



# Session 14267 - Engaging Users and Reducing Complexity: z/OSMF Software Deployment Project Usability Discussion

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SHARE August 2013



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- Why did IBM decide to simplify software deployment?
- How do we determine if the z/OSMF Software Deployment task is meeting your needs?
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- Summary

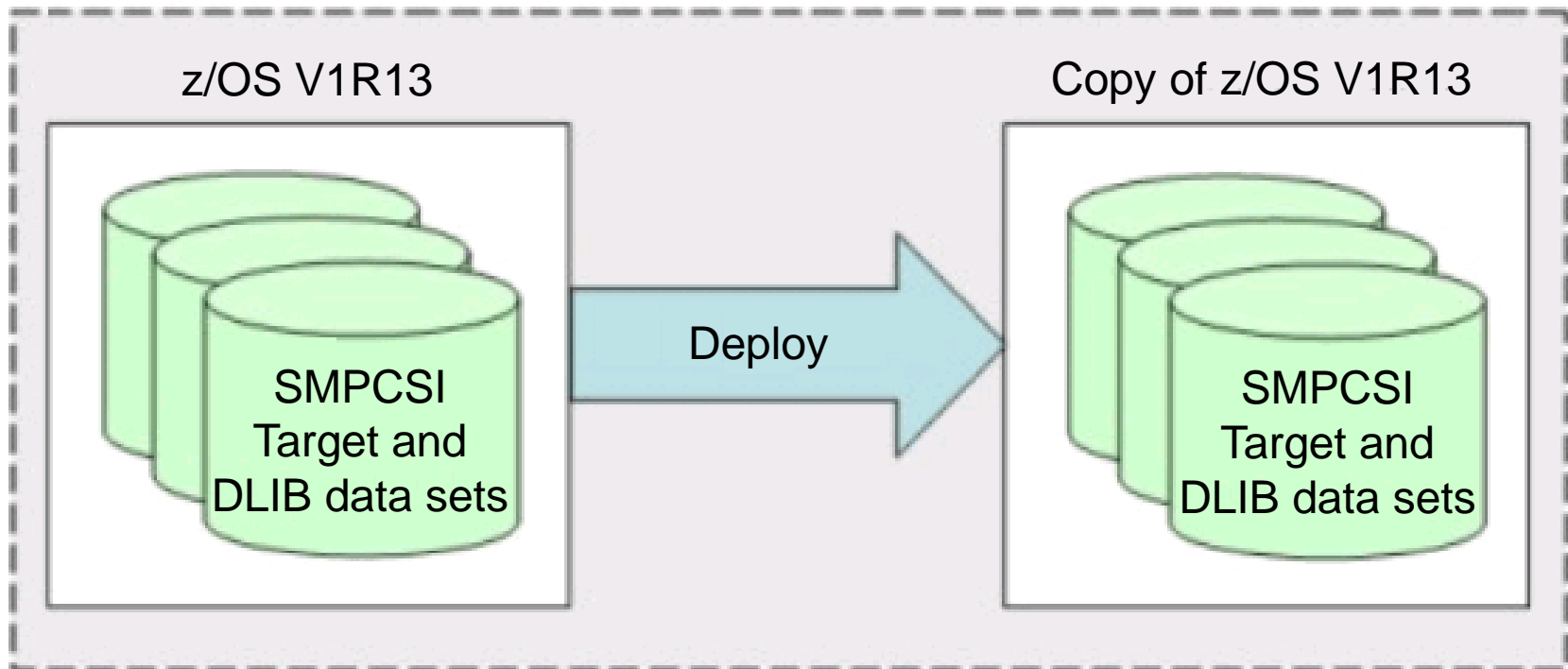
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Title	Speaker	Day	Time
z/OSMF Software Management Capabilities	Greg Daynes	Thursday	11:00 AM-12:00 PM
z/OSMF Software Management Hands-on Lab	Greg Daynes	Thursday	3:00 PM-4:00 PM

# What is software deployment?

Software deployment is the process of making software available to be used on a system by users and other programs. You might deploy software to:

- Create a backup copy of the software
- Move the software to another system
- Create another SMP/E-serviceable copy for installing service or other products.



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## z/OS Consumer Experience Survey

### 1. If a failure occurred during my deployment of this product or solution into a production environment ...

- 5 - My systems were returned to their original state automatically.
- 4 - I had to perform no more than one manual step to return my systems to their original state.
- 3 - I was able to return my systems to their original state after completing at least two manual steps which are known and well documented.
- 2 - Significant manual steps were required to return my systems to their original state, but these steps are documented and could be completed without external assistance.
- 1 - I needed assistance from external support or service experts to return my systems to their original state.
- 0 - I was not able to return my systems to their original state.

