SHARE 2022 DALLAS March 27-30, 2022 By Ed Webb

AGENDA

- Why Go to SHARE?
- Odds and Ends
- Quotes of Interest
- Best Sessions
- SHARE Status



WHY GO TO SHARE?

- z16 Announced Just After this SHARE on April 5 IBM Provided Hints on z/OS Changes
 - IBM Telum Processor for IBM Z an 8-core, 7nm microprocessor with transparent main-memory encryption, I.5X cache of z15, and > 6 TFLOPs Al acceleration per chip.
- z/OS 2.5 Upgrade Planning and Look Ahead
- Late-breaking z/OS 2.5 and z/OS 2.4 News 4Q2021 and IQ2022 C.D. Functions
- SHARE Requirements Carry More Weight with IBM than Ideas (were RFEs)
- Networking with peers and IBM developers and executives
 - At Fort Worth, Spent an hour in a z/OSMF Lab with the z/OS Architect

WHY (DO I STILL) GO TO SHARE?

- Because I'm a Z Person who has attended these conferences since 1979; first GUIDE starting in 1979, then SHARE in 1999
- Networking with Friends and Vendors
- Staying Current and Being Re-energized about z/OS
- First SHARE In-Person Since Pandemic Lockdown in 2020

SHARE 2022 DALLAS

3 Days In-Person and Some Streaming with Recordings!

- Three Days Limited Content with 3 rooms live streamed and recorded
- SHARE Tech Exchange only Monday and Tuesday
- Broadcom-sponsored Lunch on Tuesday
- Recorded sessions are available now (Ends July 31, 2022)
 - 45-50 minute sessions video and audio with handouts in most cases
- SHARE Partners with dedicated sessions on Mon. and Wed.

QUOTES OF INTEREST

- "Take a chance, train a Newbie, advertise at local universities" James Lund of Texas A&M on shortage of z/OS Sysprogs
- "MVS provides the essential operating system services of z/OS. It includes I/O Control Program, the z/OS Unix System Services Kernel, and z/OS XML System Services." - IBM Knowledgecenter per Ed Jaffe

ODDS AND ENDS

- Curious about some new z/OS function? Then locate details here:
 - https://www.ibm.com/support/pages/new-function-apars-zos-platform
- https://www.ibm.com/support/z-content-solutions/management-services
- OA61716 z/OS 2.5 MacOS client support for NFSv4
 - MVSLOGIN, MVSLOGOUT, and SHOWATTR binaries supplied by IBM

ODDS AND ENDS

- zCX Growth no longer requires hardware option on z15 (monthly license)
- IBM Container Hosting Foundation + IBM Container Repository
 - Container Registry trusted registry for open-source container images
 - · built by IBM and scanned by IBM, applications are not supported by IBM
- Proactive Resilience Discovery Workshop offering free IBM offering
 - contact zos@ibm.com

ODDS AND ENDS

IBM Change Tracker for z/OS 2.5

by Marne Walle of IBM and Chris Taylor, 21st Century Software

- 52+ attendees
- New Priced Feature coming in z/OS 2.5
 - 21st Century is the Change Tracker development partner for IBM
- SOD I5Mar2022 Comprehensive configuration change management tool for tracking, controlling, and managing software changes



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What's New in z/OS 2.5: The Big D Edition

By Gary Puchkoff of IBM (60+ attendees in-person)

- z/OS V2R5 became generally available in late September 2021
 - After July 10, 2022, all SRELs must be installed using z/OSMF Software Management
 - IBM V2.5 System Functions will support IBM Semeru Java DK V11 (64-bit only) by V2.5 end of life (2026)
 - Available for z/OS in Nov. 2021
- z/OS Container Extensions (zCX Linux Docker containers running on z/OS)
 - IBM Z and LinuxONE Container Registry enhances customer trust in this technology https://ibm.biz/BdfAdW
 - IBM zCX Foundation for Red Hat OpenShift New Product IQ2022
- Modernization, simplification, automation e.g., via Ansible -z/OSMF integration
- SOD June 2020 Native z/OS containers, cloud storage for z/OS data

