The Performance Information Gap Paradox
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System z I/O technology has made significant advances over the past five years, from the mainframe itself (processors, STIs, busses, channels), to the FICON directors, to the control unit. Speeds and feeds get continually faster and new technologies have emerged such as MIDAW, HyperPAVS, and z High Performance FICON (zHPF). There are even more changes on the horizon. Changes have occurred also in SMF/RMF and understanding these has become crucial to understanding how to manage the performance of your 2012 mainframe I/O and storage performance.

Now I could be wrong (please don't tell Mrs. Guendert I admitted that) but it seems to me with the significant advances we have seen in mainframe/mainframe storage I/O technology over the past five or so years, we have also seen a diminished understanding of that technology and how to use it. More importantly, it seems to me we have seen a diminished understanding of the performance and/or performance management of this technology. I do not know if this is due to the decreased emphasis on performance/capacity planning in Computer Science curricula, so new professionals entering our profession do not have the training. Perhaps it is due to less importance being placed on these topics due to the decreasing prices of hardware. Or, maybe those of us in the vendor world are not doing as good a job as we could on educating customers on these topics as they pertain to our hardware and software. More likely it is a combination of all of the above.

The reason I bring this up is I am getting more frequently involved in performance troubleshooting scenarios. As the component in the middle, a FICON director typically gets the blame for a performance problem in a mainframe environment. If it's a cascaded FICON environment, the first thing that typically is blamed is a buffer credit issue with a director port. Interestingly enough, 90% of the time the FICON director is not the root cause of the problem (and it usually is not buffer credits either). Sometimes there is nothing wrong with any of the hardware. Good troubleshooting and problem solving does not occur. Finally, the end users and OEMs often have a lack of understanding of the tools at their disposal, or worse yet, lack understanding of the concepts behind the tools.

So you're saying "great Steve, so what are you going to do about it? How can we learn more? Glad you asked.

a) Go to a regional [CMG](#) meeting, or attend Conference!

b) My good friend and IBMer Dennis Ng and I are putting together a 2 day education seminar focused solely on FICON performance and performance management. Some of you may remember I used to do a similar one day workshop on FICON performance. This will be a new and enhanced offering. We will be going to China later this month to roll out the first of these. We're looking to do these worldwide. If you are interested in these please [email me](#).

c) If you attend SHARE next month, make certain you attend my friend and Brocade colleague David Lytle's session on FICON performance.

d) I am starting to work on a series of articles/papers that will briefly review the System z I/O technology advances of the past five years, discuss what you need to know with the below records, and how to use them together to successfully resolve performance issues in your I/O environment. I will be developing presentations to accompany each article.

1)   FICON Director Activity (SMF 74-7)
2)   Channel Path Activity (SMF 73)
3)   I/O Queuing Activity (SMF 78-3)
4)   Enterprise Disk Systems Statistics (SMF 74-8)
5)   Device Activity (SMF 74-1)

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