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z/OSMF Software Deployment Application

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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
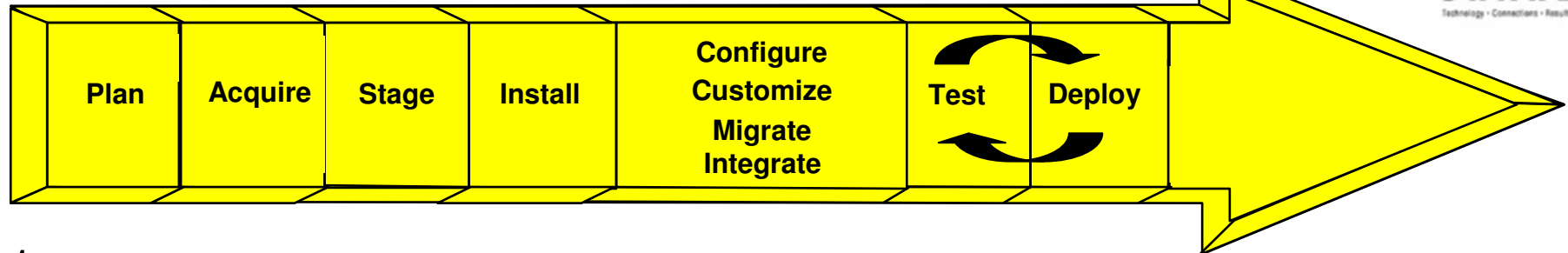
- # Software Deployment "Demo"
  - – "Clone" existing software to prepare to upgrade a product

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Overview

Software Installation Process Flow

| Plan	Acquire	Stage	Install	Configure Customize Migrate Integrate	Test	Deploy

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, web deliverables, 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)

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What Is Meant By Software Deployment*

■ Is one step in the end-to-end software installation flow.

■ Software deployment is itself consists 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 to be used on a system by users and other programs.

Plan	Acquire	Stage	Install	Configure Customize Migrate Integrate	Test	Deploy
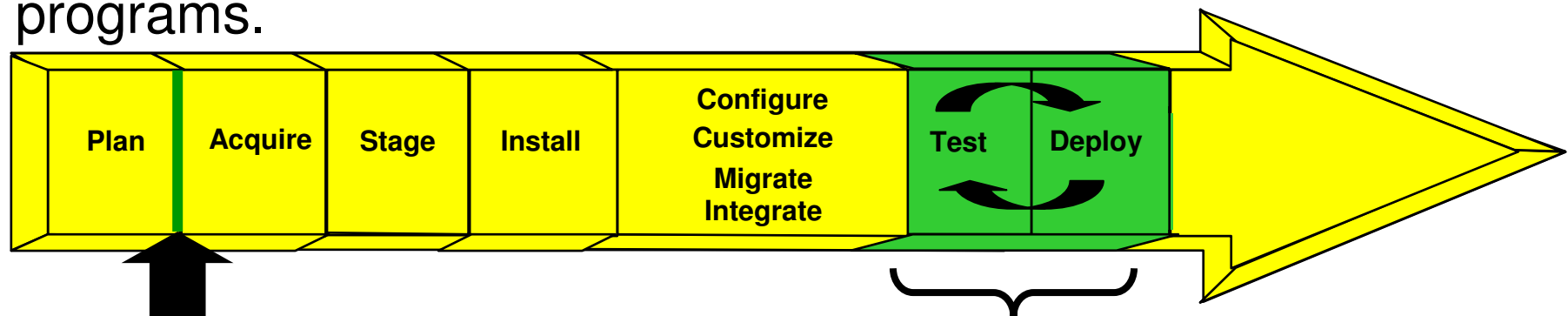
Prior to installing you copy ("clone") your software and update the copy (not the running software)

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

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

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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:
  - o prior to software deployment for common configurations,
  - o after software deployment for instance specific configuration, or
  - o 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

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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 customers to deploy a fix, maintenance upgrade, or new release.
  - 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 customers have been reluctant to exploit new technology (for example: zFS) due to having to make changes to their cloning process.

- Many customers 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 lack of a CSI (and possibly other required SMP/E data sets) makes it impossible to install maintenance in an absolute emergency.

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Desired State of Software Deployment

- **Clone z/OS images and deploy software more easily and consistently.**

- **Manage the deployment of <u>ALL</u> SMP/E packaged (IBM, ISV, and user) software**

- **Codify IBM recommended best practices for software deployment**
  - Copying all affected parts of a software update.
  - Checking 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 with the new software level
    - Check if the source software instance is missing any SYSMODs for the target environment
  - Checking possible regression of maintenance or USERMODs previously installed.
    - Check that the new release has same or equivalent required service that the software instance being replaced had
  - Identify any SYSTEM HOLDs that may need to be resolved in the target environment PRIOR to deployment.
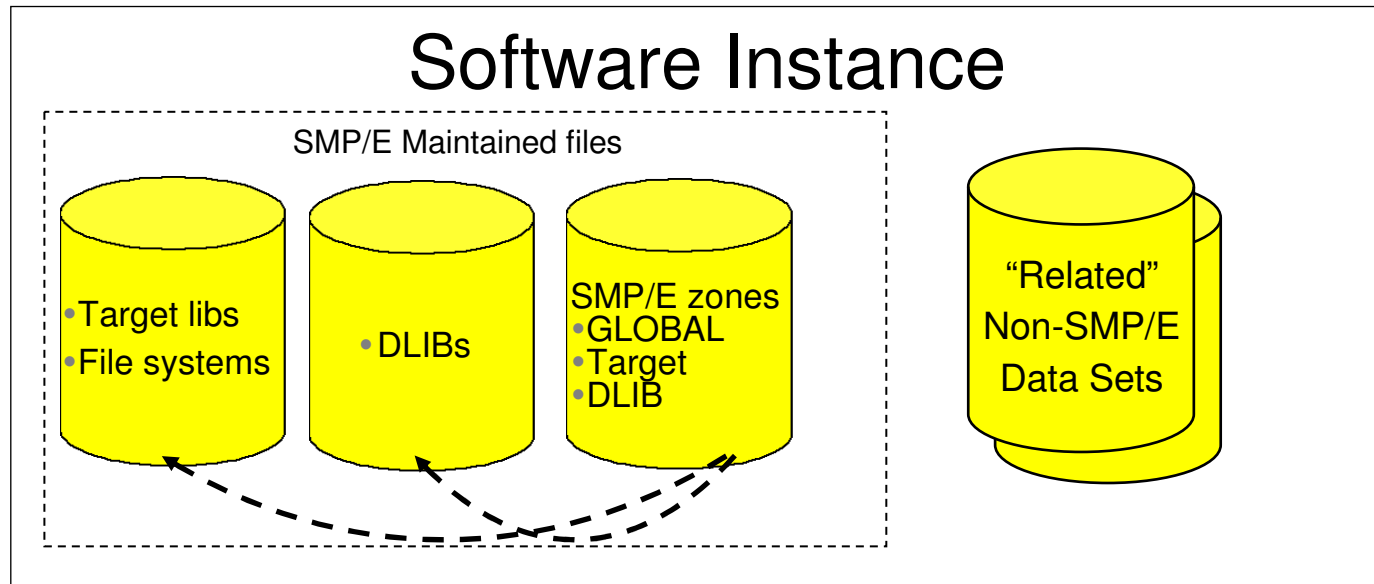 - Deploying the SMP/E zones with the libraries.

Software Instance

Software Instance …

■ Definition: Product Set

– The "*z/OS Planning for Installation*" book uses the term "product set" for one or more software products that you install, maintain, backup, recover and deploy as a group.

Software Instance

Software Instance

SMP/E Maintained files

- Target libs
- File systems

- DLIBs

SMP/E zones
- GLOBAL
- Target
- DLIB

"Related"
Non-SMP/E
Data Sets

- 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

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Software Instance …

- # 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 IPLed from the same SYSRES.
  - Two DB2 instances using the same DB2 libraries.

Software Instances in a Parallel Sysplex (1 of 2)

z10

System 1	System 2	System 3
ZOSV1R10 DB2V8R1 DB2V9R1 WASV61	ZOSV1R10P DB2V9R1 IMSV9	ZOSV1R10

z196

System 4	System 5
ZOSV1R10 DB2V8R1 DB2V9R1 WASV61	ZOSV1R10P DB2V8R1 IMSV10

CF
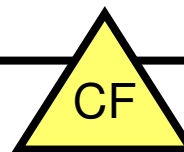
Environment

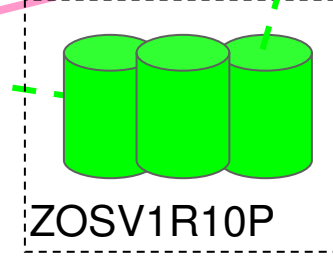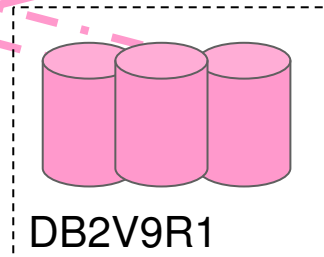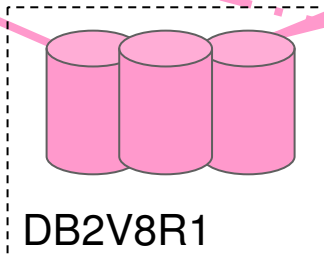- **2 Servers (CPCs)**
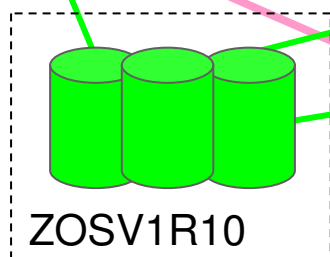- **5 z/OS Images (LPARs)**
  - Systems 1 – 5

