr>
<td>DB2V8R1</td>
<td>DB2V9R1</td>
<td></td>
</tr>
<tr>
<td>DB2V9R1</td>
<td>IMSV9</td>
<td></td>
</tr>
<tr>
<td>WASV61</td>
<td></td>
<td></td>
</tr>
</tbody>
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<table>
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<tr>
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<th>System 5</th>
</tr>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Software Instances in a Parallel Sysplex (2 of 2)

Environment

- **5** z/OS images share **2** z/OS software instances (ZOSV1R10, ZOSV1R10P)
- **4** z/OS images share **2** DB2 software instances (DB2V8R1, DB2V9R1)
  - Both DB2 instances are used on system System 1
Common Deployment Scenarios
Common Software Deployment Scenarios

1. “Clone” existing software to prepare to upgrade a product

2. Deploy a new software level of one or more product sets, either
   - A new release
   - A new maintenance level

3. Create an executable image from software installed into “work” data sets
   - The “work” data sets are usually SMS managed, or uniquely named
“Clone” Existing Software to Prepare to Upgrade a Product

1. Start with existing product installed in Existing Software Instance SW1 – the source.
2. Create new cloned software instance SW1’ -- the target.
   - Copy libraries
   - Copy SMP/E zone(s)
   - Create/Update GLOBAL ZONEINDEX records
   - Update DDDEF entries
   - Catalog data sets (if necessary)
When changing software levels

1. Create a new sw instance, or if the instance is not in use replace an existing one
   - Copy/rename libraries & file systems
   - Create/Update GLOBAL ZONEINDEX records
   - Copy SMP/E zone(s)
   - Update DDDEFs accordingly
   - Catalog data sets (if necessary)
2. Upgrade ZOSV1R10' to a new software level
3. Perform System ++HOLDs for ZOSV1R10' on System 3

4. Check for missing requisites & regressions
   - Preconditioning PTFs on Systems 1, 2, 4, & 5
   - Fallback maintenance (if any) for System 3
   - Regressed corrective service or USERMODs on ZOSV1R10 and not on ZOSV1R10'
   - z196 service for when ZOSV1R10' is used on System 4
5. Quiesce existing instance
6. Start a new instance by performing rolling IPLs (or activations) to introduce new software level
   - Perform delta System ++HOLDs on System 1 & 4
Deploy New Release Software Instances in a Parallel Sysplex

When changing software levels
1. Create a new sw instance or if the instance is not in use, replace an existing one
   - Copy/rename libraries & file systems
   - Create/Update GLOBAL ZONEINDEX records
   - Copy SMP/E zone(s)
   - Update DDDEFs accordingly
   - Catalog data sets (if necessary)
2. Upgrade ZOSV1R10’ to ZOSV1R12 (a new software level)
3. Perform z/OS V1.12 migration actions and System ++HOLDs for ZOSV1R12 on System 3
4. Check for missing requisites & regressions
   - Coexistence PTFs on Systems 1, 2, 4, & 5
   - Target system PTFs on System 3
   - Regressed corrective service or USERMODs on ZOSV1R10 and not on ZOSV1R12
   - z196 service for when ZOSV1R12 is used on System 4
5. Quiesce existing instance
6. Start a new instance by performing rolling IPLs (or activations) to introduce new software level
   - Perform z/OS V1.12 migration actions and delta system ++HOLDs on Systems 1 & 4
   - Check target system reqs on Systems 1 & 4
Create an Executable Image from Software Installed into “Work” Data Sets

1. Start with existing “work” software instance SW1 with data sets spread across volumes, possibly with unique names – the source

2. Create new cloned software instance SW1’ -- the target
   - Copy and rename libraries and file systems
   - Copy SMP/E zones
   - Create/Update GLOBAL ZONEINDEX records
   - Update DDDEF entries
   - Catalog data sets (if necessary)

3. Before using new cloned software instance
   - Perform migration actions (or System ++HOLDs)
   - Check for missing requisites and regressions
z/OSMF Software Deployment
z/OSMF Software Deployment

- In the z/OSMF V1.13 announcement
  The Software Deployment task is designed to provide the functions needed to create and deploy a copy, or clone, of any existing SMP/E-installed software image, including IBM software installed using ServerPac, CBPDO, or fee-based installation offerings, as well as other vendors' software. The function is intended to help you create and distribute copies of system software, including target libraries, distribution libraries, SMP/E zones, and related data sets you identify.

