z/OS V2.1 User Experience at Aetna

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aetna℠

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Agenda

- Background

- Testing Environment

- Implementation

- ISV Compatibility

- Validation Items

- z/OS Management Facility topic

- Conclusions and ESP feedback

Background

- Ninth z/OS ESP experience

- Aetna's Environment:
  - Multiple SYSPLEXes ranging from one to many LPARs
  - All systems at z/OS 1.13 at start of project
  - z/196 & EC12 processors located in 2 Data Centers

- Implementation began March 2, 2014 and completed June 4, 2014.

Testing Environment

- Test environment 2-way SYSPLEX

- Tested z/OS 1.13 with 2.1 in the SYSPLEX

- 2817(z196) processor and 2827(EC12)

- 2817 internal/external Coupling Facilities @ CFCC 17

Testing Environment

- CICS/TS V5.1 & V5.2

- CICS Transaction Gateway V9.0

- CPSM V5.1

- DB2 V10 (RSU1312)

- WebSphere Application Server V8.5.5.1

- MQ V7.1.0 (RSU 1401)

Testing Environment

- Enterprise COBOL for z/OS 4.2 & V5.1
- XML Toolkit for z/OS V1.10
- JAVA for z/OS V6 (SR15)
- JAVA for z/OS V6.0.1(SR7)
- JAVA for z/OS V7(SR6)
- C/C++ for V2.1
- HLASM Rel6
- z/OS 2.1 Binder
- SA for z/OS 3.4, PUT 1403
- Tivoli Netview V6.2, PUT 1403
- 100+ ISVs

Implementation

- Prerequisite maintenance to z/OS 1.13

- Prerequisite maintenance to all IBM subproducts(CICS/DB2/MQ/Websphere/Tivoli Omegamons)

- Prereq/upgrade for ISVs (where available)

- SERVERPAC install

- All maintenance received/applied weekly

- SYSRES - (2) M27

Implementation

- 1st IPL had a NO issues!

- Problems found during our ESP testing:

  - IBM-GPMSERVE getting TSS errors. The migration chapter

     was not forwarded to the TSS area for review.

  - New LE Callable service not working. IBM provided samples and we were able to make it work.

  - Rocket Software/TapeCopy V2.81 abends. We needed a compatability fix (zap id is PTF01Z08)

  - DB2 Log Analysis Tool V3.3(IVP) rec'd IEC190I messages S013433U,step2,extfile invalid dcbe debe id is not 'dcbe'. Applied PM97234.

Implementation

- Problems Cont…..
  - TSO 3.2 allocate fills in 0 when it should be blanks(OA40872)
  - IBM/QMF Analytics for TSO w/msgdyq0913E fixed by PM93347
  - IBM/WMQ abends on 0c4 in IXLA1mg PM86119 fixes
  - IBM/SSH fails S0EC6 – not clearing out an area fixed with Applied OA42946
  - IBM/DFHSM recalls stuck in active queue. Applied OA42284
  - IBM/DB2 IVP failing with IEC136I softwk01 dcbe loc=any not honored. See next item(related)
  - IBM HealthCheck oce_xtiot_check is issued. Code fixed by OA42543 and devsupxx member updated.

Implementation

- Problems Cont…

  - z/OS REXX/Clist gives LISTDSI RC=16, Reason 22 if dataset is cataloged using a symbolic volname. OA43570 fixes.

  - RSD/EOS V2.0.2 getting WSF2W2A-071-EOSWRITER waiting for work. Applied OA43333.

  - ZFS cachsize HealthCheck calculation done differently than system calculation. UA70811 fixes 6 apars.

  - IBM z/OSMF IZUSVR1 gets CWWKO0221E messages when trying to do socket binds. We discovered TCPIP was reserving the 447 & 080 ports via a non-traditional portxx member. We removed the entries and added them to proper port member and our IZUSVR1 address space started up with no issues.

Implementation

- ASG – Jobscan V7.7 - IGZ0268W An invocation was made of OS/VS COBOL program D00XPJ.

