



# MVS Storage Management Project Opening

Russell Witt CA Technologies

Monday, March 10 Session Number 15300





### **Our Purpose**



The MVSS project focuses on the management of storage resources throughout the enterprise and the facilities necessary to provide these functions. In the z/OS environments, DFSMS and all of the DFSMS components and other vendor-developed (OEM) packages for providing these services are discussed. Among the many subjects covered are storage hardware supported by z/OS, access methods (including ICF/VSAM), ICF catalog topics and installation-developed tools and techniques. In the open systems arena we discuss storage-related aspects of USS, Tivoli Storage Manager on the z/OS platforms, Storage Area Networks, storage interfaces, and other open systems storage hardware and software issues. Topics that are addressed for all platforms are disaster recovery, data storage devices, data backup and archival systems and data integrity and recovery. The primary activities of the project are: quality IBM and user experience presentations at major SHAREs, requirements generation and prioritization and ad hoc task forces that influence IBM regarding future storage management directions by providing customer input.



# **MVS Program Organization & Leadership**





MVS Program Leadership					
Ed Jaffe	Program-	edjaffe@phoenixsoftw			
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Robinson	Manager	e.com			
Dave	Program	ddanner9@yahoo.com			
Danner	Officer				
Cheryl	Requirements				
Watson	Coordinator				
Bob	Program	Bob.Shannon@rocket			
Shannon	Officer	software.com			



# **Project Officers – MVSS**



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### **IBM Representatives – MVSS**



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Hardware Rep		



# **Future SHARE conferences**



- Pittsburgh
  - August 3<sup>rd</sup> 8<sup>th</sup>
- Seattle
  - March 1<sup>st</sup> 6<sup>th</sup>
- Orlando
  - August 9<sup>th</sup> 14<sup>th</sup>



# Join our Tribe



- SHARE is a Volunteer organization
- Volunteer as a CHAIR
  - You get the best seat in the house
- Submit a topic for a presentation
  - Call for Presentations for Pittsburgh is already open.
  - If you don't feel you can talk for an hour, submit the session anyway. We may be able to find someone (other user, possibly a Vendor) that can also add some discussion on the same topic.
- User presentations are ALWAYS welcome and normally carry more weight then vendor presentations.



# Join our Tribe



- Submit a Requirement (your chance to get IBM to do something your way)
  - Better then asking as an individual
  - Chance to work with IBM and other clients to better articulate your request
  - Session this afternoon at 6:00 in Orange County Salon 2 to hear IBM's response to MVSS Share Requirements
  - Jim Erdahl would be very happy to help with the wording of your submission



# **SHARE's Mission and Vision**



Mission –

SHARE is an independent volunteer-run association that provides education, user experiences, and best practices for the professional enterprise IT community, encouraging professional networking and collaborations and influencing the direction of the IT industry.

Vision –

SHARE is an active and vibrant community that is responsive to and acts in the interests of its Members and provides the catalyst for Members, vendor partners and IBM to shape the future of the enterprise technology environment.



# **Items Of Interest:**



- What's New in DFSMShsm Tuesday at 9:30
- How to Protect the z/OS Storage Environment from Prying Eyes and Still Get Your Work Done – Tuesday at 4:30
- Continuing the understanding of IBM Copy Services: Peer-to-Peer-Remote-Copy (PPRC) and Point in Time Copy (FlashCopy) for High Availability and Disaster Recovery – Wednesday at 11:00
  - The second part of a 2-part session that started in the z/Nextgen Project. Part 1 is Tuesday at 3:00.



## **Items Of Interest:**



- DFSMS Advanced: PDSE Diagnostics and Recovery Wednesday at 3:00
- MVS Storage: Free-For-All Wednesday at 6:00
- Project Dinner (details follow) 7:15
- The Future of PDSE: The Version 2 Format Thursday at 11:00
- I/O Synergy: The Whole is Greater than the Parts Thursday at 4:30



### Project Dinner – following the Free-For-All on Wednesday at 7:15



- Buca di Beppo Great Family-style Italian restaurant
  - Antipasti Bruschetta & Fried Calamari
  - Insalate Chopped Antipasto & Caesar Salad
  - Pasta Penne Basilica & Cheese Manicotti
  - Entrée Chicken Parmigiana & Veal Saltimbocca
  - Sides Green Beans & Italian Broccoli Romano
  - Dessert Tiramisu & Homemade Cheesecake
  - Unlimited Soft Drinks, Coffee & Tea
- Cost per person \$25
  - Individual credit cards accepted
  - .7 miles walk down South on Harbor Blvd (11757)



