

# SHARE 2022 Columbus August 21-26, 2022 Notes

By Ed Webb of SPARTA

SHARE Columbus <https://blog.share.org/Article/share-columbus-summer-of-technology-sights-and-sounds>

## 10Aug2022 Wednesday

### SHARE 2022 Columbus Attendee Orientation

SHARE Overview

Columbus Overview

Technical Sessions

STE Monday and Tuesday

Vendor Lunch&Learn Mon, Tue, and Thur (free lunch - best to register before SHARE)

PSP Tuesday 1:15-2:15p

SHARE Association Mobile App

see e-mail for attendee links to Event platform

Activities

Digital Badges - Security Warrior and DevOps

Stronger Community Reception Tuesday night 7-8p

event

Wed. lunch sponsored by Broadcom

Sunday reception at Howl at the Moon, 504 North Park St  
(walk from hotel)

Monday and Tuesday STE evening reception

Thursday happy hour in Hyatt hotel

SHARE Resources

check-in and ribbons for Volunteers

SHARE Tips

plan ahead

go to sessions

feedback for all sessions

dress wisely - rooms cold or warm

backup plans for sessions  
Handout for this session will be available soon!

## 22Aug2022 Monday

### SHARE Opening and Keynote

Security and Compliance Project celebrates 50th anniversary

#### Keynote “Catch Me if You Can”

By Frank Abagnale of FBI and life-story movie fame

Teaches at FBI Academy for 40 years

Restitution (most lost cash will never be returned or recovered)

Every 2 seconds someone's identity is stolen

2018 3.6 billion identity records stolen

Carnage of compromised credentials, especially during pandemic

Every single breach is a failure of someone, people

People steal and wait 3.5 years before using it

>>1 or 2 year credit monitoring is worthless

child identity are 10% of all stolen

12 year old identity is worth twice that of a 64 year old

New born identity is worth even more

Cryptocurrency means there will also be ransomware

Phishing e-mails have gotten much better

Verification

Education

No technology can defeat social engineering, only people can

Education is critical

Soft spots

Out-of-office messages, etc.

Vulnerable access points in smart buildings

Home hazards: internet-of-things, smart televisions, smartphones  
and tablets, Mac and windows computers

How would someone misuse this technology?

Building security into our technology

    Passwords are for tree houses

    18 billion attacks a year

    \$100 million a year to reset passwords in 3 largest banks in US

Identification by device and personal id are heading toward eliminating passwords

Stay off social media

    Date of birth, or where you were born are 2 of three items needed to steal your identity

    70% of employers vet based on social media

    54% have rejected candidates after finding objectionable material

Dark web is like deep ocean

**Shred everything** - ribbon shredder (30 minutes to recreate), criss-cross shredder (recreated in a few hours), micro-cut shredder cannot be recreated

**Freeze your credit**

    Credit monitoring - take responsibility to protect yourself

    Daily credit scoring, review reports for errors, see all queries plus other

**Checks - do not use** from most accounts (too much personal info, easy to steal)

**Credit card is safest, not debit/credit card**

    For students going to College:

    Credit card backed by parent, paid by parent while in school, after school, student has good credit and can get more credit without co-signing

    Guarantee Venmo etc. by credit card, not checking account

Pandemic fraud

    \$860 billion given to states for unemployment, \$160 billion was fraudulent

Medicare fraud is \$100 billion a year  
Cartels have better technology than governments

\$37 billion stolen by scammers targeting elderly adults, 10,000 a day

Scams follow headlines

**Scam Me if You Can** book by Abagnale - royalties to AARP

Millennials are scammed more, but seniors lose more money  
Red flags - money now, ask for personal information  
Caller identification easily manipulated

No public service ads or information staffers any more to educate  
about scams and rip-offs

<https://www.abagnale.com>

800-237-7443

Shredding service or event - watch the shredding

End of keynote

New to Z and IBM Champions and IBM Z Explorer and IBM  
community education

## **MVS Program Opening**

By Ed Jaffe of Phoenix Software International

### **APARs of Interest by John Shebey**

=> OA62259 Catalog Extension failure fix and improved diagnostics

Testcase and ECuRep servers affect sending doc. to support

No anonymous FTP - get an IBM file transfer ID

New address - Testcase servers are using new IP addresses

IBM Flash recommends enabling z/OS Workload Interaction

Correlator SMF records

No cost for recording these records

Some records require Entitlement

See SHARE Dallas 2022 Bit Bucket for how to collect these records

## **IBM z16 - the Foundation for Digital Transformation**

By Jose Castaneda of IBM Castano@us.ibm.com

Started as MVS TSO developer (wrote initial SEND and RECEIVE commands)

Moved to Tech Sales, then Sales

Digital transformation

2026 half of revenue will come from businesses that do not exist today

9 of 10 organizations sped up digitization during pandemic

IBM z16 most successful launch in 23 years

67 of Fortune Top 100 companies, 45 of 50 top banks in the world, 8 of 10 top insurers, 24 of top 25 countries by GDP

IBM Z is critical part of global economy

Over 5M MIPS shipped!

Linux on Z revenue doubled

Over 165 Tailor-Fit Pricing clients including 11 new clients

z16 rollout affected by OSA and ESCON cards constraints

I tried to break a Million Dollar Computer by Linus .. on YouTube

<https://www.youtube.com/watch?v=ZDtaanCENbc>

Predict and automate, cyber resilient, modernize with hybrid cloud

IBM z16 customers should use iPDU (not BPA) for reduced electric costs

Samsung makes Telum chip from IBM design

Crypto, AI, Sort acceleration

7 nm chip, Intel not there until 2023 or maybe 2024

Flexible capacity option - automated, GDPS,

IBM Security and Compliance Center automates audit-ready checking and validate change compliance in real time

Quantum-safe

Harvest (steal) now and decrypt later (in a few years when quantum servers can decrypt)

CRYSTALS-Dilithium and CRYSTALS-Kyber algorithms approved  
Fit for purpose-Run the right platform on the right infrastructure for optimal business performance

LinuxONE Emperor 4 will be announced Sept 13-14, 2022 (z16-based)

[https://www.ibm.com/common/ssi/ShowDoc.wss?docURL=/common/ssi/rep\\_ca/2/897/ENUS122-002/index.html&lang=en&request\\_locale=en](https://www.ibm.com/common/ssi/ShowDoc.wss?docURL=/common/ssi/rep_ca/2/897/ENUS122-002/index.html&lang=en&request_locale=en)

## **MVSE (Core Technologies) Opening**

By Arthur Gutowski of Huntington Bank  
Last SHARE for James Lund of Texas A&M

55 sessions with 6 BYOD Labs

## **Why IBM Z is Fit for Business Purpose**

By Rebecca Levesque, President of 21st Century Software  
35+ attendees  
See handout

Workloads should run on most appropriate platform  
Choice of platform must be fact-based, not fashion-based  
Change platform for existing workloads, economics matter

90% IT and business executives mainframe as growth platform, half reporting increase of transaction volumes over the past 12 months  
Fit for Business IT Infrastructure - IBM Z is here to stay

Secure operations, reduce latency, and drive legacy processes to levels of dynamic innovation previously only possible for “born in cloud” insurgents

Security and Data management is a business problem

\$387 million average Mega-breach cost and detected after 323 days

Security AI efforts can reduce cost by 62% and 74 days shorter  
Why is today's situation different from the past?

