

## **Network Instruments Observer® Promoted to the Head of the Class**

*Observer Patrols Presbyterian College Campus Grounds, Helps Maintain a Safe Learning Environment*

### **Campus Life**

Presbyterian College, located in Clinton, South Carolina features eleven residence halls, two houses, and 15 townhouses across its 240-acre campus. These facilities house over 90% of the student population at this 124-year-old institution. Every dorm at Presbyterian College is networked and all rooms provide Internet access. Every fall, students from over 28 states and nine foreign countries move in, bringing with them all types of computer hardware and software. The advantages of supporting all types of hardware and software is great for students, but such a large and changing network is a challenge to administer. Systems and Network Administrator Nellie Shelton has to support and troubleshoot a vast and unpredictable collection of hardware and software.

“Educational Institutions offer very different challenges to a network administrator,” explains Shelton. “At most places of business, the hardware and software systems offered to an employee are already agreed upon by the IT department. Here, we have no control over what systems, devices or applications are brought into the network. It’s a unique situation.”

Approximately 1200 students are wired, along with 80 full-time faculty members and 220 staff members. The network is divided into 15 different VLANs. VLAN traffic flows first into two centralized locations, which are connected by gigabit links to a central router that then provides access out to the Internet. At any given time, approximately 1000 students are connected to the network.

“We do our best to offer excellent technical support while maintaining our policies and procedures,” said Shelton. “Students will bring in every type of system - PCs running Windows, Linux machines or Macs. They use a variety of network cards, hardware configurations and spend a lot of time downloading various types of applications, players, files and more. Some students get pretty creative and we’ve had some unusual problems. In the end, we don’t want to limit a student’s potential but we have to ensure our system is safe, secure and running for all those that rely upon it every day.”

### **In-Network, Out-Of-Network**

Shelton was already shopping for a network-monitoring product for day-to-day troubleshooting when suddenly the need for a solution became more urgent. Abrupt and unexplained leaps in bandwidth usage were slowing down the network and required further investigation to determine the source.

“At first we couldn’t identify the cause but we had a hunch it was outside of our campus network,” Shelton explained. “I quickly needed a tool that could help me confirm the source of the problem. After installing Observer, we were assured that the problem was not on campus. The problem was traced to a router in Virginia that our ISP owned. With Observer, we were able to resolve the issue and move on.”

### **Strong Return-On-Investment**

Before choosing Observer, Shelton spent time evaluating a range of products including Sniffer® by Network Associates®, Avaya CajunView™ and What’s Up Gold by Ipswitch™. Price, performance, ease-of-use and speed were all important factors in the final decision to purchase Network Instruments’ Observer.

“Sniffer was immediately out of budget and the sales process was very complicated – I needed something fast,” said Shelton. “What’s Up Gold didn’t provide all the information I wanted and Avaya CajunView would work great assuming we always used Avaya switches. Observer doesn’t look at products, it looks at data - so it works for everything. It wasn’t overwhelming to understand and I wouldn’t need a month to learn how to use it. Observer offered the most value which made it easy to convince the VP of Finance that Observer was the best deal.”

### **Expelling Campus Worms**

Presbyterian College purchased a license for Observer Suite and an Advanced Remote Networking Probe. The solution has helped a number of ways, but the most apparent is virus detection and isolation of infected systems. Shelton can compare the amount of time she’s saved hunting down worms before and after installing Observer.

“Every year, before the dorms officially open, our football team moves in to begin training. One year, our network was severely impacted,” explains Shelton. “We had a virus. I had to then go into every dorm and manually look for the infected system. I spent all of August and September searching for a worm. It was a process of burning CDs, going back to my office and looking through the information. With Observer it would have never taken that long.”

Deploying remote probes is an easy way to monitor or troubleshoot multiple network segments from one location. Network Instruments’ remote probes collect and transmit real-time packet captures and statistics to any Observer console. With Observer Suite and Advanced Probes, Shelton conveniently monitors all systems from her desktop.

*In summary...*

### **About Presbyterian College**

Presbyterian College, founded in 1880, is a private, residential, liberal arts college located in Clinton, South Carolina. Annual enrollment surpasses 1200 students, representing over 28 states and nine foreign countries. The curriculum is described as challenging, career-oriented Liberal Arts and Science disciplines with degrees offered in 32 majors and 42 minors. The oak-shaded campus spans across 240 acres with 29 major buildings, including eleven residence halls. Over 90% of the student body lives on-campus.

### **Challenge**

Every fall, just about 1200 students descend upon campus, bringing every type of computer system imaginable. Systems and Network Administrator Nellie Shelton was looking for a powerful solution that would not only monitor for outside virus threats but report daily on system stats and ultimately provide a safe learning environment for all students, faculty and staff that rely upon the network.

### **Solution**

By introducing Observer into the college VLAN, Shelton was able to quickly isolate viruses, gather irrefutable evidence of policy violators and eliminate junk traffic. The deployment of a Network Instruments remote probe offered her the ability to monitor outside locations from a single console, saving countless hours of troubleshooting time. Ultimately, with Observer, Shelton gained a new level of insight into the network allowing her to proactively manage and quickly troubleshoot problems that arise daily in network and campus life.

