

Click, Examine, Identify

Europe's leading mobile retailer uses Observer® Suite to monitor and troubleshoot its business-critical network infrastructure.

As Europe's leading mobile communications retailer, The Carphone Warehouse provides mobile equipment and accessories through 1100 stores across the region. Based in the UK, the company has over 480 domestic locations and operates as The Phone Warehouse across 11 markets in Europe. The Carphone Warehouse Services are responsible for post-sales care of over one million subscription customers on behalf of a selection of networks across Europe, including Vodafone and O2 in the UK.

All businesses today rely heavily upon computer networks to provide superior customer service and support, but in the mobile phone industry network downtime can be lethal. Mobile customers throughout Europe depend on The Carphone Warehouse stores for plan upgrades, plan changes, superior service and round-the-clock tech support.

Network administrators at The Carphone Warehouse headquarters work with first and second line network support teams located across Europe to ensure uptime. The entire group consists of over 35 network administrators who require the best equipment to do their job efficiently. For complete network monitoring, analysis and troubleshooting solutions, The Carphone Warehouse uses Observer by Network Instruments.

Network Overview

As a senior network analyst for the company's Network and Telecom Team, Steve Phelan is responsible for network architecture, security and management of network traffic. In this critical position, Phelan helps to design the network topology, monitor for threats and provide support to stores and over 7000 employees.

The network is Ethernet-based and each country utilizes its own private branch network over DSL terminating at the head UK office. "Our network contains a little bit of everything," Phelan explains. "It's predominately a switched backbone with some wireless, GIG and 100MB. We also use a VPN to connect to the Internet and back to the UK."

A Stronger Alternative

Convincing the group a network management tool was needed was not a challenge; many administrators already had experience with various network management options. After downloading an evaluation version of Observer from the Network Instruments' website, they tested the different features and functionality while comparing Observer to other products.

"For starters, the free tools weren't up to the job," said Phelan. "And we had used Sniffer® (from Network Associates®) and EtherPeek™ (from WildPackets™) but were asked to find a stronger alternative. Observer is very reasonably priced, but that's not what did it for us. We enjoyed the ease-of-use, point and click features and the effortless packet capture capabilities."

Visibility is Vital

The Carphone Warehouse purchased Observer Suite, which includes RMON and SNMP device management, and Advanced Probes for remote monitoring. Probes allow administrators to monitor multiple network sites located anywhere from a single console.

"The single most important benefit of Observer is visibility," said Phelan. "Our network consists of many remote users connecting to centrally located servers. We think it should work but for some reason or another remote users were not able to connect. Observer provides a real-time snapshot and I can see how the network is connecting and performing."

Eliminating Guesswork

Observer offers Expert Analysis for more than 450 events; these events identify network abnormalities and offer predictions to the cause of the problem. The Expert Observer system greatly speeds troubleshooting by eliminating the guesswork when resolving complex hardware/software challenges.

"You solve problems faster because it's so simple," said Phelan. "Click-click-click, examine and identify. There are other ways to go about resolving issues, but this just saves time."

Improve Response with Triggers and Alarms

Observer provides insight into the network with critical statistics like network Top Talkers, bandwidth utilization and protocol distribution. Network Summary Mode offers a complete snapshot of the entire network health in one screen. By understanding network threshold levels, the IT staff knew, for example, that if bandwidth utilization on a port exceeded 75%, this would lead to performance degradation. By first setting up triggers on events requiring attention and then configuring alarms that sent an email or page, the IT staff can respond to issues immediately.

"Initially we used Observer for basic troubleshooting," said Phelan. "When I first installed Observer, I was impressed by the amount of stats we instantly received. Then we configured the Triggers and Alarms to quickly respond to issues. We can do triggers on individual events, like monitoring packets produced per second. With Observer we immediately know about abnormal bandwidth utilization."

In summary...