More remote workers, more cloud users, more cloud services,  
interactions with 3rd-party partners, and lots of edge devices

4% of ransomware are in financial institutions

Out of 1000 IT leaders

760 paid ransom, 240 could not recover data

470 had cyber insurance

ROI for cybercrime is getting better than drug dealing

Analytics, Machine Learning, and Artificial Intelligence

April 30, 2030 projected date when quantum computing will start  
breaking encryption algorithms

Enormous environmental improvements moving from x86 to IBM Z

## **IBM Responses to SHARE Requirements**

By Peter Relson and Barbara McDonald of IBM  
25+ attendees (lots of IBMers)

As of last Thursday (18Aug2022), first requirement got from SHARE to  
IBM Ideas (Aha)

### **OA62150 New Function: z/OS Data Set File System**

See Kershaw's session later this week

Cloud file location (at SHARE, not submitted to IBM yet) by Cloud  
vendor

MVSS 123 Catalog Name filtering for F CATALOG,ALLOCATED

SSMVSS00015/ZOS-I-1032 NFS passwords in the Clear

SSMVSE04524/ZOS-I-926 Enhance Dynamic Allocation to SMB

(system managed buffering)

MR00071167/RFE51590 Storage Management with Facility-Profile

Dave Crow's requirement - delivered

DFSMS Community

Need z/OS Sponsor User Interest Survey filled out

## **Zowe Day Part 3: Deploy & Configure Zowe (Security Update Overview)**

By

Verify authenticity of download

Zowe download from zowe.org or via IBM Shopz or PTF

Verify the download authenticity hash?

Https....

Most zowe downloads originate from artifactory

Every version has .sha512 file and you can compare the SHA hash in Zowe with .sha512 file

zowe is checked for security each release which comes out about every 6 weeks

Upgrading between versions includes changes, but within version, releases are easy

(For example, 1.24 could be fixed in 1.28.1) and recommended

Dependencies

Java, NodeJS, even z/OS should be kept up to date

Zowe's HTTPS, TLS, and cipher support comes from its dependencies

Permissions security: server folders

Several folders to secure

Check unix permissions

Zowe.runtimeDirectory v2: 555

Zowe.workspaceDirectory v2: 770 or 700

Zowe.extensionDirectory v2: 770

Zowe.yaml: 770 or 700

Instance: 770

Permission security: user accounts

Zowe has 2 STCs, one for authorized code and one for unauthorized code



Operations done by user at CLI or browser are based on user's SAF permissions

Check SAF permissions ring assigned for Zowe and extensions  
user .zowe and zowe.config.json are used for Zowe .CLI settings

Remove unnecessary permissions in user's home directory  
so .Zowe should be 700

Zowe.config.json can have high level info, and set to 700  
SAF key rings: Zowe v1 and v2

<https://docs.zowe.org/stable/user-guide/configure-certificates-keyring>

North-bound certificates are external to z/OS Zowe (client side)  
South-bound certificates are internal to z/OS Zowe address spaces (server side)

search for OID server authentication, a.k.a. Extended Key Usage

TLS Web client Authentication may restrict access to end server support

Use keyring, not zowe secure store, for certificates

Zowe v2 has zwe command (zwe -h for help) help also available on the website

Zowe.yaml has variable links for zowe processing

Consider turning on API mediation layer to simplify certificate configuration

Secure APIs

App Framework - URLs can be restricted but if enabled, all URLs disabled until allow setup is configured

Zowe also uses pass phrases, MFA, Single Sign-On (SSO)

[Zowe.org/security](https://www.zowe.org/security) to learn how Zowe secures itself

## **What's New in z/OSMF V2R5**

By Gary Puchoff of IBM

50+ attendees

z/OSMF Team structure

- z/OSMF team

- SMP/E team

- Comm Server Team

- CP&M team

- Any team or company (SDSF, RMM, ...)

z/OSMF Server uses WebSphere Liberty Server

- Depends on JES2, TSO, CIM, CEA, WLM, CPM

- RMF DDS, SDSF

Single point of access

### **Reduce learning curve**

- PH39605 Compare and Merge files

- PH29637 Change owners and attributes

- Workflow type-ahead now works

- Incident Log uses z/OSMF Desktop Editor to display diagnostic data (optional)

- Security Configuration Assistant (SCA)

- Fix security errors or provide command file for security admin to use

Web ISPF Global setup

- User can override

Incident log

- Send data with https via PDUU

Validate connections to multiple z/OSMF servers

### **Easy to drive operations**

- Storage Management REST APIs

- Pull system symbol values (all or by name) PH41196

- Stateless TSO command REST API

- REST data set and file API enhanced

- REST jobs API enhanced

- Job notification without CIM dependency (all built into JES2)

- Additional Ansible capabilities

**Enhanced Workflow engine**

Policy-based workflow archive

Workflow and Workflow Editor support polling REST API step

**Improve z/OSMF performance and management**

Diagnostic Assistant task

Automatically cleanup diagnostic data to avoid z/OSMF data file system from filling up

SET IZU=xx where xx=PARMLIB and SETIZU to change individual attributes

z/OSMF feedback collection

**23Aug2022 Tuesday****Creating a z/OS Instance During your Coffee Break**

By Troy Bishop of IBM, Architect for IBM ZD&T, ZVDT, and WAZI Image Builder

24+ attendees

See handout

**Provisioning z/OS instance in the Cloud and on ZVDT**

IBM Z-based offerings

IBM Wazi as a Service (in cloud)

IBM Virtual Dev and Test Environment for z/OS (ZVDT) (on-premises)

**Challenges for Dev and Test**

Lack of test automation

Defects found late in cycle

Environment dependency

Availability of resources

**High speed and automated provisioning of dev and test environments**

Dedicated, isolated environments reduce conflicts

Horizontal scaling allows parallel progress, independent changes, thereby reducing bottlenecks

Independent test data leads to more reliable test results  
Use IBM-provided comprehensive software bundle or extract your own system or custom image  
Development and Test Only, no commercial or production use

### **Use cases**

- Early development and test
- Infrastructure testing
- Education and innovation
- Secure continuous Delivery

### **IBM Wazi as a Service**

Cloud: Code and Build, unit test, early integration, functional test (not stress testing)

On-premises: final build, stress testing, performance testing, full integration, end user test

Wazi Image Builder (WIB) to clone your on-premises LPAR to cloud and automation to deploy in IBM Cloud; versioning capability

IBM Continuous Delivery Services

CVT flags to identify environment for z/OS and vendors

Wazi Image Builder (WIB)