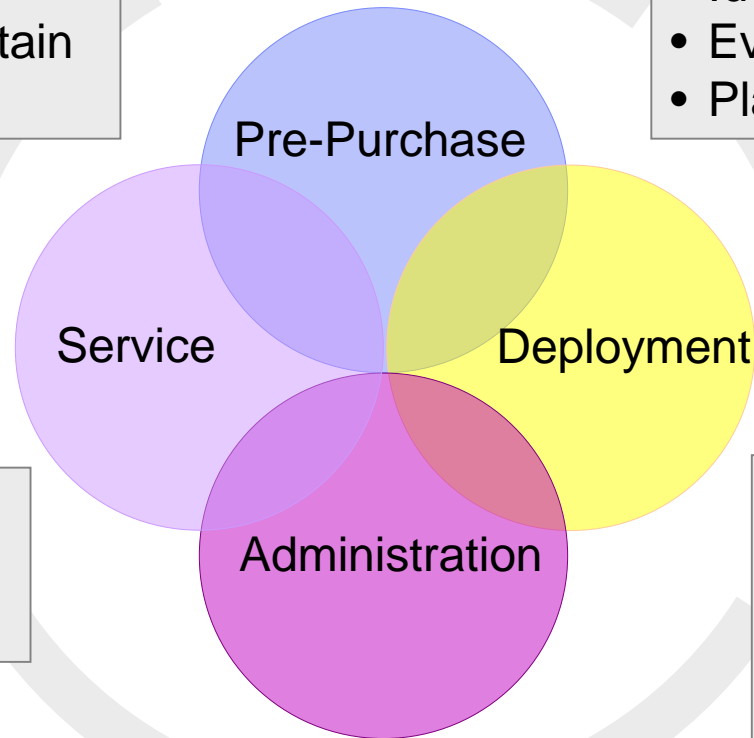
The survey measures z/OS® consumability, which is your total experience with z/OS products.

## Simplifies ownership

- Manage problems
- Administer and maintain
- Fix and upgrade

## Easy to do business

- Identify product
- Evaluate capabilities
- Plan architecture



## Readily adapts

- Develop applications
- Easily use interface

## First use experience

- Acquire product
- Install product
- Configure product
- Operate product

## Rapid integration

- Integrate with infrastructure
- Deploy into production



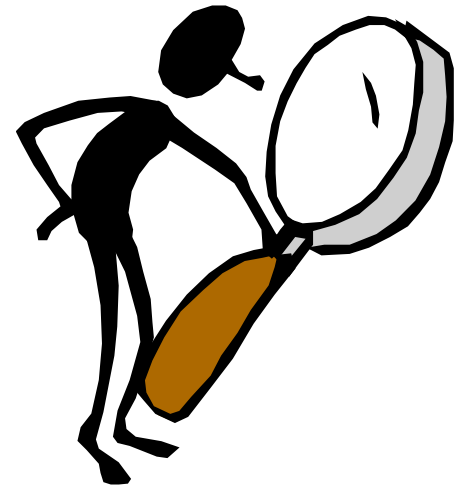
Measuring z/OS consumability is an ongoing, two-step process:

**Step 1.** Determine the z/OS consumability targets

- 12 customers provided input into z/OS consumability targets
  - Roles: System Programmers and IT Managers
  - Diverse companies across 7 different industries

**Step 2.** Assess z/OS consumability

- 97 customers completed the survey
  - Roles: System Programmers and IT Managers
  - Diverse companies across 5 different industries



Market Driver	Criteria	Customer Target (n = 12)	Customer Survey (n = 97)
Ease of doing business	Capacity planning	4	4
	Business value information available	4	4
	Technical sales support*	4	3
Positive 1 <sup>st</sup> use experience	Ease of Installation on mainframes	4	4
	Verified installation dependencies	4	4
	Skill and role appropriate tools and information	2	2
	Access to operational information*	4	3
Rapid integration into customer environment	Non-disruptive operation	4	4
	Failsafe deployment into production for mainframes*	4	3
Readily adapts to customer requirements	User interface ease of use*	4	3
Simplifies ownership and operation	PD and troubleshooting capabilities*	4	3
	Simplified security practices for mainframes	3	3
	System state and progress information	4	4
	Non-disruptive fix packs	3	3
	Real time PTF identification and delivery for mainframes	3	3
	Problem reporting*	3	2

Gap area

\* High Importance Criteria

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Ease of doing business	Capacity planning	4	4
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	System s	3	3
	Non-disr	3	3
	Real time mainfram	3	3
	Problem reporting*	3	2

Target ➡ 4 - I had to perform no more than one manual step to return my systems to their original state.

Actual ➡ 3 - I was able to return my systems to their original state after completing at least two manual steps which are known and well documented.

Gap area

\* High Importance Criteria

The Software Deployment task, introduced with z/OSMF V1R13, allows you to deploy any SMP/E installed software within a sysplex (local deployment) or across sysplexes (remote deployment).