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Software Instances in a Parallel Sysplex (2 of 2)

z10

System 1	System 2	System 3
ZOSV1R10 DB2V8R1 DB2V9R1 WASV61	ZOSV1R10P DB2V9R1 IMSV9	ZOSV1R10

z196

System 4	System 5
ZOSV1R10 DB2V8R1 DB2V9R1 WASV61	ZOSV1R10P DB2V8R1 IMSV10

ZOSV1R10

DB2V8R1

DB2V9R1

ZOSV1R10P

Environment

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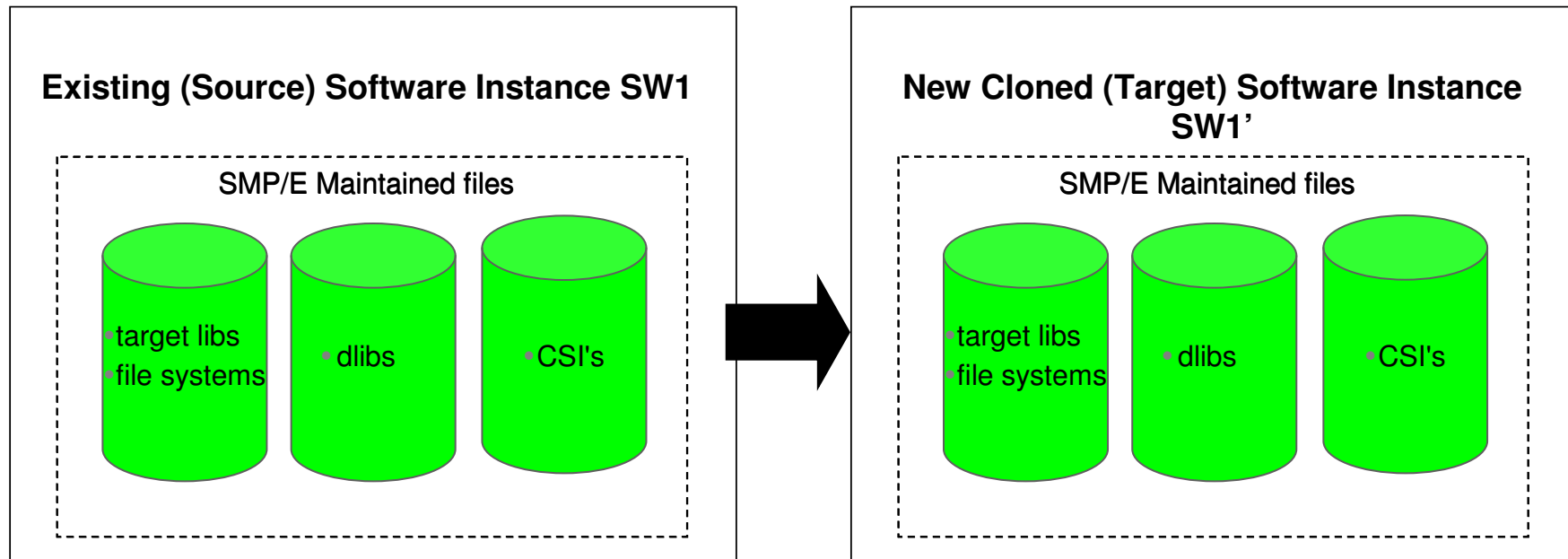 - Both DB2 instances are used on system System 1

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Common Deployment Scenarios

Common Software Deployment Scenarios

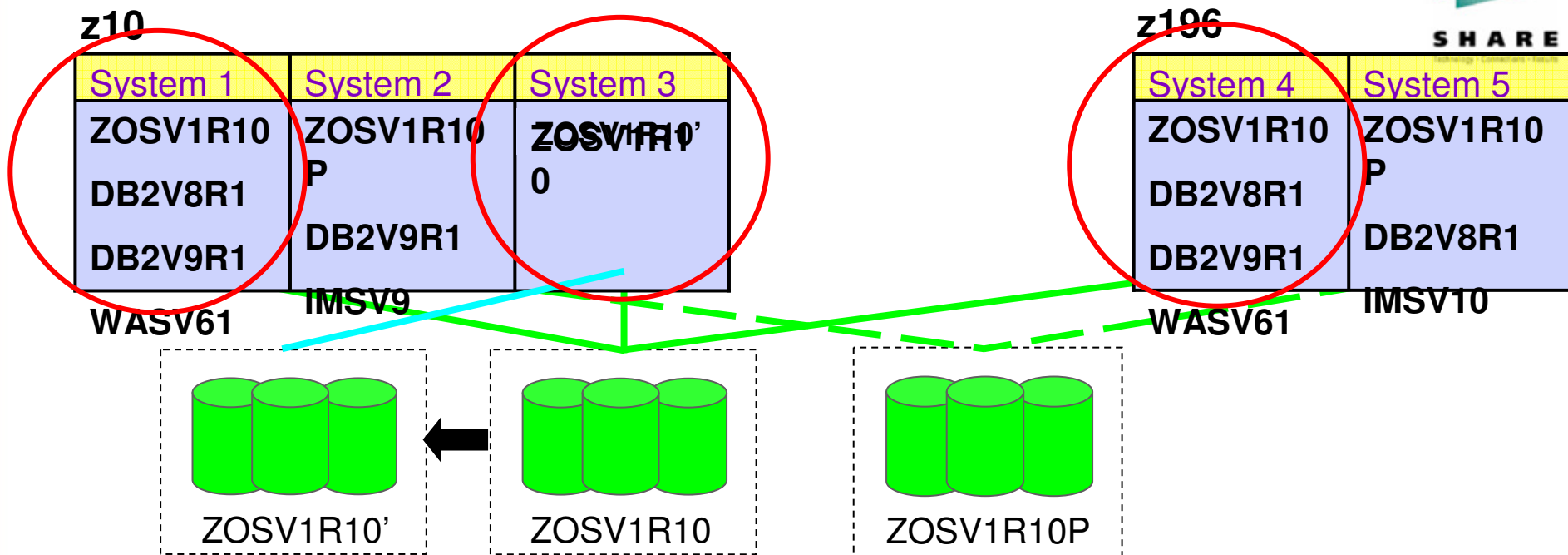**1.** **"Clone" existing software to prepare to upgrade a product**

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

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"Clone" Existing Software to Prepare to Upgrade a Product

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Existing (Source) Software Instance SW1	New Cloned (Target) Software Instance SW1'
SMP/E Maintained files	SMP/E Maintained files
•target libs •file systems •dlibs •CSI's	•target libs •file systems •dlibs •CSI's

1. **Start with existing product installed in Existing (Source) Software Instance SW1**
2. **Create new cloned (target) software instance SW1'**
   - **Copy libraries**
   - **Create/Update GLOBAL ZONEINDEX records**
   - **Copy SMP/E zone(s)**
   - **Update DDDEFs accordingly**
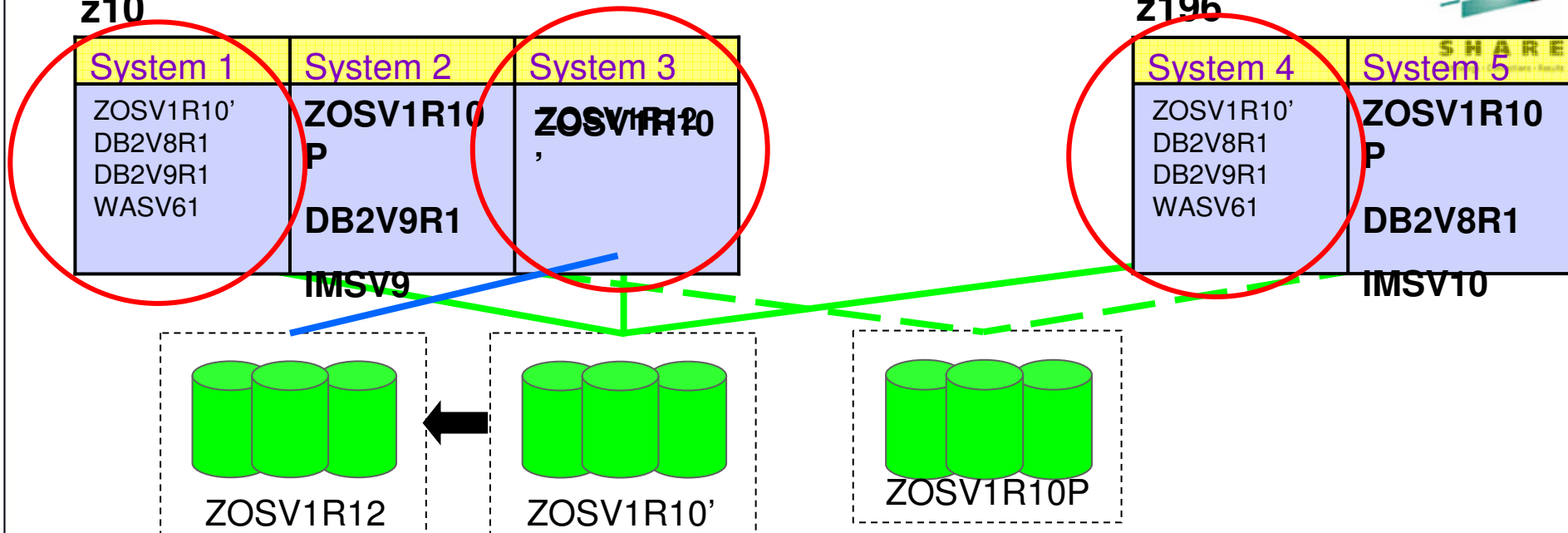   - **Catalog data sets (if necessary)**