Custom images from your on-premises LPAR

- Extract and push to Cloud Object Storage

- Creation of VPC custom image (terraform script)

Web UI with role-based access

REST APIs to streamline creation process

- See link in presentation

Boot volume in IBM Cloud can only be 250 GB

z/OS 2.4 or z/OS 2.5 required

### **IBM ZVDT (Virtual Dev and Test)**

Want or need local control

Runs on customer IBM Z hardware

Licensing currently is same mechanism as zD&T (x86-based); future is licensing via Z

Runs on Linux on zSystem

Extract components volumes, data sets, CICS data, Db2 tables

Mix and match approach

Pre-built ready-to-use components from ADCD  
each instance about 1/10th of an IFL (16 GB RAM and 2 CPs)

### **Demo**

no parallel sysplex support in either offering

Set up hypervisor, tap adapters, license server, other stuff before using ZVDT

### **Futures**

Rescue existing ZVDT or WAZI system if crashed

## **Upgrade to z/OS 2.5: Planning**

By Marna Walle of IBM mwalle@us.ibm.com

23 attendees nn+ online

See handout

Also Mark Wallen is also IBMer for Upgrade Information

Most upgrade actions can be done now

### **Content**

FIXCAT IBM.Device.Server....

zCX requires Container Hosting Foundation for z/OS which is priced

z/OS Workload Interaction Correlator ZWIC on V2.4

Separate price but entitled with RMF

z/OS Change tracker priced option

z/OS 2.4 OA61368 and OA62489 early RUCSA

z/OS 2.4 SMB to NFS

Z/OS 2.4 JES2 is in base

z/OS 2.5

HFS not supported

z/OS Next

JES3 and BDT removed

Global Manager removed

Distributed file Manager removed

ISFPARMS assembly removed - go to ISFPRM00 PARMLIB

Ordering and deliverables

Crypto back in z/OS, web-deliverable no longer used for 2.5 and later

Java 7.1 end of Service April 30, 2022

## Policies

z/OS 2.3 EOS Sept. 2022

Every other release upgrade only gives you a year from new availability to EOS of your release

## Planning for z/OS 2.5

Upgrade Workflow and z/OS 2.5 Planning for installation

SYSRES space change minimal between 2.4 and 2.5

ServerPac only installed with z/OSMF (as of July 2022)

Portable Software Instance

userid to install needs READ access to data sets CB.OS\* and

## CB.ST\*

PTFs with FIXCAT IBM.DrivingSystem-RequiredService

Data set merge

Mastercat alias cleanup

IBM z13 or higher to IPL z/OS 2.5

8 GB real memory or 2 GB on z/VM

## Software

Coexistence Software

Target software

Most still in Service Support will run (with very few exceptions)

PTFs may be required

Use z/OSMF Software Management Software Instance maintenance reports to find EOS software on your system

HOLDDATA and MISSINGFIX to get Driving and Target Systems up-to-date

>>>slide 32 has incorrect Workkflow file name

Where is upgrade workflow? See chart in handout

Use PSI instead of ServerPac name

## **JES2 Product Update and Latest Status**

By Tom Wasik of IBM

## z/OS 2.3 EOS in Sept 2022

### OA58190 Policy Persistence Processing

- OA59665 CTENT and 64-bit fix

- OA63458 “chicken switch”

  - \$T MASDEF,OA63458=ENABLE

  - 2.4 only (2.5 toleration requires correct setup)

### Blank Truncation

OUTCLASS(x) BLNKTRNC=YES|NO decides if blanks should be truncated

- FSS issue with restoring blanks

- In later z/OS 2.5 compression, blanks not truncated

  - Some customers needed blank truncation

  - OA60605/OA60528 with new FSS options

  - Print Services Facility

- BLNKTRNC default is YES

- Blank\_truncation is BLNKTRNC

### PROCLIB enhancements

PROCLIB data retrieval function (SSJPPROD) of SSI 82 enhanced

- More information returned in JES2 2.5 for fixed and dynamic

### PROCLIBs

SMF 84 created by JES3 for JMF processing

SMF 1153 is new to replace SMF 84 (deprecated)

- Currently JES2 will provide both SMF 84 and 1153

### JES2 Policy Expansion

- V2R4 introduced to reduce or remove exits

- Exits still have the final say

- in 2.4, JobConversion initially, added SYSOUTGroup and

### PreConversion

- in 2.5

  - added built-in functions AuthorityCheck() and FindNumber()

  - Added job attributes completioncode, createdlocally, etc. for

policy use

- PreConversion can only update msgClass attributes

Track Group Maps moved to 64-bit storage (z/OS 2.4)  
 Compatibility APARs for z/OS 2.4 to upgrade to 2.5

### Continuous Delivery in JES2 2.5

z/OS jobs REST interface - OA61231

Remove dependency on CEA/CIM

Same JSON document generated by JES2 instead of CEA

SYS\_JOB\_NOTIFY URL to be posted moved earlier in

INTRDR logic

Similar to EDS (email delivery system)

Undeliverable messages will be retried or manually via

\$\$ EDS,RETRY

\$D EDSQ displays info on email and notification queues

Multiple TCP/IP Support for email and HTTP POST

\$T JOBDEF,nnnnn

AT-TLS policy has to be configured for notification

Some took CIM policy and reused it for JES2

SAF AUTH Check added for SYS\_JOB\_NOTIFY symbol

Fail job if check fails

Additional job notifications via HTTP POSTs

SYS\_JOB\_NOTIFYX extends notify function

z/OSMF updated to support this notification change

Job Document (JSON) enhanced

Checkpoint version moving to 64-bit storage (OA61229)

Applications should not be using CKPT versions at all

DSERV with 64 bit data pointers

\$CVCB in 31 bit common

z/OS x'7FFFFBAD' guaranteed not valid so standard for

failures

### Service Updates

Do Not Run Out of BERTs!

OA60328 NETSERV sporadic high CPU

OA60426 CKPT lockout by JESCI and JESEDS

OA60523 Loop in BERT in JESCI

OA60777 JESMSGGLG not current



- OA62528 prevents excessive dumps
- Fixes a number of SPOOL browse problems
- OA62115 JES2 storage exhaustion (slide 58 misspelled)
  - Reduce overhead and CPU use for duplicate job processing if not Exit 49
  - Fixed a bug in \$PAWS service
- >> OA63207 JES2 Private Storage Exhausted
  - Possible cold start error so apply fix
- OA63479 Instream Symbol logging

## **Secure Z! z/OS Lunch and Learn**

Penetration Testing is Prudent!

