



13040: z/OSMF User Experience

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February 7, 2013
Session Number 13040



USBank Environment

- 6 Sysplexes Running z/OS V1R13
- 4 Z196's and 2 ZEC12's
- 4 Test and 2 Production SYSPLEXS
- DR site is the same 6 SYSPLEXS on 4 ZEC12s
- DR site is continuously mirrored for both DASD and TAPE
- We do a DR test every quarter (4 per year)

USBank and z/OSMF



- First ordered z/OSMF with z/OS V1R12
- Incident Log
 - We already had Operlog, Logrec log stream, automatic dump dataset allocation, Sysplex DAE, and System REXX
 - That left us with getting CIM and CEA running
- Usage: We use Incident log to be able to easily determine what dumps we want to process.
- Value : It provides an easy and consistent way to send the svcdump, erep log and operlog.

US Bank and z/OSMF

- Configuration Assistant
 - Uses : Policy Agent updates for ATTLS and IPSEC
 - Value : Replaces PC app that isn't being enhanced
- With z/OS V1R13 we converted from Repository Mode to SAF Mode
 - Migration went smoothly
- WLM, RMF
 - Not currently being used

US Bank and z/OSMF

December 2012 enhancements

- Received and applied all PTFS
 - UK83825 UK83828 UK83833 UK83836 UK83841 UK83842 UK83852
 - Also need pre-reqs UA66736, UA67237, UO01422
- Intend to use the new Software management function
- These ptf's require running iszussetup.sh script multiple times
- You must stop WAS/OEM
- You should backup /zWebSphereOEM/V7R0/config1 and /var/zosmf/data
- You must retain config file that is re-created /etc/zosmf/izuconfig1.cfg

US Bank and z/OSMF

December 2012 enhancements procedure

1. Determine security changes run izusetup with –config
2. Update security definitions
3. Verify security setup run izusetup with –verify racf
4. Prime the data file system run izusetup with –prime
5. Complete the setup run izusetup with –finish
6. Restart WAS/OEM
7. Before logging on to z/OSMF clear your browser cache

USBank and z/OSMF

- z/OSMF is rolled out to all sysplexes
 - Setup one place and clone to all sysplexes because :
 - Our Network Sysprogs want Configuration Assistant
 - Incident Log
 - Futures like Software Deployment, etc
- Between Share's I was asked by another company
 - how could they do this for Monoplexes
 - Answer: The process is the same for either Monoplexes or Sysplexes

Choices for z/OSMF in a Sysplex

- z/OSMF is designed to only run on one system in the sysplex at any point in time
- For high availability need to have a way to start on any system in the sysplex
- **Option 1** – Create additional z/OSMF instances and start manually when primary instance is down (I found this hard to follow)
- **Option 2** – Use Jython script to dynamically change WAS/OEM variables and start z/OSMF on any system in the sysplex
- Naturally we picked Option 2

z/OSMF in a Sysplex – Setup

Requirements for setup to start on any system in the sysplex:

1. Set up a dynamic VIPA
2. Use shared zFS for all data
 1. Prepare a shared zFS environment
 2. Switch /etc and /var to the shared zFS
3. Dynamically update WAS/OEM for sysplex name and host name
 1. Need to code a jython script and invoke wsadmin
4. Moving IBM WAS/OEM for z/OSMF to another system in the same sysplex
5. Cloning z/OSMF to other sysplex

Cloning Basics

What you need to clone:

1. All files and subdirectories for IBM WebSphere Application Server OEM Edition for z/OS in /var/zWebSphereOEM
2. All files and subdirectories for IBM WebSphere Application Server OEM Edition for z/OS in **/etc/zWebSphereOEM**
3. All files and subdirectories for z/OSMF in /var/zosmf/
4. All files and subdirectories for z/OSMF configuration files in /var/zosmf/data
5. All files and subdirectories for z/OSMF in /etc/zosmf
6. The wasoem config file (/zWebSphereOEM/V7R0/config1)
7. The wasoem SBBN7HFS (/usr/lpp/zWebSphereOEM/V7R0)

Wsadmin.sh script

- The **wsadmin.sh** script is a WebSphere programming and administrative interface
- The **wsadmin.sh** script can be invoked in a programmatically way using the programming language Jython.
- The system name, sysplex name and host name can be changed
- `AdminTask.changeHostName('[-nodeName bbnnode -hostName WTSC74.ITSO.IBM.COM -systemName SC74]')`
- `AdminTask.modifyNodeGroupProperty('DefaultNodeGroup', '[-name was.WAS_DAEMON_protocol_iiop_daemon_listenIPAddress -value WTSC74.ITSO.IBM.COM]')`
- `AdminConfig.save()`

A short overview of Jython

- [] Brackets are x'AD' and x'BD'
- : introduce a block of code (1 or more statements) used with if, elif, else.....
- Indentations have meaning
- # is used for comment line indicator
- == is a equal comparison
- a = b is a basic assignment
- If x == 1:
 - y = 2
 - z = 3
- elif x == 2:
 - y = 3
 - z = 4
- else:
 - y = 5
 - z = 6

