17055 - MQ for z/OS

What's the Cloud going to do to my MQ network ?

WebSphere MQ for z/OS and the Cloud

Tuesday March 3rd 2015
4:30 - 5:30pm
Seneca, Sheraton Seattle
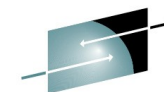*Mayur Raja (mayur_raja@uk.ibm.com)*

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zCloud Proof Of Concept (POC)

- **Objectives**

  - Rapid Provision/De-provision (create/destroy) of z/OS subsystems

    - For a Development or Test Environment
    - Automated
    - Reduced complexity

      - Preset properties
      - Minimum input parameters

    - MQ, CICS, DB2, IMS, WAS

  - Little/no need for z/OS skills

    - Service consumers should not need to know JCL

  - Workflow based

    - Invoke via REST APIs
    - Host in a Service Portal

IBM z/OS Management Facility (z/OSMF)

- z/OSMF V2.1 is shipped with z/OS V2.1

- Used to manage aspects of z/OS systems

- Web user interface

- Can create workflows

  - Provide Automation
  - Invoked via GUI or REST API
  - Written in xml
  - Variables file – written in xml
  - Properties file – text

- Make workflow templates/samples available for customer use
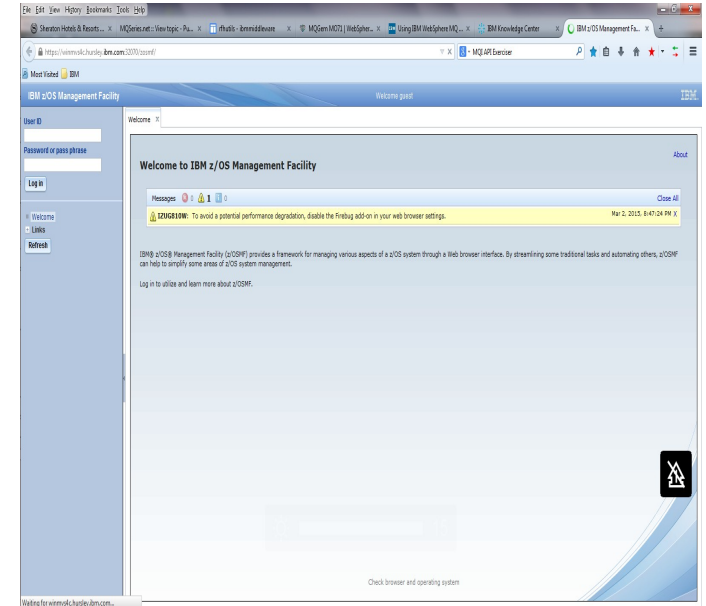
IBM z/OS Management Facility (z/OSMF)

- Migration workflows are available for z/OS and DB/2. Search on the internet for more information about these.

IBM z/OS Management Facility (z/OSMF)

**z/OSMF Web
User Interface**

**Variables
(XML)**

(included)

(referenced)

**Workflow
(XML)**
Step 1
Step 2
Step 3
..
..
Step n

REST API

JCL

JCL

..

..

JCL

(referenced)

(associated)