## **More Ways to Manage Your z/OS with SDSF for z/OS 2.5**

By Gary Puchkoff of IBM

### **Architectural Changes**

- SVC removed
- Only uses SAF for security
  - ISFPARMS load module gone
  - ISFPRM00 in PARMLIB
  - ISFACR tool with sample JCL helps migration
  - ISFUSER exit called on INIT, TERM, and PRE-SAF

### **New SDSF panels**

- MEM panel (see slide 7 of handout)
  - M to map structure, other commands
  - Column display can be reorganized
  - Secured by SAF SDSF Class....
  - point and shoot memory is available
- AD ASCB display
- CS panel Common Storage
- CFD Coupling Facility Display
- LLS Link List Sets
  - DU to show users

SVC panel (Supervisor Call routines)

### **New Help and search interface**

HELP, COLSHELP, and SEARCH commands converted to SDSF panels

ACTH Action Help

CMDH Command Help

COLH Columns Help

### **Usability enhancements**

Screen controls

LOG positioning

Wide screen z/OS operator command

### **z/OSMF Plug-in Enhancements**

Re-written with new look and feel

Tiles or pull-down to get to functions

Settings are integrated (updated within App)

Panel layout

SDSF Security Migration Guide

SDSF RACF Class must be RACLISTed

SDSFAUX STC classify in WLM, do not run as Discretionary

No continuous delivery/continuous integration

No SCA for z/OSMF for SDSF yet - in the works

## **Upgrade to z/OS 2.5: Technical Actions**

By Marna Walle

19 attendees in-person nn attendees online

Fire “don’t overlook” Check Broom to cleanup

This session does not include all Upgrade Actions - just Marna’s choices

### **Now actions**

CYGSTC is IBM z/OS Change Tracker (priced 2.5 offering)

Remove deleted data sets and paths

New Infoprint Server path in 2.5

zCX new in 2.4

## Run your Migration Health checks

SMFLIMxx DSLIMITNUM default reduced to 4096

Leave default and let 2.5 change automatically take effect

DIAGxx

CBLOC added REAL31 and REAL64

In 2.5, ASCB and IHAWEB goes to 64-bit

CHECKREGIONLOSS restarts Initiator if memory is too low at task termination

DFDMDdss COPY and RESTORE ignore SHARE for PDSE

Change your processes now

z10 and prior processors removed from HCD

## Pre-First IPL actions

RMF Upgrade Actions

Advanced Data Gatherer (entitled by RMF License)

3 things - data gatherer (base) , RMF (priced), advanced data gatherer (priced)

ADG prefix is SGRB/AGRB

RACF PROGRAM Class profiles for new and removed data sets

CIM now uses HTTPS (change defaults to be 2.5 versions if possible)

HTTPS also required for Infoprint Central, RMF, ....

CSFPARM must point to Member in PDS in ICSF PROCLIB member

>> SDSF migrate to SAF-based security

Update Java Path references to JAVA\_64

RACF TSO HELP text being removed

Save it for future use

JES2 \$ACTIVATE,LEVEL=22

CYL\_MANAGED setting required

## Post-First IPL actions

Remove RACF dynamic classes

RDELETE CDT IZP and ZOWE

Verify using correct POSIT values before deleting

Do not share a RACF database between z/OS and z/VM

OpenSSH same level as 2.4

level 7.6p1 is new in 2.4

Old z/OS was level 6.4p1

No change in 2.5 from 2.4

BPXPRMxx LIMMSG default from NONE to SYSTEM limit which installation can change

BPXPRMxx FORKCOPY(COW) and KERNELSTACKS(BELOW) changed to COPY and ABOVE and cannot be changed

BPXPRMXX MAXSHRPAGES goes away

JES2 OUTCLASS BLNKTRNC changes being added to Upgrade Workflow

Comm Server

FTP to AT-TLS (health check)

CSM fixed storage increased to 512M

D net,CSM

## **24Aug2022 Wednesday**

### **Open Source Sysprogs**

By Scott Brod of Broadcom

#### **Open Source tools**

History

Working with Mainframe?

Current

Running On Mainframe

#### **Sysprog roles**

Many different roles of Sysprog

z/OS

SYSRES

Maintenance

ISV

3rd Party products

New releases

Maintenance roll-outs

configuration

Storage

CICS/MQ

Networking

## **Evolution of Sysprogs**

Experienced Sysprog's

- \* Started in Operations

- \* Troubleshooting

- \* wait state IPLs, initiator issues, manual batch, security not as much of a concern (it's a Mainframe!)

- \* Knows Assembler, REXX and PL/x

Today's Modern Sysprogs

- \* digital native generation

- \* loves Point and Click

- \* Doesn't like ISPF and Green Screen

- \* Automate everything!

- \* Hack the Planet!

- \* Open to Change....

Day in Life of Sysprogs

Planning upgrades

Installing SMP/E

- \* New Release or maintenance

- \* reviewing HOLDDATA

- \* Staging

Open Source Tools?

IDE - Integrated Development Environment

- \* not just for developers!

- \* VSCode/Codespaces/CodeReady

GitHub - Source Control Maintenance (SCM)

- \* integrate with your current SCM

- \* refactoring Code!

Orchestrator - Task Automation

- \* Jenkins

- \* GitHub Actions

Docker

- \* on z/OS as zCX

Zowe CLI - APIs

Zowe CLI

VSCoDe

Job editing, skeleton code, submitting JCL, viewing output

USS file editing - easier than ISPF 3.17

z/OS Workflows mandatory for installing z/OS 2.5

IPL and IVP

Demo

Zowe config list

Zowe zosmf check status

Zowe jobs submit daily “dsname.JCL.cNTL(iefbr14)”

Zowe JCLcheck check DFS “nn” —JCL check-options

Zowe zOS-USS issue ssh “Ls -la”

Zowe console issue command “D IPLINFO”

VSCoDe extensions workflow for z

## **Installing z/OS v2r5 Using z/OSMF Software Management**

By Banco de Brasilia (BRB) 4 presenters

Session 69330

Moved from Unisys to IBM Z in the past 8 years

### **Business Overview**

Brasilia bank 1966

1972 Burroughs B-500

1987 Unisys

1995 moved to AIX

2003 migrate to distributed platform

2012 technical modernization project started

2014 migrate to IBM zEC12 (completed 2018)

2020 partnership with Flamingo soccer team

Tremendous growth 1 m customers to now 4.4 million customers

MSU consumed per month doubled from Feb21-Jul22

175 branches, 3000 employees, 2000 contractors, 6400 ATMs, 1.2 billion online transactions in last year

## **Conditions and Reasons Environment Change**

180 systems distributed platforms, 141 hosts , 26000 programs, 63 systems, about 10,000 files migrated to IBM

## **Software and Hardware Environment**

2 sites with same equipment - one for PROD and one for DEV/TEST+DR

IBM z15 (8562-Y05), DS8900F (150 TB), TS4500 (380 TB), VTS7700 (60 TB) sync'd at each site

## **z/OS 2.5 Release Beta Program**

March 2021 initial 2.5 materials, April client education, May Shopz order, June beta Serverpac arrived, July complete installation, Sept. official GA, Dec. 2021 exit beta review

June 8 start order, June 15 1st IPL, June 16 IPL on support with automation, July 13 1st IPL on development