  - Fixed by changing a parameter in the jobscan option member to Cobol Exit Environment=REUSABLE from COBOL/370. This change should not be used with Job/Scan Validate and Change Function together.

- New Era/Image Focus – requires a fix to handle new IBM z/OS INCLUDE1MAFC keyword as seen as an operand for LFAREA in IEASYSxx.

  - Fixed by V11, Case #1482

- IBM z/OSMF security checking on ZMFAPLA is now handled differently and sending excessive violation messages to the system log and the audit file.

  - Fixed with UI18094 and UI18093

Implementation

- – A PDSE issue surfaced once we were on TEST lpars.

  PDSE abends with ABEND0F4 RC24 * * RSN1420A086 IGWIRCMT+3336 @ UA72635.

APAR OA45027 and OA45043 fixed the issue.

CIRCUMVENTION: Copying with IEBCOPY will rebuild the index and reduce the chance for the particular search path.

Overall excellent results!

Implementation

Issues open as of July 29, 2014:

- z/OS Explorer is unable to view the correct JES2 output when displaying job output via z/osmf.   IV56604 is now available but not installed yet at Aetna for testing.

- z/OSMF TSO accounting code not accepted. Too restrictive.

  PI19002 opened with ETA of 8/28

- RMF changes: GEIRPOOL field is no longer used at V2.1. The new field is GEIRSTRF which is defined to be CHAR(8) at offset x'204' into the GEIG3 and holds a long floating point value.

  The MXG vendor had to change ASMRMFV to properly reference the new GEIRSTRF field …

OA45290 (ETA 8/4) to correct the RMF Programmer's Guide which has an incorrect description of the field.

OA45385 (ETA 8/15) With this APAR, RMF Monitor III data gatherer module ERB3GGSS is changed to store the number of online frames in GEIG3 field GEIRPOOL_VE as it was done on pre z/OS 2.1.

ISV Compatibility

- CA Top Secret V15

- Support &ACID variable in MODLUSER HOME field (RO63740)

- CHOWNURS control option removal (RO63740)

- JES2 & JES3 toleration support (RO61055)

- Support z/OS 2.1 JOBCLASS authorizations (RO63740)

- Certificate enhancements (RO63740)

- Enhanced AUTOUID and AUTOGID (RO63150)

We recommend that you read CA TechDoc   TEC601436 (Preparation for removal of Default OMVSUSR and OMVSGRP)

ISV Compatibility

- CA Netspy V12
  - toleration fixes   Tz58115 and RO34954

- CA-MICS V12.8 needed to exploit new 2.1 functions

  Unknown, RMF version found in input data.

  CA MICS will continue processing this data as though it was from 780.

  RMF version encountered in data: 790

  CA MICS highest known RMF version: 780

- IBM End To End V620 requires code changes to support z/OS 2.1.

  OA42004 (UA68949)

Validation Items

- Generic Tracker

- Append dump directory

- Binder symbol resolution tracing

- TFS Enhancements such as ability to automatically increase the size of a TFS when it starts to fill up.

- Tape Infrastructure enhancements such as giving customers the ability to migrate large datasets and assisting with 'big data' space management processes.

Validation Items

- BCP ALLOC Support atomic ENQ downgrade in JCL ISGENQ change

- Multivolume Partial Release

- Check TCP/IP profile syntax without applying configuration change

- JES-related JCL Enhancements

- Catalog Alias Processing improvements

- Dynamic VLF changes

z/OS Management Facility… What is it?

z/OS Management Facility is an interface of the z/OS operating system that was introduced with z/OS 1.11. This is part of the overall z/OS simplification initiative.