What's New in z/OS 2.5: The Big D Edition

- Cyber resiliency, pervasive encryption, anomaly mitigation e.g., using Predictive Failure Analysis, System Recovery Boost, Run-Time Diagnostics, etc.
- z/OS Data Set File System is Available Soon; previously an SOD
- PDSE member compression automatic, transparent to user
- Security enhancements lots of them!
 - RACF Health Checks
 - Data Privacy for Diagnostics (dump data for IBM and vendors)

z/OS V2.5 Release Overview – z/OS support summary

Release	z9 EC z9 BC WdfM	z10 EC z10 BC WdfM	z196 z114 WdfM	zEC12 zBC12 WdfM	z13 z13s WdfM	z14 zR1	z15	End of Service	Extended Defect Support
z/OS V2.1	X	X	X	X	X	X		9/18	9/212
z/OS V2.2		X	X	X	X	X	X	9/20	9/232
z/OS V2.3				X	X	X	X	9/221	9/252
z/OS V2.4				X	X	X	X	9/241	9/272
z/OS V2.5 ³					X	X	X	9/26 ¹	9/292

Notes:

² Extended support dates are projected and are subject to change or withdrawal without notice.

3-z/OS 2.5 is the last release of z/OS that will include IBM JES3 & BDT

WdfM - Server has been withdrawn from Marketing

Legend

Defect support provided with IBM Software Support Services for z/OS

Generally supported

¹-All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

z/OS V2.5 Release Overview - Release Highlights

Feature	Description
Workload Enablement	Workload Enablement: An Application Developer , can treat z/OS the same as any other operating system platform with respect to hybrid cloud deployment, achieving rapid application development and provisioning, demonstrating z/OS's ability to match or exceed any other operating system.
Intelligent Resiliency	Resiliency: An Infrastructure Architect will gain enhanced resiliency capabilities that provide heightened application availability, modernized tools and automated detection/mitigation procedures, enabling them to maintain exceptionally resilient environments in half the time and with reduced skill requirements.
Cyber Threat Secure Z	Security: A Security Architect can leverage cyber security system hardening and analytics to readily exceed regulatory compliance requirements and to provide a new level of cyber resiliency for the enterprise.
OS Management Simplification	Systems Management: An early tenure z/OS System Programmer, can independently, confidently, and successfully deploy, maintain, and manage z/OS (and stack) software functions using guided and customized instructions and workflows.

z/OS V2.5 Release Overview

Usability and Skills

z/OSMF Desktop filter and type ahead, Workflow management and logging, simpler configuration, performance improvements, SCA for external apps, Diag Assist, Sysplex Mgmt and Policy Editor, Console UI enhancements, DFSMSrmm plug-in, zMSC...

Application Development

z/OS Container Extensions, Web Enablement toolkit, OAM with DB2, ISPF, ABO, Java, Node.js, Python, Go...

Enhancing Security

PassTicket Improv, Spool encrypt, Certificate simplification, FIPS, Data Privacy for Diagnostics, zACS...

Scalability & Performance

VTOC I/O, zHyperLink write Stats, WLM batch improv., IWQ for zCX, RMF, Greater than 4TB...





Data Serving & Storage

Logical Corruption Protection, Transparent Cloud Tiering (TCT), TCT full volume dump, Object Access Method (OAM), DFSMShsm UNIX file backup enhancements, DFSMShsm UNIX indiv file backup and to new directory ...

Availability

ARM, Anomaly Mitigation, Catalog improvements, system recovery boost, CF monopolization avoidance...

Systems Management

z/OSMF install of products/fixes,, Multiple NFS servers on a system, JES2 expanded policy support, CP&M time limits, zWIC, SDSF new displays...

Networking

SMC-Dv2, TLS V1.3, zERT, Sysplex Network Health, stack services...

What's New in z/OS 2.5: The Big D Edition

- z/OS Education Assistant for z/OS 2.5 materials at z/OS github:
 - https://github.com/IBM/IBM-Z-zOS/tree/main/zOS-Education/zOS-V2.5-Education
- z/OS Requirements (RFEs) are now Ideas based on AHA platform:
 - https://ideas.IBM.com
- Here's the Link to User Requirements satisfied by z/OS 2.5:
 - https://www-01.ibm.com/servers/resourcelink/svc00100.nsf/pages/zosv2r5-user-req?OpenDocument
- Use SHARE requirements to submit requirements
 - https://www.share.org/Connect/Advocacy-Requirements-System

Usability & Skills

IBM z/OS Management Services Catalog (CD 4Q2021)

z/OS Management Services Catalog in z/OSMF leverages the power of z/OSMF workflows to enable system programmers to run services that help complete z/OS management tasks faster and with fewer errors.