**Properties
(Text)**

Provision/
De-provision

MQ
DB2
CICS
IMS
WAS
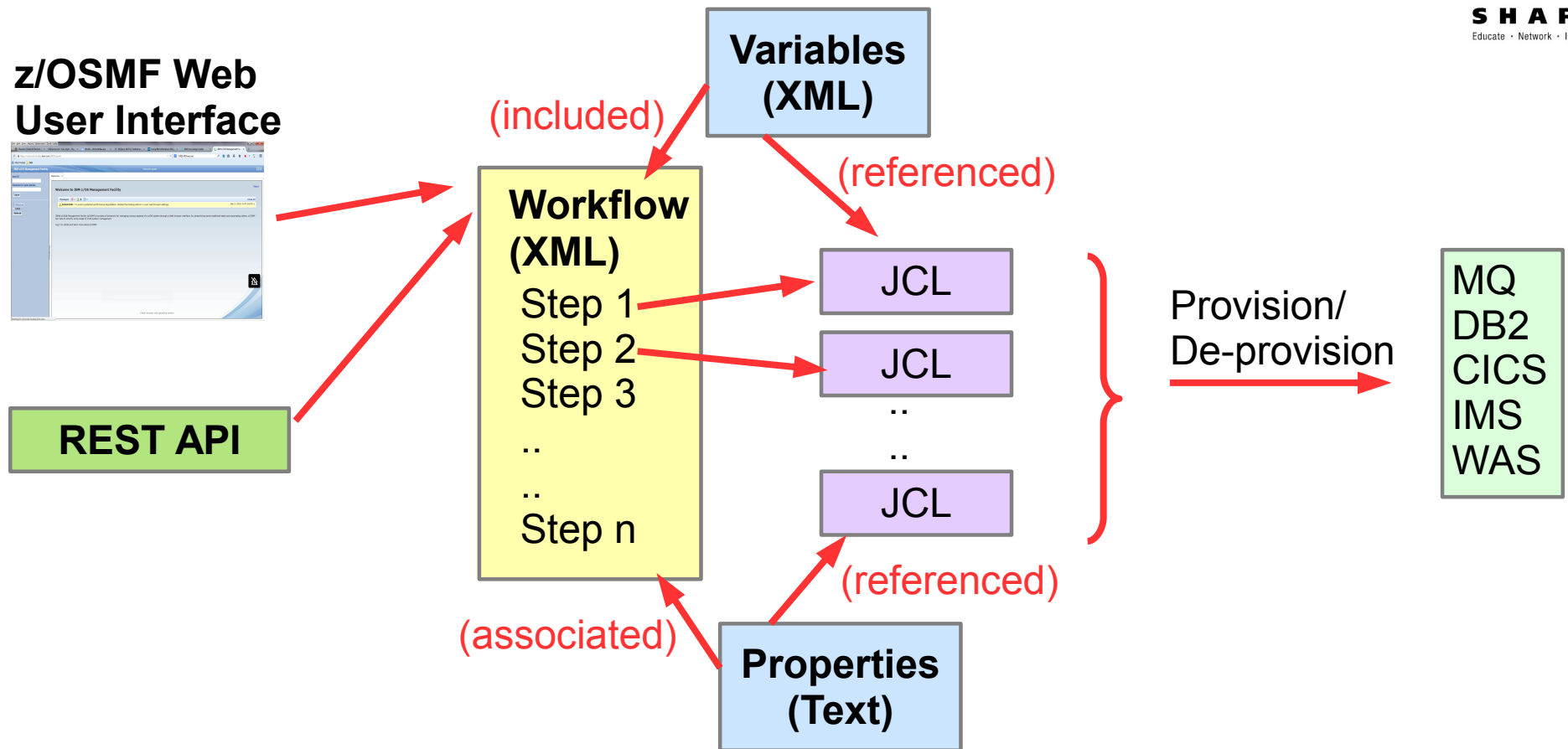
- Build XML workflow files in your favourite editor and export to USS
- Workflows we will look at:
  - provisionQMgr.xml
  - deprovisionQMgr.xml
  - Others (if time permits)

Queue Manager Configuration Tasks

Task
Task 1: Identify the z/OS system parameters
Task 2: APF authorize the WebSphere MQ load libraries
Task 3: Update the z/OS link list and LPA
Task 4: Update the z/OS program properties table
Task 5: Define the WebSphere MQ subsystem to z/OS
Task 6: Create procedures for the WebSphere MQ queue manager
Task 7: Create procedures for the channel initiator
Task 8: Define the WebSphere MQ subsystem to a z/OS WLM service class
Task 9: Select and set up your coupling facility offload storage environment
Task 10: Set up the coupling facility
Task 11: Implement your ESM security controls
Task 12: Update SYS1.PARMLIB members
Task 13: Customize the initialization input data sets
Task 14: Create the bootstrap and log data sets
Task 15: Define your page sets
Task 16: Add the WebSphere MQ entries to the DB2 data-sharing group
Task 17: Tailor your system parameter module
Task 18: Tailor the channel initiator parameters

For POC, assume SMPE install of MQ plus some tasks already done by System Programmer

For POC, stand-alone QMgr, QSG to be considered later

For POC, stand-alone Qmgr, QSG to be considered later

03/03/15

Queue Manager Configuration Tasks..

Task
Task 19: Set up Batch, TSO, and RRS adapters
Task 20: Set up the operations and control panels
Task 21: Include the WebSphere MQ dump formatting member
Task 22: Suppress information messages
Task 23: Update your system DIAG member for AMS
Task 24: Create procedures for Advanced Message Security
Task 25: Set up the started task user Advanced Message Security
Task 26: Grant RACDCERT permissions to the security administrator for Advanced Message Security
Task 27: Grant users resource permissions for WebSphere MQ Advanced Message Security

All to be considererd later

Steps to provision a z/OS Queue Manager

Step	Description	JCL
1	Specify Queue Manager Criteria	-
2	Define APF Load Library	CSQ4ZAPF.jcl
3	APF authorise the Load Library	CSQ4ZNAP.jcl
4	Generate MQ Initialization Parms (ZPARms)	CSQ4ZZPM.jcl
5	Define BSDS and Logs	CSQ4ZNBL.jcl
6	Define Pagesets	CSQ4ZNPG.jcl
7	Construct QMGR startup JCL	CSQ4ZMST.jcl
8	Use SETSSI to define subsystem to z/OS	CSQ4ZSSI.jcl
9	Construct CHINIT Startup JCL	CSQ4ZCHN.jcl
10	Construct DISX (CHINIT startup command)	CSQ4ZDSX.jcl
11	Disable subsystem security	CSQ4ZNSE.jcl
12	Start QMGR	CSQ4ZSQM.jcl