## **z/OSMF Installation Process**

- Define PSI

- Open deployment with checklist

  - Define SMP/e global CSI

  - check Missing SYSMODs and HOLDDATA

  - Configure deployment using existing software instance

  - SMP/e zones

  - Data Sets change dsname and volumes

  - Catalogs

  - Volumes and Storage groups

- Submit deployment jobs

- Workflows to run post-install And IVPs

## **Lessons Learned**

- Reduces error

- Reduces complexity

- Early tenure

- Facility to edit JCL and configure all steps

SDSF error in CMDH generated APAR PH35590

## **Implementing JES2 Policies from an IBM and**

## Customer Perspective

By Mike Shorkend of Shorkend and Tom Wasik of IBM

Session 38382 22 attendees

### JES2 Policies

No Assembler, no JES2 internals, no need to understand JES2 internal logic

Not assembler

Changes to underlying data handled internally by Policy logic

JES2 development insures policy code works

Let Tom W or Micha Nelson (see presentation) about what exit do and what policies are needed

### Inventory existing exits

\$D LOADMOD and \$D EXIT and maybe SLIP A=TRACE

What do the exits do?

Documentation or comments

Basic analysis of code - what fields, what does it change, what flags are set?

What control blocks are used?

One common thing is limit functions

Enforce installation rules - input classes and output destination

New function - command operates, new JCL or JECL operands

With idea of what exit does

What jobs affected

Identify where action code and trace code

SLIP traps with trace action

Code changes like WTO, generic track, \$TRACE (could be voluminous)

\$BUILDMSG

WTO with LINKAGE=BRANCH to run anywhere

plan B swap exit with unmodified version in case your changes hurt

Use dynamic exits

Sometimes applications for the exit no longer exist

Generic tracker (GTZTRACK)

Build work area 64 bytes



Pass work area to tracking service  
 Tracking management is part of the service  
 SDSF Generic track page

### **Tom W. Has sample code in handout**

JES2 trace

IDs of 8, 9, 10 are for customer use

Specify 8-byte name and data area pointer and length to

trace

### **Pick a policy type to use**

Existing policies are at specific points in processing

PreConversion and JobConversion and SYSOUTGroup policies

now

Differences between defaults and overrides

Exits get final say

### **Define Conditions and Actions**

Policies are conditions and actions and can be simple or complex

Depending on what type of policy

JES2 Policy Documentation in JES2 Exits book as JES2 plans to enhance policies

### **Creating a policy**

Stored in PDS or directory

Each member is one “policy” but can perform multi functions

Readable JSON following JSON syntax

JSON syntax rules allow for “hard to read” policies

### **OA61974 new JSON comment syntax**

*/\* \*/* or follow *//* but *//* requires x'15' or other end of line character

Not JSON standard for comments

### **Policy examples**

Report what change was made

### **Existing Exit by Mike Shorkend**

Exit 3/53 JOB/JOBGROUP accounting field scan and set Job class

\$ADD POLICYLIB..... and \$DPOLICYLIB

\$POLICY IMPORT,POLICYLIB=xxxx, MEMBER=xxx,REPLACE=xxx

\$POLICY DISPLAY|DISABLE|ENABLE,NAME=xxxx

- Sample code in manuals
- IBM responsive to enhancement requests
- Convert exits while some HLA knowledge is around
- Use SMF RECORD 30 to see what actually runs

24 attendees

## Z/OS System Programmer

- System install and product maintenance
- Problem Solving and Recommendations
  - Dump and debugging analysis
    - Gathering data
    - Good relationship with IBM and ISVs
- MVS diagnosis tools and service aids ZAP TERSE AMBLIST
- MVS Commands SLIP
- TSO/E Command
  - Transmit
- CBT Tape [www.cbttape.org](http://www.cbttape.org)
  - Tools to look at XMIT file on workstation

## System Programmer Tasks

- Steps in Problem solving
  - Identify

## Identify Problem

- Error Messages
  - Messages and Codes
  - Quickref
  - IBM Look
- JESLog, messages JCL
- System Dumps
- Gather Data Dumps and Traces
  - Dumps
    - Symptom dump
    - SVC (System) Dump
    - Stand-alone dump - IPL'd dump for failing/hung system

SLIP command and dump

Traces

Master and SYS log

SLIP to trap an event and take action

Create, delete, modify SLIP

PER or non-PER event

IF instruction fetch

SD successful Branch

SA or SK Storage alteration or key alteration

ZAD for zero address detection

Default is SVCDump

AMBLIST to map program

TRANSMIT (XMIT) sends data sets or messages

Creates a sequential data set as FB/80/\*

PC utilities to view Xmit format files

Tachyon Unix it

CBT file 800

XMITIP package

Others

RECEIVE processes the XMIT file and create a new copy of the source file

AMATERSE to pack or unpack data

Format different from PDUU

Output PS/FB/1024

PACK|SPACK|UNPACK

Output FB/1024

Data Privacy for Diagnostics

OA57570 (z15 or newer)

Redacts sensitive data from source from target

BLSJDFFD

IPCS sub-commands IPCS 5.6 or batch

AMAPDUPL send data to IBM or larger dump  
Problem Doc Upload  
Compresses before sending  
Control statements CASE id, Target

AMASPZAP "Superzap"  
Validate load module/CSECT contents/program objects  
DUMP or VER  
Replace instructions in programs  
REP  
Update VTOC DSCBs or DASD records  
Update IDR records (IDRDATA)  
PARM=IGNIDRDATA  
PARM=PRECHECK

## **Data Set File System Use Case Scenarios**

Understanding the support behind SHARE's #1 Requirement  
By Kershaw Mehta of IBM

31+ attendees

July 2021 SOD about file system support to access z/OS data sets

June 2022 part of z/OS 2.5 2Q 2022 enhancements announcement

Data Set File System is only on z/OS 2.5

Use z/OS data sets from z/OS Unix

Several APARs (see handout)

Data set serialization like ISPF

SAF-based security applies

/dsfs

/dsfs/txt code page IBM-1047

Text file does not contain a <NEWLINE> character

/dsfs/bin (binary) RECFM FB or U

/dsfs/rec (variable length binary)

Kershaw.jcl.cntl mapped to /dsfs/txt/Kershaw/jcl.cntl

Kershaw.proj.source(myfile) maps to /dsfs/txt/Kershaw/proj.source/myfile

Unix Shell utilities that access a path name can access z/OS data sets and members

File names in lowercase and case-insensitive

Data sets name and member names must be conventional z/OS names, acceptable in JCL