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Deploy Maintenance Upgrade Software Instances in a Parallel Sysplex

z10

System 1	System 2	System 3		System 4	System 5
ZOSV1R10	ZOSV1R10P	ZOSV1R10' ZOSV1R10		ZOSV1R10	ZOSV1R10P
DB2V8R1				DB2V8R1	
DB2V9R1	DB2V9R1			DB2V9R1	DB2V8R1
WASV61	IMSV9			WASV61	IMSV10

z196

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ZOSV1R10'   ZOSV1R10   ZOSV1R10P
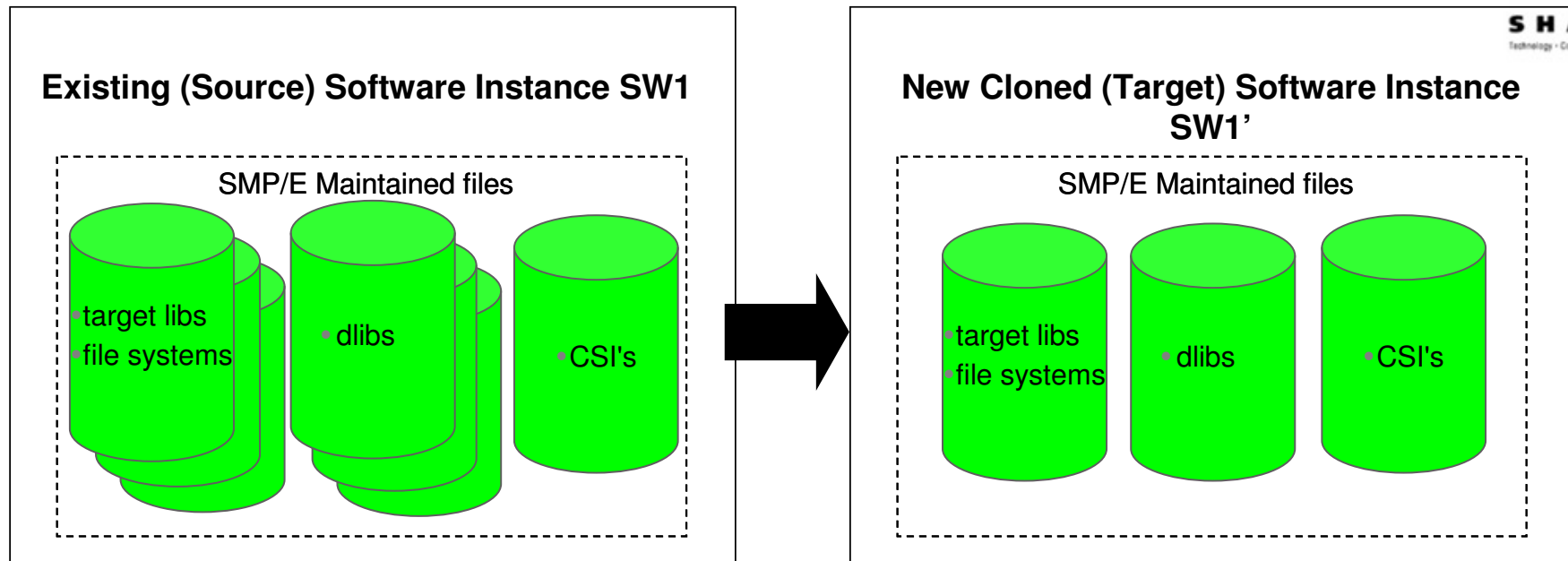
When changing software levels

1. **Create a new sw instance, or if the instance is not in use replace an existing one**
   - Copy/rename libraries and 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

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Deploy New Release Software Instances in a Parallel Sysplex

z10

z196

System 1	System 2	System 3	System 4	System 5
ZOSV1R10' DB2V8R1 DB2V9R1 WASV61	ZOSV1R10P DB2V9R1 IMSV9	ZOSV1R10'	ZOSV1R10' DB2V8R1 DB2V9R1 WASV61	ZOSV1R10P DB2V8R1 IMSV10

ZOSV1R12

ZOSV1R10'

ZOSV1R10P

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**

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Create an Executable Image from Software Installed into "Work" Data Sets

Existing (Source) Software Instance SW1

SMP/E Maintained files

• target libs
• file systems

• dlibs

• CSI's

New Cloned (Target) Software Instance SW1'

SMP/E Maintained files

• target libs
• file systems

• dlibs

• CSI's

1. **Start with existing "work" software instance SW1 with data sets spread across volumes, possibly with unique names.**
2. **Create new cloned (target) software instance SW1'**
   - **Copy/rename libraries and file systems**
   - **Create/Update GLOBAL ZONEINDEX records**
   - **Copy SMP/E zone(s)**
   - **Update DDDEFs accordingly**
   - **Catalog data sets (if necessary)**
3. **Before using new cloned software instance**
   - **Perform migration actions (or System ++HOLDs)**
   - **Check for missing requisites and regressions**

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z/OSMF Software Deployment

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z/OSMF Software Deployment

- ## From the z/OSMF V1.13 announcement (211-242, dated July 12, 2011)

  – 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.

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Software Deployment

- Software Deployment is a z/OS Management Facility (z/OSMF) plug-in application
  - 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.
    - Locally, either 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. **Check for missing requisites and possible regressions**
3. **Select the deployment objective**
4. **Create a Deployment 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

Target

Software Instance

SMPCSI
Target and
Dlib data sets

Deployment Mapping Instructions

Target Zone DB2V8T → DB2V9T

DB2.V8.SDSNLOAD → DB2.V9.SDSNLOAD

Volume VOL81T → VOL91T

DB2.V9 data sets → cataloged in ICFCAT.DB2.UCAT01

Software Instance

SMPCSI
Target and
Dlib data sets

```
//COPYJOB JOB ...
//COPY EXEC ...
```

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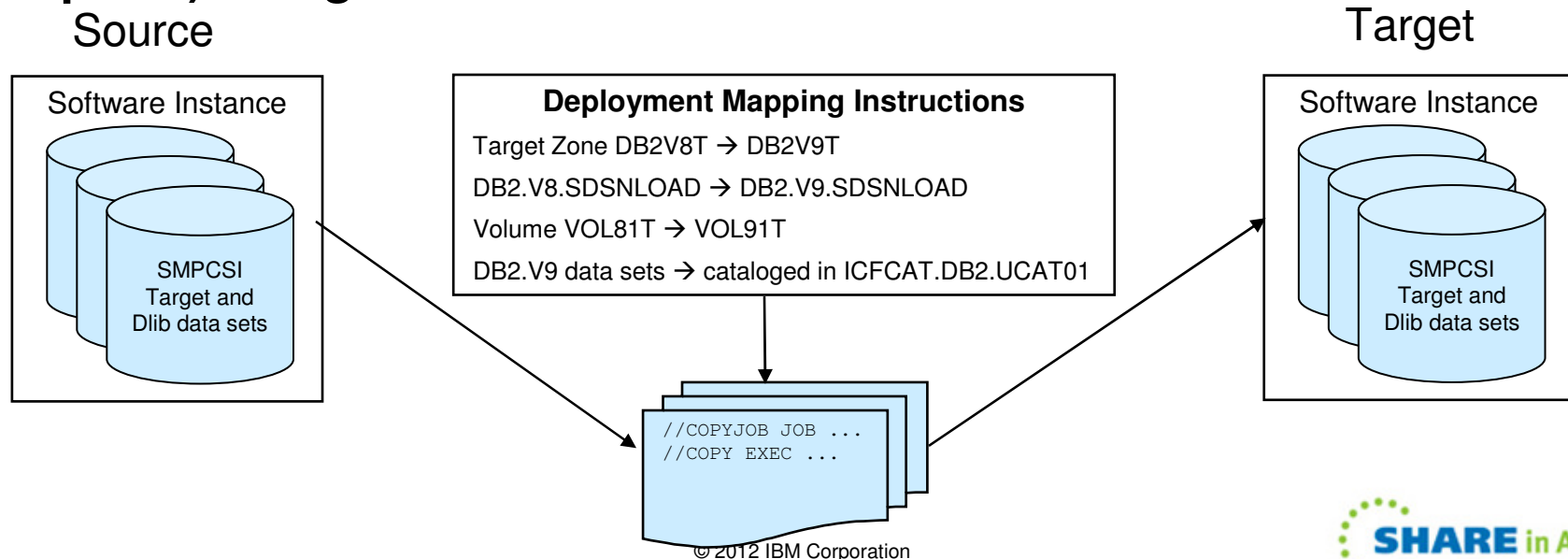
Check Requisites

- *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:*

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

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Check Requisites ...

- *Several different types of requisite SYSMODs are identified:*

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

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Check Requisites …

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

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

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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.

