Mid-Comp International's SnapShot/400

BY CHRISTOPHER J. DEVOUS

When I was a kid, I had this really cool Swiss Army Knife. It had a corkscrew, scissors, a Phillips screwdriver, a flat-head screwdriver, five different knife blades, and a file, all in a compact bright red package. I'm surprised the thing didn't have jumper cables and a CB radio. I remember beaming with pride when I let my dad use my Swiss Army Knife to perform an emergency car repair in the middle of nowhere. There was no problem that could not be solved with my handy-dandy Swiss Army Knife.

Then I grew up. Stop laughing! Eventually, I became responsible for managing different types of host computer systems from UNIX to **IBM** midrange and different types of network systems from **Novell** to Windows NT. I would often think of my Swiss Army Knife. Why did I have to have one package to tell me about my network and yet another to tell me about my hosts? Why is it that neither seemed to give me what I wanted?

I wanted to prevent problems. When problems arose, I wanted to figure out what was wrong quickly and respond appropriately. Why couldn't I have one tool that helped me manage

effectively without having to look at 34 different and confusing displays presented by multiple software packages? And, the burning question: I couldn't invent the Swiss Army Knife of systems-management packages, but why couldn't somebody smarter than me do so?

Well, gentle readers, somebody did. SnapShot/400 is the Swiss Army Knife of system-management packages.

agement package per se, it does provide accurate response time measurements that can help to isolate problems and bottlenecks. This is the kind of information that can let you make changes to improve network performance, such as isolating and replacing failing controllers and establishing more efficient routes with fewer delays. Now that I think of it, I'm not sure I care about anything else with regard to networks.

No more shots in the dark! SnapShot/400 makes AS/400 system management a pretty picture.

Robust, Feature-rich, and Easy-to-use

Its maker describes SnapShot/400 as "the best move you will ever make." Since I don't want my wife to start asking uncomfortable questions, I'll just say that Snapshot/400 is an excellent package for managing single or multiple AS/400 systems and the connectivity issues that affect them.

While SnapShot/400 is not a network man-

SnapShot/400 will help with a number of issues, including performance management, troubleshooting, message queue management, remote and local job management, and capacity planning. The product is also easy-to-use, well-organized, and flexible.

An Easy-to-follow, Well-documented Installation Process
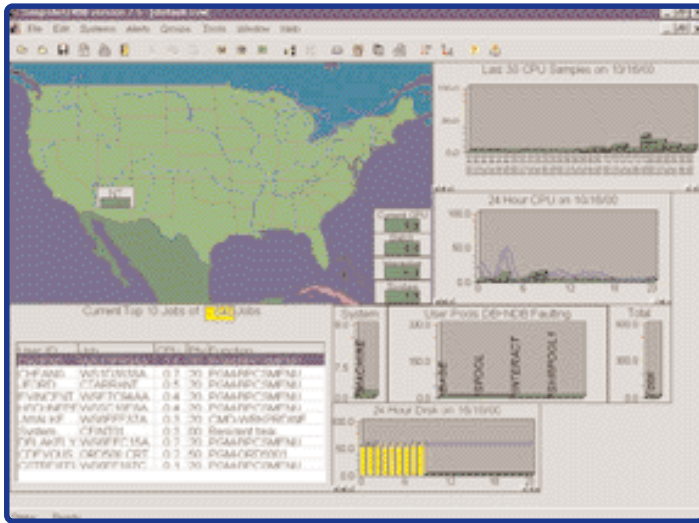
Figure 1: The SnapShot/400 default view comes up once you've connected to the system.
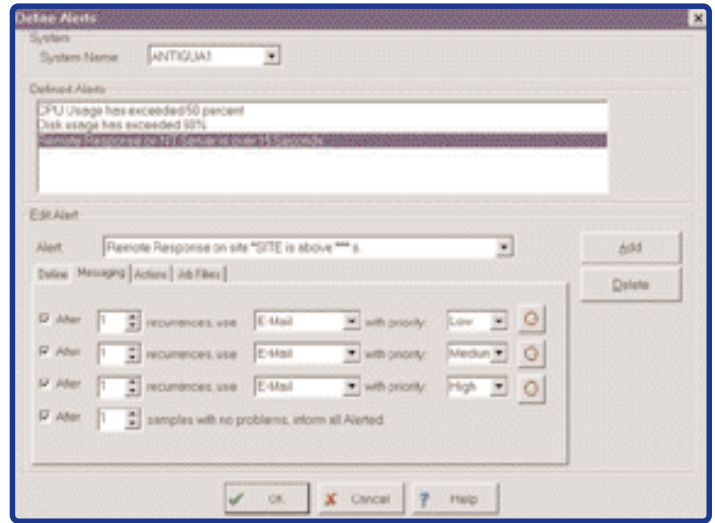