User access based on security profiles in security database

Anatomy of DFS pathname

/dsfs /tst|bin|rec /directory (HLQ) /filename

Only see not-migrated data sets and not catalog aliases and no VSAM data sets

BSUPRMxx policy in PARMLIB

System-wide, dynamic change

Dsadm is new Unix command

Dsadm createparm to specify MVS data set attributes RECFM and LRECL and such

Attributes similar to BPXWDYN keywords

Psmodel and pdsmodel (one set for /txt, /bin, /rec) for every HLQ

No global defaults, unique per LPAR

mkdir to create PDS, touch to create a sequential data set

Dsadm has a display psmodel and pdsmodel

Grep works within a PDS

Cmp (compare) two members

Sftp works to send a dump to IBM

## **Navigating the Minefield: Diversity Tips for White Males**

By Misty Decker and Derek Britton of Micro Focus

## **Diversity impacts people and business**

22% of director level roles in tech industry are women

25% of workforce are women in large tech firms

33% of tech organizations have less than 5% black staff

Easy for companies to view lack of diversity in tech as a pipeline issues

Create variety of difficulties

AI facial recognition problems

Phishing attacks

“Hostile macho cultures”

## **White males feel sidelined**

42% of white males think diversity is “extremely important”

70% of white males feel left out of DEI initiatives

miscommunication getting in the way

Unconscious bias creates organizational weaknesses

Different types of unconscious Bias

Affinity bias when we favor people who we share qualities

with

Beauty prefer attractive people and think they are better for a job rather than less attractive person

Contrast compares one thing to another rather than judging the whole application on its merits

Gender when you think one gender is better for a role than another

Halo focus on one great positive, while ignoring flaws

Horns focus on one great negative, while ignoring positives

Seeing both sides

## **Examples of diversity minefields**

Micro aggressions

## **Navigating the minefield**

Gender

Assign notes to female in room

Giving women “helper” jobs

Men are better problem solvers

- Attributing their ideas to a man who reiterated the idea
- Lack of awareness of personal space

#### Ethnicity

- Not pronouncing or spelling an individual's name correctly
- Assuming a temperament (angry, meek, dishonest)
- Interrupting when they're speaking
- Subjecting to more criticism than white counterparts

#### Age

- Selecting millennials to work on social media projects
- Assuming older generation may struggle with tech
- Making assumptions of seniority (age+male+white)

### Warning Signs

- "I know what you're thinking..."
- "I know they won't like what about to say..."
- "I probably shouldn't say this but..."
- Sighing, eye rolling, voice tone or volume
- Moving away or holding your breath
- Not giving eye contact

### The alliance model

- Part 1 accept that unconscious bias creates operational weak spots

- Part 2 alliances rebuild strength

- Part 3 help build a bigger pie

- What we perceive today+what else we could perceive=our combined knowledge

- Explicitly ally with other diverse persons

### Starting your journey

- Avoid generalizations
- Listen to other's stories
- Challenge assumptions
- Become aware of your bias
- Use visualization
- Speak up
- Pay attention to language
- Make friends

- Equally biased but the biases are different

**Guidance**

Get trained, get help, get resources

Trust yourself but inspect your assumptions

Find the win - pick operational requirements that benefit from a more diverse approach

Listen with intent to understand

Be ready to fail, be ready to speak out

**Takeaway topics**

Unconscious bias in all forms impacts organizational growth

Unconscious bias towards technology is equally unwelcome

Tackling unconscious tech blog from Misty Decker at share.org

Rise above the noise: white males must lobby for DEI change

Hacks are surprisingly easy

Benefits are profound

**05Aug2022 Thursday****Let's Get z/OS Up and Running on the IBM z16!**

By Steve Warren of IBM and Marna Walle of IBM

22+ attendees

FIXCATsIBM.Device.Server.z16-3931.RequiredService

IBM.Device.Server.z16-3931.Exploitation

IBM.Device.Server.z16-3931.RecommendedService

PSP buckets 3931DEVICE 3931/ZOS

Search for "3931DEVICE z/OS"

SMP/E REPORT MISSINGFIX FIXCAT(IBM.Device.Server.z16\*)

All required PTF must be APPLyEd to all members of the Sysplex before introducing the z16 to the sysplex

z/OSMF Workflows for upgrading to z16

/user/lpp/upgrade/z16\_zOS\_Upgrade\_Workflow.xml

Exported format workflow at the IBM Documentation website



Several hardware features cannot be ordered or carried forward from previous processors

z/OS Data Gatherer (free function) provided enhanced SMF 71 subtype 1 records

CFLEVEL 25 for Coupling Facility

IBM recommends all CFs in Parallel Sysplex be at highest level

System Recovery Boost (z15)

Start PROC for SRB shutdown up to 30 minutes

Start PROC for SRB startup for 60 minutes

System Recovery Boost (z16)

Adds support for SVCDump System Recovery Boost (short term, maybe 5 minutes from 30 minute daily limit of SRB)

Adds customer-identified middleware start/restart boost

WLM Classification Rule to have new Boost attribute

This boost also is 5 minutes taken from 30 minute limit

Turn off boosting via IEASRB,REQ=DISABLE|ENABLE

D IPLINFO,BOOST,STATE to see status of SRBoost

z/OS Containers Extensions (zCX) support

Hardware code 0104 on z15 does not carry-forward to z16

Now requires IBM Container Hosting Foundation for z/OS subscription

zCX Foundation for Red Hat OpenShift and related S&S

Use more memory (16GB real) for z16 if possible for each LPAR

## **The Magic of PSWs and Registers**

By Patty Little, Elliott Picker, John Shebey of IBM

26 attendees

z/OS concepts

## Program Status Word (PSW)

128-bit right 2 words are instruction address and left 2 words are control information

General Rs, AccessRs, FloatingPointRs, ControlRs

Fullword is 32 bits

High order bit is left most and low order bit is right most

PSW is 4 words with high order word and low order word

2000 z/Architecture changed PSW from 64-bits to 128-bits

Sometimes PSW is scrunched from 128>64 and unscrunched 64>128

Software only scrunching to save and restore from control blocks for compatibility only for RMODE 24 or 31 bit (program below the 2G Bar)

## Z/Architecture PSW

PSW is comprised of 128 bits (4 words)

Bit 12 and add 8 then OR the low order word with 2nd word

AMODE execution mode of program that determines how many bits of 64-bit register or PSW address are used to reference memory (storage)

Bit 31-32 AMODE 24 is 00, 31 is 01, 64 is 11, and 10 is undefined and fails

SAM instruction sets AMODE

Key is bits 8-11 range 0-F

System keys 0-7 only trusted programs can execute in key 0-7

Match against a page's storage key

Some products traditionally run in certain keys, like JES2 runs key 1

## Interrupt Masks

Bit 6 I/O interrupt bit 7 external interrupt mask

Enable for interrupt if 1

X'07' means both enabled for interrupt

Spin loops are running Disabled for too long

STNSM or STOSM sets interrupt bits

## Problem State bit (bit 15)

ON in Problem State. OFF is Supervisor State

## Registers

- See common register usage conventions

- See Save Area formats chart in handout

- Eye catcher in first area for none standard save area

## Debugging

## **z/OS 2.5 User Experience**

By Ed Jaffe of Phoenix Software International

00 attendees

Does not do a ServerPac install, uses IBM-delivered pre-release image

Ed J. plays when system is up so this focuses on that work, not on install

z/OS V2R5 user Group Requirements webpage - see link

<https://ibm.com/support/pages/new-function-apars-zos-platform>

list of SPEs

- Average 6.5 SPEs a week across the z/OS world

- RFA 221-260 2.5 new functions

Early delivery of z/OS 2.5 delayed 4.5 weeks by LOG4J issues

Ed compresses ADATA used by XDC and finds much faster response

CA/Broadcom Chorus Software Manager (CSM) functionality is ported to z/OSMF as Software Update

