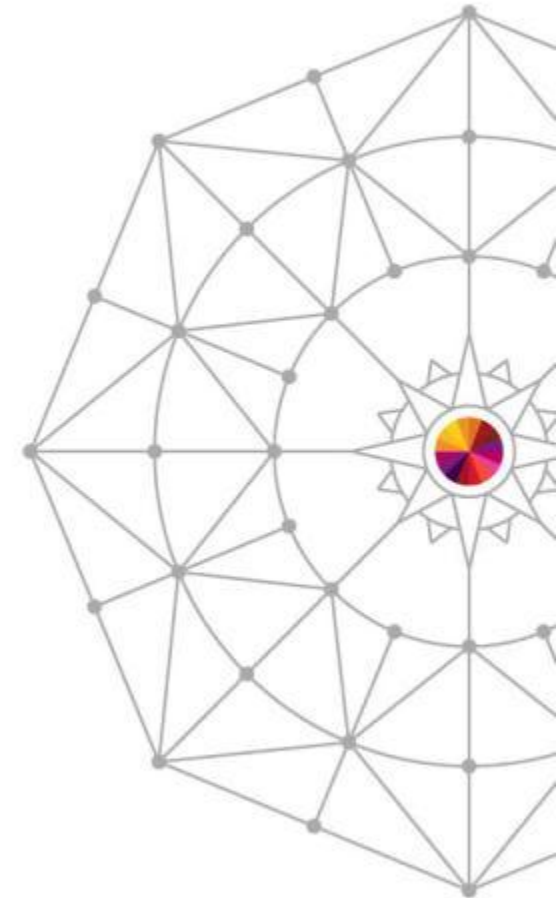




z/OSMF User Experiences

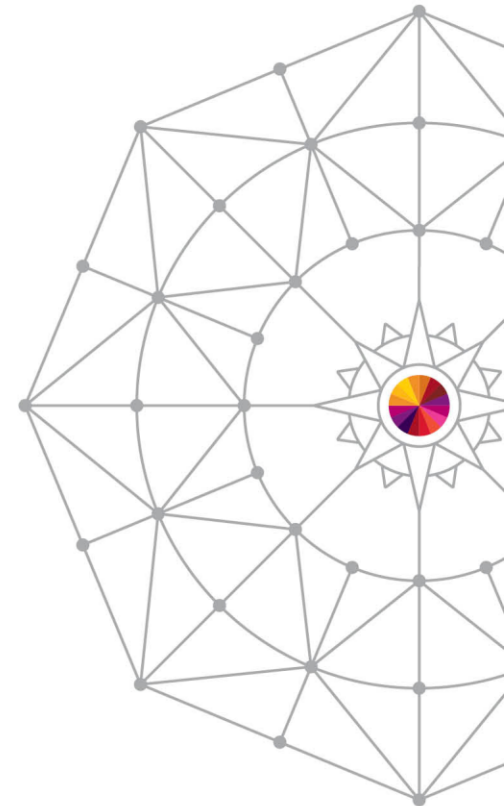
Ed Webb
SAS Institute Inc.

March 13, 2014
Session Number 15122



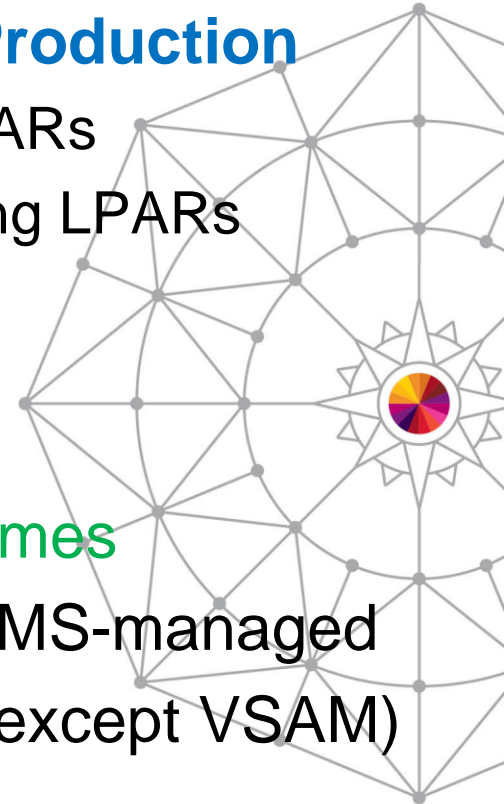
Agenda

- Our Environment
- z/OS Installation Setup
- z/OSMF Timeline at SAS
- Incident Log
- Software Deployment and Management
- Resource Monitoring
- Workflow
- Hints and Tips
- Functions We'd Like to See
- Summary



