

The Middle Kingdom Mainframe Performance Renaissance

by Stephen Guendert, PhD

In late February/early March I spent two weeks in China on a business trip. I was in Shanghai and Beijing to work with my good friend, IBmer Dennis Ng. Dennis and I, have worked together frequently over the past several years, collaborating on a variety of FICON related topics. For our latest collaboration, we were working on a 2 day joint IBM-Brocade mainframe I/O and FICON performance/performance management training workshop. We started putting the workshop together this past December, starting with the format, and then developing the content.

Dennis and I taught these together at IBM's Shanghai office, and then again at the IBM Beijing office. As these were the first two sessions, we did them for an internal audience (IBMer and Brocadians). They were very successful sessions: we had great attendance (full classrooms) at both sessions, and we received great feedback from the attendees. There was a great deal of interaction with the students with many questions. Following the 2 day training session in each city, Dennis and I visited with a very large Chinese bank (mutual customer whose name will remain confidential) and worked with them directly.

Most of us are all too familiar with the oft rumored demise of the mainframe, started back in 1991 with Stewart Alsop's infamous prediction, which as we all know was incredibly wrong. The latest effort by the radical anti-mainframists (yes, I invented a new word) is to write not about how the mainframe is going away, but rather that the people who operate them are going away. Given [this article](#), yet another doom and gloom article discussing the "threat of the looming mainframe skills shortage", our 2 weeks in China gave me reason to smile. Now, I will admit that I am noticing some of the things discussed in the article as I meet with customers and our OEM partners around the world. And yes, there does seem to be a "graying effect". However, what made me smile was that **the average experience level of our attendees in Beijing and Shanghai was 4 years of mainframe experience**. For the vast majority, they were in their first job post college graduation.

Think of that for a minute. In one of the booming IT BRIC growth countries (BRIC=Brazil, Russia, India, and China), many people are choosing the mainframe as a career path right out of college! And, more importantly as far as CMG is concerned, their focus is on performance and capacity planning. Is that great or what? **I call this the Middle Kingdom Mainframe Performance Renaissance**. Dennis and I were extremely impressed with the knowledge level these folks had for being relatively inexperienced on the platform. And let me tell you, they were motivated to learn more! Apparently, I/O and storage related topics are not really covered in much depth in Chinese university curricula. Our Chinese friends asked us to consider adding more material and having this as a 3 day course, and/or to consider developing an advanced class that built upon the current course.

Dennis and I are currently planning on doing something similar in Brazil in late August following the CMG Brazil Conference.

Here is a list of the topics Dennis and I covered in this training:

Day 1

- 1) FICON Express8S features, and performance. Includes a discussion on the new PCIe bus and I/O drawers.
- 2) FICON DCM (Dynamic Channel path Management)
- 3) zDAC (z Dynamic Auto discovery and Configuration)
- 4) zHPF (z High Performance FICON)
- 5) FICON aggregation and zHPF analysis tool
- 6) RMF reports used in a FICON environment
- 7) FICON CUP (Control Unit Port)
- 8) zLinux, NPIV, and FICON/FCP intermix
- 9) GDPS and cascaded FICON
- 10) Persistent IU Pacing (AKA Extended Distance FICON)
- 11) Brocade and FCIP channel extension for mainframe environments

Day 2

- 1) The life of a mainframe DASD I/O-how to use the RMF reports discussed in day 1
- 2) Buffer Credits
- 3) Virtual Fabrics and FICON
- 4) Local switching and cut through routing
- 5) Managing Interswitch Links (ISLs) and cascaded FICON

6) Using switch management tools (DCFM/BNA, FabricWatch, and SANHealth) with RMF in FICON environments