- Web browser based

- Task Oriented

- The focus is management of z/OS

- Tooling improvements for system programmers

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z/OS Management Facility Technology

Based on WEB 2.0 technologies

- Javascript
- DOJO
- HTTP(s) to client

WebSphere V8.5 Liberty profile support(NEW!)

z/OS data and services from

- CIM Server
- CEA
- SYSREXX
- DAE
- Logger
- Others…

z/OS Management Facility V1R11, 12, 13 & V2.1 Functions

z/OS Management Facility provides the following user interfaces (Plug-Ins):

Introduced with z/OS Management Facility R11, R12 & R13

- Configuration Assistant for z/OS Communication Server
- Incident Log
- z/OS Management Facility Administration
- Links
- Monitoring Desktops
- Sysplex Status
- Workload Manager Policy Editor
- ISPF
- Software Deployment
- Capacity Provisioning

NEW with z/OS Management Facility V2R1:   Workflow

z/OS Management Facility Components

z/OS Management Facility V2.R1 consists of nine (9) FMIDs:

HSMA210 - z/OS Management Facility core

HSMA211 – z/OS Management Facility ISPF

HSMA212 - z/OS Management Facility RMF

HSMA213 - z/OS Management Facility WLM

HSMA214 – z/OS Management Facility Software Deployment

HSMA215 - z/OS Management Facility Incident Log

HSMA216 – z/OS Management Facility Capacity Provisioning

HSMA217 - z/OS Management Facility Workflow

HSMA217 – z/OS Management Facility Configuration Assistant

z/OS Management Facility Dependency, Installation and Configuration overview

WAS V8.5 Liberty replaces/eliminates WebSphere OEM package and separate setup.

Liberty provides single stream configuration, 1 setup only. WAS Liberty Profile is part of the z/OSMF package, so the package is smaller in size. Faster startup(<5 seconds) and reduced memory requirement such as ~300 MB for package footprint and ~1 GB for memory(was 2 GB).

z/OS Management Facility Installation:
 Choice of Server Pack or CBPDO ordering
 Done via SMPE
 Plug-Ins now have their own FMIDs

z/OS Management Facility Configuration:

Setup reduced to one configuration

Fewer overall prompts and variables

No longer requires separate deployment of applications

Supports default TCPIP Port for HTTP communication

SAF authorization mode only

z/OS Management Facility Enhancements

With z/OS Management Facility R2.1, existing tasks received enhancements:

Application Linking with Resource monitoring and WLM

■ The z/OSMF Resource Monitoring application is linked to the z/OSMF Workload Management application in context, and the z/OSMF Workload Management application is linked to the z/OSMF Resource Monitoring application.
■ The System Status task is linked to the Workload Management task such that the active service definition, active service policy, or WLM status can be opened and viewed. The Workload Management task is linked to Resource Monitoring dashboards such that while viewing the active service definition or service policy, resource monitoring dashboards with performance metrics for service classes, workloads, and report classes can be opened and viewed

z/OS Management Facility Enhancements

Other Recent enhancements:

Capacity Provisioning:
- The z/OSMF Capacity Provisioning is enhanced to allow you to create, edit and activate domain configurations and capacity provisioning policies.

Incident Log:
- Allows you to modify its default JCL to meet the needs of your organization.

ISPF:
- Enhanced to get the completion status of long running commands without any user intervention.

Settings:
- Systems and FTP Servers tasks are available under z/OSMF Settings.

Usability:
- Additional filters designed to improve ease of use for the user. Table filtering and case sensitive filtering allows for more granular searches.

z/OS Management Facility New Tasks, Testing and Validation

As part of the ESP we were asked to validate various line Items. Enhancements and New Tasks were put to the test throughout the ESP period.

Software Management– This task is used to deploy any SMP/E packaged and installed software and to identify software requisites and possible regressions.

Workflow - Allows exploiters to provide configuration assistance for functional setup tasks to simplify z/OS configuration and can route tasks among a number of defined people assigned to specific roles.

WAS Liberty profile – fully tested when z/OSMF V2.1 configured.

z/OS and z/OS Management Facility - ESP feedback

The z/OS & z/OS Management Facility V2.1 ESP is always a great experience as it allows us to:

- Get an early view for the new z/OS & z/OSManagement Facility interfaces
- Access additional IBM support and other customer experiences via Customer Connect forums
- Provide a user's perspective for new functionalities
- Provide IBM development with feedback for product enhancement to benefit our System Installation

Overall a very positive experience AND you should consider joining an ESP!