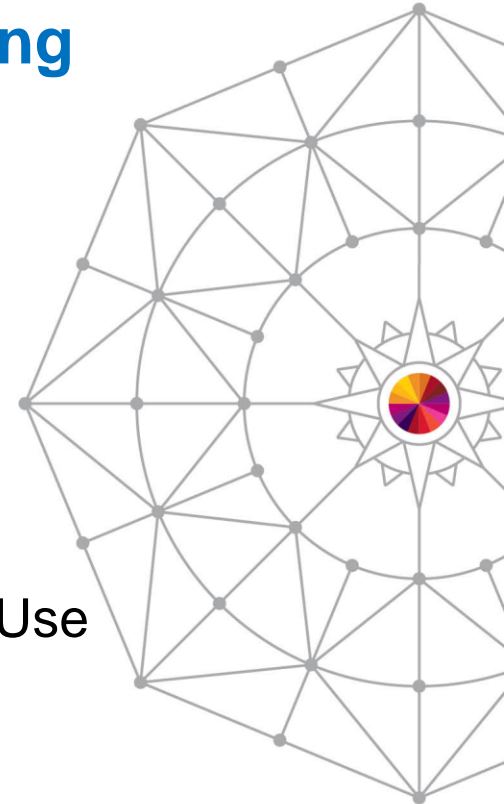
Our Environment

- **SAS Product Build and Test is Our Real Production**
 - z9-BC for Production, Sandbox, Licensing LPARs
 - z196-706 for Product Development and Testing LPARs
 - 6 CPs and 1 ICF
 - 2 zIIPs (zAAP enabled)
- Small Shop, Small Staff
- **Big Data so Big SYSRES and Big DLIB Volumes**
- SYSRES libraries and file systems are not SMS-managed
- SYSRES data sets are indirectly cataloged (except VSAM)



Our Environment

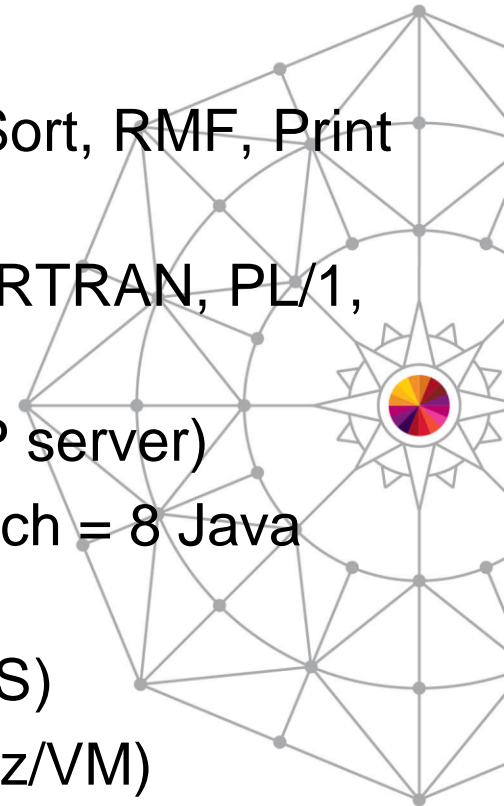
- **2 Sysplexes Running z/OS in One GRS Ring**
 - Production Sysplex with One LPAR
 - Test Sysplex with One LPAR
 - System Programmer “Sandbox”
 - z9-BC Only
- **1 Sysplex Running z/OS in a GRS Star**
 - Development System with Four LPARs
 - One LPAR is Primarily for System Programmer Use
 - z196 (3 LPARs)
 - z9 (1 LPAR)



z/OS Installation Setup

- **z/OS 2.1 at SAS**

- Include\$ RACF, DFrm, DFhsm, DFdss, DFSort, RMF, Print Support Facility and Fonts
- Include\$ HLASM Toolkit, C/C++, COBOL, FORTRAN, PL/1, Pascal, WebSphere MQ
- Includes Ported Tools (all features; new HTTP server)
- Java (2 versions, 4 releases, two flavors of each = 8 Java FMIDs), XML V10
- Includes z/OSMF (and its “Liberty Profile” WAS)
- Include\$ JES3 (for use by z/OS guests under z/VM)
- **Monthly RSU APPLY**



z/OSMF Timeline at SAS

- **z/OSMF V1R11**

- December 2009 – January 2010
 - Ordered and installed z/OSMF and WASOEM Functions
- February- June 2010
 - Struggled with Incident Log setup
 - CIM and CEA and Security (RACF) including Digital Certificates
- July 2010
 - Initial z/OSMF setup completed

- **z/OSMF V1R12**

- October-November 2010
 - Migration relatively smooth



z/OSMF Timeline at SAS

- **z/OSMF V1R12**

- May 2011
 - APAR OA36015 fixed our >500 DDIR entry issue
 - Considered z/OSMF fully functional