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z/OSMF Topology for Software Deployment
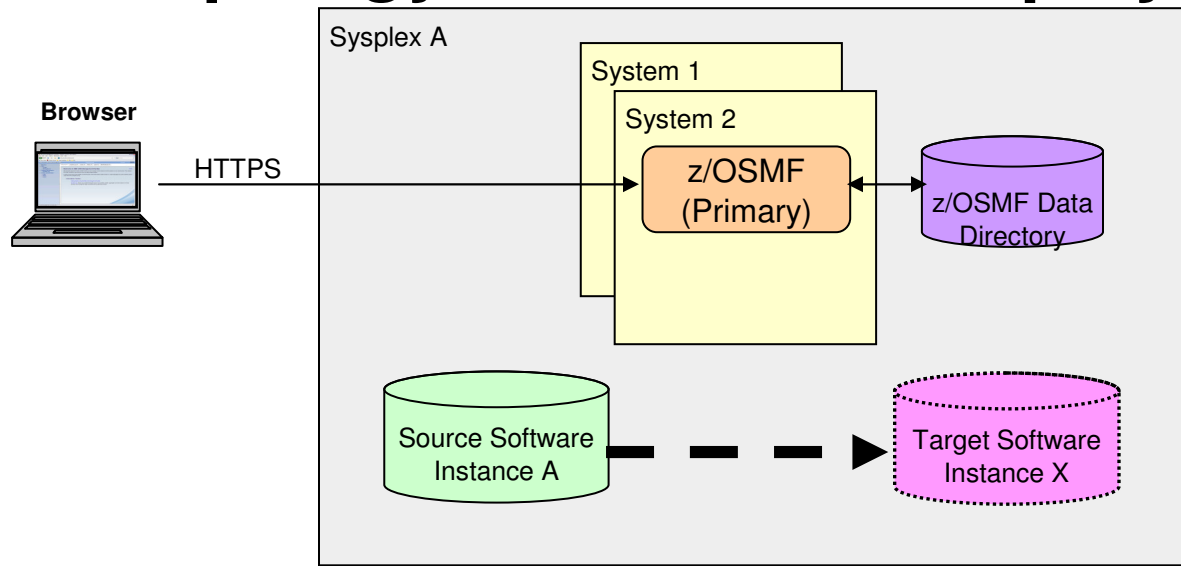
Environment
- Only 1 system in a sysplex can run z/OSMF at a time
- ALL DASD shared across the sysplex
- System 2 is the z/OSMF Primary system
  - z/OSMF data directory (repository) is local to System 2
- All software instances will be defined and deployed from the primary z/OSMF system (System 2)

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Browser

HTTPS

Sysplex A

System 1

System 2

z/OSMF (Primary)

z/OSMF Data Directory

Source Software Instance A

Target Software Instance X

Sysplex B

System 3

System 4

z/OSMF (Secondary)

HTTPS

Source Software Instance B

Target Software Instance Y

Sysplex C

System 5

System 6

z/OSMF (Secondary)

HTTPS

Source Software Instance C

Target Software Instance Z

NO DASD is shared between SYSPLEX A, SYSPLEX B, and SYSPLEXC
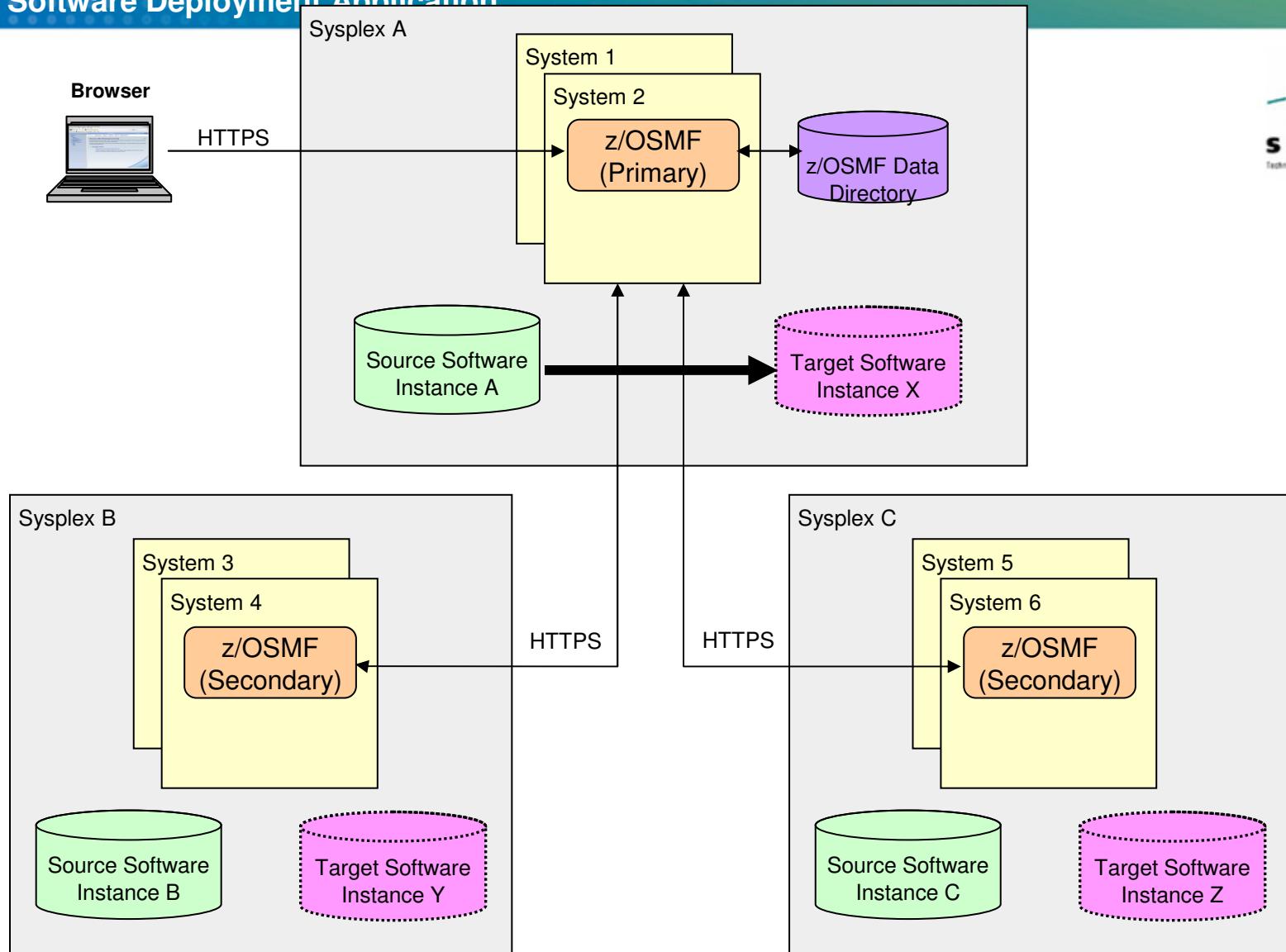
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– You can deploy any source software instance accessible from the primary z/OSMF instance to a target software instance accessible from the primary z/OSMF instance.
  • For example, source software instance A to target software instance X.
  • This is a local software deployment.
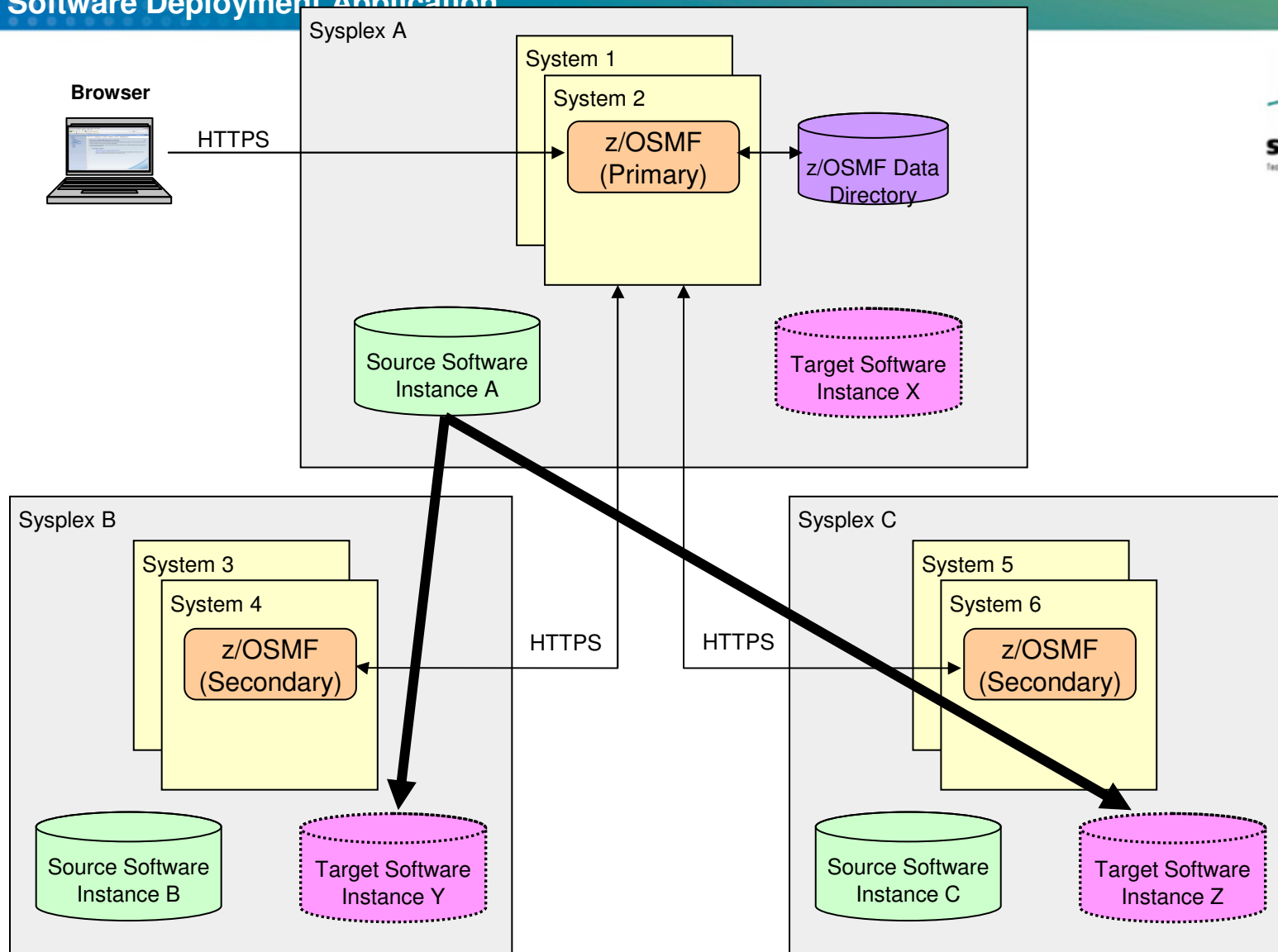
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Sysplex A

System 1

System 2

Browser

HTTPS

z/OSMF
(Primary)

z/OSMF Data
Directory

Source Software
Instance A

Target Software
Instance X

Sysplex B

System 3

System 4

z/OSMF
(Secondary)

HTTPS

HTTPS

Sysplex C

System 5

System 6

z/OSMF
(Secondary)

Source Software
Instance B

Target Software
Instance Y

Source Software
Instance C

Target Software
Instance Z

- – 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.