Further potential to merge and reduce steps

Steps to de-provision a z/OS Queue Manager

Step	Description	JCL
1	Stop Chinit	CSQ4ZTCN.jcl
2	Stop Queue Manager	CSQ4ZTQM.jcl
3	Delete any RACF security profile/settings	CSQ4ZDSE.jcl
4	Delete MQ specific Datasets	CSQ4ZZPM.jcl

De-provision everything that was provisioned

Steps to provision a z/OS Queue Manager

- ## Demo
- ## Note: **Only a POC at present**

Example Service life cycle for zCloud

Service Provider

Service Templates/ Samples

Service Templates Consumer, Service Provider, Service Owner and Administrator

2. Consumes and Customises Service Templates

1. Supplies Service Templates

4. Advertises Service

3. Exports Workflows

Service Consumer

Service Portal

Service Catalogue

zCloud

5. Hosts Services

(REST API)

| DB2 MQ CICS | DB2 WAS IMS | |

Pool of available hosts

7. Purchases service

9. Consumes service to provision/deprovision resources in zCloud

Manager

Service Portal

Cloud Provider

6. Provides, Owns and has overall management of Cloud Platform/ Infrastructure (private/hybrid)

8. Approves Service purchase/use

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Workflow based provisioning/De-provisioning

- **Useful in a cloud**
  - Rapidly provision subsystems to deploy applications to
  - Can introduce charging based on usage

- **Useful in Development/Test (beta) environments**
  - Can pool and share subsystem resources
  - Stand-up when needed
    - Define resources required by applications
  - Stand-down when finished
    - Delete all resources that were created

- **Useful for Automation**
  - Can automate subsystem configuration tasks
    - Enforce resource naming conventions
    - Reduces skill level required

Questions ?

This was session #17055. The rest of the week ......
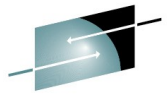
	Monday	Tuesday	Wednesday	Thursday	Friday
08:30			17060: Understanding MQ Deployment Choices and Use Cases	17051: Application Programming with MQ Verbs [z/OS & Distributed]	16544: Why Shouldn't I Be Able To Open This Queue? MQ and CICS Security Topics Room: Willow B
10:00	17036: Introduction to MQ - Can MQ Really Make My Life Easier? [z/OS & Distributed]		17052: MQ Beyond the Basics - Advanced API and Internals Overview [z/OS & Distributed] 17035: MQ for z/OS, Using and Abusing New Hardware and the New V8 Features [z/OS] Room: Willow B	17054: Nobody Uses Files Any More do They? New Technologies for Old Technology, File Processing in MQ MFT and IIB [z/OS & Distributed]	17057: Not Just Migrating, but Picking up New Enhancements as You Go - We've Given You the Shotgun, You Know Where Your Feet Are [z/OS & Distributed]
11:15	17041: First Steps with IBM Integration Bus: Application Integration in the New World [z/OS & Distributed]		16732: MQ V8 Hands- on Labs! MQ V8 with CICS and COBOL! MQ SMF Labs! Room: Redwood	17046: Paging Dr. MQ - Health Check Your Queue Managers to Ensure They Won't Be Calling in Sick! [z/OS]	17053: MQ & DB2 – MQ Verbs in DB2 & InfoSphere Data Replication (Q Replication) Performance [z/OS]
01:45	17037: All About the New MQ V8 [z/OS & Distributed]	17034: MQ Security: New V8 Features Deep Dive [z/OS & Distributed]	17040: Using IBM WebSphere Application Server and IBM MQ Together [z/OS & Distributed]	17062: End to End Security of My Queue Manager on z/OS [z/OS]	All sessions in Seneca unless otherwise noted.
03:15	17042: What's New in IBM Integration Bus [z/OS & Distributed]	17065: Under the hood of IBM Integration Bus on z/OS - WLM, SMF, AT-TLS, and more [z/OS]	17043: The Do's and Don'ts of IBM Integration Bus Performance [z/OS & Distributed]	17039: Clustering Queue Managers - Making Life Easier by Automating Administration and Scaling for Performance [z/OS & Distributed]	
04:30	17059: IBM MQ: Are z/OS & Distributed Platforms like Oil & Water? [z/OS & Distributed]	17055: What's the Cloud Going to Do to My MQ Network?	17044: But Wait, There's More MQ SMF Data Now?!?! - Monitoring your Channels Using V8's New Chinit SMF Data [z/OS]	17068: Monitoring and Auditing MQ [z/OS & Distributed]	

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