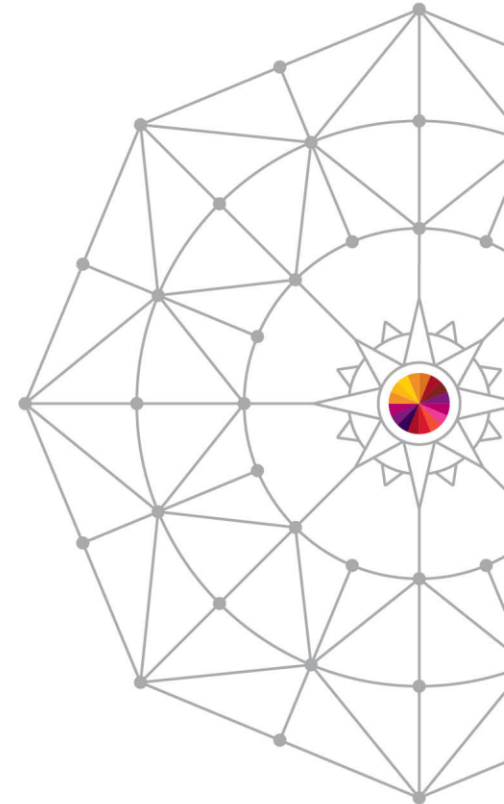
- **z/OSMF V1R13**

- September 2011
 - Migration relatively smooth
- March 2012
 - Converted from Repository Authorization to SAF Authorization



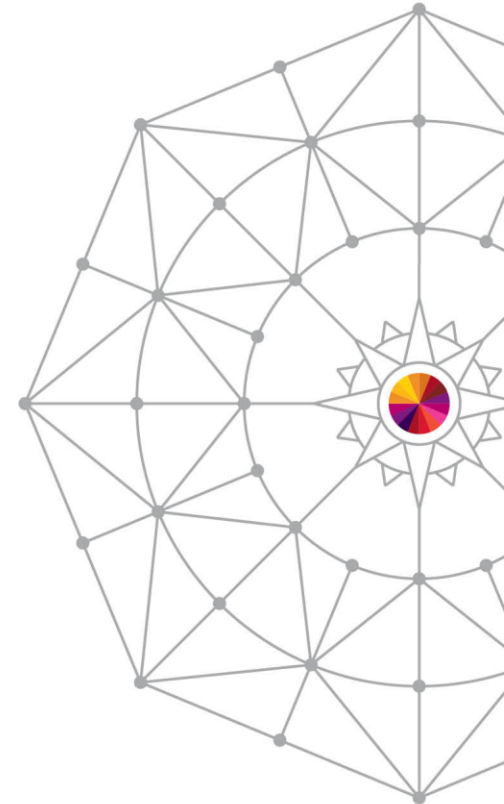
z/OSMF Timeline at SAS

- **z/OSMF V2R1**
 - September 2013
 - Deleted 3 Servers for z/OSMF and WASOEM
 - Added 2 new Servers
 - *IZUANG1 – The “angel” server*
 - *IZUSVR1 – The Application Server*
 - Ran script to update the izuconfig1.cfg
 - Ran Security Server (RACF) updates



z/OSMF Incident Log

- Open a Service Request Manually
 - Send one or more SVCDumps, SYSLOGs, Error logs (LOGREC)
 - Send JobLogs, entire Job Output, or other files via z/OSMF as well
 - Wait for IBM to respond
- Send data to ISVs via z/OSMF
 - Triangle Systems' IOF (a well-known JES2 management tool)
 - As early users of new z/OS JES2 releases, we sometimes send them SVCDumps and other data



z/OSMF Incident Log

Welcome x FTP Servers x

FTP Servers ▶ Modify

Modify ftp-triangle-systems-com

✦ FTP server name:

ftp-triangle-systems-com

✦ Host:

ftp.triangle-systems.com

✦ Path name:

/

Port number (must be between: 1-65535):

21

FTP profile:

Use the default profile. Currently, the default profile is FTPSSL.

Use the selected profile.

No Firewall or Proxy

Select...

Use anonymous user ID and password.

Description:

Triangle Systems (IOF)

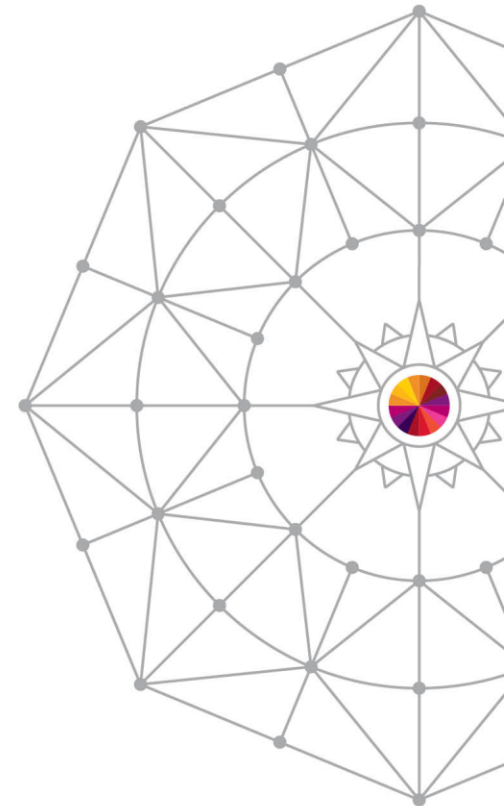
OK

Cancel

Transfer method:

FTP

z/OS Problem Documentation Upload Utility



z/OSMF Software Deployment

- Defined ServerPac Instance to z/OSMF
- Deployed ServerPac to TST1, creating a TST1 Instance
- Deployed TST1 to DEVT; DEVT to Others

Software Management ▶ Deployments

Deployments

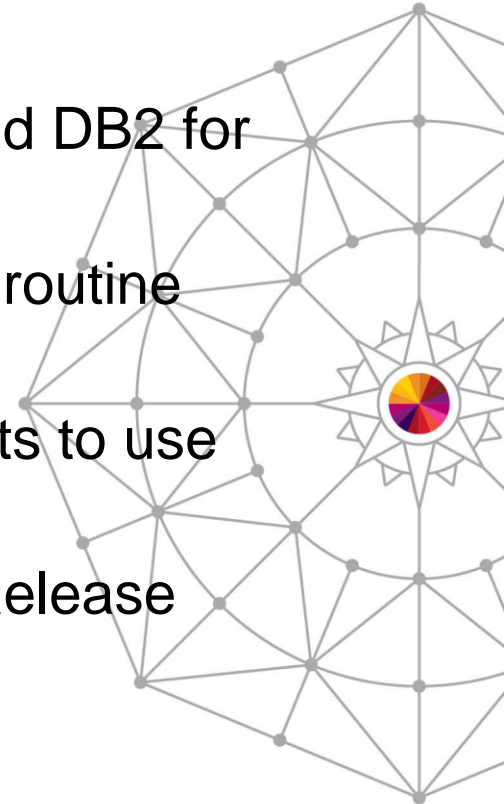
To deploy a software instance, create a new deployment by selecting **New** or **Copy** from the Actions menu.

Actions ▼					
Name Filter	Description Filter	Activity Filter	Categories Filter	Source Software Instance Filter	
<input type="checkbox"/>	z/OSV2R1_TST1	Clone ServerPac to TST1	Completed	z/OS	z/OSv2r1SRVP
<input type="checkbox"/>	z/OSV2R1_DEVT	Clone ServerPac to DEVT from TST1	Completed	z/OS	z/OSv2r1TST1
<input type="checkbox"/>	z/OSV2R1_DEVB	Clone z/OS V2R1 to DEVB from DEVT	Completed	z/OS	z/OSv2r1DEVT



z/OSMF Software Management

- **Missing FIXCAT SYSMODs at SAS**
 - For a new z/OS release, check CICS, IMS, and DB2 for compatibility SYSMODs
 - Because of low use of CICS, IMS and DB2, a routine RECEIVE of HOLDDATA is not done
 - HOLDDATA was RECEIVED for these products to use missing FIXCAT SYSMOD feature in z/OSMF
 - Defined Software Instance for each Product Release
 - Run missing FIXCAT SYSMOD report



Maintenance Reports

Missing FIXCAT SYSMODs x

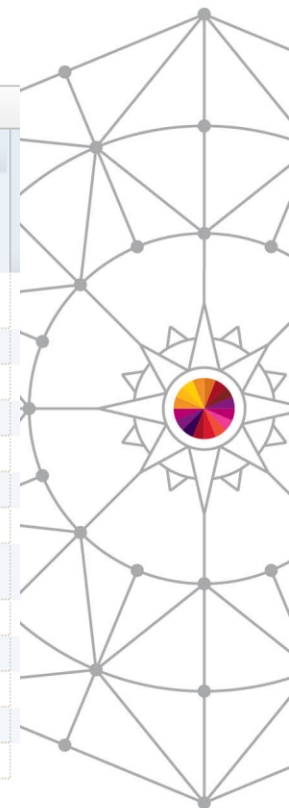
Review the list of fix categories and determine which APARs are critical for your installation. Use SMP/E to apply the resolving SYSMODs to the corresponding target zone.

Actions Table view: Tree

Software Instance / Fix Category / FMID / Missing APAR	System	HOLDDATA Received (GMT)	Target Zones	Resolving SYSMODs Received in Global Zone	Resolving SYSMODs Not in Global Zone	FMID Description
Filter	Filter	Filter	Filter	Filter	Filter	Filter
<input type="checkbox"/> CICS	LOCAL	August 5, 2013 14:06:51				
<input type="checkbox"/> IBM.ProductInstall-RequiredService						
<input type="checkbox"/> HC16800						CICS - Base
<input type="checkbox"/> AM88560			TCIC51		UK94552	
<input type="checkbox"/> AM89168			TCIC51		UK95631	
<input type="checkbox"/> AM89639			TCIC51		UK95766	
<input type="checkbox"/> AM85764			TCIC51		UK96162	
<input type="checkbox"/> AM86196			TCIC51		UK95938	CICS - System Manager
<input type="checkbox"/> AM89564			TCIC51		UK95862	
<input type="checkbox"/> AM90164			TCIC51		UK94631	
<input type="checkbox"/> AM92452			TCIC51		UK94994	
<input type="checkbox"/> AM92452			TCIC51		UK96152	

SYSMODs needed will be listed here

Report will produce similar results depending on the system and what SYSMODs have been applied



z/OSMF Resource Monitoring

- z196 has a zBX attached (x86 Blades)
- My co-worker set up z/OSMF Resource Monitoring to watch over zBX performance