## IBM z/OS Management Facility

IBM

Welcome × Deployment ×

[Help](#)

### Deployment

Use this task to deploy software. To get started, select the **Deploy Software** action. [Learn more...](#)

<a href="#">Deploy Software</a>	Deploy a software instance, and manage existing deployments.
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#### ▼ Administration

<a href="#">Software Instances</a>	Add your software to z/OSMF, and manage existing software instances.
<a href="#">Categories</a>	Create and manage the categories to organize your software instances and deployments.
<a href="#">Global Zones</a>	Add and manage the global zone CSI data sets that identify and describe your software.
<a href="#">Systems</a>	Add and manage the z/OSMF host systems that have access to the DASD where your software resides.
<a href="#">FTP Servers</a>	Add and manage the FTP servers for each system.
<a href="#">FTP Profiles</a>	Add and manage the FTP settings to use when communicating with an FTP server.
<a href="#">HTTP Proxies</a>	Add and manage the HTTP settings to use when communicating with a system.
<a href="#">Settings</a>	Select the time zone in which to display date and time data. Indicate whether to display or suppress information messages.



The Software Deployment task helps you adhere to IBM® recommendations for software deployment and helps reduce errors during the cloning process because the recommendations and steps are *built-in*.

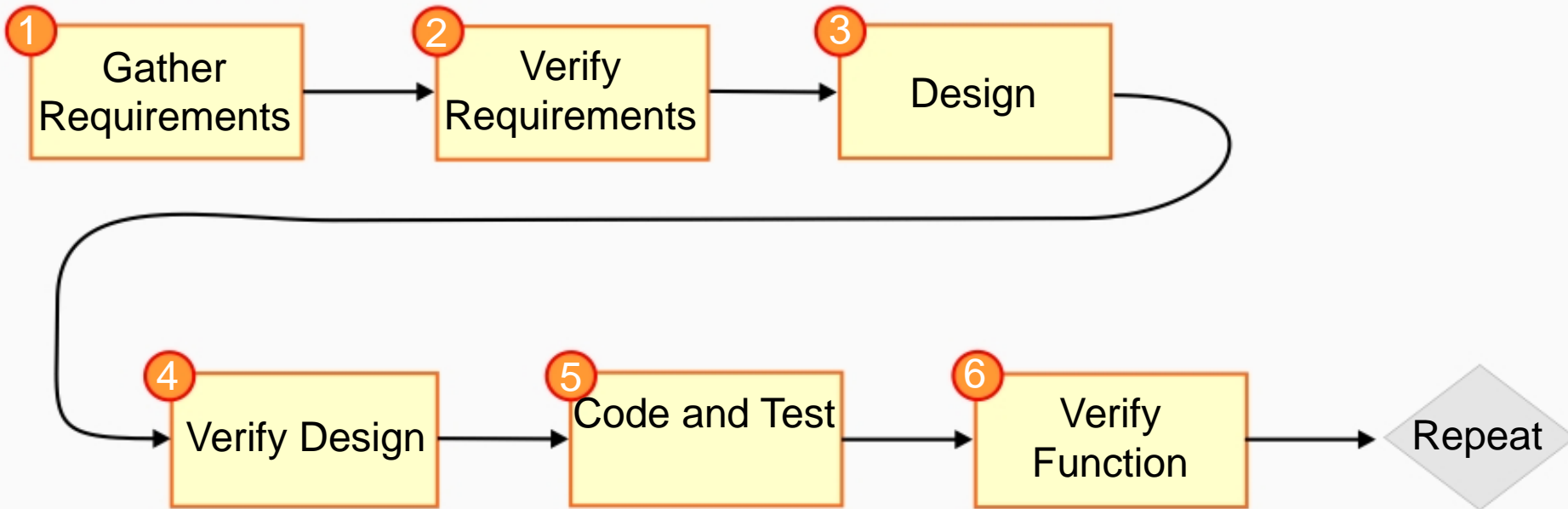
## Checklist

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. <ul style="list-style-type: none"><li>• View missing SYSMOD reports.</li></ul>
	5. Configure this deployment.
	6. Define the job settings. z/OSMF creates the deployment summary and jobs. <ul style="list-style-type: none"><li>• View the deployment summary.</li><li>• View the deployment jobs.</li></ul>
	7. Specify the properties for the target software instance.

- Why did IBM decide to simplify software deployment?
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User Centered Design is the process of keeping you and your needs front and center throughout the design and development process.

