Proactive vs. Reactive Management of Your Storage Networks

STEVE GUENDERT, PH.D.

I will be the first to admit that at least in the realm of storage network management, management software has historically been far more reactive in nature. Recently, there have been some significant efforts made to change this, based in large part on feedback received from end users.

Proactive vs. reactive is a subject near and dear to my heart, and I've given presentations on the subject at Computer Measurement Group (CMG) conferences with more of a proactive performance management focus. The article "Proactive Management of Your Storage Network" (see page 16) expands on this topic in more detail and provides some recommendations for best practices in your storage network management efforts.

Reactive vs. Proactive?

When I say reactive and proactive storage network management, what do I mean? Reactive management means you don't know of a problem with your storage network (or any network for that matter) until after it has happened. At the most extreme cases, you aren't aware until someone else, such as an application owner or DBA, has made you aware they have a problem and they think the source of the problem lies in the storage network. You then have to go into troubleshooting and problem determination/resolution mode, oftentimes under a great deal of stress. This is never a good situation to be in. Hopefully, you're able to determine the root cause of the problem and take corrective action to make certain it doesn't repeat.

Proactive management means you have the capabilities in your storage network management toolbox to prevent the aforementioned scenario from happening. In its simplest form, you've taken advantage of the threshold monitoring and alert setting capabilities in your storage network management software to, at a minimum, make certain you know of a problem happening before that DBA has to come to you and complain. Even better, you've taken advantage of your own personal experience, done some research, or perhaps attended an educational conference such as SHARE or CMG and learned some best practices so you can set anticipatory thresholds with accompanying alerts. For example, the most common component to fail in a storage network is the small form-factor pluggable (SFP) for a port. If this is for an interswitch link (ISL) in a cascaded FICON architecture, this SFP failure would likely impact your synchronous DASD replication and, therefore, your application response times. Good indications exist to help predict the

end of life of an SFP. One example is the SFP runs at higher temperatures. But you, in an effort to be more proactive, read Dr. Steve's column, know about this, set a threshold, monitored it and were alerted about that ISL SFP running hot before the SFP failed. You scheduled that SFP to be replaced during your next maintenance window planned outage and it never failed.

Things Are Only Getting Better

You can probably see, based on these scenarios, why it's good to have the proactive mindset and tools. But to quote the '80s Howard Jones song "Things Can Only Get Better," things do continue to get better with storage network management. Over the course of the past 18 months, dashboard functionality has been added to storage network management tools. Policy-based management has also been introduced with the Fabric Operating System (FOS). Where is this leading? To intelligent analytics and self-healing storage networks? Your guess is as good as mine at this point, but that sounds like a pretty interesting idea to me.

Thanks for reading the column, and I hope you find the accompanying article I wrote for this issue helpful. **EE**

> I will be the first to admit that at least in the realm of storage network management, management software has historically been far more reactive in nature. Recently, there have been some significant efforts made to change this, based in large part on feedback received from end users.

Dr. Steve Guendert is a principal engineer and global solutions architect for Brocade Communications, where he leads the mainframe-related business efforts. He is a senior member of the Institute of Electrical and Electronics Engineers (IEEE) and the Association for Computing Machinery (ACM), and a member of the Computer Measurement Group (CMG). He is a former member of both the SHARE and CMG board of directors.
Email: stephen.guendert@brocade.com
Twitter: @BRCD_DrSteve