[System Status](#) ▶ Modify Entry ZBXPLEX

Modify Entry

* Resource name:

ZBXPLEX

* Host name or IP address:

s390devt.mvs.sas.com

* Target system type:

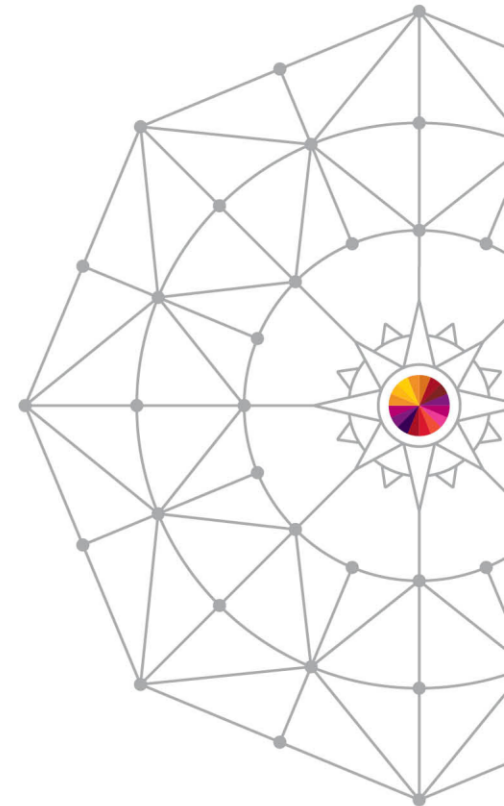
Linux on System x (GPM4CIM) ▼

* Port:

8806

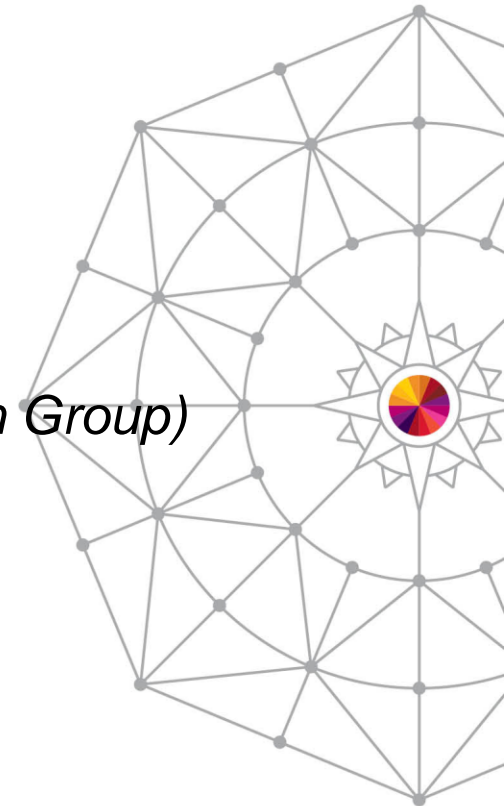
OK

Cancel



z/OSMF Resource Monitoring

- Linux on zBX
 - CIM environment
 - gathers Linux performance metrics
 - stores them in a repository
 - Components are :
 - *TOG-Pegasus CIM server Daemon (The Open Group)*
 - *Repository Daemon*
 - *Gatherer Daemon*