  Software Deployment is designed as a z/OSMF application and is intended to make it easier to manage your software images by simplifying and standardizing these deployment processes. z/OSMF Software Deployment is simple and easy to use, and provides an IBM developed and supported process for deploying software on z/OS.
Software Deployment

Software Deployment is a z/OS Management Facility (z/OSMF) plug-in

– Web-based application.
– User interaction is via a browser on a workstation.
– z/OSMF and Software Deployment will be active on one system in a sysplex, allowing access to shared DASD.
– Software Deployment can deploy software
  • Locally, on a single system or system-to-system within a sysplex.
  • Remotely, system-to-system across a network and multiple sysplexes.
Basic Deployment Operation Flow

1. Identify a Source Software Instance.
2. Select the deployment objective
3. Check for missing requisites and possible regressions
4. Create a deployment configuration that describes where the source data sets will be copied.
5. Generate deployment jobs.
6. Execute generated jobs to copy the source and create (or replace) a target Software Instance.

Source

Software Instance

SMPCSI  
Target and Dlib data sets

Deployment Mapping Instructions

Target Zone DB2V8T → DB2V9T  
Volume VOL81T → VOL91T  
DB2.V9 data sets → cataloged in ICFCAT.DB2.UCAT01

Target

Software Instance

SMPCSI  
Target and Dlib data sets

//COPYJOB JOB ...
//COPY EXEC ...
Check Requisites

**Software Deployment will identify missing requisite SYSMODs to ensure the deployed software can safely run in the target environment.**

- The target environment is composed of different types of software instances:

<table>
<thead>
<tr>
<th>Instance Type</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>The source instance (the eventual copy will be the target software instance)</td>
<td>IMS V10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>z/OS V1R12 2011 Mar</td>
</tr>
<tr>
<td>Share Resources</td>
<td>Instances that will share resources with the target instance</td>
<td>IMS V8 Prod2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IMS V9 Prod2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>z/OS V1R11 2010 Nov</td>
</tr>
<tr>
<td></td>
<td></td>
<td>z/OS V1R11 2011 Jan</td>
</tr>
<tr>
<td>Same Target System</td>
<td>Instances that will run on the same target system with the target instance</td>
<td>IMS Database Recovery Facility V3R1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IRLM V3R1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DB2 V9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tivoli OMEGAMON XE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WAS V7</td>
</tr>
<tr>
<td>Prior Level</td>
<td>The instance that contains the prior level of the software in the target instance</td>
<td>IMS V8 Prod1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>z/OS V1R11 2010 Nov</td>
</tr>
</tbody>
</table>
Check Requisites …

Several different types of requisite SYSMODs are identified:

<table>
<thead>
<tr>
<th>Requisite Type</th>
<th>Missing SYSMOD Description</th>
<th>Instances to Analyze</th>
<th>Source of Requisite Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional and Hardware</td>
<td>PTFs required for the instance to use a particular function or run on a hardware device</td>
<td>The <strong>source</strong> instance (the eventual copy will be the target instance)</td>
<td>FIXCAT HOLDDATA</td>
</tr>
<tr>
<td>Coexistence and Fallback</td>
<td>PTFs required to allow earlier software release levels to share resources (coexist) with and fallback from later release levels.</td>
<td>Instances that will <strong>share resources</strong> with the eventual target instance</td>
<td>FIXCAT HOLDDATA</td>
</tr>
<tr>
<td>Target System</td>
<td>PTFs required for the instance to run on the target system</td>
<td>Instances that will run on the <strong>same target system</strong> with the target instance</td>
<td>FIXCAT HOLDDATA</td>
</tr>
<tr>
<td>Conditional Software</td>
<td>Conditional requisite PTFs needed in one instance because of a function installed in another instance</td>
<td>Instances that will <strong>share resources</strong> with or run on the <strong>same target system</strong> with the target instance</td>
<td>++IF REQ Statements</td>
</tr>
</tbody>
</table>

