Research Report

Driving Down Network Management and Troubleshooting Costs: IBM's NetView v6.1

Executive Summary

20+ years ago, I (Joe Clabby) was a communications and networking product manager. I worked with a team of developers who built products designed to compete specifically with IBM's NetView product suite.

> *In those days, network management was all about monitoring network traffic and tracing packets sniffing for the cause of errors — followed by a lot of "educated guesswork". But since those days network management has changed tremendously. <u>Network management tools now monitor the network for errors; automatically alert network managers to problems (or potential problems); visibly display trouble spots on maps that show a topological view of a given information systems environment; and, in some cases, automatically respond to problems with set routines</u>.*

Over the past several years I've kept an eye on NetView development. I have seen previous versions of NetView at IBM's Pulse event (an infrastructure and management customer event) in Las Vegas earlier this year — and I've seen other NetView network management demos at a variety of other industry events around the world.

> *To be honest, based on these demonstrations, network management tools still appeared to me to be a bit complex to use. It looked to me like the administrators running the demo had to know where to look [in job logs, or at packet traces, or in other obscure places] in order to troubleshoot problems that NetView had alerted them to). And this reminded me of the NetView of old…*

Last month, however, I had the opportunity to take a closer look at IBM's new version of NetView (NetView v6.1) and talk to several of the executives/developers involved in IBM's NetView program. And, when I looked at the new version of NetView, I observed that it had the ability to find problems, to display problems, and to respond to some problems *automatically*. My immediate reaction was "this is far less complex than it used to be…"

As I probed further, IBM described some of the changes that it is made to NetView in order to reduce complexity and improve administrator/operator productivity. And what jumped out at me was how IBM has:

- Simplified problem determination and problem management — leading to faster diagnosis of network related problems;
- Added new automation capabilities to reduce the amount of time that network administrators need to spend taking corrective actions; and,
- Extended it GDPS (Geographically Dispersed Parallel Sysplex) in a new direction. (GDPS technology is heavily used by banks as a means to ensure high-availability

by mirroring applications and databases at remote sites). IBM is taking GDPS beyond failover to continuous availability — a huge leap in "unlimited distance synchrony".

Simplified Problem Determination/Problem Management
Imagine yourself as a network administrator searching for the source of a problem. Your first action might be to go back and look at your systems/network history —and that could mean combing through Netlogs, Joblogs, and Syslogs looking for discrepancies. What IBM has done is it has created a consolidated NetView and z/OS message file with a single interface that allows keyword filtering for more efficient problem diagnosis and resolution. Using this feature, network administrators can access both real-time and archived historical data more easily. Further, messages that originated on other systems can also be forwarded to this common message repository.

By combining system and network log files, IBM believes that it can save NetView administrators about a third of the time that they spend trying to sort through z/OS and network messages. Given that about 50% of a typical data center's budget is spent on managing systems, networks, storage, applications, and databases — saving administrator time can have a huge payback for information technology (IT) buyers. But saving administrator time is not the only benefit that I saw from this logging/filtering improvement. By automating the logging/filtering function, the new generation mainframe managers will be pointed toward a solution rather than stuck in troubleshooting mode. So, I see this new feature as beneficial, cost reduction perspective — as well as from a training-the-next-generation-of-mainframe-managers perspective.

New Automated Facilities
As I stated earlier, modern network management tools focus on monitor, control, and *automation*. NetView v6.1 has expanded its automation capabilities with features that help automate making systems constantly available (by using proactive problem solving techniques), to automatically taking action based upon information obtained from central message logs. NetView v6.1 capitalizes on enhanced messaging attributes that NetView logs and feeds those messages to powerful Tivoli automation products that can take actions based upon those messages. These Tivoli automation products can then take actions without operator intervention in order to proactively resolve existing or potential issues. IBM estimates that network administrators can save between 20% and 40% of the time it has been taking to perform tasks related to keeping systems and networks highly available.

Extended GDPS
GDPS is a large-scale failover scheme used largely by banks to ensure systems availability while protecting vital data. What IBM revealed in this latest briefing is that it will be growing GDPS in a new direction toward continuous availability across unlimited distances (currently, synchronous GDPS is limited to 200 km). What this means is that GDPS, in the future, may run two or more copies of the same application at various, and geographically dispersed locations. Should the first application fail, the second application could pick up automatically — with the user experiencing seconds-or-less in lost time. Enterprises making use of this enhanced GDPS would experience virtually no downtime

each year — saving millions upon millions of dollars in lost productivity. (To understand the impact of downtime, visit the UpTime Institute at   http://uptimeinstitute.org/.

Summary Observations
When evaluating systems and network management tools I usually focus on their monitor/control facilities; the user interface; and on the products automation facilities. Monitor and control facilities show us what information a given product can gather. The user interface captures and displays that information — hopefully in a manner that even new network administrators can understand. And automation facilities outright offload IT administrators from having to do certain types of work, freeing them up to take on new projects or to work on something extremely important to the enterprise such as helping to streamline process flows.

What I see when we look at NetView v6.1 is *great improvement in sorting through logs* — improvements that help steer the administrator more quickly to a given problem — and leading to quicker problem resolution. This saves enterprises a lot of wasted management labor.

And a closer look at NetView v6.1's automation facilities shows something that I really like — *computer programs that can take proactive steps to solving potential problems before they occur*. This has the potential to save administrators from having to do time-consuming troubleshooting — and it has the potential to solve problems before they even occur (helping to ensure system reliability and availability).

And finally, although I did not see the new features of GDPS demonstrated, it's good to know that GDPS is moving in a new direction toward continuous availability. IBM's NetView v6.1 shows me that IBM is moving toward eliminating management complexity, automating availability — and eventually toward supporting geographically dispersed continuous availability.