

# SHARE 2020 FORT WORTH

February 23-28, 2020  
By Ed Webb

## CP SCM

14nm SOI Technology  
17 BEOL Wiring Layers  
12 Cores  
9.2 Billion Devices  
4 Billion eDRAM Cells  
189 Million SRAM Cells  
15.5 Miles of Wire

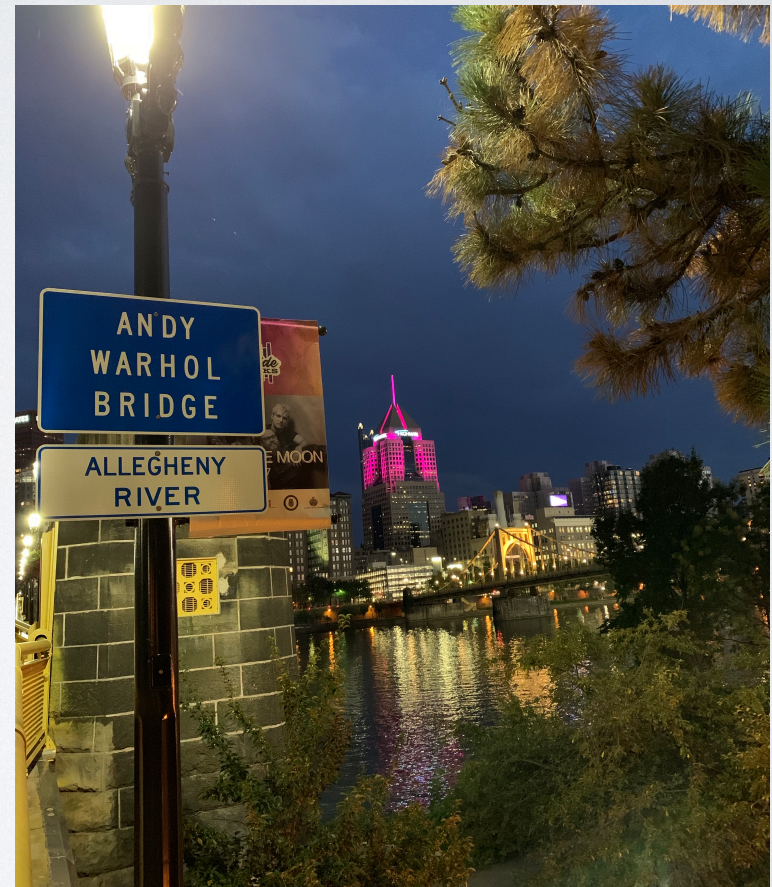
## SC SCM

14nm SOI Technology  
17 BEOL Wiring Layers  
12.2 Billion Devices  
9 Billion eDRAM Cells  
18 Million SRAM Cells  
501.8 Million signal nets  
13.5 Miles of Wire



# AGENDA

- Why Go to SHARE?
- Odds and Ends
- Quotes of Interest
- Best Sessions
- System Z Strategies
- z/OS 2.4 Upgrade
- SHARE Status





# WHY GO TO SHARE?

- zI5 Details and Physical Cut-Away Model to View
- z/OS 2.4 Upgrade Planning and User Experience
- Late-breaking z/OS 2.3 and 2.4 News
- Networking with peers and IBM developers and executives
  - Spent an hour in a z/OSMF Lab with the z/OS Architect
- SHARE Requirements Carry More Weight with IBM than RFEs



# WHY (DO I STILL) GO TO SHARE?

- Because I'm a Z Person who has attended these conferences since 1979; first GUIDE, then SHARE
- Networking with Friends and Product Developers and Managers
- Moving My SHARE Requirements Along Toward Availability or Rejection
- I Had Permission



# ODDS AND ENDS

- Search for “SHARE Association” to find the SHARE App
  - Hint: Use SHARE App to download Session Presentations
- Hot Topics Still Maintained by IBM Systems Magazine at <http://ibmsystemsmag.com/IBM-Z/Hot-Topics>
- Recent Hot Topics include “Enabling TLS 1.3 in System SSL Applications” and “Run Linux on IBM Z Docker Containers Inside z/OS”