### Project Dinner – following the Free-For-All on Wednesday at 7:15



#### Walk 0.7 mi, 14 min

Use caution - may involve errors or sections not suited for walking

#### O 700 W Convention Way

Anaheim, CA 92802

1. Head east on W Convention Way



• 3. Turn right onto S Harbor Blvd

① Destination will be on the right

0.6 mi

308 ft

0.1 mi

#### ● 11757 Harbor Blvd

Garden Grove, CA 92840

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and







### A Rose by any other Name would Smell as Sweet





# **Cloud Computing vs Time Sharing**



- In the 1960's and 1970's there were many Time Sharing services being offered
- IBM had Service Bureaus in major cities in 1932 that rented time on tabulating equipment
- University Computing Company (UCC) was a data processing service bureau on the campus of SMU founded in 1963
- What is different now versus then is band-width. You can send and receive vast quantities of data over the network now.



# Cloud Storage for z/OS – are you crazy?



Anaheim

- The first reaction of many MVS Storage people that actually work "in the trenches" is to lament – how can you trust someone else to "store" your most trusted data.
- The answer to that is how many people can recognize the following pictures -





# **Offsite Storage of Data**



- So, most z/OS enterprises use either a second-location for offsite storage OR a third-party vendor (Iron Mountain) to store their DR cartridges
- So, you already trust a third-party vendor to ship (pickup truck transport - PTT) and store your cartridges. You are trusting them with your data.





# **Offsite Storage of Data**



- Now, if you replace the pickup truck with a secure TCP/IP communication link, isn't that safer? Virtual-Vaulting or replicated virtual tapes.
  - Replicated Virtual Tape libraries have been around for decades, first with expensive Channel-Extenders and now with simpler TCP/IP connectivity.
  - Already done by many large sites with multiple locations using replicated virtual-tape systems from IBM, EMC, HDS, CA, Luminex and others.
- And if instead of writing the data onto your own cartridges/storage media you write the data into someone else's storage media – you now have Cloud Storage



# **Cloud Storage At Share**



- A keyword search of CLOUD produced 48 sessions here in Anaheim
  - ✓ Big Data Storage in the Cloud Tuesday at 3:00
  - ✓Utilizing Cloud Storage for Mainframe Virtual Tape Thursday at 8:00
  - Establishing Cloud Environments on zEnterprise: Strategic Direction – Tuesday at 11:00
  - What's Happening to the Mainframe? Mobile? Social?
    Cloud? Big Data? Friday at 8:00
  - Cloud on System z: Case Studies Tuesday at 1:30







• The following table is taken from multiple location

	Disk	Таре	Cloud (Amazon)
Max Shelf Life	10-years	30-years	Unlimited
Best practices for data migration to new technology	3-5 years	8-12 years	Done for you





- Tape vs. DASD vs. FLASH
- Everything gets cheaper when measured as cost/TB over time
- Tape will always be cheaper then DASD and DASD will always be cheaper then FLASH. The question is TCO and the type of data being stored (access requirements).





 Nanometre data storage, 8 pairs of atom rows = 1 byte is only 100 times greater density that current HDD technology. That means that there is a finite limit to how dense FLASH memory can get.







- Many laptops/desktops are now HDD disk drives only. Will that lead to HDD-only z/OS sites?
  - Absolutely, the real question is "how soon"?
- So what is long-term storage? And where should it go? Physical tape versus CLOUD becomes a real decision point.
- Imagine where ML1 is HDD, ML2 is old-school DASD, and ML3 is TAPE/CLOUD.
- What is CLOUD storage? Depends on the vendor, it might be cheaper RAID SATA or it might even be TAPE.





- CLOUD Storage really turns data storage into a simple commodity. You decide your storage needs and then get the cheapest cost per TB/PB that meets your needs.
- CLOUD is virtually un-limited in size, as long as the provider remains in business.
- Data Transfer now becomes one of the main issues
- 8 Gbps transfer currently on the DS8800
- 10 Gbps OSA cards are now available
- How fast will the Internet get? This will become a major factor in the future.











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