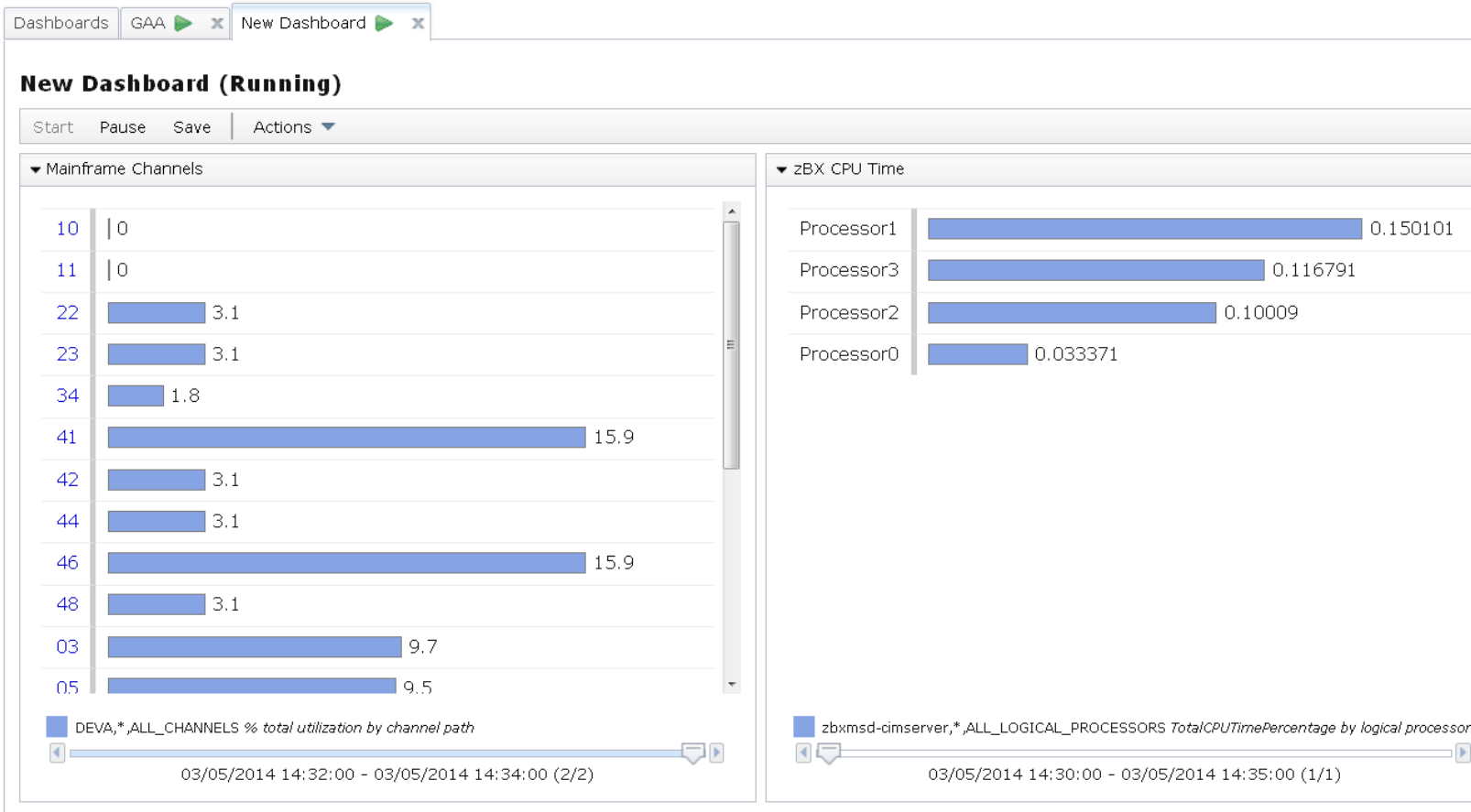
z/OSMF Resource Monitoring

- z/OS Started Tasks
 - Started task GPM4CIM periodically connects and gets performance metrics from the Linux CIM server.
 - Started task GPMSEERVE gathers local mainframe performance metrics.
- Web Browser on Your Workstation
 - z/OSMF connects to z/OS GPM4CIM and GPMSEERVE servers
 - z/OSMF presents metrics from all sources (z/OS, zLinux, Linux, AIX, Windows, etc.)



z/OSMF Resource Monitoring

Resource Monitoring



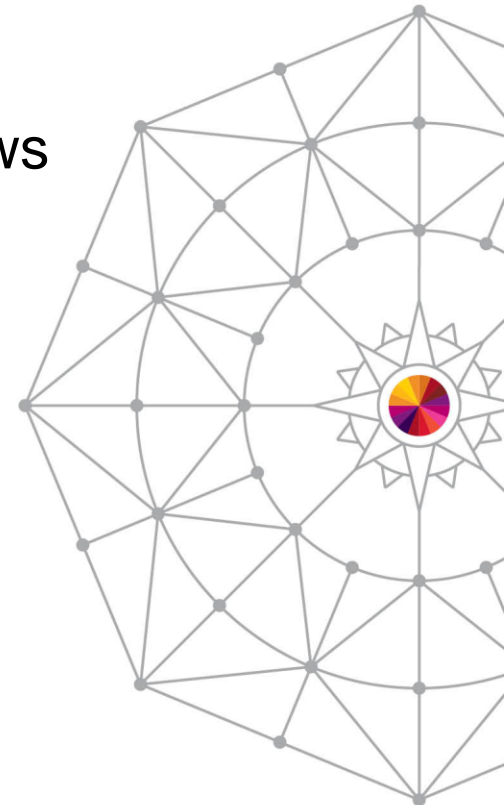
z/OSMF Workflow

- New in z/OSMF V2R1
 - IBM Products Can Provide Workflows
 - Your Installation Can Create Its Own Workflows
- Workflow Ideas That We Plan to Implement
 - z/OS Userid/uid setup
 - Replace TSO Clist(s) and 3270 Use
 - Prototype described in Redbook SG24-7851