## Design process



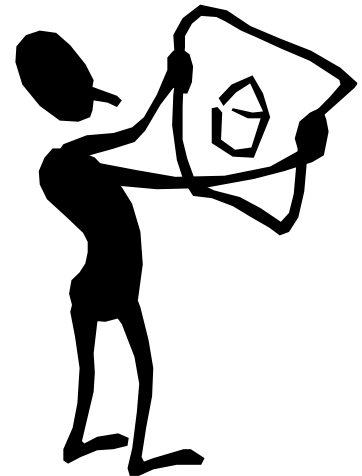
For the z/OSMF Software Deployment task, we:

- **Gathered feedback from internal and external stakeholders:**

- Internal stakeholders included members of the z/OSMF cross functional team, for example, developers, testers, user experience professionals, marketing, subject matter experts, and IBM Support
- External stakeholders included customers from SHARE, zBLC customers, and other customers who are part of IBM's stakeholder feedback program

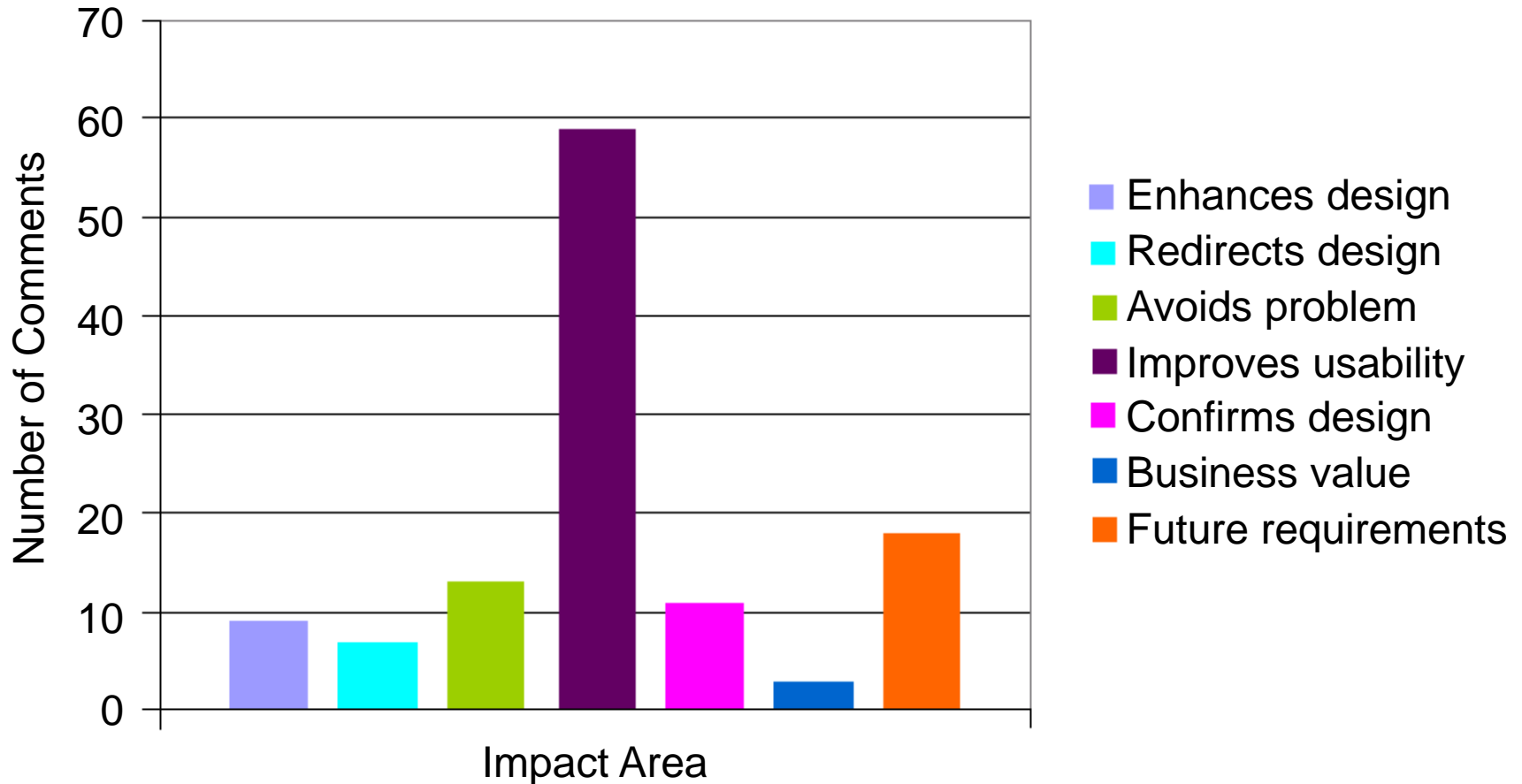
- **Used the following methods to obtain feedback:**

- Interviews
- Design walkthroughs
- Usability reviews
- Surveys
- Alpha, Beta, and ESP programs





We obtained 112 comments from stakeholders, which improved the overall usability of the solution and will, ultimately, make the z/OSMF Software Deployment task more consumable.



Comment: The deployment checklist is unclear.

Response: Added steps, and updated the panel text.

Before:

Deployment description:

Modify...

Progress	Task
➔	<a href="#">Select software to deploy</a> : create or select a software instance to deploy.
	Configure target software instance: specify how to configure this deployment.
	Deployment Summary: confirm actions that will occur as a result of this deployment.
	Generate Jobs: provide data set name and optional JCL job card data.
	Create or update target software instance: save or update software instance created for this deployment. Note: Only perform this step if generated JCL Jobs have been successfully executed.