**Prior level** instances
Check Requisites …

- **Fix Category HOLDDATA used to identify missing requisite SYSMODs:**

<table>
<thead>
<tr>
<th>Instance Type</th>
<th>Requisite Type</th>
<th>Fix Categories</th>
<th>Fix Category Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Hardware</td>
<td>IBM.Device.*</td>
<td>Required for the instance to run on or use a particular hardware device</td>
</tr>
<tr>
<td></td>
<td>Functional</td>
<td>IBM.Function.*</td>
<td>Required for the instance to use or exploit selected functions</td>
</tr>
<tr>
<td>Target System</td>
<td>IBM.TargetSystem-Required Service.*</td>
<td>Required for the instance to run on the target system</td>
<td></td>
</tr>
<tr>
<td>Shares Resources</td>
<td>Coexistence and Fallback</td>
<td>IBM.Coexistence.* IBM.Migrate-Fallback.*</td>
<td>Required to allow earlier software release levels to share resources (coexist) with and fallback from later release levels.</td>
</tr>
<tr>
<td>Run on Same Target System</td>
<td>Target System</td>
<td>IBM.TargetSystem-Required Service.*</td>
<td>Required for the instance to run on the target system</td>
</tr>
</tbody>
</table>
Check Requisites …

++IF REQ statements are used to identify missing requisite SYSMODs

++IF REQ statements in other software instances identify requisites needed in the source instance because of Functions installed in the source instance.

++IF REQ statements in the source software instance identify requisites needed in other instances because of Functions installed in those other instances.

- Instances that will share resources with the target instance
- Instances that will run on the same target system with the target instance
- The prior level instance

Two kinds of missing conditional requisite SYSMODs:

- Cross product requisites
  - Ex. The Function for DB2 V9 might contain a ++IF REQ:
    - If z/OS V1R10 then require PTF UK12345

- Same product, release to release requisites
  - Ex. A PTF for z/OS V1R11 might contain a ++IF REQ:
    - If z/OS V1R12 then require PTF UA54321
Check Regressions and HOLDDATA Deltas

When a prior level software instance will be replaced by the target instance, software deployment will:

– Identify SYSMODs that will be regressed.
  • Compare the prior level instance with the source instance.
  • SYSMODs in the prior level instance that are not in the source instance will be regressed.

– Identify HOLDDATA that needs review.
  • Compare the source instance with the prior level instance.
  • SYSTEM and USER Holds for SYSMODs in the source instance that are not in the prior level instance need review.
Environment

- Only 1 system in a sysplex can run z/OSMF at a time
- ALL DASD shared across the sysplex
- System 2 is the z/OSMF Primary system
  - z/OSMF data directory (repository) is local to System 2
- All software instances will be defined and deployed from the primary z/OSMF system (System 2)
  - From the primary, you can deploy any source software instance accessible from the primary z/OSMF instance to a target software instance accessible from the primary z/OSMF instance.
  - For example, source software instance A to target software instance X.
  - This is a local software deployment.
NO DASD is shared between SYSPLEX A, SYSPLEX B, and SYSPLEX C
You can deploy any source software instance accessible from the primary z/OSMF instance to a target software instance accessible from a secondary z/OSMF instance.

- For example, source software instance A to target software instance Y in sysplex B, or to target software instance Z in sysplex C.
- These are remote software deployments.
You can deploy a source software instance accessible from a secondary z/OSMF instance to a target software instance accessible from the same secondary z/OSMF instance.

- For example, source software instance B to target software instance Y in sysplex B, or source software instance C to target software instance Z in sysplex C.
- These are local software deployments.
Deploy a source software instance accessible from a secondary z/OSMF instance to a target software instance accessible from a different secondary z/OSMF instance.

- For example, source software instance B in sysplex B to target software instance Z in sysplex C, or source software instance C in sysplex C to target software instance Y in sysplex B.

- These are a remote software deployments.
- Deploy a source software instance accessible from a secondary z/OSMF instance to a target software instance accessible from the primary z/OSMF instance.
  - For example, source software instance B in sysplex B to target software instance X in sysplex A, or source software instance C in sysplex C to target software instance X in sysplex A.
  - These are remote software deployments.
z/OSMF Software Deployment
“Demo”
Software Deployment Demo

“Clone” existing software to prepare for a product upgrade.

