



## Siemens Enterprise Networks Group

### Partnering for a Practical and Reliable All-IP Communications Network

Encompassing more than 480,000 people in 190 countries, Siemens is one of the world's largest and most successful companies providing innovative communication solutions to millions of business and consumer customers. Skyport is the Silicon Valley site of Siemens' Enterprise Networks group, a leading-edge developer of IP telephony solutions built upon industry standards.

**Industry:**

IP Telephony Networking Solutions

**Number of Users:**

850

**Applications:**

IP phones, unified messaging, click-and-dial directory applications, all-media contact center

**Challenge:**

Ensuring cost-effective, end-to-end Quality of Service for voice and data users

**Solution:**

A smart and powerful connection via Enterasys switches and routers

**Benefits:**

- Best-of-breed partnership delivers quintessential converged network
- X-Pedition™ switch routers' Layer 4 application control supports latency-sensitive voice applications
- Matrix™ multilayer switches extend Quality of Service to user groups
- Intelligent infrastructure differentiates and prioritizes voice over IP as well as traditional PC/server traffic
- Simple, centralized administration maximizes network uptime while keeping costs down
- Interoperability with existing circuit-switched PBXs protects investments

The Enterprise Networks group product line includes a native communications-over-IP platform, or softswitch, and is the foundation for deploying a number of state-of-the-art, IP-based enterprise applications in a production environment and for the testing of next-generation applications. A combination of IP phones and softclients support Skyport's user community. Productivity is enhanced through award-winning unified messaging applications, innovative click-and-dial directory applications, and a centralized management system, which allow for single point-of-access administration via a web browser. An all-media contact center provides technical help-desk support to Siemens employees throughout the US.

The 850 employees at the Siemens' Skyport site have daily opportunities to demonstrate and interact with Siemens' IP telecommunications technology and applications in their development and marketing activities. Situated in a campus-like environment in San Jose, California, Skyport is the industry's first large campus to build a converged IP voice and data network from the ground up, and is the definitive example of an innovator partnering with other technology leaders such as Enterasys Networks to create a next-generation solution that benefits its customers as well as its own employees.

**The Challenge:****Ensuring Cost-Effective, End-to-End Quality of Service for Voice and Data Users**

As a major voice in the industry for convergence, Siemens chartered itself to create a "living, breathing" tightly integrated IP infrastructure, offering seamless voice and data services to all end users. Joe Estes, Director of Technology, Architecture & Planning for Siemens Enterprise Networks, explained the goal of the converged infrastructure. "Convergence has been talked about for quite a while, but there were always questions about the

reliability and cost effectiveness of an all-IP communications network. As a leading proponent of voice-over-IP technology, we wanted to build a showcase network that our customers, partners and employees could see as a working example of what all the talk has been about. That was our plan; the challenge was pulling it all together, on time and on budget," Estes said.

Estes and his team evaluated solutions from several vendors, including Enterasys Networks. Since all communications would be centralized over this network, the equipment had to have the throughput and intelligence to support real-time voice-over-

IP applications as well as traditional PC/server traffic. More specifically, the LAN needed to ensure Quality of Service (QoS), provide full redundancy, and be easy to configure and manage.

### **The Solution:**

#### **A Smart and Powerful Connection via Enterasys Switches and Routers**

Siemens and Enterasys Networks have enjoyed a global and strategic technology partnership since 1999: Siemens with expertise on the IP real-time voice platforms and applications, and Enterasys from the network infrastructure side. Estes elaborated: “We utilized primarily 3Com LAN equipment at our old Santa Clara site, but it became apparent that Enterasys was a better fit for us—here at Skyport and as a proven technology partner in general. Enterasys brings innovative, award-winning technology to the IP environment. When you can combine their expertise with our own experience in circuit-based telephony and voice-over-IP gateways, it really is a best-of-breed partnership. We wanted to be one of the first sites to put this partnership into action.”

Estes and his team consulted with Enterasys in designing a tightly integrated solution that could be phased in systematically and efficiently without disrupting much of Skyport’s day-to-day operations. The core of the network design centers around Enterasys powerful X-Pedition switch routers—high-capacity, wire-speed IP/IPX backbone routers that offered Estes’ staff the pinpoint application control to ensure Quality of Service with latency-sensitive applications such as voice. “We knew that the X-Pedition was a robust platform that could support our heavy and differentiated traffic flows. But after seeing it in a test-bed environment, I came to fully appreciate its unique capabilities,” said Estes.

Enterasys’ Matrix™ multilayer switches provided the next link in the new IP infrastructure, delivering scalable 10/100/1000 Ethernet connectivity to Skyport’s campus buildings and departments. Because of its unique multilayer functionality, the Matrix works quite well with the X-Pedition. The switches’ acute recognition of the application layer (Layer 4) seamlessly extends real-time voice quality and reliability to the intended users as expected, with no delays or jitter. “The switch/router combination from Enterasys provided us with the requisite backbone and access technologies to support our many services and applications,” Estes stated.

While Enterasys provided the solid foundation for this converged IP infrastructure, Siemens played an equally important role with its industry-leading gateways, platforms and applications. Gateways convert voice into data-like packets for transport over the Enterasys switches and routers. “The gateways are the critical investment protection feature of any converged network,” explained Estes. “Whether a customer has Siemens’ telephony circuit switches or other vendors’ PBXs, they will want to leverage or stretch these investments as much as possible—as long as the reliability and Quality of Service are up to speed. Our gateways, with their inherent support of all relevant standards (H.323, H.450 and SIP) provide the perfect bridge between existing circuit-switched voice and today’s packet-based IP networks.”

Implementation of the converged network at Skyport began in October 2001 with just a few minor setbacks. “Because of the sheer complexity of such a project, we had some issues during installation and startup. Fortunately, the Enterasys team was a great asset the entire time, from the initial system design to troubleshooting difficulties,” said Estes. The entire project—including final testing and full-scale deployment—was completed in a little over two months. Now that the system has been up and running, Siemens is reaping the benefits of integrated all-IP communications networks. For example, at Skyport’s Executive Briefing Center, Siemens can demonstrate “Practical Convergence Today” to customers and partners using its leading-edge voice applications over the corporate LAN. “We can confidently showcase real-world, business-enhancing capabilities such as contact center, unified messaging, click-to-talk and more—essentially delivering the next-generation network today,” said Estes. “And when we can show these customers that our own employees are taking advantage of these applications in their day-to-day tasks, it makes quite a powerful story.”

Estes expects the Skyport facility to be a viable model for other Siemens’ divisions across the globe as the company looks to deploy a worldwide convergence infrastructure. Enterasys Networks will certainly be the recommended partner to help with the project. “Enterasys provided us with not just the cutting-edge technology, but also with the valuable planning, implementation and training support we needed to ensure the timely and successful completion of our all-IP communications network. They were indispensable,” Estes concluded.

## Contact Us

For more information, call Enterasys Networks toll free at **1-877-801-7082**, or +1-978-684-1000 and visit us on the Web at **[enterasys.com](http://enterasys.com)**