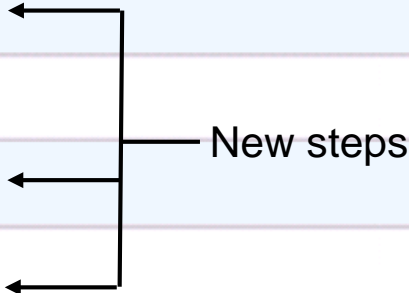
Needs Enhancements

Comment: The deployment checklist is unclear.

Response: Added steps, and updated the panel text.

After:

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. <ul style="list-style-type: none"> <li>• View missing SYSMOD reports.</li> </ul>
	5. Configure this deployment.
	6. Define the job settings. z/OSMF creates the deployment summary and jobs. <ul style="list-style-type: none"> <li>• View the deployment summary.</li> <li>• View the deployment jobs.</li> </ul>
	7. Specify the properties for the target software instance.



Enhancements

Comment: The deployment scenarios are unclear.

Response: Updated the panel text, and expanded the online help.

Before:

Welcome x Deployment x

### Select Deployment Scenario [Help](#)

The scenario you choose will determine the location of the resulting clone and the global zone CSI data set to use.

- Clone software to a new software instance.
  - Create a new global zone CSI data set.
  - Use the same global zone CSI data set as the source.
  - Use an existing global zone CSI data set.
- Clone software to replace an existing software instance and its global zone CSI data set.

OK Cancel

Needs Enhancements

Comment: The deployment scenarios are unclear.

Response: Updated the panel text, and expanded the online help.

After:

Welcome x Deployment x

## Select Deployment Objective [Help](#)

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...](#)

OK Cancel

Enhancements

**Comment:** Unmounted UNIX file system data sets are excluded from the deployment.

**Response:** Provided new function, which allows users to add the unmounted UNIX file system data sets to the deployment.

## UNIX File System Data Sets

The UNIX file system data sets that contain the directories listed in the **UNIX directories** field could not be identified because they are not mounted. Use the **Add** action to specify the name of those data sets and to identify the mount points that would make the directories accessible to SMP/E. To proceed, a data set and mount point must be specified for each UNIX directory.

Source software instance: z/OSR13 on system AQFT

Target system: SYS1

### ▼ Unmounted Directories for z/OSR13 on AQFT

#### UNIX File System Data Sets

Actions ▼		
<input type="checkbox"/>	Data Set Name	Mount Point
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		

Refresh

#### UNIX directories:

```
/u/mvsbuild/ZOS113/usr/lpp/NFS/IBM/  
/u/mvsbuild/ZOS113/usr/lpp/Printsrv/bin/IBM/  
/u/mvsbuild/ZOS113/usr/lpp/Printsrv/classes  
/u/mvsbuild/ZOS113/usr/lpp/Printsrv/Infoprin  
/u/mvsbuild/ZOS113/usr/lpp/Printsrv/Infoprin  
/u/mvsbuild/ZOS113/usr/lpp/Printsrv/Infoprin  
/u/mvsbuild/ZOS113/usr/lpp/Printsrv/Infoprin  
/u/mvsbuild/ZOS113/usr/lpp/Printsrv/Infoprin  
/u/mvsbuild/ZOS113/usr/lpp/Printsrv/Infoprin
```

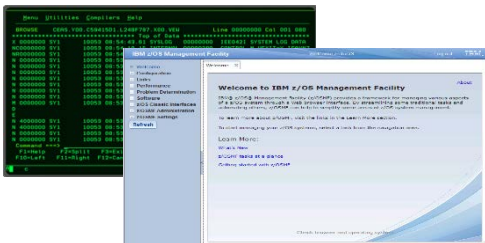
Total: 8

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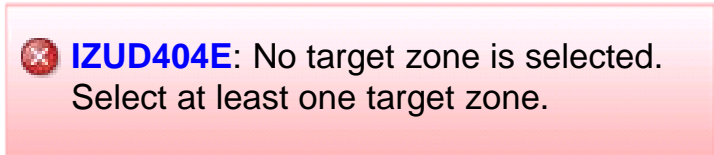
Complexity analysis is a methodology that allows us to understand what tasks make a process difficult, and to quantify how complex a task step is compared to other steps.