Figure 2: You can see part of the available options for configuring alerts, as well as some of the alerts already configured for the system.

SnapShot/400 is a snap to install (no pun intended). It comes on a dual operating system CD-ROM that supports both OS/400 (V3R2 or higher) and Windows 95/98/NT. Installation takes less than 5 minutes, and the installation instruction book will guide you through the process.

While the AS/400 side of the installation does present you with a prompt screen that has many options, I've found that the defaults work just fine. The options themselves are self-explanatory. The Windows side of the installation process is pretty standard. As is typical, you're asked to confirm the installation directory, and that's about it.

When the AS/400 side is installed, the installation process starts the SNAPSHOT subsystem in the SNAP70 library. This will call the autostart jobs for the host side of SnapShot/400. To make it run automatically at startup, you'll want to add the command QSYS/STRSBS SBSD(SNAP70/SNAPSHOT) to your startup program. This command starts the subsystem installed and used by SnapShot/400: SNAPSHOT in the SNAP70 library. As usual, you'll want to follow that with a MONMSG MSGID(CPF0000) to prevent any problem from hanging up your startup job. This will ensure that SnapShot/400 is continuously active and collecting data.

Once you've completed the AS/400 portion of the installation process and started the subsystems, you'll be ready to install and configure the client program. SnapShot/400 offers three connection options: Advanced Program-to-Program Communications (APPC) direct, APPC emulation, and TCP/IP. You must choose the same type of connection for the client as you did for the server.

Configuring the client involves a simple two-step process. First, you configure the systems to connect to and then connect to them. The installation guide provided with SnapShot/400 explains the process and steps you through it. When you start SnapShot/400 for the first time, a configuration wizard magically appears and steps you through the process. The SnapShot/400 client requires an authorization code, which is provided by your vendor. It should be noted that the authorization code is specific to your AS/400, not the client. You can run the client at as many workstations as you wish. Without the authorization code, the product will function completely for five days from the point at which you

started gathering data on the AS/400. You can configure the SnapShot/400 client to automatically connect to any system at startup.

Getting the Show on the Road
Once you've started SnapShot/400 and connected to the system, the SnapShot/400 default view comes up (see Figure 1). The client refreshes about every 2 minutes. If there were one feature I'd like added, it would be a Refresh Now button. I have customized the default view slightly, and, in fact, it is easy to add and delete graphs, list boxes, and numeric displays. While I happen to be monitoring one AS/400, the fact is I could monitor several. You can save several of these views. You would certainly want to configure one for each system you manage.

As you can see in Figure 1, SnapShot/400 provides you with an organized and easy-to-understand graphical representation of system

status. When I bring up this display, I can tell immediately what my system is doing. I know where my CPU utilization is and has been, as well as my disk utilization, my user pools and faulting, and my response time to other systems. I know the top 10 jobs as far as CPU utilization. But, that's not the least of it.

And here, gentle readers, is where your humble servant must make a choice. SnapShot/400 is such a feature-rich product that I do not have enough space in this article to do all of its features justice. So, I can either provide a feature list with brief descriptions and hope you

When I need to pay attention to the system, SnapShot/400 tells me to.

can guess their significance, or I can pick and discuss in more detail those features that I think make this product outstanding as a system management tool. I've chosen the latter. By providing you with a short list of Snap-Shot/400's outstanding features and a better level of detail, I think I can show you just how good this product really is. Promise me that you won't forget that SnapShot/400 has much more depth.