- Experienced z/OS system programmers are able to create a catalog of customized services, each written with unique institutional knowledge, protocols, and processes.
- These services can then be run by less experienced colleagues.
- An initial set of services to help z/OS system programmers of all skill levels get started, demonstrate accepted
 practices, and simplify information sharing.
 - Such as grow a ZFS.

Capabilities:

- Powerful graphical interface for creating new services, editing existing and sample services, and running services on z/OS
- Capability to view all services performed by the team, which can be used for audits
- Sample services that provide step-by-step guidance for completing z/OS management tasks

Learn more about services on the <u>z/OS Management Services Catalog content solution</u> (https://www.ibm.com/support/z-content-solutions/management-services).

What's New in z/OS V2.5 / © 2022 IBM Corporation 49

Using z/OSMF Management Services Catalog

By Marna Walle of IBM (21 attendees in-person, 32 online)

- Creating a service and making changes does not alter the base workflow.xml
- runAsUser for steps in workflow is available
 - Switch to privileged user for a step but run rest in user authorized
- Enable z/OS Management Services Catalog
 - PH40810 PTF UI78078 for z/OS V2.5 and UI78079 for z/OS V2.4
 - SYS1.SAMPLIB member IZUMSSEC for Security configuration
 - Use z/OSMF General settings to enable z/OS Management Catalog
- ZOROW z/Open Repository of Workflows to find more samples to build into Services

Upgrading to z/OS V2.5 (Planning and Technical Actions)

By Marna Walle and Mark Wallen of IBM (31+ attendees in-person, 80+ online)

z/OS 2.4 Reminders

- Priced Restricted Use Common Service Area (RUCSA); z/OS Authorized Code Scanner
 - ==> RUCSA-related Health Checks Available via PTFs
- Deleted BookManager Read....
- Last order was produced in Jan. 2022; End of service in 2024
- Cryptographic Support (HCR77DI) was available after 30Sep20I9 but HCR77D0 is part of z/OS 2.4
- No Upgrade book, use GitHub to get z/OSMF Workflow, workflow can be upgraded if IBM updates the Workflow

Upgrading to z/OS V2.5 continued

- z/OS 2.5 Ordering started in mid-September 2021; end of service in 2026
 - ==> Be sure to include Java 8 64-bit and 31-bit in your order
- HCR77D2 ICSF is part of z/OS 2.5 and is updated via PTFs for new HW support No web-deliverable
- JES2 Level z I I no longer supported, must be at Activated at Level z22
- no DASD size changes between 2.4 and 2.5
- no zECI2 and zBCI2 support
- IBM.TargetSystem-RequiredService.zOS25 is FIXCAT for z/OS 2.4 and 2.3

Upgrading to z/OS V2.5 continued

Big Migs [Upgrade Actions] for z/OS 2.5

- z/OSMF ServerPac driving system requirement (now effective July 10, 2022)
 - IBM.DrivingSystem-RequiredService is FIXCAT for z/OS 2.4 and 2.3
- JES2 moved to Level z22
- Use SAF-based security for SDSF functions
 - No ISFPARMS or ISFPRMxx security APAR PH27387 and others to migrate older setup
- HFS removed
- JES3 last release

Upgrading to z/OS V2.5 continued

Upgrade Workflow APAR OA60711 (for 2.4 and 2.3 as well)

- Not on GitHub, instead IBM Service provided these z/OSMF Workflows via PTFs
 - PTF UJ05021 (7B0 z/OS 2.3) and PTF UJ05022 (z/OS 2.4) were available March 18, 2021
- · /usr/lpp/bcp/upgrade will have upgrade [a.k.a. Migration] workflows
 - zOS_V2.5_from_V2.4_Upgrade_Workflow_V1.0.xml
 - zOS_V2.5_from_V2.3_Upgrade_Workflow_V1.0.xml
 - z15_zOS_Upgrade_Workflow.xml