About The Carphone Warehouse

Founded in 1989 by Charles Dunstone, The Carphone Warehouse Group PLC is Europe's leading independent mobile communications retailer. The company employs over 7,000 people working across the stores, the support centres, the call centres, the online teams and the direct sales teams (telesales). The Carphone Warehouse operates in 11 European markets under the brand name, The Phone House.

Challenge

With over 1100 stores, the IT team needed a powerful network management solution to gain insight into the network to watch for network connectivity, speed troubleshooting, and maintain uptime.

Solution

By introducing Observer Suite and remote Probes into the network, The Carphone Warehouse IT organization isolates the latest security threats, efficiently deploys new technologies like VoIP, and maintains complete round-the-clock network visibility.

"Observer offers an immediate return on investment... I know the network is performing up to standards and that's the comfort level I am looking for."

**Steve Phelan,
Senior Network Analyst,
Network and Telecom Team,
The Carphone Warehouse**

Tracking VoIP Deployment

With a network of this size, implementing a new technology requires sufficient testing. When The Carphone Warehouse IT team decided to deploy Voice over IP initial user expectation was high, but expectations quickly dropped once complications arose. With Observer, Phelan could track VoIP traffic, decode VoIP protocols, obtain Expert VoIP analysis and save or play VoIP voice conversations and streaming video.

"We deployed VoIP on a remote site and experienced a lot of initial teething problems," said Phelan. "For example, the sound would drop out. Observer helped us identify problem areas and helped us pinpoint the location to implement Quality of Service measures. The time it took to make the necessary technical improvements was greatly reduced. Observer helped improve the performance of VoIP on our network."

Isolating Security Threats

Responsible for security and firewalls, Phelan has many security products at his disposal. However, when the Welch worm attacked the company's systems – Observer helped identify the virus and isolate the infected devices.

"We could view the traffic, drill down to the top talker, find the MAC address, identify the port and disable the device," said Phelan. "This cut out days and days worth of outage time. No other security tool could have found this as quickly and as easily. Observer helped us identify which rogue machines had the virus and we were able to disengage them from the network."

Meeting Tomorrow's Network Challenges

Many of Observer's enhancements are made because of customer feedback. Phelan had spoken to technical support on expanding the packet capture buffer. In September of 2003, Network Instruments released a new version of Observer, which included the first 4GB memory buffer. Now administrators can keep up with an enterprise volume of traffic. New user configurable memory allocations let administrators fine-tune each of Observer's statistical modes. As networks continue to evolve, the team at Network Instruments will continue to develop cutting edge management solutions to meet the challenges of tomorrow's networks.

"I was pleased to hear about the new 4GB packet capture buffer in the new version," said Phelan. "The 102MB buffer was too small. Observer 9.0 is going to be even more useful to us. Observer offers an immediate return on investment. Ultimately, I know the network is performing up to standards and that's the comfort level I am looking for."

About Advanced 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 Real-Time Expert and Expert Analysis

Observer's Real-Time Expert collects critical events; breaks down conversations into subprotocol groups and instantly identifies problems as they happen. The Expert Summary Problem Analysis shows all error events in a single concise display. Further analysis, including causes of errors, can be obtained on any connection-oriented problem with a simple drill-down.

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 VoIP Expert

Observer's VoIP Expert helps monitor VoIP connections to improve performance across the organization. Observer tracks the amount of VoIP traffic on the network, both globally and by user; decodes VoIP protocols; and offers Expert VoIP analysis including video. Observer's complete decode of H.323 ensures administrators having the tools they need when voice and data problems arise.

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 the 4GB Packet Capture Buffer

The industry's largest memory buffer allows for increased packet capture size and substantial time frames for Expert Analysis. A 4GB buffer can capture 40x more troubleshooting data for accurate high-speed, high-volume examination. The user-defined memory model lets each administrator fine tune Observer's individual memory mode usage.

About Network Instruments, LLC

Network Instruments is the industry leading developer of innovative, 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 remote Probes to provide integrated monitoring and management for the entire network (LAN, 802.11 a/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, throughout the USA and distributors in 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.

About The Carphone Warehouse Group PLC

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