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Sysplex A

System 1

System 2

z/OSMF
(Primary)

Browser

HTTPS

z/OSMF Data
Directory

Source Software
Instance A

Target Software
Instance X

Sysplex B

System 3

System 4

z/OSMF
(Secondary)

HTTPS

Source Software
Instance B

Target Software
Instance Y

Sysplex C

System 5

System 6

z/OSMF
(Secondary)

HTTPS

Source Software
Instance C

Target Software
Instance Z
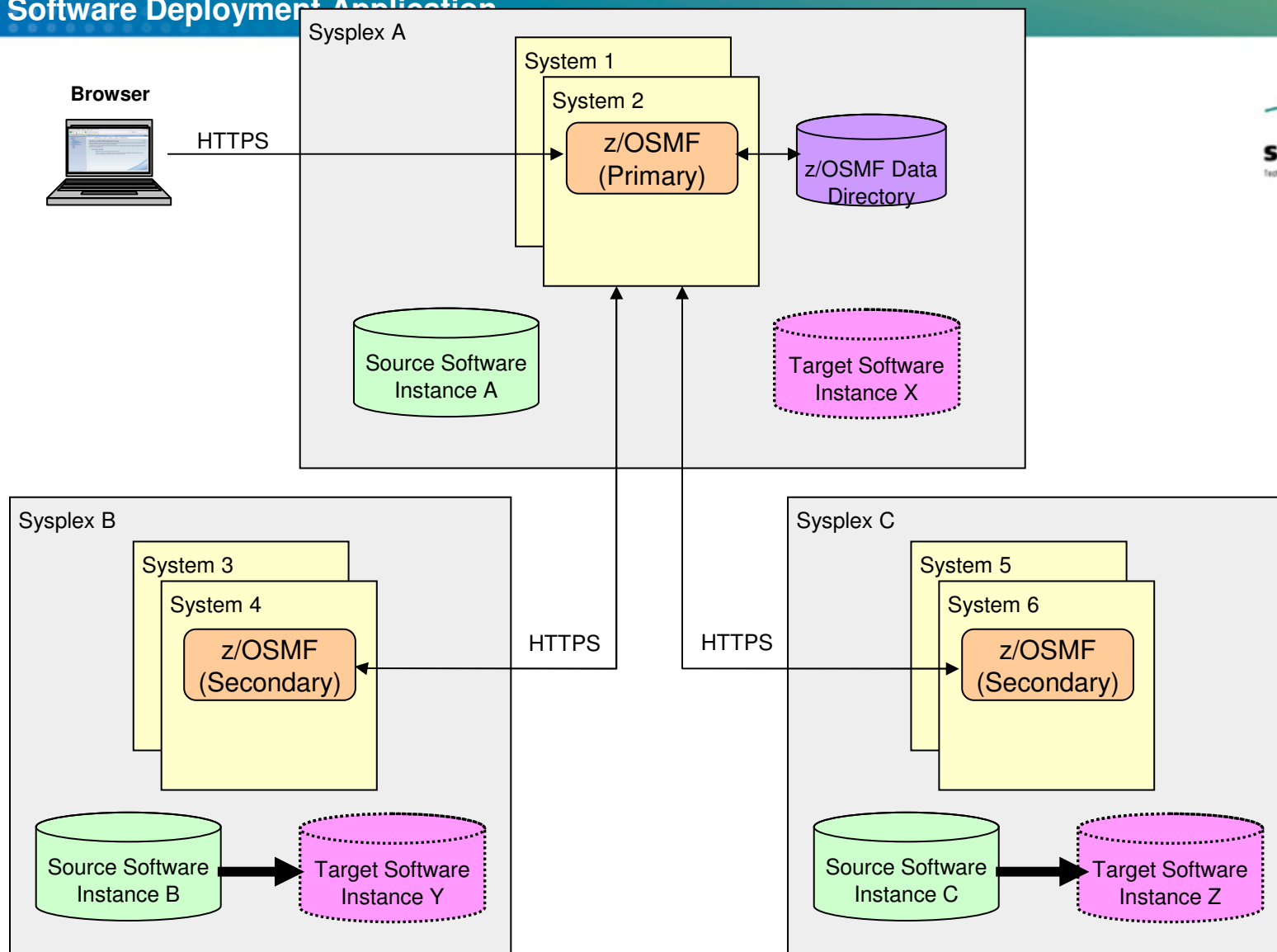
– You can deploy a source software instance accessible from a secondary z/OSMF instance to a target software instance accessible from the same secondary z/OSMF instance.
  • For example, source software instance B to target software instance Y in sysplex B, or source software instance C to target software instance Z in sysplex C.
  • These are local software deployments
    o Even though the copies do not occur on the Primary system (System 2).
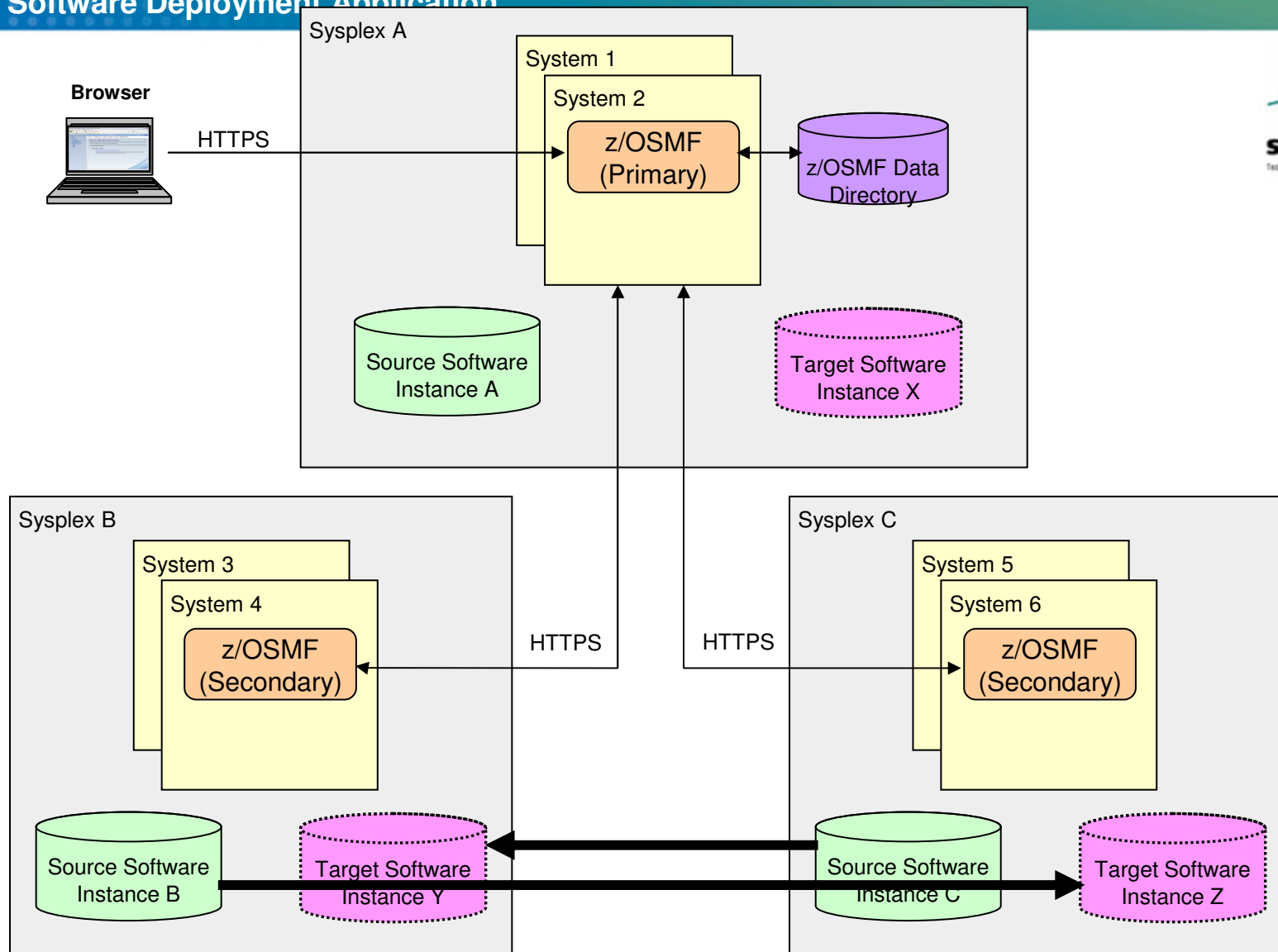
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Sysplex A