- Corrective/Recommended/Functional

- Recommended APPLY command is hardwired into Software Update (RSU and RSL (Broadcom)) - wants an option to add other vendor values

z/OSMF Resource Management and Software Services provides Cloud Provisioning and Management

Not much help for vendors to provide templates but lots of user documentation

Setup JOB statement first as many WF steps submit jobs to complete the work

## z/OSMF File, Folder and Job manipulation

- JOB Output list needs work

  - Like red for failed jobs

- Browse looks good, right-click for command palette

- Data Set File Search looks good with

- Edit very good, links to other files

- Compare is excellent

- Data set list has no additional info (tracks, volume, attributes)

## z/OSMF Security Configuration Assistant

### z/OSMF CFRM Policy Editor

- Export results can be put in PARMLIB for future restarts

### Tailored Fit Pricing (TFP) System Parameter

### RMF and Advanced Data Gatherer

- Required Linklist and PROC JCL changes

### Anomaly Mitigation Solution

- PFA Private Storage Exhaustion health check plus 2 new checks

### JES2 Resource Exhaustion and WLM Address Space Velocity

- Run PFA and HZR and wait for issues

### Updated RACF PassTicket Capabilities

- Enhanced PassTickets including option to change timeout/  
expiration interval

### Enhanced System Recovery Boost (ESRB)

- Not a technical restriction, limited function to z16 just to sell more  
z16s

### Data Privacy for Diagnostics

- Use sample job in SYS1.SAMPLIB(BLSDPJIN)

- Redact, Analyze, Report,

- analysis\_config.json for analyzer

- Use Report output to review analysis report and flag what was  
not correct

  - Not sure Sysprogs should look at sensitive stuff

  - 94% false

- FEEDBACK function updates analyze file so future dumps  
have less false positives

  - Recommends one (long) pass at least to reduce false

positives

Ingest of additional sensitive data identifications

See APAR OA58114 for additional doc

Pervasive Encryption Enhancements

zERT needs Db2 to run - needs work

z/OS Authorized Code Scanner (priced)

Vendors want to avoid false positives in the field

z/OS Data Set file System

pwd (print working directory)!

DSFS needs better way of managing contention instead of timer checks

Migrated data sets are not processed by DSFS - big problem for Phoenix Software International (PSI)

## **Start Your Quantum-Safe Journey by Discovering Cryptographic Calls**

By Suman Gopinath of STSM & Chief Architect, DevOps for IBM zSystems

XKCD Comics

Quantum computers can, in principle, perform certain computations in a very small amount of time

Classical Cryptographic Algorithms

Key management, email encryption, car components, payment card and banking transactions, ....

**Data is being stolen today with intent of exposing it tomorrow or much later**

Data must be encrypted with 256-bit algorithms to be considered quantum-safe

Problem symmetric key and hashing algorithms

Q cuts security in 1/2, must be SHA-256 at minimum

Z16 leverages quantum-safe technology

Q not ready now but is coming

What about Applications?

Perform encryption (ICSF APIs for example)

- Business logic
- Store data
- Temporary variables (might be scary part)
- z/OS Security and Compliance Center

## ADDI

- Source code library, considering programs as books
- Graphical analysis, impact analysis, batch and online application flow, variable analysis
- Analysis Project
  - IDZ Client>Analyze tools>Projects<A.D. repository <Build (parse)<Source Resources
  - Identify Crypto API calls to ICSF and create a cryptographic inventory
    - Aid in migration and modernization planning
    - Aid in quick reaction to security issues
  - ICSF calls are CSNBxxxx programs like CSNBENC and CSNBDEC
  - Analyze Continuously - make it part of your development release process
    - Check early and late in process
    - COBOL only right now but PL/1 coming

## **So I bought a z114!**

By Enzo D'Amato

- 16 year old high school student with Asperger's syndrome
- Built first computer in 4th grade
- April 2021 saw NY Government selling z114 for \$500
  - Parents did not want to build a power substation
  - LICCC codes for the CPCs were destroyed so hardware was useless
- Found a unit on eBay
- Physical Planning followed Installation Manual for Physical Planning
  - 3-phase 220V
  - Avoid multi-frame models as 3-phase power required

Wired 2 phase together to provide power

Seller had no forklift to get on pallet

LiftStar to find someone with lift gate and truck

Paid for shipping and machine and working on getting peripherals

OCA/ICC and printers run over tcp/ip

DASD is nightmare

FBA with Linux driver

CKD storage is almost impossible to find

Machine too big for truck doors, took computer covers off and got it on truck

1800 lb. Mainframe slightly too tall for garage door, broke door frame to get machine into garage

2012 z114 model arrived in mid-2022

Initial setup

Missing hardware was eventually shipped to him

Fiber Channel took I/O Centos software updates to make work

TS7720 machine never setup

IOCCS “read the manual”

Help from Gary Eheman at FlexCUB

Got working

Linux and z/VM installation and configuration

1 GB and 10GB network cards are not connected

Program ACL on storage box and software broken

Finally linux works

z/VM install ran fine

IPL from SCSI requires very specific HCD parameters

Dirmaint

VSEn installation went fine (thanks to 21st Century Software)

A week till slides were due to SHARE about z/OS

“Mainframe from Scratch” Redbook is awesome

IBM sending z/OS ServerPac

Message on Linked-In and ask nicely is secret to get software

Enterpriselab.dev empty now but stuff being posted soon

Enzo@enterpriselab.dev

## **VS Code Extensions Demystified**

By John Rhodes of CM First Group

11+ attendees

Visual Studio Code

Open source but Microsoft trackers can be disabled

Extensibility

Plethora of Mainframe Extensions

Explorer

Syntax Highlighting

Debugging

Visualization

Zowe Explorer extension

create configuration management

Integrate CM evolveIT diagram UI within VS code

Integrate with Zowe Explorer

Format URL and Open in ...

Use VS code to develop extension

Install npm

Install vs code extension generator

Run VS code extension generator

Answer questions

Build package

Npm install -g vsce

<https://marketplace.visualstudio.com/vscode>

## **26Aug2022 Friday**

### **A Dashboard You Can Really Use**

Session 90881 by Jason Fournier of Broadcom.