**“Complete visibility into the entire network from one location helps me solve problems much faster.”**

**Nellie Shelton**  
Systems and Network Administrator  
Presbyterian College



**PRESBYTERIAN COLLEGE**

"The Probe has been really helpful," said Shelton. "I just change the VLAN the Probe is looking at and let it run for a day. Now I can monitor each dorm individually and see everything without having to physically run around. Complete visibility into the entire network from one location helps me solve problems much faster."

### Troubleshooting Faster and Smarter

Observer also provides Triggers and Alarms to allow administrators to flag for a particular network condition using customized filters or convenient presets. The alarm triggers an action to occur when the condition is present. Shelton has configured Observer to send her an email for immediate notification on network issues that she cares about.


"I had not used Triggers and Alarms before – now I rely on them to be my first sign of a concern," said Shelton. "I always have Observer running and I've set Triggers on network conditions that matter to me. About once a week Observer sends me an email on a particular issue. For example, a duplicate IP address popped up this morning. Our DHCP server sometimes assigns the same one twice – Observer told me this. Without this functionality, I wouldn't know until a user points it out. But I want to know before they know – that's the key."

Observer offers many tools to measure and help improve bandwidth performance. Real-Time Statistics such as Top Talkers shows bandwidth usage by device while Bandwidth Utilization shows the total network load. IT administrators can also review usage over time to recognize trends or patterns in traffic.

"We've eliminated viruses and we effectively have more bandwidth," said Shelton. "I modified a few of our servers, because Observer showed they were using IPX and we don't have a need for IPX, so I turned that protocol off – again more bandwidth. Observer answers the question – Why is this machine that is hardly being used putting out so much traffic?"

### No More Class Disputes: Enforcing Network Usage Rules

With student-related network issues, many times a user won't voluntarily admit to violating a computer network policy. Observer provides supporting evidence for an administrator enforcing network usage rules. Rather than trying to play interrogator, Shelton can now unambiguously prove that rules were broken, and show what machines were involved. Observer's robust network trending and reporting tools offer a complete picture.

"It's nice to have back-up when you're trying to resolve an issue," said Shelton. "We had lots of students setting up ghost DHCP servers. Before, it was a hunch and the student would get very defensive. Now I simply say 'This data shows me this is your machine and you need to deal with it.' Before they didn't want to admit it, now they can't dispute it. No more arguments. With Observer, I'm better at my job, and that's all there is to it." 

"With Observer, I'm better at my job, and that's all there is to it."

-Nellie Shelton

### About Remote Probes

Through the deployment of Advanced Probes, Network Instruments offers scalable, distributed monitoring solutions for remote networks. From one location, administrators can view statistics in real-time, produce long-term trending reports and capture packets for in-depth analysis from any remote network. Probes eliminate travel time and reduce expenses by resolving network issues from one location.

### About Virus and Attack Signatures

Observer uses Filters to watch for virus and attack signatures and sends an immediate notification with Triggers and Alarms if security threats are detected. An administrator can then take appropriate action to isolate the concern, such as detaching infected devices from the network. New security filters are released periodically, keeping up with the latest virus and attack signatures.

### About Triggers and Alarms

Observer's Triggers and Alarms allow administrators to set an alarm for a particular network condition activity (using customized filters or convenient presets) and trigger an action to occur when the condition is present. Multiple triggers can be set to run currently. Actions can be pop-up windows, printed trouble tickets, or information appended to an event log. Triggers can also be set to execute a user-defined program – such as an email package or paging software. Triggers and Alarms provide instant notification of abnormal network activity and improve response time.

### About Real-Time Statistics

Observer offers flow-based statistics for all network speeds up to gigabit. Statistics can be displayed in multiple formats, including graphs, charts and list views. Real-Time Statistics help quickly identify trends and network abnormalities, or test throughput and verify observations. Statistics are offered in real-time for any segment or server, and using Observer's unique switched modes, by port or ports in switched environments.

### About Network Trending

Observer includes Network Trending to help administrators understand what is normal for their network. Network Trending provides the baselining necessary to collect, store, view and analyze network traffic statistics over long periods of time. Through Network Trending, administrators can continually monitor their network health and recognize signs and symptoms of network inefficiencies.

### About Network Instruments, LLC

Network Instruments is the industry leading developer of distributed, user-friendly, and affordable network management, analysis and troubleshooting solutions. The award-winning Observer family of products combines a comprehensive management and analysis console with high-performance Probes to provide integrated monitoring and management for the entire network (LAN, 802.11a/b/g, Gigabit, WAN). All Network Instruments products are designed utilizing Distributed Network Analysis (NI-DNA™) architecture. With NI-DNA, the Observer solution set simplifies network troubleshooting and management, optimizes network and application performance and scales to meet the needs of any organization. Founded in 1994, Network Instruments is headquartered in Minneapolis, Minnesota with offices in London, Paris and throughout the USA with distributors in over 50 countries. More information about the company, products, innovation, technology, NI-DNA, becoming a partner and NI University can be found at [www.networkinstruments.com](http://www.networkinstruments.com).

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