- Copy libraries and filesystems
- Change data set names of catalogued data sets (file systems and CSI data sets)
- Update DDDEFs to reflect copied libraries and pathnames
Welcome

Secure connection to z/OS host

Secure authentication to z/OS host using regular z/OS User ID and password
Welcome for logged on user

User is ZOSMFAD

New Deployment task
Software Deployment

Deployment
Use this task to deploy software. To get started, select the Deploy Software action. Learn more...

- Deploy Software
  Deploy a software instance, and manage existing deployments.

- Administration
### Deploy Software Wizard

#### Deployment Checklist

To deploy a software instance, complete the checklist.

**Checklist**

<table>
<thead>
<tr>
<th>Progress</th>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Specify the properties for this deployment.</td>
</tr>
<tr>
<td></td>
<td>2. Select the software instance to deploy.</td>
</tr>
<tr>
<td></td>
<td>3. Select the objective for this deployment.</td>
</tr>
<tr>
<td></td>
<td>4. Check for missing SYMRODIs.</td>
</tr>
<tr>
<td></td>
<td>• View missing SYMROD report reports.</td>
</tr>
<tr>
<td></td>
<td>5. Configure this deployment.</td>
</tr>
<tr>
<td></td>
<td>6. Define the job settings. z/OSMF creates the deployment summary and jobs.</td>
</tr>
<tr>
<td></td>
<td>• View the deployment summary.</td>
</tr>
<tr>
<td></td>
<td>• View the deployment jobs.</td>
</tr>
<tr>
<td></td>
<td>7. Specify the properties for the target software instance.</td>
</tr>
</tbody>
</table>

**Close**
Specify Deployment Properties

Enter name and optionally description

Name: z/OS V1.13 RPDS Fixes

Description: (maximum 256 characters, currently 51 characters)
Create z/OS V1.13 work environment to install fixes

Categories

There is no data to display.

OK Cancel
# Deployment Checklist Progression

**Deployment Checklist**

To deploy a software instance, complete the checklist.

<table>
<thead>
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<td>✔️</td>
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|          | • View missing SYSMOD reports.  |
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|          | • View the deployment summary.  
|          | • View the deployment jobs.  |
|          | 7. Specify the properties for the target software instance. |

[Close]
Select Software Instance

Software Instances

<table>
<thead>
<tr>
<th>Name Filter</th>
<th>System Filter</th>
<th>Description Filter</th>
<th>Activity Filter</th>
<th>Categories Filter</th>
<th>Global Zone CSI Filter</th>
<th>Target Zones Filter</th>
<th>Last Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>z/OS V1.13 RPD8</td>
<td>LOCAL</td>
<td>z/OS V1.13 Test System (RPD6 level with fixes through 2/16/2011)</td>
<td>Being deployed</td>
<td></td>
<td>MVSBUILD.ZOSMF.R13ZOS.CSI</td>
<td>TGT113</td>
<td>Feb 22, 2011</td>
</tr>
</tbody>
</table>

Total: 1, Selected: 1


OK Cancel
## Deployment Checklist Progression

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|         | 6. Define the job settings. z/OSMF creates the deployment summary and jobs.  
|         | • View the deployment summary.  
|         | • View the deployment jobs. |
|         | 7. Specify the properties for the target software instance. |

[Close]
Select Deployment Objective

This deployment will create a copy of the source software instance. The resulting copy is referred to as the target software instance. Indicate whether you want the target instance to be a new software instance or to replace an existing software instance.

Objective:
- [ ] Create a new software instance and connect it to the following global zone CSI. Learn more...
  - [ ] A new global zone CSI
  - [ ] The source global zone CSI
  - [ ] Another existing global zone CSI
- [ ] Replace an existing software instance, and connect the new instance to the existing instance's global zone CSI. Learn more...

Select the system where the target software instance will reside.