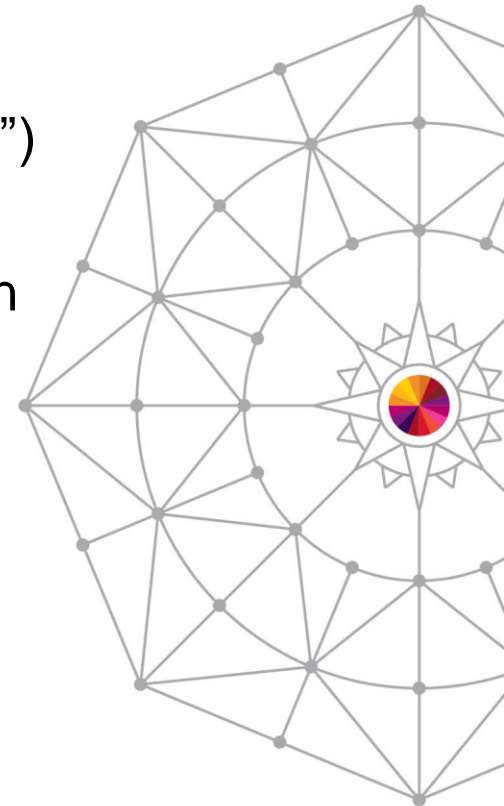
IBM z/OS Management Facility V2R1

Installation and configuration
Usage examples
API exploitation examples



z/OSMF Workflow

- Workflow Ideas That We Plan to Implement
 - RSU Implementation
 - Replace Our Checklists and SLJ (“silly little jobs”)
 - z/OS Release Migration
 - Implement new z/OS V1 to z/OS V2R1 Migration Workflow prototype
 - [IBM z/OS Software Download webpage](#)



z/OSMF Workflow

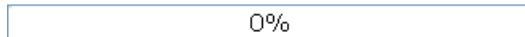
Workflows ▶ zOS_Migration_V2R1 for GA

zOS_Migration_V2R1 for GA

Description:
zOS_Migration_V2R1 for GA

Owner:
rerobb

Percent complete:



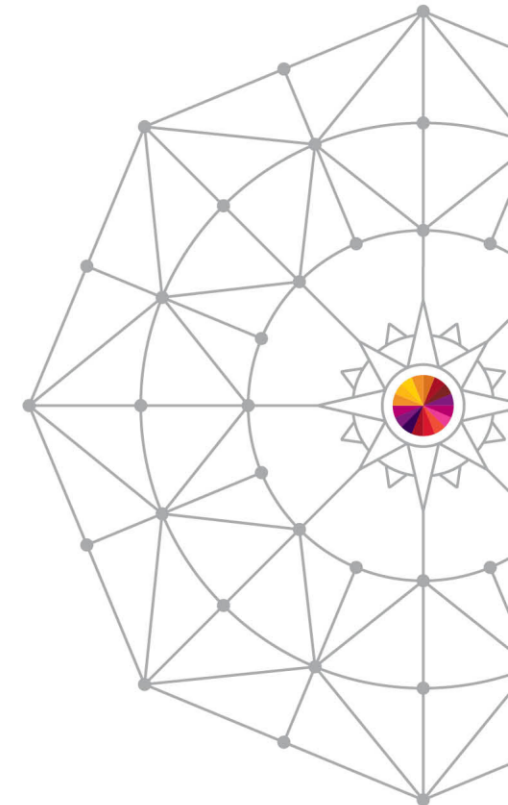
Steps complete:
0 of 208

Workflow Steps

| Actions ▼

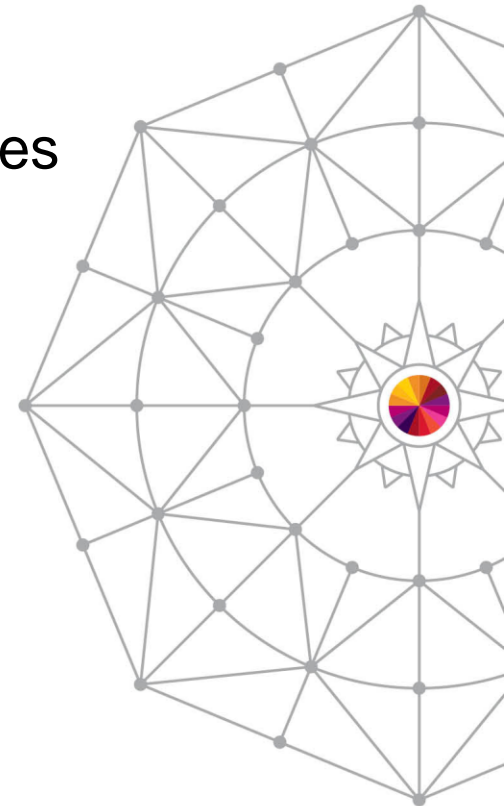
	State Filter	No. Filter	Title Filter
<input type="checkbox"/>	Unassigned	1	+ Migration: Introduction
<input type="checkbox"/>	Unassigned	2	- General migration actions for everyone migrating to z/OS V2R1
<input type="checkbox"/>	Unassigned	2.1	+ Migration actions for everyone moving to z/OS V2R1
<input type="checkbox"/>	Unassigned	2.2	+ Hardware migration actions
<input type="checkbox"/>	Unassigned	3	+ Migration from z/OS V1R13

