TOMORROW’S BIG IRON
MANAGEMENT TEAM MEMBERS - WHERE WILL THEY COME FROM?

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An area revisited….

- Addressed twice, in CMG sessions
- Always raised some interesting conversation
- Time to bring the issue up again….
- Some revisions…
- Disclaimer – personal views, not those of my employer ..
Chapter 1

- Where we are today

- The state of the world of the mainframe capacity/performance analyst

- The dilemma stated
So what’s my point?

• We’re in a crisis point in the history of mainframe computing

  • Many mainframe specialists are approaching retirement or pursuing other interests

  • There’s no major arrival of new people to replace the retirees / those who go elsewhere

  • There are minimal in-house resources with which to develop or nurture new mainframe capacity planners, performance specialists, and systems programmers
How could this have happened?

- Crank the clock back to 1989-1992
  - New platforms emerged and/or matured
    - DEC
    - UNIX
    - Windows
    - MS-DOS
    - s/36-s/38-AS/400

- MBM = “Management by Magazine”

- <squawk> “The Mainframe is dead.” <squawk>
New people entered the systems programming/administration world

• OTHER non-mainframe PLATFORMS
  • More glamorous
  • Easier to learn
  • More opportunities to learn
  • Systems programming not necessarily a priority
  • Capacity management DEFINITELY wasn’t…
Other cultural effects

• We played into it
  • New challenges before us, new platforms to learn
    • “Carpe Diem” – Dr. Bernie Domanski, CMG 1992

• Opportunities for “Empire Building”
  • “Think about it, your OWN decentralized IS/IT group – with you as the boss.”

• Paradigm shift
  • Career development became a one-sided affair
  • Cuts to training and employee educational resources
  • Free agency
Paradigm Shift continued on …

- “Free Agency” vs “Farm System”
  - Talent costs are higher **
  - Success % justifies higher salaries
  - Lower overall costs
  - Fewer failures

- Also – if you develop and nurture talent, competitive market situation to RETAIN that talent – often perceived as “no win” by management

- Develop/retain, or release and recruit?
Resource acquisition strategies changed

- Things got simpler, technically
  - WLM & Capacity on Demand

- Old = Pit one vendor against another
  - *Do your due diligence and capacity planning*
  - Right-size
  - Get it right, or else

- New = Plan Ahead
  - *Cost determination / justification*
  - Not enough? Just buy more
  - Non-intrusive upgrades
End result

• Fewer people that know the platform, but that was okay
  • MVS and OS/390 and z/OS
    • Fewer systems => Fewer people needed
    • Mergers and acquisitions
    • People were expected to work harder (or “smarter, not harder”)
    • If the talent is needed, it’s out there. SOMEWHERE.

• STILL CRITICAL
  • z/OS – z/VM personnel must know concepts and facilities
  • BUSINESS concepts …
  • Not just TOOLS to measure and control them!!!!
Other happenings

- Educational systems (Universities)
  - Reduced their mainframe commitments
  - Other, more alluring platforms (UNIX, Windows)
  - Internet wasn’t serviced by mainframes at first

“We have met the enemy, and he is us” – Pogo (Walt Kelly)
A funny thing happened on the way to the 21\textsuperscript{st} century

- The mainframe didn’t die
- The mainframe retained its prominence in the world
- It was discovered -- actually, impressed upon people
  - Mainframe is cheaper for large scale processing
  - It’s often easier to maintain
  - It’s scalable
  - Virtualization is practical
... on the way to the 21st Century ....

- “TCO” for the mainframe dropped

- One study – “The Dinosaur Myth”, Xephon, 1992
  - Some processing can’t be converted to non-M/F platforms
  - Cost-effectiveness stronger

- Reinforced in 2002 and 2005 by the Arcati Institute
  - Per annum cost per user cited at $4500 on mainframe, $5400 for UNIX, and $8000 for Windows users.
  - Can’t truly assess a real cost per user in 2013… but....
Interesting updates …

• Statistics and more statistics……interesting reading…

• Last quarter, IBM – 10% growth in mainframe business
  • (http://www.v3.co.uk/v3-uk/news/2283288/)

• Arcati Institute 2013 Yearbook (before BC12 / z114!)
  • (http://www.arcati.com/newyearbook13.pdf)

• A few stats …. (verbalized)
The dilemma – in a few years’ time

• Mainframe will be around – and bigger
• Shortage of mainframe personnel *** disclaimer, yeah but.

• Shortage of those who have the skills and knowledge of CPE ** another , yeah, but

• Baby Boomers
  • 1947 = now 66  * SSI age in U.S.A.
  • 1951 = now 62
  • 1958 = now 55  * early retirement in many places
Conclusion - likely still true…

The mainframe never went away; if you truly think it did, it’s been back for awhile, it’s here, and it’s often more cost effective than MIS services on other platforms.
Chapter 2

• A look back at ourselves and our own careers

• What’s changed?

• Can we apply our experience to bring in our successors?

• What else can we do?
How did we start?