Target system:
LOCAL

[OK] [Cancel]
Deployment Checklist Progression

Deployment Checklist

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</tr>
</tbody>
</table>
| 4.   | Check for missing SYSMODs.  
  - View missing SYSMOD reports. |
| 5.   | Configure this deployment. |
| 6.   | Define the job settings. z/OSMF creates the deployment summary and jobs.  
  - View the deployment summary.  
  - View the deployment jobs. |
| 7.   | Specify the properties for the target software instance. |

Close
Check for Missing SYSMODs Wizard

Welcome wasusr8

Deployment  →  Deploy Software  →  Deployment Checklist  →  Check for Missing SYSMODs

Select the Reports to Generate
Select the reports that you want this wizard to generate.

- Requisite SYSMODs and Fix Categories reports.
  The Requisite SYSMODs report will identify potential software compatibility issues (missing SYSMODs) for software instances that will share resources with, will be migrated to, or will satisfy the dependencies of the target software instance. Learn more...

  The fix categories report will identify missing SYSMODs for the software instance types and fix category combinations listed in the table below. Learn more...

  Fix Categories Checked by Software Instance Type

<table>
<thead>
<tr>
<th>Software Instance Type</th>
<th>Fix Categories to be Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>• IBM.Device.*</td>
</tr>
<tr>
<td></td>
<td>• IBM.Function.*</td>
</tr>
<tr>
<td></td>
<td>• IBM.TargetSystem-RequiredService.*</td>
</tr>
<tr>
<td>Shared Resources</td>
<td>• IBM.Coop.*</td>
</tr>
<tr>
<td></td>
<td>• IBM.Transfer-Function.*</td>
</tr>
<tr>
<td>Satisfies Dependencies</td>
<td>• IBM.Migrate-Fallback.*</td>
</tr>
<tr>
<td></td>
<td>• IBM.TargetSystem-RequiredService.*</td>
</tr>
</tbody>
</table>

- Regressed SYSMODs and HOLDDATA Delta reports.
  The Regressed SYSMODs report will identify the SYSMODs that will be lost undone, or regressed when you migrate to the target software instance. Learn more...

  The HOLDDATA Delta report will identify the USER and SYSTEM HOLD delta. Learn more...

< Back  Next >  Finish  Cancel
## Check for Missing SYSMODs Reports

### View Missing SYSMOD Reports

**Last Generated:** Jul 22, 2011 6:34:35 PM (Local)

<table>
<thead>
<tr>
<th>Requisite SYSMODs</th>
<th>Fix Categories</th>
<th>Regressed SYSMODs</th>
<th>HOLDDATA Delta</th>
</tr>
</thead>
</table>

Review the list of missing SYSMODs, and determine which fixes are critical for your installation. Use SMP/E to apply the fixes to the corresponding target zones.

**Source software instance:** Kurt demo sw instance on system LOCAL

### Missing SYSMODs

<table>
<thead>
<tr>
<th>Software Instance Filter</th>
<th>Target Zone Filter</th>
<th>Fix Category Filter</th>
<th>FMID (Description) Filter</th>
<th>Missing SYMOD Filter</th>
<th>SYMOD Received in Global Zone Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2 V9 Old Req/Reg on system LOCAL</td>
<td>TGT</td>
<td>IBM.Coexistence.z/OS.V1R10</td>
<td>HBB7730</td>
<td>UA48112</td>
<td>No</td>
</tr>
<tr>
<td>DB2 V9 Old Req/Reg on system LOCAL</td>
<td>TGT</td>
<td>IBM.Coexistence.z/OS.V1R10</td>
<td>HBB7730</td>
<td>UO28771</td>
<td>No</td>
</tr>
</tbody>
</table>
Deployment Checklist Progression

Welcome wasusr6

Deployment Checklist
To deploy a software instance, complete the checklist.

