KCCMG Conference on Cloud Computing
By Tom Kelman

Question: what has 5 tracks, 36 sessions, over 200 attendees, more than 20 speakers and more than 10 vendor booths? Answer: The Conference on Cloud Computing sponsored by Kansas City Computer Measurement Group (KCCMG).

Held Wednesday, October 12, at the Sprint Nextel Campus in Overland Park, Kansas, the conference consisted of five tracks with sessions oriented to both management and technical personnel. One track consisted of “Keynote” speakers that gave talks concerning why an organization would choose to go into the Cloud along with the benefits and pitfalls. Other tracks had sessions on Cloud architecture, Cloud performance and capacity planning, and Cloud security. There was also a track for vendors to describe the products that they have available to manage the Cloud.

And for those who wanted a break from Cloud oriented sessions, Frank Bereznay gave his presentation on “How to Build Tabular Dashboards using Proc Report”, a CMG ’10 Best Paper Award winner, and his presentation on “Automatic Monitoring of Continuous Processes in Theory and Practice”, which he will be giving at CMG ’11.

The attendees came away with a better understanding of what the Cloud is all about and how to manage it.

KCCMG would like to thank the many vendors that took part in the conference both as presenters and by supporting us with a vendor table. We would especially like to thank our Platinum sponsor, Compuware who supplied our breakfast and lunch; our Gold sponsor, Symantec; and our two Silver sponsors, RedHat and VMware. We would also like to thank Sprint Nextel for supplying us with a wonderful venue.

As have several other regions, KCCMG has started to use the social networking sites of LinkedIn, Facebook, and Twitter to notify interested people of what is happening in the region. We have set up a group, “Kansas City Computer Measurement Group (KCCMG)” on LinkedIn. Join the group, especially if you are in the Kansas City area, to keep abreast of what’s happening in KCCMG.
The Hottest Day in Milwaukee and MCMG, Too.

Margaret Greenberg

July 20 was the Summer’s hottest day in the Milwaukee area. That is the day we had chosen for our Summer meeting in Franklin (just to the South near the airport). Thankfully our host site, Northwestern Mutual, had ample air-conditioning. Our speakers all addressed “Hot” topics of interest to the attendees. Additionally, the conference room had a good setup with wandering mic’s. The audience was seated next to microphones from which we could ask questions so all could hear. These interactions required that the questioner had to push a button, but most of us were so used to shouting out our inquiries and comments that we forgot and had to be reminded that we were in a class facility where things are done in a polite way!

Our first speaker, Dale Fieste of Metron-Athene, discussed **Capacity Management for SAN Attached Storage**. In summary, he limited the topic to distributed systems; however, some of the same principles apply to the mainframe world as well. The data is the most important aspect. Understanding how and when the data is used is absolutely necessary. Where to place it can become quite complex as decisions must be made to maximize performance and ROI, while maintaining appropriate disaster recovery scenarios. An essential part of knowing the data is having consistent naming conventions for the storage. It may be possible to have differing naming for the same applications depending on when and by whom the files were set up. Getting a handle on this will be helpful for those companies who want to do chargeback (banks are very likely and other companies are less so). Because shared file systems pose a problem, Dale noted that the simplest way to do chargeback or allocation of usage might be to evenly divide the space allocation among the users for reporting purposes.

What reports can you provide to your management? Costs versus placement versus performance are key. It is possible to redirect application files to lower cost locations based on both the usage and the cost of the storage medium, i.e., moving files from mainframe storage to distributed servers could significantly reduce costs. Moving unused data to offline storage would also improve access for others and reduce the application costs overall.

Dale mentioned that right sizing is important and that low usage isn’t always bad, depending on how the data is used. As you seek improvements, go after the low hanging fruit: work your way up; find the hidden or dark storage; use thin provisioning and deduplication where possible; include retention policies; account for RAID overhead.
At the end of the session, Henry Steinhauer (our host for the day) stated that management will often buy a five or six figure package and not budget for training. The staff is often expected to “read the manual”; however, this can be time-consuming and not necessarily give the correct interpretation to the technician. A one or two day training session would expedite the implementation immensely. Of course, we’d recommend CMG, MCMG (or other regional meetings), and vendor training.

Laura Knapp of AES presented: **z/Enterprise™ Best Practices.** Gartner reports that thru 2007 organizations with more than 200 servers will waste between $500K – 720K, a nice chunk of change that affects the bottom line. The average processor utilization is 6 – 7%; prime time utilization is 15%; 40% of the equipment is older than 3 years and firms have 20 – 50% excess capacity. That is why management is so keen on virtualization to make the best use of resources.

IBM, thru z/Enterprise, is proposing a data center in a box. Stated another way, both cloud and virtualization in a box. However, a big problem will be the zBX box which functions as a big distributed blade server: who will control it? The distributed team will be losing significant control; however, the offset is greater security, a fast 10 GB Ethernet while traffic on the user external internet is unaffected. Laura went on to explain a node (z196 and optional zBX) and an ensemble (1 to 8 nodes managed as a single virtualized system). Setup is thru the HMC, which is already familiar to the mainframe folk. The Unified Resource manager will pull it all together.