• Usually – we latched on to a company

• We worked – and they kept us educated

• Entry-level roles – operations and ops support, programming, internship or part-time work

• Opportunities to learn – always there

• Mentoring was common

• Junior people learned from senior people with practical experience (* an offshoring issue, observed)
How did we grow?

• Usually home-grown but allowed educational opportunities

• We often jumped ship for better opportunities, not necessarily more money

• Experience ***

• We were allowed to make mistakes (occasionally)

• Smooth roads and rocky roads – we found our best environments for growth
What’s missing today ????

• Lack of training opportunities

• Little patience for bringing newer people up to speed

• Concept of mentoring is oft-missing, probably disappeared from the culture

• No exposure to the mainframe platform at university or internship levels

• “Career path concept” can be limiting
Changes we can work toward or push for

- Developing in-house talent
  - Time
  - Money
  - Patience
  - Change of culture

- Education and Training
  - Internships
  - Work with local universities / community colleges
  - Internal training programs
  - Talk with vendors
IBM Academic Initiative z-Series Program

• Use a search engine to find more information (formally called “z program”)

• Seeks cooperation with and provides assistance and materials to university faculty

• Encourages development of mainframe expertise

• Certifications, examinations, and even potential job matches
IBM Academic Initiative (directly from the website)

• For universities:
  • Stronger relationship with businesses
  • Access to industry technology experts
  • Faculty training on latest mainframe facilities
  • Comprehensive curriculum to meet market needs

• For Business Partners:
  • Access to qualified mainframe talent
  • Strengthened collaboration with academia
  • Development of targeted work-study programs
Examine Vendor training and user groups

• Some of it may be available at no cost

• Some may require tuition

• Depending on your arrangements and contracts, you may have unused education credits with vendors

• CMG, SHARE

• One hour per week open topic sessions ("brown bag")
Chapter 3

• Convincing the younger colleagues to take up our cause

• Talking points

• What needs to be done
Convincing the unconvinced, the protege

• Their viewpoint
  • This isn’t glamorous
  • It’s often “Green Screen” carried over to modern times
  • Too much risk – massive single point of failure
  • Complete unfamiliarity with the technology
  • (unstated) too complicated

• Computer performance and capacity planning
  • Too compartmentalized, fear of falling behind curve
  • Not enough hands-on work
  • Projects that never end
Eight Talking Points – try them out

• Irrefutable platform durability
  • Changes, but 50+ years of survival
  • It’s not going away
  • It’s commercially viable
  • Large enterprises tend to not go away

• Longevity in employment
  • Many mainframers survived in the field
  • Retirements spur opportunities
  • Architecture changes, but not suddenly / “Future Shock”
Eight talking points – points 3 and 4

• Long running professional groups
  • SHARE, CMG
  • Fostering advancement of the state of the art
  • Professional exchanges and networking
  • Advance your OWN status
  • Education at low cost

• Changes and improvements
  • Stagnation avoided, architecture, subsystem changes
  • Business changes => Capacity and performance work
Fifth and Sixth Talking Points

- Newer technologies melding into z/OS world
  - Virtualization under z/VM
  - WebSphere
  - Future developments will occur on existing platforms, but will there ever be new platforms?

- Chance to apply familiar skills, transport expertise
  - Database design
  - TCP/IP network topology
  - 4th GLs (SAS) very similar to SQL
  - *Integration with other platforms*
Final talking points

• Analytical capability is required
  • Not just a technician, but an analyst and communicator
  • Learn the BUSINESS as well as the technical side
  • Contract analysis – license charges, understanding
  • Upper management / executive exposure

• Different pressures, not as intense
  • Reporting systems, post-process analysis
  • Work at a set pace, very few midnight calls
  • Capacity planners – 9 to 5 (generally – well, )
One more for good measure …..

Because the capacity planning task is essentially a critical internal business function, many enterprises choose not to outsource it, and it’s an extremely difficult process to send outside of the data center.

- You can hire outsiders to produce a capacity plan - but insiders must have input to it…
Chapter 4

• Selling upper management

• The starting time is NOW was years ago

• Conclusion
Convincing upper management that this is the right thing to do

- Employee retention

- Things take time *** z/OS is not a plug-and-play operating system

- Financial incentives

- Long-term continuity & functional assurance
When to start?

• TODAY

• Mentoring, and bringing newer staff along
  • A new “old concept”
  • Can make final working years more pleasant
  • Benefits all in the enterprise
Technical challenges for the new mainframer

• Understanding of Variable License Charges, Capacity on Demand – technical ability => management
• Standard utilities
• Mainframe architecture
• Computer performance evaluation concepts
• SMP/E
• Network activity analysis
• RMF, SMF, online monitors, and tools to process them
• Real-time monitoring
• Word Processing, presentation software
Business challenges for the new mainframer

- Capacity on Demand
  - Business requirements - Technical requirements
  - Costing – Risk avoidance – Risk acceptance

- Time Shifting of work
  - Feasibility -
  - Practicality

Continuous analysis ....
Negotiation skills....
Conclusion

• Just food for thought!

• Many thanks!