Checklist

<table>
<thead>
<tr>
<th>Progress</th>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>1. Specify the properties for this deployment.</td>
</tr>
<tr>
<td>✔️</td>
<td>2. Select the software instance to deploy.</td>
</tr>
<tr>
<td>✔️</td>
<td>3. Select the objective for this deployment.</td>
</tr>
<tr>
<td>✔️</td>
<td>4. Check for missing SYSMODs.</td>
</tr>
<tr>
<td></td>
<td>● View missing SYSMOD reports.</td>
</tr>
<tr>
<td>✔️</td>
<td>5. Configure this deployment.</td>
</tr>
<tr>
<td>✔️</td>
<td>6. Define the job settings. z/OSMF creates the deployment summary and jobs.</td>
</tr>
<tr>
<td></td>
<td>● View the deployment summary.</td>
</tr>
<tr>
<td></td>
<td>● View the deployment jobs.</td>
</tr>
<tr>
<td></td>
<td>7. Specify the properties for the target software instance.</td>
</tr>
</tbody>
</table>

Close
Configure Deployment Wizard

Configure Deployment for z/OS V1.13 RPD6

Welcome

Use this wizard to configure the data set names, catalogs, volumes, mount points, and SMP/E zones to be used for the target software instance.

This wizard guides you through the following steps:

1. Indicate whether this deployment should copy the distribution zones and distribution libraries (DLIBs) that are associated with the source software instance.
2. Select the software instance to use as a model for configuring the target software instance.
3. Specify the SMP/E zone names to use.
4. Specify the data set names to use, and assign the data sets to a volume or storage class.
5. Assign each data set prefix to a catalog.
6. Ensure that the volumes and storage classes have enough space to store the target software instance.
7. Specify the mount point to use for each UNIX file system data set that will be included in the target software instance.

Next >
Copy DLIBs?

Indicate whether you want this deployment to copy the distribution zones and the distribution libraries (DLIBs) that are associated with the source software instance.

Do you want to copy the distribution zones and libraries associated with the source software instance?

- Yes
- No
Software Instance to use as a Model

Configure Deployment for z/OS V1.13 RPD6

Model

Select the software instance to use as a model for configuring the target software instance. z/OSMF uses the data sets, volumes, mount points, catalogs, and SMP/E zones that are associated with the model to prime the corresponding values for the target software instance.

Select the software instance to use as a model.

- The source software instance
- Another existing software instance
Since we are creating a new global zone, we could have used the same zone names. However, I changed the names to avoid confusion in the “Demo”
Configure Target Instance Data Sets

Data set list dynamically built based on target libraries used in software instance.

Use Actions to Select All, then Modify

Filter for DLIB or SYSRES volser
Configure Target Instance Data Sets (Volume)

Change the volume
Updated Display with Modified Target Volume

Configure Deployment for z/OS V1.13 RPD6

Data Sets

The Data Sets table lists the names, volumes, and storage classes that will be used for the data sets included in the target software instance. Accept the default names, volumes, and storage classes, or use the Modify action to modify them.

<table>
<thead>
<tr>
<th>Data Sets</th>
<th>Actions</th>
<th>Target Data Set Name</th>
<th>Target Volume</th>
<th>Target Storage Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOP.AAOPEXC</td>
<td></td>
<td>C90E3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOP.AAOPHFS</td>
<td></td>
<td>C00E3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOP.AAOPHJPN</td>
<td></td>
<td>C90E3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOP.AAOPMENU</td>
<td></td>
<td>C90E3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOP.AAOPMUPN</td>
<td></td>
<td>C90E3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOP.AAOPMOD1</td>
<td></td>
<td>C90E3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOP.AAOPPENU</td>
<td></td>
<td>C90E3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOP AAOPJUPN</td>
<td></td>
<td>C90E3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASM.AASMAC1</td>
<td></td>
<td>C90E3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASM.AASMAC2</td>
<td></td>
<td>C90E3D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 1236, Filtered: 621, Selected: 621
Configure Target Instance Data Sets (Names)

Select the data set, then use Actions to Modify
Configure Target Instance Data Sets (Names)

Change or add qualifiers

Example name reflects the change
Configure Target Instance Catalog Environment

The Target Data Set Name Prefixes table lists the catalogs where target data sets with the data set name prefixes will be cataloged. You can accept the default catalog assignments, select different catalogs, or select not to catalog the corresponding data sets.

VSAM files (CSIs and zFS) must be catalogued
### Configure Target Instance Volumes

The Target Volumes and Target Storage Classes tables list the volumes or storage classes where each target data set or new user catalog will reside. Accept the default volumes and storage classes, or use the Modify action to modify them.

