

in a nutshell...

Industry

Event Technology Services

About Smart City Networks

Smart City is the nation's largest provider of event technology, including voice, data, and wireless services.

The Challenge

Scale network management and security for the world's largest consumer technology event, with no downtime, and provide evidence for SLA Policy enforcement.

The Solution

The OmniPeek Distributed Analysis Suite gives network engineers real-time visibility into every part of the network simultaneously from a single interface, including Ethernet, Gigabit, 10 Gigabit, 802.11a/b/g/n wireless, VoIP, Video, and WAN links to remote offices. Using the OmniPeek Distributed Analysis Suite, network engineers can rapidly troubleshoot faults and fix problems to maximize network uptime and user satisfaction.

The OmniPeek Distributed Analysis Suite comprises OmniPeek network analyzers and consoles, as well as distributed OmniEngine software probes, Omnipliance Network Recorders, and OmniAdapter Analysis Cards, which continuously capture, analyze and store data at remote locations on the network.

Smart City Networks Remains Problem-free with the OmniPeek Distributed Analysis Suite

Founded in 1984, Smart City Networks is the nation's largest provider of event technology in the convention industry, providing clients with design, installation and maintenance of data, voice, electrical and utility platforms, coupled with unparalleled voice and data network engineering, security and monitoring across the United States. Smart City has deep roots in telephony, broadband data and cable television, and a significant presence in the convention, hospitality and master planned community markets.

For the past 8 years, Smart City Networks has provided technology services for the International Computer Electronic Show (CES), the world's largest consumer technology tradeshow, which is held each January in Las Vegas, Nevada. The show, which has been growing each year, hit a new record in 2006. Attendance swelled to more than 150,000 attendees from 110 countries. On the first day, when 2,400 exhibitors spread over more than a dozen facilities citywide, turned on 10,000 computers all at once, the network and the means to manage it had to be robust and responsive. In recent years, show managers have been concerned about the increasing threat of viruses and worms. Scalability had become an issue with many network management and troubleshooting products. With only 36 show hours available for exhibitors to impress attendees, downtime was not acceptable, and response time was critical. For this year's CES—the largest tradeshow that they support—Smart City Networks turned to the WildPackets OmniPeek Distributed Analysis Suite for network monitoring and troubleshooting.

Planning for the event begins a year in advance. Smart City must support any number of different operating systems, in multiple languages for participants with variable levels of knowledge about how to connect to a network. They built more than 180 VLANs on two physically diverse networks, with a combined 1.2 million concurrent conversations.

Smart City contracted with WildPackets premium partner Open Access Systems Corporation (Oasys) to set up OmniPeek, and to provide dedicated expertise for monitoring the network during the show. Oasys is a leading reseller and systems integrator based in Bloomingdale, New Jersey.

The two physically separate networks each required 1 Gigabit of bandwidth, one for local use to Smart City's Nevada network operations center (NOC) and one for Internet access. The first day of the show, when thousands of computers start up, is particularly critical. Rapid alert and response time to any problems are essential. Using OmniPeek, the Oasys team monitored all key conversations in real-time during the show, and were able to provide Smart City with accurate evidence to

About WildPackets

WildPackets develops hardware and software solutions that drive network performance, enabling organizations of all sizes to analyze, troubleshoot, optimize, and secure their wired and wireless networks. WildPackets products are sold in over 60 countries and deployed in all industrial sectors. Customers include Boeing, Chrysler, Fidelity, Motorola, Nationwide, and over 80 percent of the Fortune 1000. WildPackets is a Cisco Technical Development Partner (CTDP). For more information, visit www.wildpackets.com.

WildPackets Training

WildPackets Training offers comprehensive network analysis instruction, meeting the professional requirements of network managers at all levels. All course offerings are available in public venues and as customizable on-site programs. For complete course outlines and schedules, visit www.wildpackets.com/academy.



Even with the largest CES yet, WildPackets' OmniPeek and the creative expertise of their VAR Oasys resulted in the most acceptable CES to date in proactive analysis, response time, scalability, and innovative solutions on the fly.

— *David Langford*

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confirm the source of various customer problems. For example, if a customer complained that a particular web site was either not up or not fast enough, Oasys used OmniPeek to pinpoint the source of the problem. Oasys was able to determine that slow network response in one case was due to a user downloading Microsoft updates, causing the server to time out.

While in monitoring and tracing-to-disk mode, OmniPeek was also filtering for viruses, using virus filters that WildPackets releases whenever a major virus outbreak occurs. In recent years, WildPackets has released filters for all the major viruses, including Sapphire, Zoptob, Sasser, and MYDoom. Once a filter is enabled, OmniPeek can detect a virus in a packet stream. Upon identifying a virus, Oasys immediately took action based on results seen in OmniPeek and closed all the ports associated with the virus. At CES, OmniPeek did this before the network's IDS devices had even detected the virus's presence.

Smart City was particularly impressed with the utilization analysis Oasys did for Network Address Translation (NAT) router usage. Smart City plans show bandwidth requirements based on exhibitor orders for IP addresses. The use of NAT routers (which allow a network to share a single internet connection over a single IP address) can skew the actual number of computers connecting. Using OmniPeek's deep trace analysis to look at IP addresses and flows, and by creating a graph of IP identifiers over time along with address translation, Oasys was able to see additional stations behind each IP address.

Address translation allows you to translate logical or physical source and destination addresses into vendor-specific or familiar device names. The ease and flexibility with which captured data can be imported and exported to other applications (such as Excel) adds to the power of OmniPeek for solving problems like how many users were connecting behind NAT routers. For example, an exhibitor may request five IP addresses, but actually connect 100 machines to the network! This unexpected load could negatively impact the entire network.

The Smart City team knows that NAT routers are useful, but expect exhibitors to understand the importance of being honest. Utilization can suffer when customers use bandwidth beyond their contract rate. Oasys provided Smart City with documentation they used for Service Level Agreement (SLA) policy enforcement. That enabled Smart City to provide better customer service in the form of more accurate bandwidth planning.