# ODDS AND ENDS

- JES3 Migration is a Big Topic for a Few
  - SSA is largest JES3 shop in the world
  - In z/OSNext+1 (a.k.a. 2.6?) in 2023, JES3 will not ship with z/OS
  - Many recent JES2 changes are to accommodate JES3 concerns
  - Phoenix Software will offer JES3Plus built on z/OS JES3 2.4 Source



# ODDS AND ENDS

- 26492 Monday Keynote By Kris Paronto, former Special Forces soldier
  - Wrote Book “13 Hours” about his team’s experience during the Benghazi, Libya incident
  - Michael Bay produced 2016 movie “13 Hours: The Secret Soldiers...”
- z/OS Strategies: Resiliency, Security, Workload Enablement, z/OS Simplification
- 4Q2019 SOD z/OS Integrity Scanning Tool beta in progress - ISVs involved at this time until June 2020



# QUOTES OF INTEREST

- “Put egos aside and focus on the goal” - Kris Paronto
- “None of my personal acquaintances can afford a mainframe” - unknown survey respondent per IBM’s Scott Engleman
- “Sleep is for the weak and feeble” by Mark Wilson of RSM Partners
- Broadcom “is hiring in the triple digits in its mainframe division” - Nicole Fagan of Broadcom



# BEST SESSIONS

- **All Sessions are at <https://events.share.org/Winter2020/Public/sessions.aspx>**
- **26203 What's New in z/OS 2.4: Cowtown Edition** By Gary Puchkoff of IBM
  - z/OSMF Software Management Rolling out ServerPac install
  - z/OSMF Security Configuration Assistant available on 2.3 and 2.4
  - Online zFS to zFS migration while in use
  - IBM SDK for Java 8.0.6.0 (SR6) 20% Average Improvements on zI5
  - z/OS XL C/C++ compiler 2.4.1 web-deliverable adds C11, C++11, and C++14 with zI5 support



# BEST SESSIONS

- **26198 Upgrade to z/OS 2.4: Planning**
  - By Marna Walle of IBM and Mark Wallen of IBM
  - zCX configuration and updates are done via z/OSMF
  - WLM Coefficients being removed - change now to CPU=1,SRV=1,MSO=0,IOC=0
  - 8 GB Real Memory Required for each LPAR on z14 and z15



# BEST SESSIONS

- **26198 Upgrade to z/OS 2.4: Planning (continued)**
- Use REPORT MISSINGFIX FIXCAT(IBM.TargetSystem-RequiredService.z/OS.V2R4) on z/OS 2.3 and 2.2
  - Also use FIXCAT(IBM.Coexistence.z/OS.V2R4)
  - PE Chains for 2.3 Affect 2.4 Coexistence and zI5 compatibility PTFs



# BEST SESSIONS

- **26198 Upgrade to z/OS 2.4: Planning (continued)**
- Recommended Orderable No-charge Items
  - XML Toolkit for z/OS V1R10
  - IBM 31-bit SDK (Java) for z/OS V8
  - IBM 64-bit SDK (Java) for z/OS V8 (required for z/OSMF)
  - SDK for NODE.js V8 or V12 for z/OS (used by Zowe)



# BEST SESSIONS

- **26198 Upgrade to z/OS 2.4: Planning (continued)**
- z/OS V2R2 End-of-Service is September 2020 (This Year!)
- z/OSMF Upgrade to 2.4 Workflows are on GitHub
  - View Raw and Save as Binary
  - Do Not Use GitHub Download button
  - Marna is working to get z/OS Upgrade Workflows via PTFs



# BEST SESSIONS

- **26199 Upgrade to z/OS 2.4: Technical Actions**
  - By Marna Walle of IBM
- Pre-2.4 Actions
  - BCP defaults changed for CLOCKxx and other PARMLIB members
  - Increase SMS ACDS space - APAR OA52913 and doc OA55563