Heuristics used to measure complexity:

- Context shifts



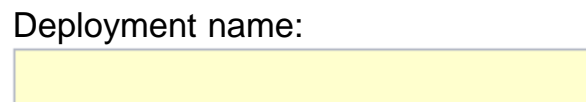
- Error feedback



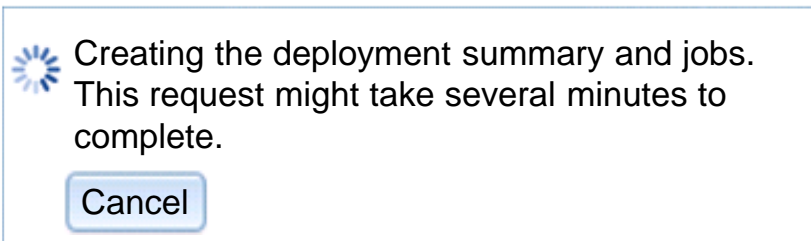
- Navigational guidance



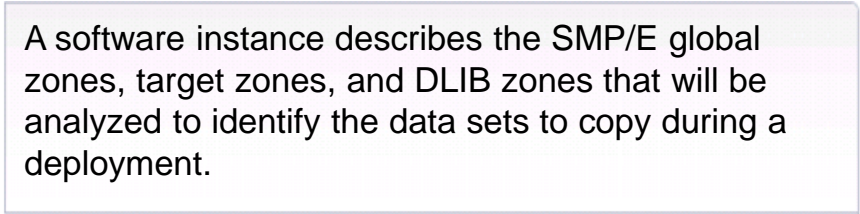
- Input parameters



- System feedback



- New concepts



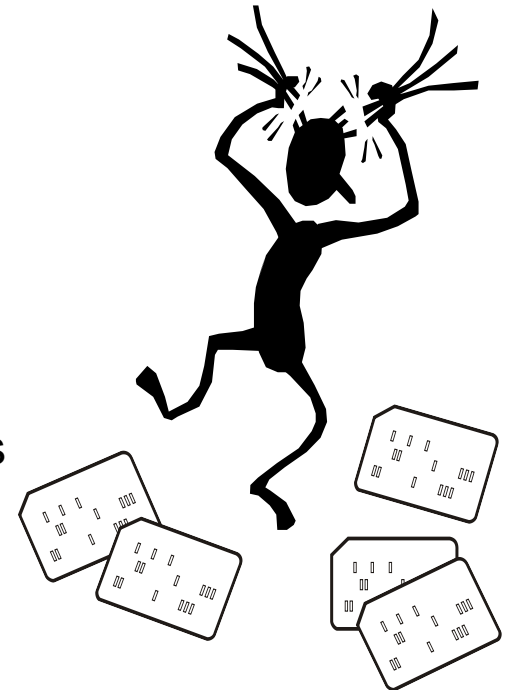


Tasks assessed using a local deployment:

- Deploy software using new resources
- Deploy software using existing resources

Goals:

- Determine if Software Deployment task provides an intuitive navigation
- Ensure that the Software Deployment task is designed for new and experienced system programmers
- Identify potentially complex steps when deploying software and use results to prioritize future requirements
- Benchmark the complexity of the current release



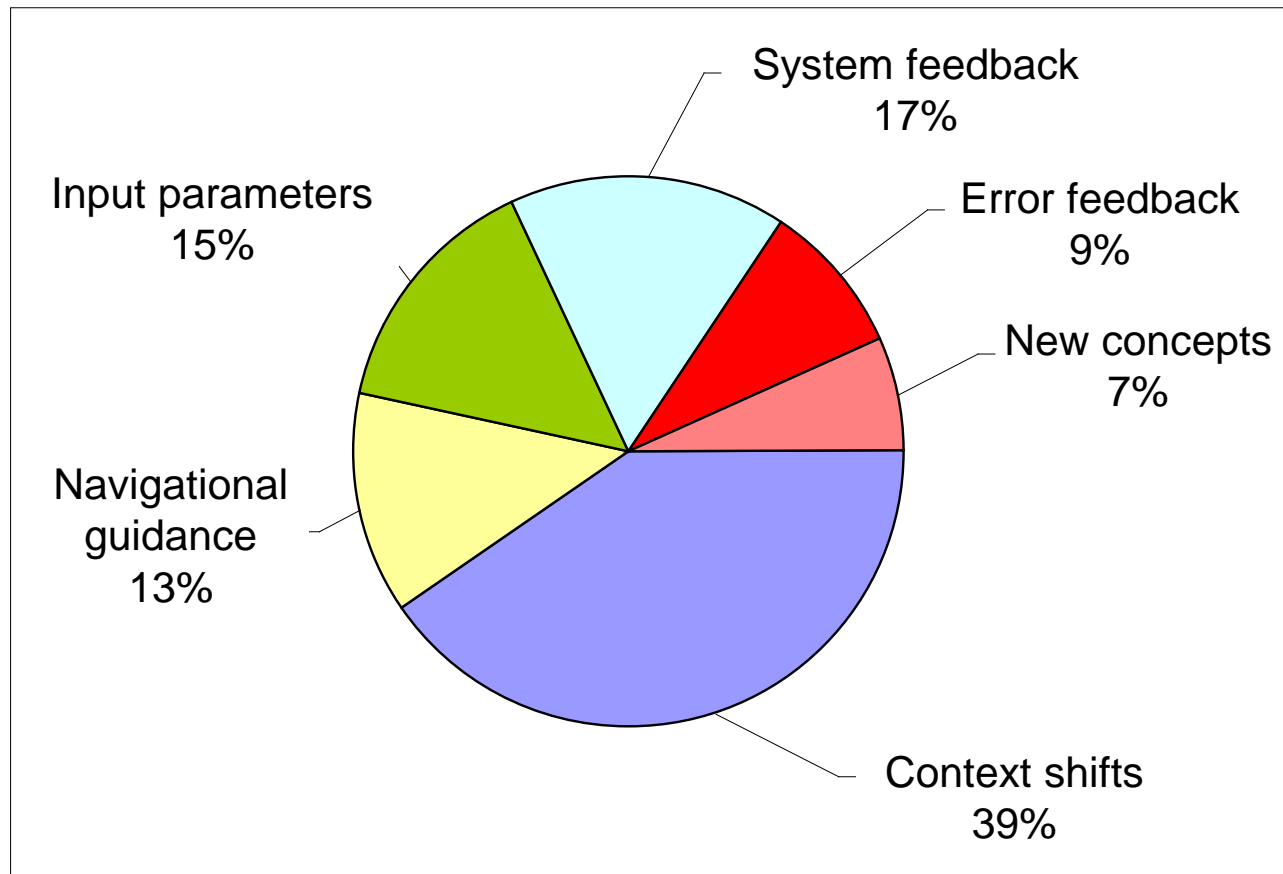
The software deployment process is less complex when user's deploy software using existing resources.