System 1

System 2

Browser

HTTPS

z/OSMF
(Primary)

z/OSMF Data
Directory

Source Software
Instance A

Target Software
Instance X

Sysplex B

System 3

System 4

z/OSMF
(Secondary)

HTTPS

Sysplex C

System 5

System 6

HTTPS

z/OSMF
(Secondary)

Source Software
Instance B

Target Software
Instance Y

Source Software
Instance C

Target Software
Instance Z

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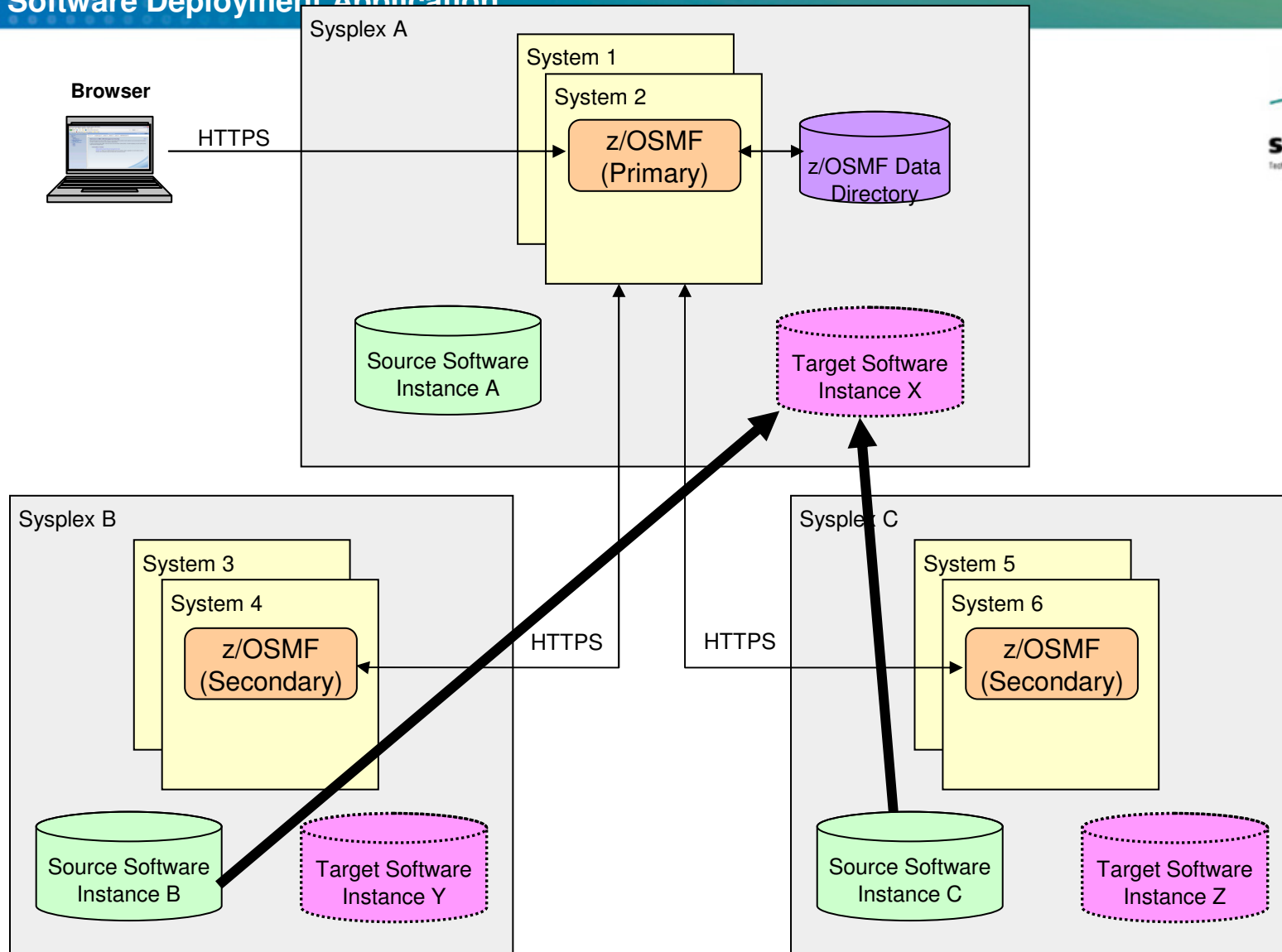
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- – Deploy a source software instance accessible from a secondary z/OSMF instance to a target software instance accessible from the primary z/OSMF instance.
  - • For example, source software instance B in sysplex B to target software instance X in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

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z/OSMF Software Deployment Application

Browser

HTTPS

Sysplex A

System 1

System 2

z/OSMF (Primary)

z/OSMF Data Directory

Source Software Instance A

Target Software Instance X

Sysplex B

System 3

System 4

z/OSMF (Secondary)

FTP Server

Source Software Instance B

Target Software Instance Y

HTTPS

HTTPS

FTP

Sysplex C

System 5

System 6

z/OSMF (Secondary)

FTP Client

Jobs

Source Software Instance C

Target Software Instance Z

– For any remote deployment, FTP is used as the data mover between systems
  • An FTP Server needs to be active on the source system
  • An FTP Client needs to be active on the target system
– All jobs are run from the z/OS system that has access to the target software instance
  • Multiple ways to authenticate the user on the remote system

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z/OSMF Software Deployment "Demo"

Software Deployment Demo

"Clone" existing software to prepare to upgrade a product

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

Welcome

Secure connection to z/OS host

Secure authentication to z/OS host using regular z/OS User ID and password

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Welcome for logged on user

User is ZOSMFAD

New Deployment task

Software Deployment

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IBM z/OS Management Facility　　　　Welcome zosmfad　　　　　Log out　　IBM

- Welcome
- **Configuration**
  - Configuration Assistant
- **Links**
- **Performance**
  - Capacity Provisioning
  - Resource Monitoring
  - System Status
  - Workload Management
- **Problem Determination**
  - Incident Log
- **Software**
  - Deployment
- **z/OS Classic Interfaces**
- **z/OSMF Administration**
  - Application Linking Manager
  - Links

Refresh

Welcome ⊗　　Deployment ⊗

Help

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**

Transferring data from alps4142.pok.ibm.com...

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Deploy Software Wizard

Welcome wasusr6   Log out   IBM

Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist   Help

Deployment Checklist

To deploy a software instance, complete the checklist.

Checklist

Positioned at the first step

Progress	Step
⇨	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

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Specify Deployment Properties

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| Welcome ⊗ | Deployment ⊗ |

Deployment ▶ Deploy Software ▶ Deployment Checklist ▶ Specify Deployment Properties   Help

Specify Deployment Properties

Enter a name and optional description for this deployment.

Enter name and optionally description

❋ Name:

z/OS V1.13 RPD6 Fixes

Description: (maximum 256 characters, currently 51 characters)

Create z/OS V1.13 work environment to install fixes

Categories

| ☑ | ▢ | Actions ▾ |

Name	Description	Activity	Last Modified (GMT)	Modified By	Locked (GMT)	Locked By
Filter	Filter	Filter	Filter	Filter	Filter	Filter

There is no data to display.

OK   Cancel

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Deployment Checklist Progression

Welcome wasusr6   Log out   IBM

Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist   Help

Deployment Checklist

To deploy a software instance, complete the checklist.

Checklist

Progress	Step
✓	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.

First step complete

Positioned at the second step

Close

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Select Software Instance

Welcome zosmfad   Log out

Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Select Software Instance   Help

Select Software Instance

Software Instances

Actions ▾

	Name Filter	System Filter	Description Filter	Activity Filter	Categories Filter	Global Zone CSI Filter	Target Zones Filter	Last Modif Filter
⦿	z/OS V1.13 RPD6	LOCAL	z/OS V1.13 Test System (RPD6 level with fixes through 2/16/2011).	Being deployed		MVSBUILD.ZOSMF.R13ZOS.CSI	TGT113	Feb 22, 201

Total: 1, Selected: 1

Refresh   Last refresh: Feb 22, 2011 5:44:13 PM local time (Feb 22, 2011 10:44:13 PM GMT)

OK   Cancel

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Deployment Checklist Progression

Welcome wasusr6   Log out   IBM

Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist   Help

Deployment Checklist

To deploy a software instance, complete the checklist.

Checklist

Progress	Step
✓	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.

First and second steps complete

Positioned at the third step

Close

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Select Deployment Objective

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Welcome ⊗   Deployment ⊗

Deployment ▶ Deploy Software ▶ Deployment Checklist ▶ Select Deployment Objective   Help

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 ▼]   [Select...]

[OK] [Cancel]

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Deployment Checklist Progression

Welcome wasusr6   Log out   IBM

Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist   Help

Deployment Checklist

To deploy a software instance, complete the checklist.

Checklist

Progress	Step
✓	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.

Positioned at the fourth step

Close

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Check for Missing SYSMODs Wizard

Welcome wasusr6   Log out   IBM

Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Check for Missing SYSMODs   Help

Check for Missing SYSMODs

✓ Welcome
➡ **Select Reports**
Get HOLDDATA
Summary

Select the Reports to Generate

Select the reports that you want this wizard to generate.

