INTEROP NET

CONFERENCE NETWORK DEMANDS "101%" UPTIME

World's largest temporary network relies on proactive monitoring

"How satisfied were we with Net Optics? Very satisfied. Hugely." – Geoff Horne, InteropNet architect

Director™

Industry:
Information Technology

Objective:
Provide pervasive monitoring access for InteropNet, the high-performance network serving the Interop Las Vegas and New York conferences

Approach:
Tap into the InteropNet with an expanded multi-unit system of Net Optics Director Data Monitoring Switches

Technology Improvements:
- Ability to connect any feed to any monitoring tool
- Reduced access solution footprint
- Aggregation of feeds down to a single pair
- Remote visibility and control

Business Outcomes:
- Confident of delivering "101%" uptime at Interop
- Number of help desk tickets reduced
- Tickets closed faster (MTTR lowered)
- No open tickets or unsolved cases

Net Optics Provides Monitoring Access for InteropNet

When IT professionals and business leaders from around the world want to see the latest technology innovations, they head for Interop. When the Interop Network Operations Center (NOC) team began planning the con's network, InteropNet, they headed straight to Net Optics for their monitoring access solutions, selecting Net Optics as a Protocol Analysis and Network Security/Forensics Co-Sponsor.

2009 marks the first year the InteropNet has depended on a single vendor to tap into the network, and Net Optics was the vendor they chose. In past years, Net Optics contributed fiber and copper traffic access ports (Taps), regeneration Taps, and optical cables to a multi-vendor InteropNet access topology. This year, Net Optics extends its support with the new Director Data Monitoring Switch, a multi-function, high port density access solution.

Unique Requirements

InteropNet is unique in many ways. It is the largest temporary network in the world, serving tens of thousands of end users. The network "lives" for only five days at a time, but it absolutely needs to deliver what one NOC engineer termed "101% uptime"—because how would it look for the industry's high-tech showcase to have a down network? Besides, the impact of a single outage on the ability of conference vendors to demonstrate their products, as well as the impact on conference productivity, would be tremendous.

InteropNet is unique in other ways, too. It would be hard to imagine a network that more seriously illustrates the meaning of "multi-vendor," with more than 500 top vendors from throughout the IT industry showcasing their latest products. In fact, some of the products may still be in their alpha or beta test phases, and might behave in a manner rarely seen on "normal" production networks. The NOC team is multi-vendor as well, with 30+ volunteers drawn from industry, universities, and even the technical press. The necessity of repeatedly tearing down the network, shipping it to a new location, and rebuilding it in ten days is yet another unique challenge.

Web Manager browser-based management tool

SpyNet for Monitoring

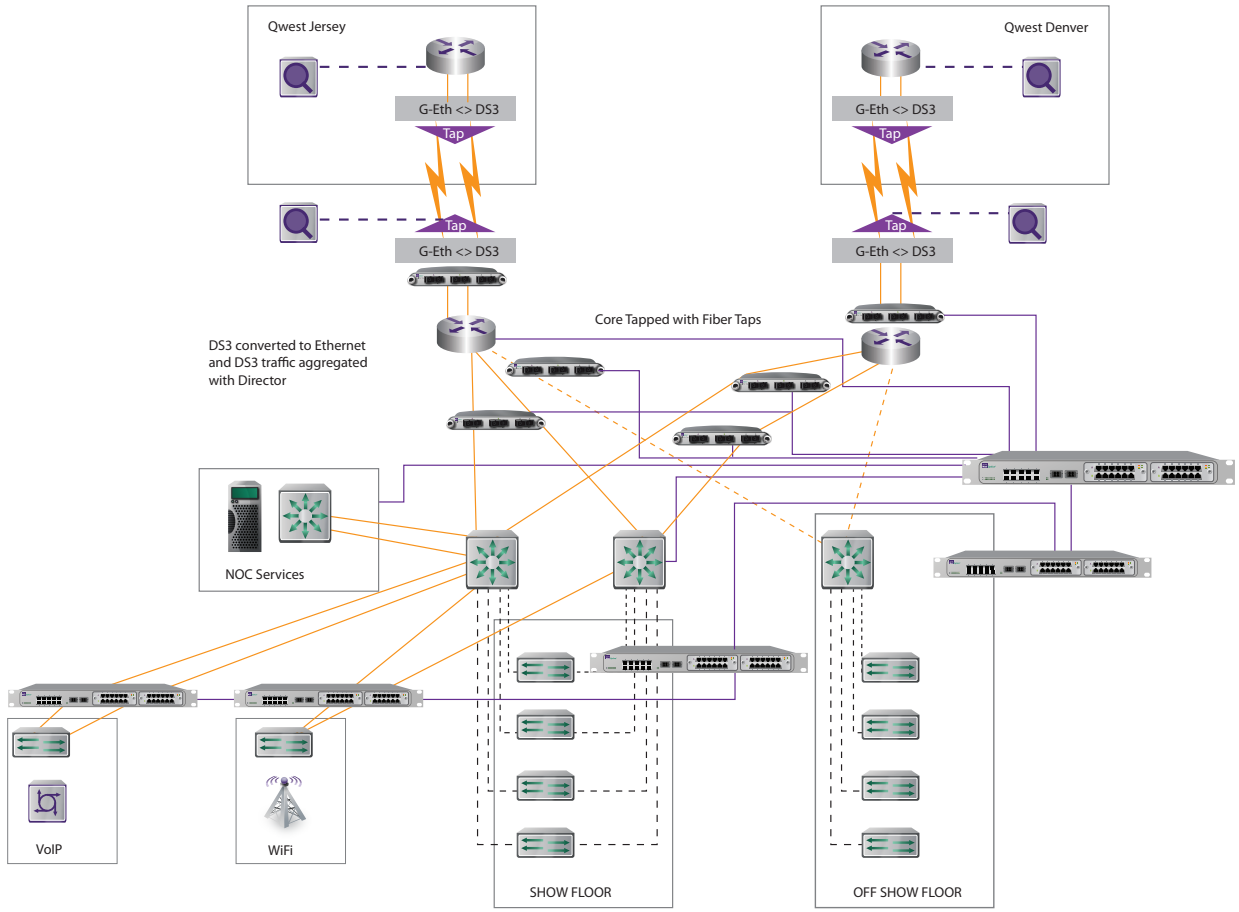
To meet these requirements, the architecture of the network is highly redundant, and proactive monitoring is a must. "The only way," commented InteropNet architect Geoff Horne "… is to have