Jason.Fournier@broadcom.com

08 attendees

Basic web server up and connect to REST API

Dashboard

1 stop page with everything I need, dynamic, customizable, real-



time (ish)

What you need

- HTTP Server

- Web page editor

- Idea

Tools

- HTTP Server (on mainframe)

- FTP server on your desktop/laptop

- HTTP Editor

IBM HTTP Server

- Comes with z/Os

- create an instance

- CORS already on same network as your data

IBM HTTP Server - Prep

- IBM HTTP Server manual is well documented

- V9.0.5

- SAF USERID and GROUP

IBM HTTP Server - Install

- Logon to OMS

- Cd /user/lpp/ihsa\_zos

- Unmask 022, verify

- Install\_ihs /user/lpp/ihsa\_bin

- ....

Confirm

- Cd /etc/websrv2/bin

Install

- Cd /etc/websrv2/bin

- Apachectl start and stop

http.conf

- /etc/websrv2/conf/

- lots of settings for server instance

- \_ serverroot /etc/websrv2

- timeout 60 wait on page

- LISTen 8080

- serverName your.shops

- Docroot your data

- DirectoryIndex index.html index.html.var index\_ihs.html

HTTP 500 error should look at conf

Server - point to beginning

FTP files to /etc/websrv2/...

Website

- Install\_ihs.html is default

- Modify or tinker

- Htdocs folder for html, CSS, JavaScript

Layout planning

- Accordions - push page down and back up

- Dropdowns - over top of page

REST APIs

- Someone has done the work for you

- Right amount of data in easy to consume format

Ease of use

- REST APIs

- HTTP GET/PUT/POST/DELETE

JSON

- Object {} curly braces

- Arrays [] square BRACKETS

- Data is name/value pairs

- Data separated by commas

- Double quotes

REST API Data Source

- Z/OSMF is in your Shop

  - Notification services

  - Z/OS Console Services

  - Z/OS data set and file REST interface

  - Jobs REST interface

- Z/OSMF examples

Z/OS Data Set and File REST Interface

- Additional authorizations required

- Work with both z/OS and Unix files

Jobs REST Interface

Other products have REST interfaces

Broadcom OPS/MVS and SYSVIEW

IBM z/OS Connect

Many others

## Security

Basic authentication

Encoding and encrypting

LTPA (IBM Products)

Cookies

OnAuth2 (credentials) Google/FB

Certificates

Self-signed is bare bones requirements

Sensitive data spend money to get real one

Payloads can be a pain

May need proper format

## Web Templates

Many on internet

good source is w3schoolsw.com

W3.css

## Swagger

Easy doc and implementation testing of each API

## GET/PUT/POST

templates can be useful on computer, table, phone

## Configure template

Use HTTP<>HTTP or HTTPS<>HTTPS

HTTP4xx your fault

HTTP5xx server setup issue

<http://geosvc.com>

## Z/OSMF Certificates

Flag to bypass CSRF() in IZUPRMxx member from ON to OFF

Not for Production

Copy certificate and install in browser

# Modernize z/OS Systems Management with As-A-Service Approach

By Hiren Shah of IBM

11 attendees

### **z/OS Management Services Catalog**

A z/OSMF Systems Programmer tool

Demo 1 create, Mount, delete file system

Uppercase dsname but will upcase name in future

Export and Import or transfer to another Sysplex is in-progress  
update

Separation of responsibility

runAsUser

Enable zMSC with PTFs on 2.4 and 2.5

Setup security (see SAMPLIB)

Enable plug-in with z/OSMF Settings

Use SCA to verify security

PH44234 additional enhancements

Service creation, submission, suspend, output, history

2 sample services

encrypt zFS

Create a RACF Certificate

<https://www.ibm.com/support/z-content-solutions/management-services/>

Zorow at <https://GitHub.com/openmainframeproject/zorow>

### **Bit Bucket x'40'**

By Tom Conley, Mike Shorkend, James Lund, Ed Jaffe

Nn attendees Session 31061

### **It's a Small zFS After All... by TC**

Zfsadm shrink is hard to use

Zfsadm shrink -aggregate ZFS.dsname -size 1

Failed as RO

Remount as RW

Zfsadm fsinfo to see existing block counts

Calculate with block size and count

Zfsadm aggrinfo

- Simplifies calculation

- 5 shrinks later unused down to 0

- Default -ai keeps additional blocks in case someone expands while shrink runs

- Add -noai to shrink with reserved space

ZOS-I-3390/1/2/3 IBM Ideas submitted by TC

### **Two Hidden RMF Goodies by MS**

ERBSCAN/ERBSHOW

- supports 70-79, 99, maybe 98

- REXX program to copy SMF to temp VSAM

  - If TSO PROFILE NOPREF did not work

- Use ERBSHOW with record number from ERBSCAN

  - Shows SMF header for all SMF record Types

  - Supported record types show more formatted data

RMFM3B Batch reporting for monitor III

JCL PROC in PROCLIB

monitor III report every interval until stopped

writes exceptions via WTO

3 canned reports (REXX execs) WFEX (workflow exception) , CPC, and SYSSUM

- Options to control reports

- Page for each interval

RMF2WTO.pdf found by Marna Walle (2016 session) at IBM github

### **Procrastination...It's Making Me Wait for Access by JL**

Managed services company to install and upgrade to z/OS 2.4 from 2.2

Day of PROD migration, everything looks good

IPL after 5 weeks

- Random tasks abending

- Health check messages on console about CA1 security failure

- 3rd party products having security problems

Cached rules?

RACF ICH or Dynamic Classes

Missing 3PP RACF Classes

Desperate for help (managed services not helpful)

RACF-L for help

SR CLASS(CDT) Class Descriptor Table

Different from ICHRRDDE

IRRUT200 with MAP option showing profile count

Rshconsulting.com/July 2016

RSH\_Consulting\_RACF\_Tips\_July\_2016.pdf

A User Class in active Class report

Mixed class definitions in RACF

Old ICHRRCDE CDT module - "cleaned up" by Managed Services

New Class(CDE) entries (CA-MSM/CSM)

Prove Managed Services wrong

SMF 42 subtype 21, 24, 25

Managed Services user copied ICHRRCDE to user lib and then deleted it

RACF dynamic CDE is your best bet (in SYS1.PARMLIB)

### **Ode to a Mainframe Legacy - over 60 years of IBM by JL**

Texas A&M shutting down mainframe

Retirement scheduled for February 2023

### **How Low Can Low-Core Go? By EJ**

Longest time x'000A0000 000130E1' first 8-bytes of PSW

Now all zeros

Jim Mulder says they just changed it, Peter Relson says it was general cleanup

SLIP ZAD to monitor

Java and node.js generates lots of ZAD hits

SLIP ZAD PVTMOD=('z/OS Unix path'),ACTION=IGNORE to reduce

entries in ZAD report

Will IBM correct these poor coding practices?

### **Lock Around the Clock by EJ**

Difficult bug to diagnose

No tracing or logging

Some products use CTRACE

SETLOCK macro has all possible locks for all types

TRACE SET,ON for branch trace