These Features Aren't Just Cool—They're *Useful*
Where to begin? I will start with one of my favorites. SnapShot/400 has a feature called Snapshot/Response. From the client's tools menu, choose configure SnapShot/Response to describe sites that are remote to the system you are connected to. These can be APPC sites or IP sites. APPC sites connect via host name, TCP/IP

sites can connect via host name or IP address. When you've provided this information, Snap-Shot/400 creates and submits a CL program to monitor the remote site.

You'll notice in Figure 1 the box labeled NT. This is the remote response time between my AS/400 and the NT server that handles my email system. Since they are on the same network, the response time is very low. Note that the remote system can be *any* IP site or APPC host. If you are responsible for a WAN, you'll know that Roger in Atlanta is having response time problems connecting to your host before he does. You'll be able to pin down the segment that presents an extended response time and take appropriate action. If Roger also has an AS/400 running SnapShot/400, you'll be able to monitor and control that system as well.

But wait! What if I'm at lunch when the router goes nuts or the controller breaks down? Well, I'm glad you asked that because that brings us to my next favorite feature: alerts.

SnapShot/400 can alert you of many problems in many ways. Alerts are configured from (you guessed it) the Alerts menu. If you look at Figure 2, you'll see part of the available options for configuring alerts, as well as some of the alerts I've configured for my system.

Alerts can be configured over 16 different conditions that SnapShot/400 monitors. You can set up alerts to tell you when various system values, such as disk usage and CPU utilization, have exceeded whatever values you're comfortable with. You can have SnapShot/400 alert you by sending a message to your screen, any of several email addresses (see Figure 3), a pager, or even Systems Management Server (SMS).

Suppose that you want to know if your CPU utilization exceeds 20 percent. SnapShot/400

will tell you. You can set this up to send different alerts at different times. You might tell Snap-Shot/400 to send an alert to your screen on the first occurrence, to a medium priority email on the second occurrence, or a high priority email on the third occurrence. This feature is so flexible that you have total control over what happens at which occurrence of the condition you want to monitor for.

Take a look at Figure 3. Notice that I have set up low, medium, and high priority email addresses. Low and medium are my regular email address, but high is the email address of my cellular phone. High priority email alerts make my phone beep. I can respond immediately to the situation, and the users might not ever notice the blip. Now that's my idea of systems management. I get to ignore the system, because I know that SnapShot/400 will tell me when I need to pay attention. But wait! Does it tell me how to pay attention?

In answer, I'll talk about drilldowns. Look at Figure 1 again and notice the box in the upper right-hand corner labeled Last 30 CPU Samples on 10/16/00. If I double-click on one of the bars in that graph, I get a list of the top 10 jobs utilizing the CPU at the time the sample was taken. I can see that Susie has 83.7 percent of the CPU, figure out what she's doing, and stop it if necessary.

Not only are the top 10 jobs accessible through history, they are accessible right now. By accessing the Top 10 Jobs feature on the Tools menu, I get a list of, yes, the top 10 jobs. By double-clicking on any job in the list, I get an option box that lets me adjust the priority (through a slide bar control, no less!), hold the job, or end it immediately. Three clicks and I've solved the problem. Now I can go back to really important stuff, like Web browsing...I mean

writing lots and lots of good code.

A similar alert feature is available over message queues. As a working manager (stop laughing), I have to work. I don't have the inclination or the budget to hire somebody to manage my AS/400. I do it. I also don't have the time to sit in front of the console waiting for messages to appear. SnapShot/400 to the rescue!

Did you ever get one of these phone calls? "Hi. This is Randy down in staging. I started my shop packet print job something like 5 hours ago and it hasn't printed out yet. It usually prints out in 30 seconds. Is something wrong?"

Then I look in the QSYSOPR message queue and find the unanswered message that's holding up the entire business. But, because I don't sit in front of the console waiting for messages to appear in QSYSOPR, I didn't know it was there. Now, I don't need to worry about it.

You can tell SnapShot/400 to alert on messages requiring a reply, alert on messages of a given priority or greater, or specific messages IDs. You can do this for as many message queues as you want. You can set up the type of alert (screen message, pager, or email) to use, and SnapShot/400 will use it. Figure 4 shows the dialog used to set up message queue alerts.