<table>
<thead>
<tr>
<th>Volume Name</th>
<th>Capacity (MB)</th>
<th>Current Allocated Space (MB)</th>
<th>Current Allocated Space (%)</th>
<th>Planned Allocated Space (MB)</th>
<th>Planned Allocated Space (%)</th>
<th>Allocated Space Delta (MB)</th>
<th>Planned Threshold (%)</th>
<th>Initialize Volume</th>
<th>Catalog Method</th>
<th>Indirect Catalog Entry Symbol Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>C90ESD</td>
<td>8514.05</td>
<td>6077.55</td>
<td>71</td>
<td>7848.42</td>
<td>92</td>
<td>1770.87</td>
<td>99</td>
<td>Yes</td>
<td>Direct</td>
<td></td>
</tr>
<tr>
<td>C90EST</td>
<td>8514.05</td>
<td>5204.48</td>
<td>61</td>
<td>5735.81</td>
<td>67</td>
<td>531.33</td>
<td>85</td>
<td>Yes</td>
<td>Indirect</td>
<td></td>
</tr>
<tr>
<td>C90ES8</td>
<td>2838.02</td>
<td>2730.62</td>
<td>96</td>
<td>2574.02</td>
<td>91</td>
<td>-185.80</td>
<td>95</td>
<td>Yes</td>
<td>Direct</td>
<td></td>
</tr>
<tr>
<td>C90ES2</td>
<td>2838.02</td>
<td>480.96</td>
<td>17</td>
<td>2486.76</td>
<td>88</td>
<td>2005.80</td>
<td>85</td>
<td>No</td>
<td>Direct</td>
<td></td>
</tr>
<tr>
<td>C90ES1</td>
<td>2838.02</td>
<td>213.98</td>
<td>8</td>
<td>2050.10</td>
<td>92</td>
<td>1835.14</td>
<td>85</td>
<td>Yes</td>
<td>Direct</td>
<td></td>
</tr>
<tr>
<td>C90ES9</td>
<td>2838.02</td>
<td>2674.20</td>
<td>8</td>
<td>2050.10</td>
<td>92</td>
<td>-1102.62</td>
<td>85</td>
<td>Yes</td>
<td>Direct</td>
<td></td>
</tr>
</tbody>
</table>

- **Changed Volsers**
- **Symbol, for indirect entries**
- **Warnings (or errors) displayed when planned threshold exceeded**
Modify Target Instance Volume

Change:
- Volume serial number
- Whether to initialize the volume
- Catalog method
  - If indirect, the symbol to use
- Acceptable usage threshold
Configure Target Instance Mount Points

Selected and modified the directories to prefix them with /service
Deployment Checklist Progression

To deploy a software instance, complete the checklist.

**Checklist**

<table>
<thead>
<tr>
<th>Progress</th>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>1. Specify the properties for this deployment.</td>
</tr>
<tr>
<td>✔️</td>
<td>2. Select the software instance to deploy.</td>
</tr>
<tr>
<td>✔️</td>
<td>3. Select the objective for this deployment.</td>
</tr>
</tbody>
</table>
| ✔️       | 4. Check for missing SYSMODs.  
  - View missing SYSMOD reports. |
| ✔️       | 5. Configure this deployment. |
| 🔄       | 6. Define the job settings. z/OSMF creates the deployment summary and jobs.  
  - View the deployment summary.  
  - View the deployment jobs. |
| ✔️       | 7. Specify the properties for the target software instance. |

[Image of web interface showing deployment checklist progressions]
View Deployment Summary

Review the changes that will occur on the target system when you submit the deployment.

Source software instance: z/OS V1.13 RP56 on system LOCAL
Target system: LOCAL
Deployment objective: Create new software instance, create new global zone

Multiple tabs with detailed summary information for the target software instance.
View Deployment Jobs

Changed the default data set name
Specify the Properties of the Target Software Instance

**Deployment Checklist**

To deploy a software instance, complete the checklist.