# BEST SESSIONS

- **26199 Upgrade to z/OS 2.4: Technical Actions (continued)**
- Pre-2.4 Actions
  - OA50569 or RACF rule to prevent accidental data set encryption
  - ICSF at HCR77D0 - the CSFPARM must be member of PDS
  - RACF 2.3 included only 3 Certificate Authority digital certificates
    - Clean out old ones (pre-2.3 included 26 CA certificates)



# BEST SESSIONS

- **26199 Upgrade to z/OS 2.4: Technical Actions (continued)**
- Pre-2.4 Actions
  - Use Health Check for OpenSSH to see how the upgrade to 7.6p1 in 2.4 affects your shop
  - If BPXPRMxx KERNALSTACKS(BELOW) is specified, change to ABOVE which is only option in 2.4
- CIM Server and RMF (GPMSRVxx) Changed to HTTPS from HTTP



# BEST SESSIONS

- **27009 Install ServerPac Using z/OSMF Software Management**
  - By Kurt Quackenbush
- ServerPac in z/OSMF Software Management is the goal, CICS is first, ISVs also involved
- Software Instance is collection of related software data sets and related files
- Portable Software Instance (PSI) paxes a Software Instance into a /Archive\_Directory with several files
- Provider supplies an instance that can be downloaded to PC or z/OS with info from Shopz or vendor site



# BEST SESSIONS

- **27009 Install ServerPac Using z/OSMF ... (continued)**
- Install PSI by deploying
  - Configure - “draw the picture” of the new environment
    - Model on existing or use shipped model
  - Use direct or Indirect cataloging
  - PSI laid out after 3 jobs run
  - Perform Workflows



# BEST SESSIONS

- **27009 Install ServerPac Using z/OSMF ... (continued)**
- Post-Install Perform Workflows
  - Setup and configure
  - Verify configuration Post Install actions
- Remote system access requires only z/OSMF nucleus and core and Software Management plug-in on remote systems, that is, Sysplexes



# BEST SESSIONS

- **27043 Applying PTFs using z/OSMF Software Update**

- By Kurt Quackenbush of IBM and Dawn DaMore of Broadcom
- Software Update is “new” - currently a work in progress
- Part of Software management plug-in
- SMP/E managed software only
- Collaboration between Broadcom and IBM
- Broadcom MSM re-written to provide function under z/OSMF



# BEST SESSIONS

- **27043 Applying PTFs using z/OSMF Software Update (continued)**
  - 3 uses - fix problem, recommended by vendor, and required for new hardware or software or functions
  - Different look and feel
  - Deliver corrective updates in Software Update first (August SHARE maybe) for V2.4 and V2.3
  - Install Updates - enter fix ids (PTFs)



# BEST SESSIONS

- **27043 Applying PTFs using z/OSMF Software Update (continued)**
  - Verifies fixes are ready to install
  - Preparing updates - apply check, stops at holds (shop can resolve, postpone until after install, or exclude)
  - Run apply check with bypass (running in TSO address space)



# BEST SESSIONS

- **27043 Applying PTFs using z/OSMF Software Update (continued)**
  - Summary of actions to come
  - APPLY
  - Review post-APPLY output and HOLD files kept in zosmf data directory
  - Eventually ACCEPT will be supported



# BEST SESSIONS

- **26659 z15: Technical Review**

- By Kenny Stine of IBM WSC
- 14% speed increase overall
- Use CPU Measurement Facility data for post-upgrade analysis via HIS started task to collect data a typical week before and after z15 install
- DIMMs are RAIM chips which means memory boards are hot-swappable
- T01 is only Model with Max34/71/108/145 and Max190 versions



# BEST SESSIONS

- **26659 zI5: Technical Review (continued)**
- zEDC is now NXU portion on each chip - no I/O required unlike PCIe on zI4
  - Compression requires a z/OS feature enablement code
- CPACF co-processor in each core
- DFSort will use a co-processor to speed Sorts
- System Recovery Boost (SRB) has a free and a paid option



# BEST SESSIONS

- **26659 z15: Technical Review (continued)**
- IBM Z Hardware Management Appliance (just available) replaces Physical HMCs
  - HMC and SE combination but isolated from each other
- I/O cards are same as z14 with a .1 change level