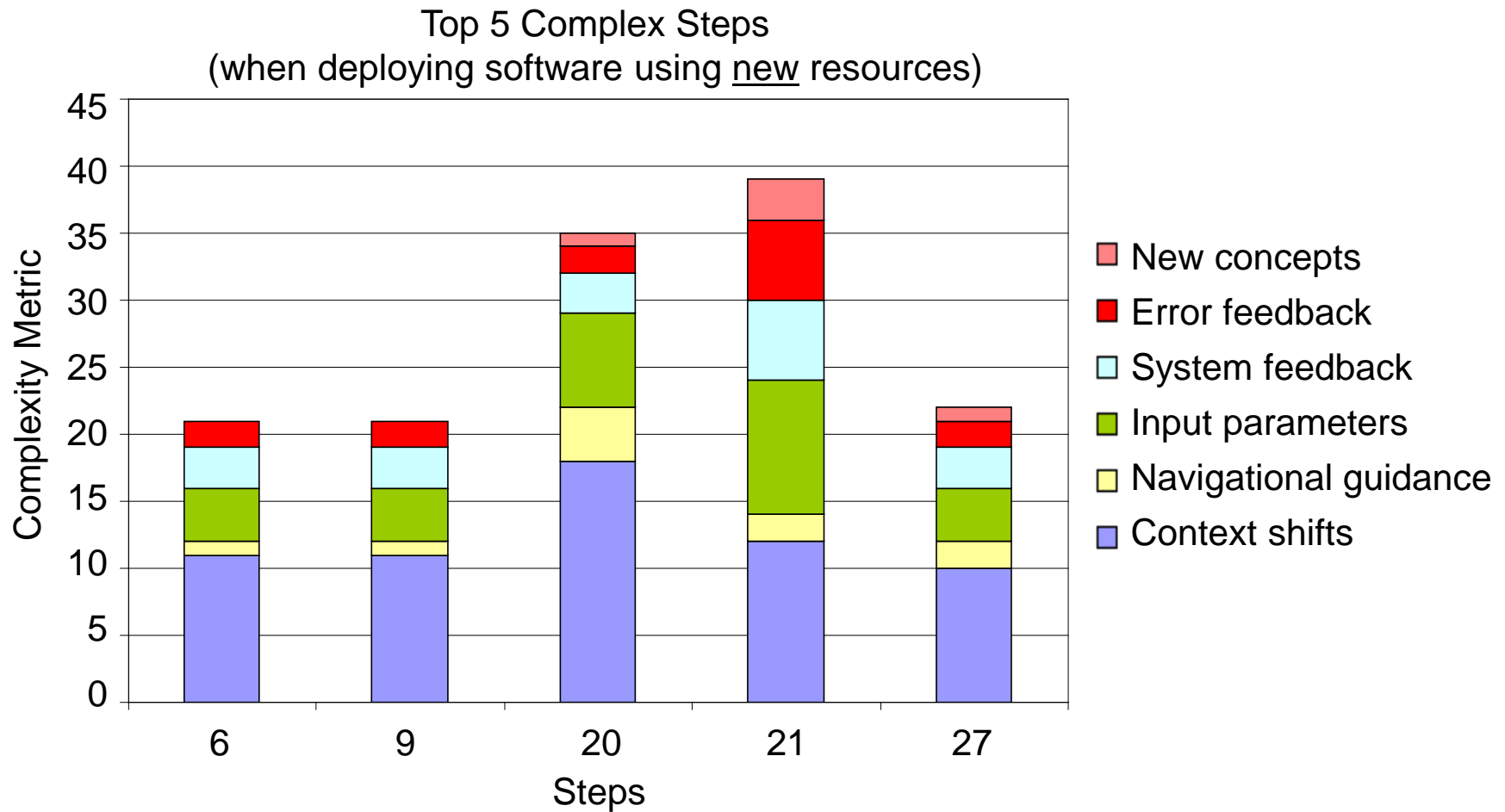
- **Total number of steps reduced by 26%**
  - Deploy using new resources: 27 steps
  - Deploy using existing resources: 20 steps
- **Overall complexity score decreased by 36%**
  - Deploy using new resources: 376.5 complexity score
  - Deploy using existing resources: 241 complexity score



There are a large number of context shifts during the software deployment process, which increases complexity.