Nowadays, my phone goes off if I have an unanswered message in QSYSOPR. It also goes off if I have a priority 20 or better informational message. Once again, SnapShot/400 pays attention to the system for me, so that I can do my job. When I need to pay attention to the system, SnapShot/400 tells me to, and I do. Otherwise, quite frankly, I ignore my AS/400, and, because of SnapShot/400, I feel safe doing so.

Alerts aren't the complete picture on system management issues. You can also set up Snap-Shot/400 to issue commands to the system in response to alerts. When you set up an alert, whether it be a condition you are monitoring for or a message queue you are monitoring, SnapShot/400 can issue any command you describe to the system in response to the alert. For example, if you alert on CPU usage, you could have SnapShot/400 issue the command WRKACTJOB OUTPUT(*PRINT) SBS(QINTER) CPUPCTLMT(10). Think that might help ease your system management tasks?

The last, but not least, of my favorite features is the capacity planning tool. Refer to Figure 1. I wonder what my system might look like if I were running on a two-way 820-2398 with 10 percent
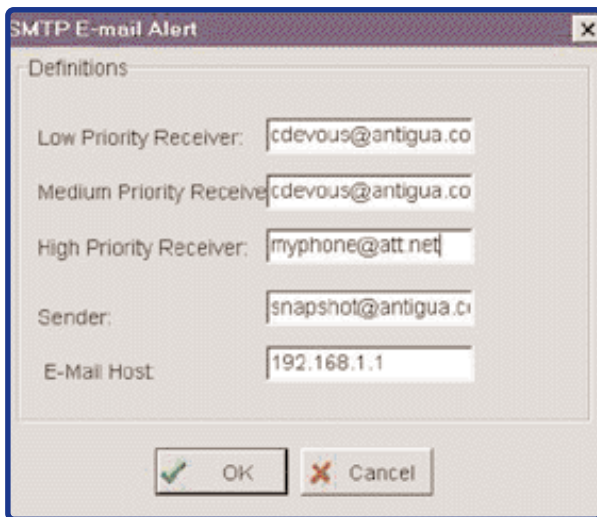

Figure 3: SnapShot/400 alerts you by sending a message to your screen, any of several email addresses, a pager, or even SMS.
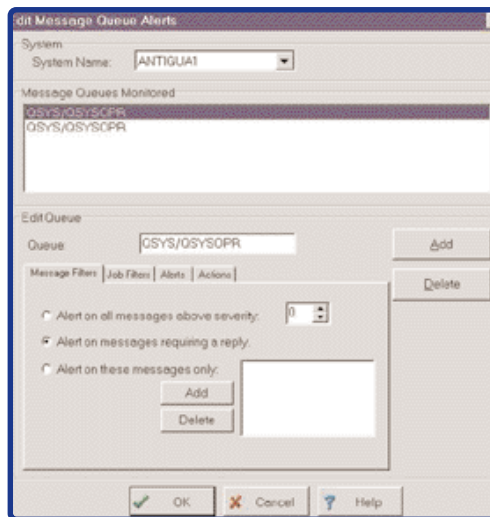

Figure 4: You can use this dialog to set up message queue alerts.

more disk space? SnapShot/400 will tell me. The simulator lets you increase workloads for batch and interactive and disk utilization.

Set up your values for target system, workload increases, utilization increases, and disk space increases. Press OK. The data you're now seeing is what you are likely to see when the proposed upgrades are actually in place. If your system is running hard and you want to see how much relief you'd get by upgrading to the next interactive card feature, SnapShot/400 will tell you.

So What Have I Left Out?

As stated previously, I have barely begun to scratch the surface. There is so much more that SnapShot/400 lets you do. You can set up groups of users and monitor their utilization (users can belong to up to three groups). And, I haven't even mentioned the report generator that lets you spit out graphs and other types of reports about all of the monitored system condition. Want to see what you can expect your CPU utilization to look like based on history? You can with SnapShot/400's advanced report generator.

If you have any kind of system management issues, if you can't afford an operator but need to know when to pay attention without having to rely on trouble reports, if you are managing a WAN with any AS/400s aboard, then SnapShot/400 is the tool for you.

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