Upgrading to z/OS V2.5 continued

- Driving System Requirement Change for z/OS 2.5
 - ServerPac for z/OS 2.5 is a Portable Software Instance for z/OSMF installation
 - Must have z/OSMF on Driving System with Software Management functions enabled
- · z/OSMF ServerPac Dec. 2019 for CICS, Aug. 2020 Db2 and IMS, Sept 2021 z/OS 2.5
 - MQ comes with z/OS SREL change to z/OSMF ServerPac
- CustomPac ServerPac (legacy ServerPac) July 2022 withdrawn for all SRELs including z/OS 2.4 and 2.5

RMF Upgrade Actions for z/OS V2.5



Perform updates for RMF structural changes (Req, as of V2.5)

z/OS V2.3 and V2.4	z/OS V2.5	IFAPRDxx FEATURENAME	
Priced feature: RMF	Priced feature: RMF	RMF	
	Priced feature: Advanced Data Gatherer (ADG) (which is entitled when ordering RMF)	ADV DATA GATHER	
	Base element: Data Gatherer	n/a	

	V2.5 DG or ADG	V2.5 RMF 2	PARMLIB / PROCLIB
SERBLINK	SGRBLINK	SERBLNKE	LNKLST, APF
	SGRBLPA		LPALST
SERBCLS	SGRBCLS	SERBCLS	SYSPROC

For z/OS V2.5 RMF: do the customization in a All else mains the same. For z/OS V2.5 DG or ADG, do customization in

Also: update CLASS(PROGRAM) profiles for new and removed data sets.

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Installing z/OS 2.5 Using Software Management

By Kurt Quakenbush of IBM (40+ attendees in-person, 72 online)

- https://www.ibm.com/support/z-content-solutions/serverpac-install-zosmf/
- Late News: After July 10, 2022, to install z/OS V2.5 with ServerPac, it will be z/OSMF Software Management only (postponed from January 2022)
- >> Use FIXCAT IBM.DrivingSystem-RequiredService to get latest PTFs for z/OSMF Software Management
- z/OS V2R3 HSMA234 = UI79666
 z/OS V2R4 HSMA244 = UI79664
 z/OS V2R5 HSMA254 = UI79663

Installing z/OS 2.5 Using Software Management

- Delivering data sets with 40% or more free space in System Libraries
- Merge>Add Data Set action available last week (mid-March 2022)
- Now a Save Action to Resume later
- 3 IBM-provided workflows should be run after Portable Software Instance is deployed

IBM HMC 2.15.n Including Remote Code Load

by Brian Valentine of IBM (25 attendees)

- May 4th, 2021 announcement Remote Code Load Option for IBM Z Firmware
 - Update Controls for Setup and Monitoring with connection to HMC
 - Uses existing zRSF Call-Out Connection Infrastructure
 - · Requires Opt-In Security Configuration by Client and scheduling on IBM Resource Link
 - 96% success rate => if exception, SSR dispatched immediately
 - No client interaction IBM is still responsible for completing the work
 - Minimum of 2 day out schedule, better to schedule 7 days out

IBM HMC 2.15.n Including Remote Code Load

- One week from HMC 2.16.nn (April 5) with z16
- z16 will be last to default to on-site service, zNext will be remote only by default, fee for on-site service
- BCPii automation
 - V2/HWIREST API Highlights
 - New features available to z/OS when REST function implemented on HMC
- Send logs to centralized logging server like Splunk

IBM HMC 2.15.n Including Remote Code Load

- Hardware Management Appliance (HMA)
 - HMA-only for z16, HMA is optional for z15
 - HMA is inside the CEC just run existing connections to CEC rather than to separate HMCs
 - HMA includes redundant HMCs and Support Elements
 - For your shop's control center, just provide your own hardware to do remote access
 - Recommend only 2 HMCs for a data center, so now get 2 HMA per order (leave off HMA for multiple CECs)
- Existing z15 HMCs will work for z16 but after z16 no HMCs can be used

z/OSMF Pitfalls and How to Avoid Them in V2.5

By Kenneth Irwin of IBM Support (26 attendees in-person)