Each Heuristic's Contribution to the Overall Complexity Metric  
(when deploying software using new resources)





Steps key:

**6:** Select Global Zone

**9:** Select Non-SMP/E Managed Data Sets

**20:** Verify Catalogs

**21:** Verify Volumes and Storage Classes

**27:** Specify the properties for the target software instance

Recommendation: Remove unnecessary clicks.

Impacts: Context shifts

Example:

General

\*Name:

Description:

Categories:

**Recommendation:** Provide a list of data sets, volumes, and global zones within the Software Deployment task.

**Impacts:** Context shifts and input parameters

**Example:**

General

\* Data set name:

Volume (if data set not cataloged):



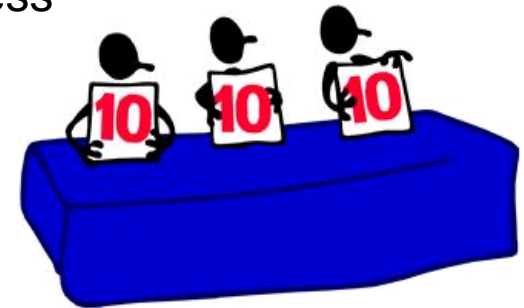
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How do you tell us? By...

- Providing feedback at SHARE
- Completing the z/OS Consumer Experience Survey
- Participating in the System z Stakeholder Feedback process

AND...



We have quantitative data:

- With consumability data, we can determine if we are closing the consumability gaps
- With complexity analysis, we can determine if the complexity metric for the Software Deployment task decreases as we make enhancements
- With your feedback, we can determine if the number of customers using the Software Deployment task on their production systems increases

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- **Summary**

## IBM:

- Includes you throughout the design and development process – from concept to production
- Values your feedback
- Uses your feedback to deliver the best possible product or solution



Title	Speaker	Day	Time
The new and Improved z/OSMF	Anuja Deedwaniya	Tuesday	9:30 AM-10:30 AM
z/OSMF Configuration Made Easy	Anuja Deedwaniya	Wednesday	8:00 AM-9:00 AM
z/OSMF Software Management Capabilities	Greg Daynes	Thursday	11:00 AM-12:00 PM
z/OSMF Round Table	Anuja Deedwaniya	Thursday	12:15 PM-1:15 PM
z/OSMF Software Management Hands-on Lab	Greg Daynes	Thursday	3:00 PM-4:00 PM
z/OSMF Hands-on Lab - Redux	Anuja Deedwaniya	Friday	11:00 am – 12:00 pm

Software Management is the new name for the Software Deployment task.

To participate, you can:

- Complete the paper survey during this session, or Wednesday at the IBM survey table
- Complete the online survey (~30 mins):  
<https://www.ibm.com/survey/oid/wsb.dll/studies/consumabilitywebform.htm?product=2&icode=SHARE&brand=8&crit=18dc8dcfa3a35c@55&group=stg>
- Drop off your business card for an email invitation

For more details about how you can participate, see [z/OS Consumability, User-Centered Design and Usability—It's All About You](#) by Iris Rivera.

To provide feedback for current and future projects, you can:

- Attend SHARE sessions and provide feedback.
- Join the System z Stakeholder Feedback program and help IBM capture deeper system-level requirements for z/OS in the following areas:
  - Simplification, z/OS Management Facility
  - Security configuration, Hardware Configuration Data
  - Hardware configuration, Hardware Management Console
  - Workload Management, Coupling Facility and sysplex
- Participate in one-on-one sessions with IBM developers. Sessions can encompass: roundtable discussions, design and interface evaluations, and task scenario reviews.

If you're interested in the System z Stakeholder Feedback program or the one-on-one sessions, email your name, company, and phone number to Laura Bostian at [lbostian@us.ibm.com](mailto:lbostian@us.ibm.com).





*Thank You*

A decorative horizontal banner with a light blue background and a darker blue border. The words "Thank You" are written in a blue cursive font. The banner is flanked by ornate, symmetrical scrollwork designs on both sides.



▪ Top Facebook pages related to System z:

- [IBM System z](#)
- [IBM Academic Initiative System z](#)
- [IBM Master the Mainframe Contest](#)
- [IBM Destination z](#)
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