<table>
<thead>
<tr>
<th>Progress</th>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>1. Specify the properties for this deployment.</td>
</tr>
<tr>
<td>✓</td>
<td>2. Select the software instance to deploy.</td>
</tr>
<tr>
<td>✓</td>
<td>3. Select the objective for this deployment.</td>
</tr>
<tr>
<td>✓</td>
<td>4. Check for missing SYMMDs.</td>
</tr>
<tr>
<td></td>
<td>• View missing SYMMD reports.</td>
</tr>
<tr>
<td>✓</td>
<td>5. Configure additional details.</td>
</tr>
<tr>
<td>✓</td>
<td>6. Define the deployment jobs.</td>
</tr>
<tr>
<td></td>
<td>• View deployment job details.</td>
</tr>
<tr>
<td>✓</td>
<td>7. Specify additional details.</td>
</tr>
</tbody>
</table>

**Warning**

**IZUD223W**

You are about to define a new software instance or modify an existing instance. To keep your installation and z/OSMF synchronized, ensure that the deployment jobs are complete and that the software instance is deployed. Click OK to proceed. Otherwise, click Cancel.
Specify the Properties of the Target Software Instance...

Target software instance name:
/z/OS V1.13 RPD6 w/fixes

Description: (maximum 256 characters, currently 40 characters)
z/OS V1.13 test system with latest fixes

OK  Cancel
Deployment Complete!!!

**Deployment Checklist**

- **IZUD1541**: Target software instance "z/OS V1.13 RPD6 w/ fixes" was added or updated. (Jul 22, 2011 7:06:22 PM)
- **IZUD1551**: Deployment "z/OS V1.13 RPD6 Fixes" is complete. (Jul 22, 2011 7:06:22 PM)

**Checklist**

1. Specify the properties for this deployment.
2. Select the software instance to deploy.
3. Select the objective for this deployment.
4. Check for missing SYSMODs.
   - View missing SYSMOD reports.
5. Configure this deployment.
6. Define the job settings. z/OSMF creates the deployment summary and jobs.
   - View the deployment summary.
   - View the deployment jobs.
7. Specify the properties for the target software instance.

**Close**
## Target Software Instance Created

### Software Instances

<table>
<thead>
<tr>
<th>Name Filter</th>
<th>System Filter</th>
<th>Description Filter</th>
<th>Activity Filter</th>
<th>Categories Filter</th>
<th>Global Zone CSI Filter</th>
<th>Target Zones Filter</th>
<th>Last Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>z/OS V1.13 RPD6</td>
<td>LOCAL</td>
<td>z/OS V1.13 Test System (RPD6 level with fixes through 2/18/2011).</td>
<td></td>
<td></td>
<td>MVSBUILD.ZOSMF.R13ZOS.CSI</td>
<td>TGT113</td>
<td>Feb 22, 2011</td>
</tr>
<tr>
<td>z/OS V1.13 RPD6 w/fixes</td>
<td>LOCAL</td>
<td>z/OS V1.13 test system with latest fixes</td>
<td></td>
<td></td>
<td>MVSBUILD ZOSMF R13FZOS.CSI</td>
<td>TGT113F</td>
<td>Feb 23, 2011</td>
</tr>
</tbody>
</table>

Total: 2, Selected: 0

Summary
Summary

- The z/OS Software Deployment function of z/OSMF will provide rigor in the deployment of *any* SMP/E installed software.
- It will ensure:
  - ALL affected parts are copied
  - The zone(s) is carried forward with the software
- It will help to ensure:
  - Cross system requisites are satisfied (coexistence and preconditioning)
  - Cross product requisites (on the same system) are satisfied
  - Software fixes are not regressed
- Can be used to create a clone for subsequent installation or execution.
- Software Deployment will save user specified information and allow for reuse
  - Subsequent deployment operations of the same source will require little or no user input.
- Local and Remote deployments are supported
Backup
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<table>
<thead>
<tr>
<th>IBM*</th>
<th>RACF*</th>
<th>ServerPac*</th>
<th>WebSphere*</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM (logo)</td>
<td>Resource Measurement Facility</td>
<td>System z*</td>
<td>z/OS*</td>
</tr>
<tr>
<td>MVS</td>
<td>RMF</td>
<td>UNIX*</td>
<td></td>
</tr>
</tbody>
</table>

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