She, then, displayed a slide (shown at right) demonstrating how the network will look. The OSD will contain information on the where/what of the data: the OSX will be the actual data; the OSM is the system control via the HMC. And, there is no provision for Windows at this time, though promised at some future date.

She went on to define new networking terms and functions. It will be critical to have proper setup for your VLANs. This new turn of events means that networking is back in the hands of the mainframe “network guys”. In the current distributed environment, there are several disconnects on who controls what.
The slide on the left is an overview of how the two environments, mainframe and distributed, will work together. She also discussed several scenarios on how z/OS connects various external routers.

New item in the mainframe arena: set up connections for ensembles, etc. And get them correct. Be sure to provide a baseline so that you know whether performance is good or bad. Otherwise, you won’t have any idea whether changes have improved or worsened performance. Be aware that baselines can change for the company or for the application based on time of year, etc.

Expect various misunderstandings between mainframe and distributed groups over settings at each end. It’s important to get both sides in sync. There are many spots where just one little thing will go wrong. It’s important to be consistent rather than worry about problem solving whether top down or bottom up.

When moving to z/Enterprise, the top Service Management miscues: failure to take and compare before and after snapshots; neglecting to define established baselines; neglecting to ensure that all infrastructure items are fully optimized on a periodic basis. After virtualization, check out application behavior. Is anything taking longer? Trace all components to determine what’s different from before or what is different with this application. Use of a single product which spans all components is recommended. Be sure to document events as a report card/checklist. Having notes can save time and ensure that everything gets done. She closed by noting future enhancements for: disaster recovery, VDI Solutions (How long have we been waiting for a 3270 desktop, i.e. thin client?) and the application Grid.

After lunch, Laura’s second presentation was **Cloud: Infrastructure**. Her first point: be sure you understand the definition of “the Cloud” as it is defined by vendors, gurus, your company management and others. A strong virtualization environment and cloud computing go together, but it is possible to have a cloud without virtualization. For a truly agile environment, not everything has to be sitting on the desktop. Know what is included in the pricing. Sometimes you will pay for something never used. This is different from Grid, Autonomous or Utility computing.

There are legal issues to passing information onto the public cloud, e.g., there are things which are not legal in the U.S. that can be stored elsewhere.
A good use of the cloud is to replace a request for specific resources that will be used only for a dedicated usage for a specific timeframe with a cloud -- wherein the resources are monitored for use and, when the use/project had stopped, the resources can be reactivated for another project “in the cloud” versus having a server and components sit idle or never being used again. Tracking is the key.

Does it really reduce costs? What are the compliance effects? Can data be processed locally faster than moving data to the cloud? She also addressed the Amazon, Gmail and Sidekick outages. Then, she discussed the cloud issues below.

The table above indicates only those who reported concern levels of 4 or 5 on a 1 – 5 scale, where 1 = not significant and 5 = very significant. Laura went on to discuss all the challenges and finished with stating that cloud computing is a journey.

Our last presenter, Dan Kaberon of EMC Corp, whose topic was **Automated Storage Tiering**, provided a lively and informative discussion which kept us awake for the last hour of our meeting before we left to face the heat. We were reminded of days when disks had one size and speed. He mentioned Henry Ford, who offered only one color for a car – black. But today there are many more options both for cars and for external storage.

He led us through a discussion of various skew graphs. The volume skew where 78% of all accesses are on 22% of all volume space and the sub-volume skew where 88% of all accesses are on 12% of all extents. Smaller granularity leads to more activity from less space.
To further explain, he used the example of Shakespeare, which is widely “read”. However, not all plays are equally accessed. *Romeo and Juliet* will get lots of hits, whereas *The Phoenix and the Turtle* is quite obscure and will see less interest. Tossing the “Phoenix” from the discussion will allow us to concentrate on the important, heavily accessed stuff. But remember popularity shifts over time—like the fleeting popularity of entertainers. It’s important to determine what’s lasting.

How is this done? It’s driven by the economics of processing and storage. Understand the big picture before moving things around. Learn the data usage patterns by collecting information for a week. The data can be assigned to tiers (low cost/low access; moderate cost/moderate access and high cost/high access). A big problem arises when assigning data to a lower tier as it becomes more “popular”. The appropriate policies must be set according to how much management wants to spend on processing the various files/applications based on when the data is used. It’s important to remember to turn off the scoring on long periods such as holidays so that data doesn’t “mistakenly” get moved up/down the tiers. There were numerous questions and discussion at the end.

Thanks to all three speakers, we learned lot of useful information. MCMG would also like to thank Jim Nowlen of Northwestern Mutual for coordinating with us and providing us with a wonderful facility. Thanks also to our past long time president/chair, Henry Steinhauer, who did the coordination with the video staff. At the end of August, Henry moved back to Albuquerque, NM. We’ll miss him, but he’s only an email away.

Want to see the meeting slides/overheads, click on:  
https://sites.google.com/site/midwestcmgprod/Resources.

All presentation slides are in order by meeting date. Please check back at our website [https://sites.google.com/site/midwestcmgprod/home] for information on our next meeting in March/April 2012.

---

1 High temperature at Mitchell Field was 98° F; however, our car read 100° as we left the meeting-- not including the heat index. It was too hot to play tourist except from the car window.
For further information, please check out Laura’s #2 overheads on our website.