Requisite checking is optional

☑ 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

Software Instance Type	Fix Categories to be Checked
Source	• IBM.Device.* • IBM.Function.* • IBM.TargetSystem-RequiredService.*
Shared Resources	• IBM.Coexistence.* • IBM.Migrate-Fallback.*
Satisfies Dependencies	• IBM.TargetSystem-RequiredService.*

☑ Regressed SYSMODs and HOLDDATA Delta reports.

The Regressed SYSMODs report will identify the SYSMODs that w___ ___t 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...

Regression checking is optional

< Back   Next >   Finish   Cancel

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Check for Missing SYSMODs Reports

Welcome wasusr6   Log out   IBM

Welcome ⊗ | Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ View Missing SYSMOD Reports   Help

View Missing SYSMOD Reports

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

Each report is in a separate tab

| Requisite SYSMODs | Fix Categories | Regressed SYSMODs | HOLDDATA Delta |

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

The software instances checked are in separate tabs

| Source | Shares Resources | Satisfies Dependencies |

Missing SYSMODs

Actions ▼

Software Instance Filter	Target Zone Filter	Fix Category Filter	FMID (Description) Filter	Missing SYSMOD Filter	SYSMOD Received in Global Zone Filter
DB2 V9 Old Req/Reg on system LOCAL	TGT	IBM.Coexistence.z/OS.V1R10	HBB7730	UA48112	No
DB2 V9 Old Req/Reg on system LOCAL	TGT	IBM.Coexistence.z/OS.V1R10	HBB7730	UO26771	No

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Deployment Checklist Progression

Welcome wasusr6   Log out   IBM

| Welcome ⊗ | Deployment ⊗ |

Deployment ▸ Deploy Software ▸ Deployment Checklist   Help

Deployment Checklist

To deploy a software instance, complete the checklist.

Checklist

Progress	Step
✔	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

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Configure Deployment Wizard

Welcome zosmfad | Log out | IBM

Welcome ⊗ | Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Configure Deployment | Help

Configure Deployment for z/OS V1.13 RPD6

➡ **Welcome**
DLIBs
Model
SMP/E Zones
Data Sets
Catalogs
Volumes and Storage
Classes
Mount Points

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.

< Back | **Next >** | Finish | Cancel

Copy DLIBs?

Welcome zosmfad   Log out   IBM

Welcome | Deployment

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Configure Deployment   Help

Configure Deployment for z/OS V1.13 RPD6

- ✔ Welcome
- ➡ **DLIBs**
- Model
- SMP/E Zones
- Data Sets
- Catalogs
- Volumes and Storage Classes
- Mount Points

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

< Back   Next >   Finish   Cancel

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Software Instance to use as a Model

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Welcome ⊗ | Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Configure Deployment | Help

Configure Deployment for z/OS V1.13 RPD6

- ✓ Welcome
- ✓ DLIBs
- ➡ **Model**
- SMP/E Zones
- Data Sets
- Catalogs
- Volumes and Storage Classes
- Mount Points

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

※ Collecting data to prime the target software instance. This request might take several minutes to complete. Note that no changes are occurring on the target system.

Cancel

< Back | Next > | Finish | Cancel

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Configure Target Instance SMP/E Zone Names

S H A R E
Technology · Connections · Results

Management Facility ⊠ +

ity — Welcome ibmuser — Log out — IBM

Welcome ⊗ | Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Configure Deployment

Configure Deployment for z/OS V1.13 RPD6

✓ Welcome
✓ DLIBs
✓ Model
➡ SMP/E Zones
   Data Sets
   Catalogs
   Volumes and Storage Classes
   Mount Points

SMP/E Zones

The Zones table lists the names that will be used for the SMP/E zones included in the target software instance. Accept the default names, or modify them by double clicking the editable cells, or selecting the cell and pressing **F2** or **Enter**.

Zones

Actions ▾

Target Target Zone Filter	Target DLIB Zone Filter	Messages Filter	Source Target Zone Filter	Source DLIB Zone Filter
*TGT113F	*DLB113F		TGT113	DLB113

Total: 1

< Back | Next > | Finish | Cancel

> **Switched User IDs (by log of and log on) to show that different users can complete a deployment**

> **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"**

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Configure Target Instance Data Sets

Configure Target Instance Data Sets

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Welcome ⊗ Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Configure Deployment — Help

Configure Deployment for z/OS V1.13 RPD6

✓ Welcome
✓ DLIBs
✓ Model
✓ SMP/E Zones
➡ Data Sets
   Catalogs
   Volumes and Storage Classes
   Mount Points

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.

Filter for DLIB or SYSRES volser

Data Sets

Actions ▼

Target Dat... Filter	Modify...	Target Volume Contains "zd113"	Target Storage Class Filter	Messages Filter	Source Data Set Name Filter	Source V Filter
☑ AOP.SAOP	Select All	ZD113			AOP.SAOPEXEC	ZD113
☑ AOP.SAOP	Deselect All	ZD113			AOP.SAOPMENU	ZD113
☑ AOP.SAOP	Configure Colu...	ZD113			AOP.SAOPMJPN	ZD113
☑ AOP.SAOP	Hide Filter Row	D113			AOP.SAOPPENU	ZD113
☑ AOP.SAOP	Clear Filters				AOP.SAOPPJPN	ZD113
☑ ASM.SASM	Modify Sort...				ASM.SASMMAC1	ZD113
☑ ASM.SASMMAC2	Clear Sorts				ASM.SASMMAC2	ZD113
☑ ASM.SASMMOD1					ASM.SASMMOD1	ZD113
☑ ASM.SASMMOD2		ZD			ASM.SASMMOD2	ZD113
☑ ASM.SASMPUT2		ZD1			ASM.SASMPUT2	ZD113

Total: 1236, Filtered: 608, Selected: 608

< Back — Next > — Finish

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

Use Actions to Select All, then Modify

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Configure Target Instance Data Sets (Volume)

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z/OSMF Software Deployment Application

Updated Display with Modified Target Volume

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Configure Target Instance Data Sets (Names)

Select the data set, then use Actions to Modify

Configure Target Instance Data Sets (Names)

S H A R E
Technology · Connections · Results

Management Facility ☒ ✛

Welcome ibmuser   Log out   IBM

| Welcome ☒ | Deployment ☒ |

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Configure Deployment ▸ Modify   Help

Modify Data Set

Enter the data set nan

Change or add qualifiers

Example name reflects the change

Common data set   Example data set name:
From: ZOS113   ZOS113.LPP.HFS
To: ZOS113.RPD6F   ZOS113.RPD6F.LPP.HFS

Select or type the volume or storage class to use for the selected data sets.

◉ Volume   ○ Storage class ⓘ

Select or type ▼

Selected Data Sets

☑ ▢ Actions ▾

Target Data Set Name	Target Volume	Target Storage Class	Messages	
Filter	Filter	Filter	Filter	
☑ ZOS113.LPP.HFS	HLZ113			
☑ ZOS113.MAN.HFS	HMZ113			
☑ ZOS113.NLS.HFS	HNZ113			
☑ ZOS113.ROOT.ZFS	ZRZ113			

Total: 4, Selected: 4

OK   Reset   Cancel

61

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Configure Target Instance Catalog Environment

VSAM files (CSIs and zFS) show up as required to be catalogued

Configure Target Instance Volumes …

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Welcome ⊗ | Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Configure Deployment   Help

Configure Deployment for z/OS V1.13 RPD6

- ✔ Welcome
- ✔ DLIBs
- ✔ Model
- ✔ SMP/E Zones
- ✔ Data Sets
- ✔ Catalogs
- ➡ **Volumes and Storage Classes**
- Mount Points

Volumes and Storage Classes

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.

▼ Target Volumes

Actions ▼

Changed   **C**   **Symbol, for indirect entries**

	Volume Filter	Total Capacity (MB) Filter	Current Allocated Space (MB) Filter	Current Allocated Space (%) Filter	Messages Filter	Planned Allocated Space (MB) Filter	Planned Allocated Space (%) Filter	Allocated Space Delta (MB) Filter	Planned Threshold (%) Filter	Initialize Volume Filter	Catalog Method Filter	Indirect Catalog Entry Symbol Filter
○	C90ESD	8514.05	6077.55	71		7848.42	92	1770.87	99	Yes	Direct	
◉	C90EST	8514.05	5204.48	61		5735.81	67	531.33	85	Yes	Indirect	******
○	C90ES8	2838.02	2730.92	96	⚠ IZUD516W	2574.02	91	-156.90	85	Yes	Direct	
○	C90ES2	2838.02	480.96	17	⚠ IZUD516W	2486.76	88	2005.80	85	No	Direct	
○	C90ES1	2838.02	213.96	8		2050.10	72	1836.14	85	Yes	Direct	
○	C90ES9	2838.02	2674.20	94			55	-1102.62	85	Yes	Direct	

Total: 6, Selected: 1

Warnings (or errors) displayed when planned threshold exceeded

▶ Target Storage Classes

< Back | Next > | Finish | Cancel

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Update Target Instance Volumes

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

Welcome ibmuser   Log out   IBM

Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Configure Deployment   Help

Configure Deployment for z/OS V1.13 RPD6

✔ Welcome
✔ DLIBs
✔ Model
✔ SMP/E Zones
✔ Data Sets
✔ Catalogs
✔ Volumes and Storage
   Classes
➡ Mount Points

Mount Points

The Mount Points table lists the mount points that will be used for the UNIX file system data sets included in the target software instance. Accept the default mount points, or use the **Modify Target Mount Point** action to modify them.