- z/OS Management Facility (z/OSMF)
- · Common stumbling blocks: Missing userids, permissions, access for plugins, services, and APIs
 - Solutions in SYS1.SAMPLIB members
 - z/OSMF IZUSEC and IZUMKFS and other jobs to set up security
 - IZUxxSEC contain subset of IZUSEC to provide security setups for various plugins
 - IZUNUSEC Nucleus, primarily for ZOWE
 - IZUISSEC for ISPF service
 - IZUMSSEC for z/OS Management Services Catalog
 - If z/OSMF is running, use the <u>z/OSMF Security Configuration Assistant</u>

z/OSMF Pitfalls and How to Avoid Them in V2.5

- I. Non-secure connections to z/OSMF instance
 - Message "Warning: Potential Security Risk Ahead"
 - Usually see Message if using Self-Signed digital certificate
 - CertAuth is not TRUSTED within Browser
 - Accept untrusted certificate, OR
 - Import Root Certificate Authority into your web browser's Trusted certificates or security exception list

z/OSMF Pitfalls and How to Avoid Them in V2.5

- 2. Common key ring error message
 - Run Java's KEYTOOL (see handout sample JCL) under z/OSMF server's ID
 - Tip: Run KEYTOOL as a step in IZUSVR1 proc to get server's ID
- 3. Review <USER_DIR>/data/logs/zosmfServer/logs

z/OSMF Pitfalls and How to Avoid Them in V2.5

z/OSMF Logs -- where are they?



Besides the usual IZUSVR job logs, z/OSMF includes several logs within the user directory:

<USER_DIR>/data/logs

IZUGx.log (x=0 through 9)

IZUG0.log is the 'current' log, containing z/OSMF activities

<USER_DIR>/data/logs/zosmfServer/logs

messages.log contains Liberty/zOSMF transaction activities

trace.log contains both messages.log content AND tracing activities

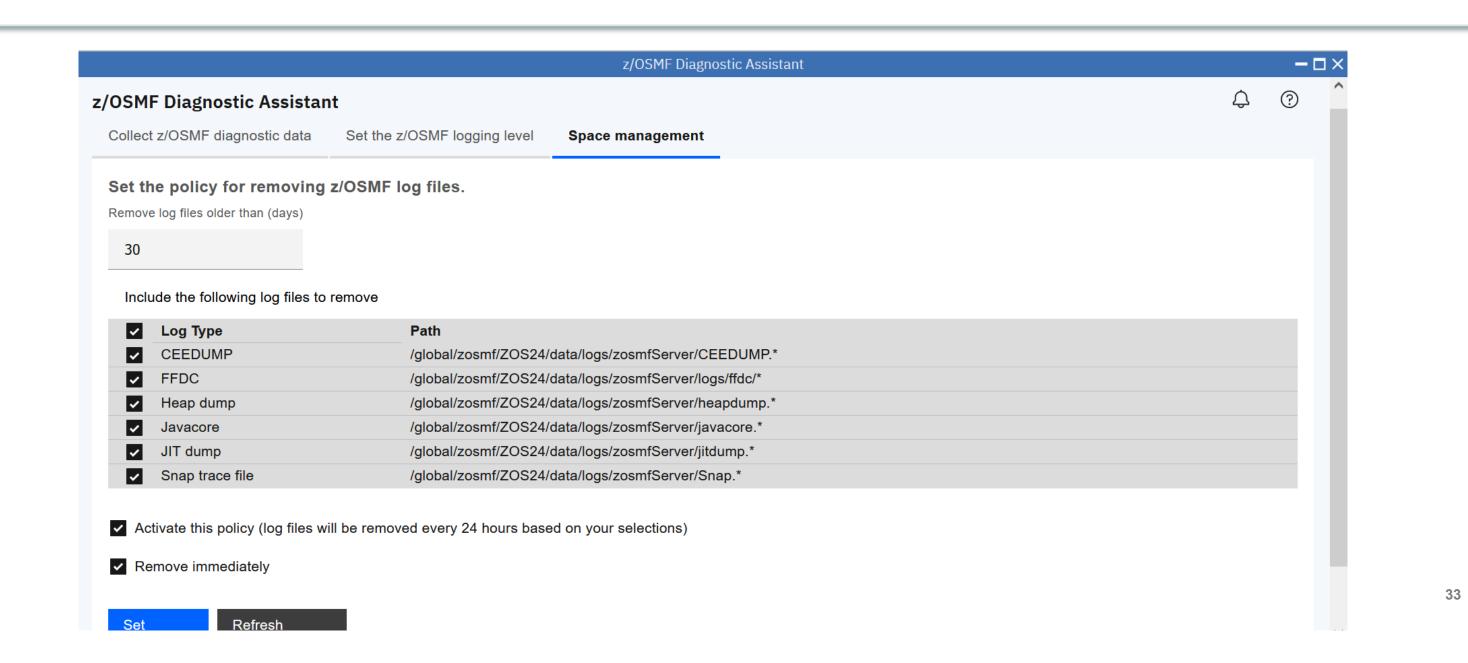
<USER_DIR>/data/logs/zosmfServer/logs/ffdc

