



## Comcast Spectacor

### Where Action Is in the Game and on the Network

Comcast Spectacor, the Philadelphia-based sports and entertainment firm, owns and operates the state-of-the-art First Union Center and the First Union Spectrum.

**Industry:**

Sports and Entertainment

**Number of Nodes:**

500 nodes in central location with a 200-node Frame Relay network to remote sites

**Services:**

Owns and operates the First Union Center and the First Union Spectrum in Philadelphia. Also owns and manages the Philadelphia Flyers and Phantoms, the Philadelphia 76ers, Global Spectrum, and the Flyers Skate Zone

**Challenge:**

Making High-Performance Networking the Standard—from the Data Center to the WAN

**Solution:**

High-Performance X-Pedition Router, Chosen in the First Round

**Benefits:**

- High capacity to handle demanding network traffic
- Offers superior wire-speed performance and uptime with application control—even under the most demanding conditions
- Guaranteed security and end-to-end Quality of Service (QoS)
- Standards-based functionality to accommodate VLANs allowing network segmentation while maintaining performance
- Gigabit Ethernet provides a cost-effective, robust solution

A standard by which all other sports and entertainment venues are measured, the First Union Center was the first arena in the world to have an on-site microbrewery, a cigar club and a 24-hour regional all-sports network, Comcast SportsNet, with studios located on the concourse. The Center also boasts the new Comcast Tech Center which brings computer-based interactive kiosks with high-speed Internet and intranet capabilities to the facility's 126 luxury suites and 14 club boxes.

The First Union Center's "brother" arena, the First Union Spectrum, has been a part of the Philadelphia landscape for more than 33 years.

In addition to the arena complex, Comcast Spectacor owns and manages the Philadelphia Flyers and Phantoms hockey clubs; the Philadelphia 76ers basketball team; Global Spectrum, a facilities management company; and the Flyers Skate Zones, facilities which allow people in the Philadelphia area to experience ice and in-line skating, and hockey. Comcast Spectacor also provides marketing, promotions and publicity support to the Philadelphia Wings lacrosse team.

**The Challenge:****Making High-Performance Networking the Standard—From the Data Center to the WAN**

Like many enterprises today, Comcast Spectacor is the parent to a number of different businesses, each performing similar day-to-day functions, yet working toward its own distinct objectives. All organizations share a common network.

According to Tom Hartman, Comcast Spectacor's director of information technology, and Tom Chapman, the company's manager of networks and IT infrastructure, the Comcast Spectacor network spans the First Union Center and First Union Spectrum and then moves out across the WAN to remote sites that account for all other business operations.

"Employees of Comcast SportsNet, the Flyers, 76ers, and Phantoms rely on the network. They look to it for typical operational functions like payroll and finance as well as for areas like sales and marketing. Really, we use it to meet every business requirement you can think of and it has been so stable that 99% of the users just take it for granted," explains Hartman. "The network also plays a vital role in the First Union Center's Comcast Tech Center which gives customers in our luxury suites and club boxes high-speed Internet and intranet access."

“Beyond the Center and the Spectrum, we have eight sites on our WAN,” adds Chapman. “These include the Flyers’ training facility and front office management, the 76ers’ training facility and front office, as well as two corporate sites and two Skate Zones.”

For Comcast Spectacor, these remote sites are much more than small offices in disparate locations. In fact, significant business operations, with diverse business requirements, take place away from “headquarters” at these remote sites. So the company needed a robust networking solution that could stand up to the requirements of all those who used it—including reliable, on-demand access and security to protect information.

### **The Solution: High-Performance X-Pedition Router, Chosen in the First Round**

Comcast Spectacor has been an Enterasys Networks™ customer since its inception more than seven years ago. In fact, Enterasys engineers helped design the organization’s first network. For Hartman and Chapman, upgrading the network to meet the new demands of the business meant turning to Enterasys for a solution that would stand up to their requirements today and those they anticipated for the future.

“Comcast Spectacor is a highly entrepreneurial company. In the last few months, for example, we’ve purchased a facilities management business, bringing the number of organizations within the company to eight,” Hartman explains. “From an IT perspective, this way of doing business means we need a network that can grow with us. New businesses and systems must be integrated rapidly so everyone can work cooperatively and productively. When it was time to upgrade, we looked to Enterasys and the X-Pedition Router (formerly the SmartSwitch Router). In fact, I’d say that the X-Pedition has already proven its worth by letting us expand and manage our recent growth very dynamically.”

Today, Comcast Spectacor employees and customers benefit from an Enterasys network that includes 16-slot X-Pedition Routers as well as Matrix E6s, Vertical Horizon 2200s and NetSight Element Manager. “We have an essentially flat network: a gigabit fiber backbone to two 16-slot X-Pedition Routers, supporting about 500 nodes in the Center and Spectrum.