Total: 283, Selected: 0



z/OSMF Hints and Tips

- Run CEATOOL to cleanup DumpDirectory
 - Uses BXPBATCH
 - PGM /bin/ceatool -d retpd=090,deletedump=yes
 - PGM /bin/ceatool -d retpd=090,deletedump=yes,preview=no
 - Sample job CEATOOL in SYS1.SAMPLIB
- Use ADYDATUP CLEANUP ddd
 - ISPF Edit macro for DAE data set cleanup
 - See z/OS MVS Diagnosis: Tools and Service Aids “Editing the DAE Data Set”



z/OSMF Hints and Tips

- Under Performance, Consider Disabling Tracking of Service Policy Activations

Workload Management



Overview Settings x

Settings

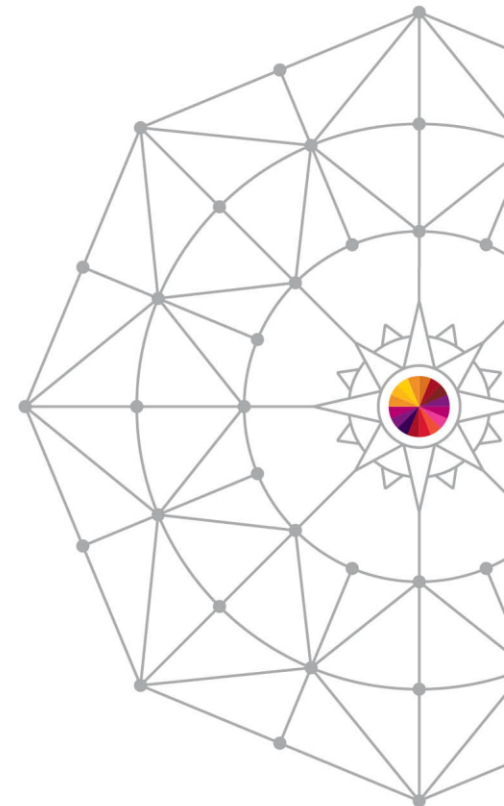
Consistency Checking

Enable consistency checking between z/OSMF and the z/OS W

Yes ▾

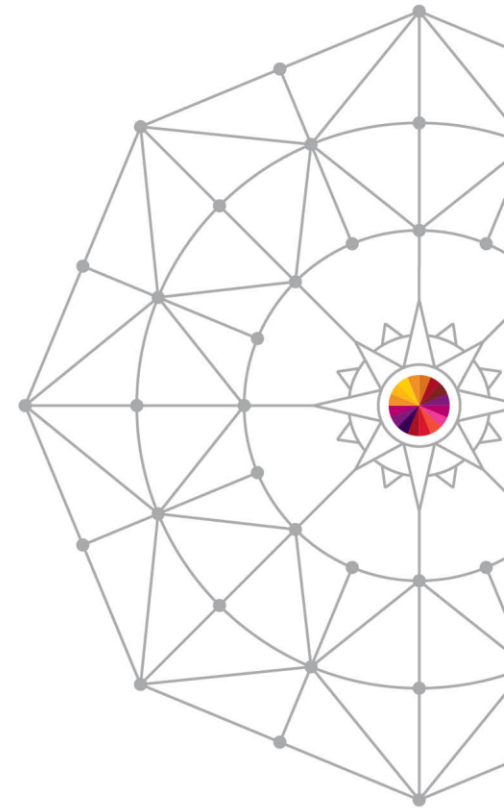
Enable tracking of all service policy activations in the sysplex:

No ▾



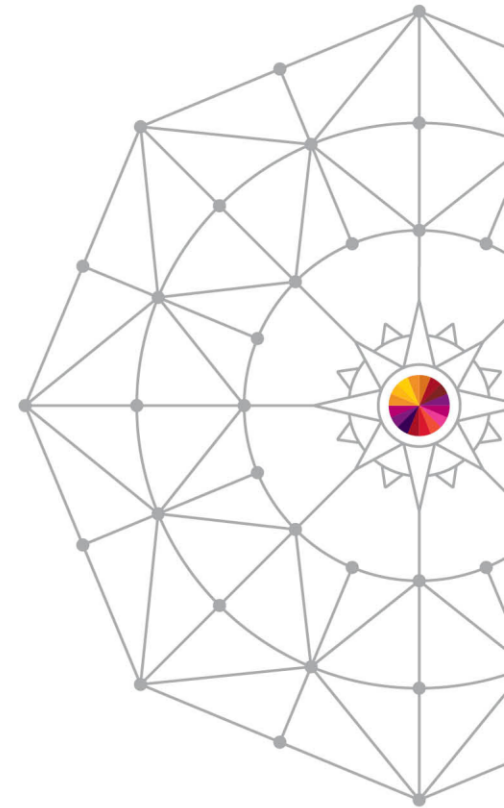
z/OSMF Functions We'd Like to See

- Direct upload of members of PDS or PDSe
 - Currently only sequential data sets can be uploaded
- Incident Create function for non-SVCDump problems
- Service Request Create function
- Health Checker Views
- Import non-SMP/E-managed data sets into Software Instance



z/OSMF Summary

- “z/OSMF is critical for us”
 - Dan Squillace, SAS Institute Inc.
 - 50% of z/OS Support staff retiring within 3-5 years



z/OSMF User Experiences

March 13, 2014 Session 15122