this directory contains java runtime exception stack information

z/OSMF Pitfalls and How to Avoid Them in V2.5

Space: and how to save some!

Check out z/OSMF Diagnostic Assistant
Space management



Install z/OS 2.5 ServerPac Using z/OSMF Software Management

By Kurt Quackenbush of IBM (133 attendees)

- Minimum z/OSMF PTFs for Software Management install of z/OS ServerPac
 - z/OS V2.5, HSMA254 = UI79663
 - z/OS V2.4, HSMA244 = UI79664
 - z/OS V2.3, HSMA234 = UI79666
 - See "ServerPac Installation using z/OSMF" for the latest list of required PTFs https://www.ibm.com/support/z-content-solutions/serverpac-install-zosmf/
- ==> Choosing between an existing or new Master catalog is a critical decision

Install z/OS 2.5 ServerPac Using z/OSMF Software Management

- Use Try it tab on this page <u>https://www.ibm.com/support/z-content-solutions/serverpac-install-zosmf/</u>
- z/OSMF Portable Software Instance Demo
 - Watch the Tutorial series
 - Download the <u>Sample z/OSMF Portable Software Instance</u>

zRoadshow

By Frank Kyne of Watson&Walker (55+ attendees)

- z/OSMF Hub for all system programmer activities on z/OS
 - z/OSMF Policy Editor (APAR PH40176 for 2.4, base of 2.5)
 - Powerful capabilities for CFRM management
 - See Meet the New zOS CFRM Policy Editor
 - z/OSMF Management Services Catalog
 - Brand new and not perfect, but try and recommend changes
 - z/OSMF File and Dataset REST API vs FTP
 - · Andrew Rowley's EasySMF product to compress SMF, download to desktop, and analyze

zRoadshow continued

- IBM Explorer (was SMFpy)
 - IBM Statement of Direction (SOD) to deliver an SMF data access toolkit (not a Packaged Solution) Probably in 2022
 - Improved access to SMF data by Python
 - Process SMF data with Jupyter Notebooks
- ZEBRA in Open Mainframe incubator project
 - SMF reporting via open source code

Hidden Treasures in z/OS (a.k.a. Bit Bucket x'3F')

By Ed Jaffe

- z/OS UNIX Backup Catchup
 - After 2.5 years, HSM z/OS UNIX file backup support may work (OA61080, OA61711, others)
 - Run 2 HSMs one for classic, and one for File mode for z/OS UNIX
 - Use Java backup commands, not traditional HSM HBackup



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Best Session Awards for Virtual Experience in August 2021

Best of the Best Session Awards

- User: How to Socialize Like a Mainframer
- Vendor: Avoid Unconscious Bias to Become a Better Professional

User Best Session

System Recovery Boost: Hitting the Turbo Button on z/OS

Vendor Best Session

- How to start or improve mainframe DevOps using Open Source on Z
- z/VM Highlights From Developers and Customers Part 2 of 2
- JES2 Component Enhancements for z/OS V2R5

Strategic Partners Best Sessions

- What is Site Reliability Engineering and Why Does It Matter to Mainframe?
- Top 5 (and more...) reasons customers modernize with Zowe's API Mediation Layer

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Year-Round Education and SHARE Communities

SHARE Security Webcast Series Aug 2021-July 2022

- 50 Year anniversary of the Software Security Project
- 21 webcasts from top mainframe security professionals

SHARE Communities

- Building out new Security Community
- Reinvigorate Women in IT and zNextGen





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zSecure Error trying to run Reports in Batch - File ...

By: David Astemborski, 25 days ago

Posted in: Security and Compliance (SEC) Open Community

SHARE Columbus 2022

Aug 21, 08:00 - 17:00 (CT)