Mount Points

Actions ▾

	Target mount point Filter	Target Data Set Name Filter	Source mount point Filter	Source Data Set Name Filter
○	/service/etc	MVSBUILD.ZR13FZMF.ETC.ZFS	/SYSTEM/etc	MVSBUILD.ZR13ZMF.ETC.ZFS
○	/service/usr/lpp	ZOS113.RPD6F.LPP.HFS	/usr/lpp	ZOS113.LPP.HFS
○	/service/usr/man	ZOS113.RPD6F.MAN.HFS	/usr/man	ZOS113.MAN.HFS
○	/service/usr/lib/nls	ZOS113.RPD6F.NLS.HFS	/usr/lib/nls	ZOS113.NLS.HFS
⦿	/service	ZOS113.RPD6F.ROOT.ZFS	/	ZOS113.ROOT.ZFS

Selected and modified the directories to prefix them with /service

Total: 5, Selected: 1

< Back   Next >   (Finish)   Cancel

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Deployment Checklist Progression

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Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist   Help

Deployment Checklist

To deploy a software instance, complete the checklist.

Checklist

Progress	Step
✔	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.

Almost done

Close

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View Deployment Summary

Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ View Deployment Summary — Help

View Deployment Summary

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

Source software instance: z/OS V1.13 RPD6 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**

| SMP/E Zones | Volumes | Data Sets to Delete | Data Sets to Add | Data Sets to Replace | Catalogs | Catalog Aliases | Catalog Entries To Delete |

| Catalog Entries To Add | Catalog Entries To Update |

Global Zone CSI:

Zones to Add

Zone Name	Data Set Name	Zone Type
TGT113F	MVSBUILD.ZOSMF.R13FZOS.CSI	TARGET
DLB113F	MVSBUILD.ZOSMF.R13FZOS.CSI	DLIB

OK

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View Deployment Jobs

Welcome ibmuser

Log out

IBM

Welcome | Deployment

Deployment ▶ Deploy Software ▶ Deployment Checklist ▶ View Deployment Jobs

Help

View Deployment Jobs

Review and submit the jobs created for this deployment. The jobs are stored in the specified partitioned data set.

Data set name:
MVSBUILD.SWDEPLOY.CNTL

Changed the default data set name

Jobs

Actions ▼

Job Sequence	Job Name	Description
Filter	Filter	Filter
1	IZUD01RA	RACF Definitions: Add groups and data set profiles to RACF for new data set prefixes. This job is a SAMPLE and requires modification to specify the correct owning user id and access list. In addition, this job should be run by your Security Administrator.
2	IZUD02IV	Initialize Volumes: Initialize selected target volumes. Note: All referenced volumes must be off-line before running this job.
3	IZUD03CP	Copy Data Sets: Copy the source software instance data sets to create the target software instance data sets in the location defined by the deployment configuration, using temporary and unique data set names.
4	IZUD04RN	Rename Data Sets: Rename the target software instance data sets from their temporary and unique names to their desired names defined by the deployment configuration, and update catalog entries for the data sets as needed.
5	IZUD05UC	Update CSI Data Sets: Update the entries within the SMP/E CSI data sets to reflect the target software instance zone names, data set names and locations, and UNIX directory prefixes.

Total: 5

OK

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Specify the Properties of the Target Software Instance

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Welcome ⊗   Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist   Help

Deployment Checklist

To deploy a software instance, complete the checklist.

Checklist

Progress	Step
✓	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. Confi...
✓	6. Defin... • Vie... • Vie...
⇨	7. Speci...

Close

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.

OK   Cancel

Specify the Properties of the Target Software Instance

Welcome ibmuser   Log out   IBM

| Welcome ⊗ | Deployment ⊗ |

Deployment ▸ Deploy Software ▸ Deployment Checklist ▸ Specify Target Software Instance Properties   Help

Specify Target Software Instance Properties

＊ 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

Categories

Actions ▾

Name	Description	Activity	Last Modified (GMT)	Modified By	Locked (GMT)	Locked By
Filter	Filter	Filter	Filter	Filter	Filter	Filter

There is no data to display.

Total: 0, Selected: 0

OK   Cancel

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Deployment Complete!!!

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Welcome wasusr6   Log out   IBM

Welcome ⊗ | Deployment ⊗

Deployment ▸ Deploy Software ▸ Deployment Checklist   Help

Deployment Checklist

▾Messages   ⊗ 0   ⚠ 0   ℹ 2   Close All

ℹ **IZUD154I**: Target software instance "z/OS V1.13 RPD6 w/ fixes" was added or updated.	Jul 22, 2011 7:06:22 PM	✕
ℹ **IZUD155I**: Deployment "z/OS V1.13 RPD6 Fixes" is complete.	Jul 22, 2011 7:06:22 PM	✕

To deploy a software instance, complete the checklist.

Checklist

Progress	Step
✔	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

The requisite reports are available for viewing

The deployment summary remains available for viewing

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Target Software Instance Created

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Deployment ▸ Software Instances   Help

Software Instances

☑ ☐ | Actions ▾

	Name Filter	System Filter	Description Filter	Activity Filter	Categories Filter	Global Zone CSI Filter	Target Zones Filter	Last Modif Filter
☐	z/OS V1.13 RPD6	LOCAL	z/OS V1.13 Test System (RPD6 level with fixes through 2/16/2011).			MVSBUILD.ZOSMF.R13ZOS.CSI	TGT113	Feb 22, 20'
☐	z/OS V1.13 RPD6 w/fixes	LOCAL	z/OS V1.13 test system with latest fixes			MVSBUILD.ZOSMF.R13FZOS.CSI	TGT113F	Feb 23, 20'

Total: 2, Selected: 0

Refresh   Last refresh: Feb 23, 2011 5:19:27 PM local time (Feb 23, 2011 10:19:27 PM GMT)

Close

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Summary

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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**

Shameless Plug

- **Attend session (10787) z/OSMF Software Deployment Application User Experience (3PM today) to:**
  - Get a customer's perspective on using the new function
  - Hear the latest new function APARs, hints and tips
    - At least the IBM perspective

- **Attend session (10624) z/OSMF Software Deployment Hands on Lab (8AM Friday) to:**
  - Use the application to
    - Define software instances
    - Deploy SMP/E V3.6 libraries
    - Use many z/OSMF capabilities
      - o Without having to set it up yourself

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Backup

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Notes:

Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios stated here.

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z/OSMF Software Deployment

Task	Without z/OSMF Software Deployment	With z/OSMF Software Deployment
Identify complete content of software to be deployed.	Done manually. Usually requires strict data set naming conventions or volume placement. Problems occurred when customers: ▪ For WAS V6, copying PDSE without file system or visa versa ▪For fixes, copying one library w/o another resulting in part of the APAR installed, ▪Not copying a data set that had been renamed and enlarged	Automatically use SMP/E inventory to identify the all of the data sets that compose the source to be deployed.
Identify missing requisite PTFs on instances that will share resources with the deployed software.	Done manually prior to activation. System programmer can create and run SMP/E jobs to identify missing required service on other instances if the know the proper Fix Categories and commands. Problems occurred when customers were missing coexistence maintenance: ▪Cause an outage ▪In one case caused a sysplex wide outage when fallback was required	▪Automated. ▪The task is optional, but recommended.
Identify regressed software on the prior level instance.	Done manually prior to activation. System programmer can create and run SMP/E jobs to compare source with prior instance. Can not be done if source and prior instance are in different sysplexes. Problems reoccurred	▪Automated. ▪Supports cross-sysplex checking ▪The task is optional, but recommended.

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z/OSMF Software Deployment

Task	With**out** z/OSMF Software Deployment	With z/OSMF Software Deployment
Identify required actions from PTF HOLDs.	Done Manually. No SMP/E report capability to compare source with the prior instance available. System programmer has to keep track of all SYSTEM HOLDs installed and check applicable to each system they deploy to. Problems occurred because ACTIONS not performed on deployed to system	▪Automated. ▪Supports cross-system checking. ▪The task is optional, but recommended.
Modify the target instance data set layout (names, placement, and catalog	Done manually. ▪Compare <u>source</u> data sets with the target system catalog and volumes ▪Compare <u>target</u> data set names with the target system catalogs to ensure the desired catalogs will be updated and new HLQs are identified ▪Best-guess comparison of available free space and required space for target data sets. Problems typically result in the deployment jobs having to be rerun	Automated ▪Does not allow a user to accidentally clobber an existing data set. ▪Analyzes target system catalogs to identify which will be updated for the target data sets, calling out new, updated, or deleted catalog entries. ▪Analyzes existing space used, accounting for data sets added, replaced, and deleted.
Ability to model target instance after current test/prod instance	Done manually	Automated

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z/OSMF Software Deployment

Task	Without z/OSMF Software Deployment	With z/OSMF Software Deployment
Create deployment jobs.	Done manually. ▪Create jobs from scratch, copy IBM supplied samples, or reuse prior deployment jobs. ▪Inhibits exploiting new technologies, like zFS. Problems occurred when customers ▪mistakenly deploy subsets of software ▪miss copying new libraries	Automated ▪Complete and accurate jobs are automatically created that always deploy complete software instances. ▪Supports current technologies.
View the planned target system updates before running the jobs.	No real way to do this. If done at all, manually: ▪Compare source volumes with the target system, ▪Review deployment jobs Problems typically result in the deployment jobs having to be rerun	▪Automatically generate reports to summarize the changes to the target system before making those changes. ▪Save reports for later audit or problem determination.
Run the jobs	Done manually. Jobs and output can be saved for audit purposes	Same
Save instance for future deployments	N/A	Simple update required using the GUI

Note: The same z/OSMF Software Deployment tool can be used for z/OS, middleware and vendor software. Customers have separate tools/techniques for z/OS and other software.

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