incredibly detailed forensic data on what the network is doing—to analyze information right down to the switch port."

The NOC team considers monitoring so important that, rather than build a management VLAN, they build a physically separate management network with its own cable plant, dubbed SpyNet. This secondary network is totally isolated from the Internet and the outside world, and carries only management and monitoring traffic, ensuring that monitoring access is always available and does not impact—and cannot be impacted by—traffic on the production network.

The InteropNet NOC team decided to rely on Net Optics for this year's SpyNet implementation because they were "hugely"

- It regenerates the same traffic stream to multiple tools, enabling multiple types of analysis to operate in parallel, or multiple engineers to work on the same traffic stream independently without conflict.
- It can filter the traffic by protocol, IP address, or other criteria to drill down on problems and to prevent tool overload.
- It downshifts 10 Gigabit traffic so it can be viewed by 1 Gigabit tools.
- It upshifts 1 Gigabit links —or traffic aggregated from many 1 Gigabit links—so it can be viewed by 10 Gigabit tools.
- It provide link status including RMON traffic statistics on all of its network and monitor ports.



InteropNet production network (orange and dotted lines) and SpyNet (purple lines) with five Net Optics Director Data Monitoring Switches

satisfied with the performance of Net Optics equipment—and expertise and service—in past Interops and in their outside professional lives. In addition, the new Net Optics Director product was just the thing a SpyNet needs. Director enables copies of traffic from any critical link in the production network to be routed under remote software control to any tool in the NOC, including state-of-the-art protocol analyzers, forensic recorders, and VoIP analyzers. Besides simply routing the monitor traffic, Director also provides these important capabilities:

- It aggregates traffic from multiple links to a single tool, enabling tools to see more traffic at once.

A Single Multi-Unit System

To provide SpyNet functionality for the entire InteropNet, five Director chassis are daisy-chained to provide a single logical system physically distributed around the conference locations. The five chassis together provide 136 ports consisting of:

- 10 10-Gigabit fiber ports
- 26 1-Gigabit fiber in-line network links (two ports each)
- 6 1-Gigabit copper in-line network links (two ports each)
- 12 1-Gigabit copper Span port connections (one port each)
- 50 1-Gigabit SFP monitor ports

The chassis are connected in a daisy-chain configuration using 10-Gigabit fiber links (not included in the above port count) which enable the chassis to be separated by as much as 40 kilometers (25 miles) if ER links are used. The needs of Interop are met with SR inter-chassis links with a reach of 300 meters (1000 feet) between chassis. The distributed Director system replaces a previously-used test access system that had a much larger footprint and required running 36 fiber pairs to a central location, as opposed to the single fiber pair interconnecting Director chassis.

Command and Control

The entire five-chassis Director system is commanded through a single management interface on the daisy-chain's "master" unit. A command-line interface (CLI), accessible from anywhere on the SpyNet using an SSH connection, provide an efficient and familiar interface for the Interop NOC experts. A Web-browser based graphical user interface (GUI) called Web Manager is also accessible from anywhere on the SpyNet, and presents a friendlier, more intuitive interface for users unfamiliar with Director.

With either the CLI or Web Manager, NOC professionals can easily view the status and activity on any of the links and Span ports connected to the Director chassis. They can also direct traffic from any feed to any tool connected to the Director monitor ports—regardless of the match between the link and tool speeds and media types. For example, a 1 Gigabit copper link can be monitored by a 10 Gigabit fiber tool just as easily as with a 1 Gigabit copper tool.

The Proof is In the Tickets

The Director-based SpyNet began proving its worth at the Hot Staging of InteropNet in Fremont, CA, in April 2009. The NOC team reported noticeably fewer trouble tickets being generated, and the tickets that did show up closed more quickly than in the past. No tickets remained open for long. The real test of SpyNet will happen when InteropNet goes live at Interop in Las Vegas May 17 to 21. With the best monitoring tools the industry has to offer, and 100 percent traffic visibility provided by SpyNet and Director, most network issues should be resolved before users are ever impacted, and unsolved cases should be only a memory of conferences past.

To learn more, visit
www.netoptics.com

Corporate Headquarters
Net Optics, Inc.
5303 Betsy Ross Drive
Santa Clara, CA 95054
Phone: 408-737-7777