From the data center, we bridge out to our wiring closets with Matrix E6s and Vertical Horizon 2200s, and then we extend with 10 megabit to the workstation,” says Chapman. “Roughly 97% of our traffic is either IP or IPX, although we also use some AppleTalk with 6 or 7 stations for our Graphics department.”

From the core of the Comcast Spectacor network, the 16-slot X-Pedition offers the capacity the company needs to handle its demanding and diverse network traffic including virtual LANs, as well as pinpoint control, simplified manageability, and full-function, wire-speed IP/IPX routing. With the 16-slot X-Pedition on the backbone, network throughput exceeds 31 million packets per second.

“We’re using the X-Pedition’s VLAN capability to support three virtual networks. The first is a production network that all workstations use to run day-to-day business operations. The second hosts web sites for Comcast Spectacor, the Global Spectrum, the First Union Center, and the Flyers and Phantoms. The third virtual network provides bandwidth for the Comcast Tech Center servers and workstations which in turn support the kiosks in the First Union Center’s luxury suites and club boxes,” explains Hartman. “Because of Enterasys equipment, we’re able to easily accommodate all three VLANs, segmenting the network without impacting functionality, performance or security.”

X-Peditions extend the policy-based, application-level quality of service to the desktop via the Matrix E6. When combined with the award-winning X-Pedition, the Matrix E6 delivers scalability, advanced functionality and guaranteed quality of service right to the end user—without sacrificing wire-speed performance. This means that all network users, whether at headquarters, in a luxury suite, or at a site on the WAN, can count on consistent application performance.

And with a business like Comcast Spectacor where the network is so critical, the quality of service built into both the X-Pedition and Matrix is important. “Everything we do on a day-to-day basis depends on the network, so it goes without saying that the network has to be up—making quality of service essential,” says Chapman. “For example, we’re in an industry where a percentage of revenue depends on ticket sales, and we use the network to sell tickets. If the network is down and tickets aren’t sold, we can’t do business.”

Importantly for Comcast Spectacor, the X-Pedition’s WAN interfaces extend the switch-router’s benefits to the company’s eight remote locations, enabling wire-speed, application-level control to the WAN edge. “Our WAN is a 200 node Frame Relay network that connects directly to the 16-slot X-Pedition in this facility for control and manageability,” explains Hartman.

The security embedded in Enterasys technology is important to the company as well. Thanks to the network's security features, data from a remote site—the point-of-sales system of a Skate Zone, for example—can be entered and sent over the Frame Relay network to a shared application in the central facility, securely and without a performance penalty. In fact, the point-of-sales system provider used the SkateZone network model as a template for future sales.

The types of data transmitted over the network are as diverse as the companies who rely on it, and ranges from ticket scanning and bar coding to web traffic and audio/video streaming. "The network handles ticket scanning," explains Chapman. "When someone presents a ticket, it's scanned by a hand-held device and the data is then transmitted to a wireless transceiver and on to a Matrix and into the ticketing database. This provides real-time feedback on the authenticity of the ticket and gives an accurate attendance count, saving at least four hours per event."

The X-Pedition also enables streaming audio and video for 140 kiosks—the Comcast Tech Center—in premium seating, club seating and suites. Hartman explains in addition to accessing the Internet, high-speed 100-megabit switching allows visitors to see and hear event promotions, replays and other video clips. "There is about a seven-minute turn around per clip and each is about a minute long," he says. "On average, the network allows us to create clips that are about 7 times larger than the ones you'd see on the Internet with each clip running at 600 kb per second streaming rate. We give customers the best of both worlds: live action at the game and robust network access on the monitor. They can view replays and videos on demand."

### **Service and Support—A Valuable Player Off the Bench**

For Hartman and Chapman, the level of support they've come to expect from Enterasys is a primary factor in their decision to continue to upgrade with Enterasys solutions. Both credit the relationship they've established with their Enterasys account representative and engineer, and each can point to specific examples of how Enterasys' commitment to service really paid off.

"Comcast SportsNet depended on equipment that used LANtastic as a protocol and accounted for about 90% of our network traffic," said Chapman. "Upgrading was cost prohibitive, yet doing nothing was really affecting performance. Thanks to the efforts of the Enterasys engineer who worked with us, we were able to separate LANtastic traffic from other network traffic, and improve the performance of all protocols as a result."

"We've always had outstanding service from Enterasys," Hartman adds. "They literally 'drop everything' to give us help when we need it. To many other vendors, we'd probably be considered a 'small fish,' but with our Enterasys reps, I feel like our business is valued. I know we wouldn't get the same level of service anywhere else."

## Contact Us

For more information, call Enterasys Networks toll free at **1-877-801-7082**,  
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