Use the TCP/IP System Symbol Translator Utility



```
//SETSYS EXEC PGM=EZACFSM1,REGION=0K
//*
//* invoke TCP/IP System Symbol Translator Utility to
//* resolve system symbols that are used
//* in the Jython script
//*
//SYSOUT DD PATH='/tmp/wsadmin.ebcidic.jy',
// PATHOPTS=(OWRONLY,OCREAT,OAPPEND),
// PATHMODE=(SIRWXU,SIRWXG)
//SYSIN DD *
```

WSADMIN JYTHON SCRIPT



Coding a Jython script to dynamically set the correct system and host name

Jython script to invoke WAS Admin task to set system and host name

```
node    = 'bbnnode'
```

```
#
```

Test for which plex we are running on and set variable for it

```
#
```

```
plexname = '&SYSPLEX'
```

```
if plexname == 'PLEXDEV':
```

```
    shortname = 'dev'
```

```
elif plexname == 'FIRSTAR':
```

```
    shortname = 'nbo'
```

```
elif plexname == 'PLEXIT':
```

```
    shortname = 'it'
```

```
elif plexname == 'PLEXUT':
```

```
    shortname = 'ut'
```

```
elif plexname == 'PLEXPRD':
```

```
    shortname = 'prd'
```

```
elif plexname == 'PLEXTEST':
```

```
    shortname = 'tst'
```

```
else:
```

```
    print plexname, "is invalid"
```

Jython Script continued

```
# Create the proper dns name and system name
#
host  = 'zosmf-' + shortname + '.us.bank.com'
system = '&SYSNAME'
#
# Create the proper syntax for WAS Admin change host
name
#
opt_list1 = ' -nodeName ' + node + ' -hostName ' + host
opt_list2 = ' -systemName ' + system + ' '
```

Jython Script continued

```
#  
# Create the proper syntax for WAS Admin change dns name  
#  
opt_list3 = '-name was.WAS_DAEMON_protocol_iiop_daemon_listenIPAddress'  
opt_list4 = '-value ' + host + ''  
opt_list5 = opt_list3 + opt_list4  
#  
# invoke WAS Admin task  
#  
AdminTask.changeHostName(opt_list1 + opt_list2)  
AdminTask.modifyNodeGroupProperty('DefaultNodeGroup', opt_list5)  
AdminConfig.save()  
#  
# print results to std out  
#  
print 'Saved configuration changes'  
print system, host
```


Run WSADMIN Jython Script

```
/*  
/* invoke WSADMIN to run Jython script to set SYSPLEX and  
   SYSNAME  
/* for z/OSMF to this system.  
/*  
//JYTHON EXEC PGM=IKJEFT01,REGION=0M  
//ERR DD PATH='/tmp/wsadmin.err',  
// PATHOPTS=(OWRONLY,OCREAT,OAPPEND),  
// PATHMODE=(SIRWXU,SIRWXG)  
//OUT DD PATH='/tmp/wsadmin.out',  
// PATHOPTS=(OWRONLY,OCREAT,OAPPEND),  
// PATHMODE=(SIRWXU,SIRWXG)  
//SYSTSPRT DD SYSOUT=*  
//SYSTSIN DD *
```

Run WSADMIN Jython Script

```
BPXBATC SH +  
/zWebSphereOEM/V7R0/config1/AppServer/+  
profiles/default/bin/wsadmin.sh +  
-javaoption -Dscript.encoding=Cp1047 +  
-lang jython +  
-conntype NONE +  
-f /tmp/wsadmin.ebcidic.jy +  
1> /tmp/wsadmin.out +  
2> /tmp/wsadmin.err  
/*
```

Cloning z/OSMF to another Sysplex

- Option 1



- We use FDRDSF to create flat files
- We also terse the WASOEM Config file because it so big
- Then use Tso Transmit / Receive to move files to another sysplex

Cloning z/OSMF to another Sysplex – Option 2

Approach: Cloning WAS/OEM Config and z/OSMF sizudata to a volume that belongs to an IPL Set.

Advantages :

- When you IPL you will have environment ready for z/OSMF
- No manual steps after build set is ready

Disadvantage :

- You will use more disk space for multiple copies (about 1100 Cylinders per IPL set)

Reference Manuals

- **z/OS Management Facility Redbook**
 - <http://www.redbooks.ibm.com/redbooks/pdfs/sg247851.pdf>
- **Using Jython Scripting Language With WSADMIN**
 - <http://www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP100963>
- **WebSphere z/OS V6.1 - WSADMIN Primer (with Jython)**
 - <http://www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP101014>
- **IBM z/OS Management Facility Configuration Guide**
 - http://publib.boulder.ibm.com/infocenter/zos/v1r13/index.jsp?topic=%2Fcom.ibm.zos.r13.izua300%2FIZUHPINFO_bookabstract.htm