# BEST SESSIONS

- **25972 z/OS Executive Panel Discussion**
  - With Dave Jeffries of IBM, z/OS Development VP
- Episode 3 Review
- Episode 4 Rebirth of z/OS
- Episode 5 What's Coming



# SINCE EPISODE 3 IN PITTSBURGH

- z/OS 2.4 G.A. - most stable ESP, first drop built on Continuous Delivery model
- 1st CD drop on 2.4
- Docker hub up
- zAcademy 2019
- Red Hat and OpenShift
- Containers and Kubernetes
- And zI5



# EPISODE 5 PREVIEW (NEXT 6 MONTHS)

- Continuous Delivery
- Vulnerability assessment tool
- Open Source via the Open Mainframe Project
- Data Privacy Passports (need Sponsor Users)
- Digital transformation Journey
- OpenShift/RHEL
- Containers including Open Container Initiative (less focus on Docker)
- Python (becoming more important on z/OS), GoLang, Ansible (Red Hat automation platform)



## EPISODE 4 (Q&A)

- Linux, zCX, Native - what do containers bring to z/OS? z/OS wants to “not be different”
- Python for z/OS is “owned” by Rocket Software - Should Python be Tier 1 supported by IBM?
- Pricing models - DevTest and Tailored Fit Pricing are not exactly usage pricing like other web vendors Buy, Lease, or Rent Hardware?
- z/OSMF is strategic direction to install and manage the platform
  - 50 million calls to kernel during startup (very slow on smaller platforms)



## EPISODE 4 (Q&A)

- Predictive Failure Analyzer (PFA) going forward? Post-2.4 focus is Resiliency which means PFA enhancements
  - PFA and RTD now considered as data sources for up-level software (AI) such as IZoA
- Quantum Computing and Z
- Hobbyist Licenses



# Z/OS V2R4 UPGRADE

- Challenges
  - No Migration Book
  - User Key 8 Common Usage
  - zCX File System Size
  - Open SSH Upgrade
  - SMB to NFS Migration



# Z/OS V2R4 UPGRADE

- Open SSH Upgrade
- OA57724 Health Check on V2.3 looks for obsolete features that may be used (not available yet)
- Copy new version of moduli file to /etc
- Look at current /etc/ssh ... Configuration files and look for manually changed values



# Z/OS V2R4 UPGRADE

- SMB to NFS Migration (see Earlier Slide for Session Link)
- JES2 Policy Processing Implementation Limited Because of SPOOL Encryption Priority at IBM
- JES2 SPOOL Encryption (OA57466) Not Available Until 2H 2020 (maybe earlier if the testing goes well)
- Other Security Changes (CIM, RMF, etc.)



# SHARE STATUS

- Lots of YouTube videos from SHARE that have not been published
- Want to make them publicly available so we can post to YouTube
- What's New at SHARE Fort Worth?
  - Security Warrior Digital Badge - attend 15 of 45 security warrior sessions
  - DevOps Digital Badge - attend DevOps sessions



# SHARE STATUS

- Longer Lunch Breaks, Slightly Longer Day
- Sunday Welcome reception at 7 p.m.
  - Away from Convention Center
  - River Ranch Stockyards open until 9 p.m.



# SHARE STRATEGIES

- Digital Badging
- Women in IT
- zNextGen
- Partner Program
- Strategic Partners - In 2019, added Broadcom (a.k.a. CA Technologies)
- Year-Round Education and Training - more Webinars



# SHARE STATUS

- 200 MVSE Requirement Subscribers
  - 44 IBMers can't vote
  - 24 eligible voters from 14 ISVs
  - 134 eligible voters from 108 companies
- SHARE has close to 900 corporate members



# SHARE STATUS

- In z/OS 2.4, IBM Has Done This Work on SHARE Top 85 Requirements
  - 14 delivered
  - 15 declined
  - 4 planned for future
  - 47 uncommitted
- SHARE May go to Yes or No for Voting instead of 1-10
- IBM RFE Process lifetime? (DB2 has gone to AHA?)



# SHARE STATUS

- See You in Boston, Massachusetts - August 2-7, 2020