

Central Europe's Largest Internet Exchange Scales to Support Tripling Traffic Growth with Force10 Networks

Customer
PROFILE

Customer
DE-CIX



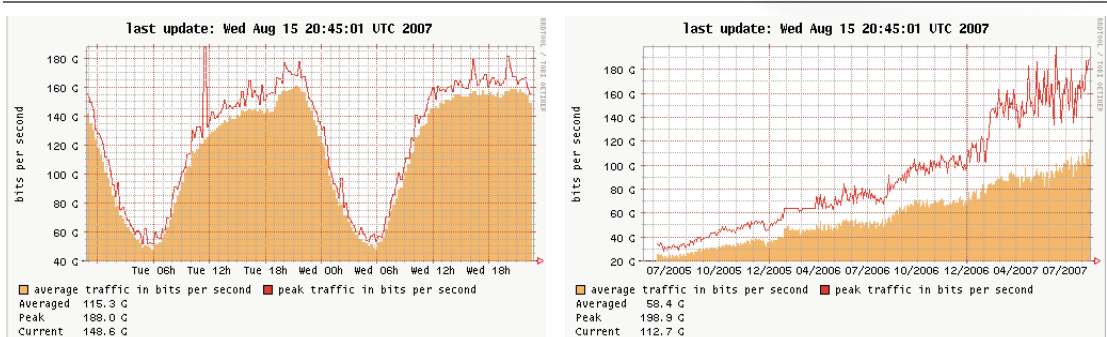
Industry
Internet Exchange

Application
Network core

Highlights
DE-CIX provides primary Internet connectivity to more than 210 Internet service providers in Europe.

"If we had not chosen Force10 and deployed the following month, our business could have collapsed; our existing equipment did not have the capability to get the traffic out of the exchange point."

Harald Summa
CEO
DE-CIX



Over the last 12 months traffic has nearly tripled from 80 Gbps to more than 200 Gbps. The Force10 TeraScale E-Series delivers scalable and predictable performance regardless of traffic peaks and lows throughout the day.

Harald Summa saw the storm clouds forming. As CEO of the Deutscher Commercial Internet Exchange (DE-CIX) in Frankfurt, Summa is used to seeing thunderstorms in central Germany. However, these storm clouds wouldn't bring rain. Instead they represented the rapidly growing Internet traffic that was threatening to wash over his business.

Founded in 1995, DE-CIX enables Internet service providers (ISPs) and content providers to peer directly with each other to significantly reduce IP transit costs and improve performance. As the largest Internet exchange in Central and Eastern Europe, DE-CIX provides primary Internet connectivity to about 210 ISPs in Europe. Those ISPs then provide services to roughly 80 percent of the population in Germany and 35 percent in Europe, respectively.

The exchange has seen its traffic grow from 30 Gigabits per second (Gbps) to nearly 200 Gbps in just 12 months. This increase was fueled by the convergence of an increase in customers, who in turn added their own new customers, and the increasing use of bandwidth-intensive multimedia applications like YouTube and Flickr.

Burdened with a networking infrastructure that could not adequately scale to meet demand, DE-CIX's marching orders were not unlike other major Internet exchanges in Europe: Deploy a core infrastructure capable of satisfying today's bandwidth demands and have the capacity and resiliency to process relentlessly increasing traffic.

"If we continue to see Internet traffic increase at the same rate that we've seen in the last 12 months and not do anything about it, in two or three years' time economic markets in Europe will slow down because Internet exchange points will not be able to handle the 400, 500 or 600 (Gbps) throughput that we anticipate," says Summa.

Clearly, the storm clouds are not just passing through.

Wanted: Vendor with a Vision

Anticipating such dramatic traffic increases, DE-CIX could experience serious service consequences if it was not able to quickly deploy its network infrastructure. Simultaneously, company officials had to feel comfortable that their equipment had the capacity to scale to meet the increasing number of customers and the traffic they created. Not surprisingly, scalability and reliability played a huge role during the vendor selection process. In addition, the exchange wanted to work with a partner that had a vision to provide a cogent product roadmap.

"It was most important that the new vendor could cope effectively with the growing traffic demands," Summa recalls. "We didn't want to be in the same situation we are in now two to three years down the road."



Central Europe's Largest Internet Exchange Scales to Support Tripling Traffic Growth with Force10 Networks

Customer PROFILE

"We made a great choice with Force10. I know other exchange points continue to use other vendors, and they have to bring in new boxes every day. With Force10, we have an infrastructure that can grow as we do."

Harald Summa
CEO
DE-CIX

Weighing all the options, Force10 Networks was DE-CIX's obvious choice. The exchange selected the TeraScale E-Series® family of switch/routers based on its scalable performance, reliability resulting from its resilient hardware and software, as well as the company's ability to deliver a smooth transition path from its existing networking equipment.

DE-CIX deployed one TeraScale E1200 in each of its four colocation facilities in Frankfurt via a redundant backbone that consists of multiple and redundant 10 Gigabit Ethernet (10 GbE) circuits connected over dark fiber. With its ability to support 1,260 Gigabit and 224 10 GbE ports, the Force10 TeraScale E1200 provides the density DE-CIX needs to offer 10 GbE services and seamlessly scale its customer base.

Additional capacity resulting from the deployment enabled DE-CIX to quickly sell 10 GbE connectivity to more than 90 new customers and migrate about 110 customers from 100 Megabit to Gigabit Ethernet ports within the first six months of deployment. Today DE-CIX is operating 100 ten Gigabit Ethernet ports. With its industry-leading port density, DE-CIX can run more links through a single E1200, simplifying overall network management. As a result, the exchange could reduce its proportionate operational costs.

High Expectations for Reliability

With 213 leading ISPs as customers, service level agreements mandate extremely high reliability requirements for DE-CIX. Growing weary of its existing equipment and knowing it would only deteriorate as traffic demands increased, DE-CIX needed absolute network resiliency. It found that resiliency in the Force10 TeraScale E-Series. Its multiprocessor architecture provides protected memory for Layer 2 switching and Layer 3 routing and management functions, creating a fault-tolerant system that can isolate issues without impacting other system processes.

To build in further reliability, the TeraScale E-Series provides fully redundant connections between the four colocation facilities. This high performance network design leverages the robust implementation of VLAN tagging and Multiple Spanning Tree Protocol in the Force10 Operating System (FTOS) software to ensure reliability in high traffic conditions or failure. By leveraging these protocols to share traffic between the redundant links, DE-CIX avoids the overhead costs of inactive redundant networking elements that stand by in a passive mode until a failure occurs. If a failure does occur, the Force10 TeraScale E-Series fails over to the secondary path with zero packet loss.

Rapid Deployment Critical to Success

For DE-CIX, the best networking technology in the world would not help their critical business situation if they could not quickly deploy. "If we had not chosen Force10 and deployed the following month, our business could have collapsed; our existing equipment did not have the capability to get the traffic out of the exchange point," says Summa.

Having witnessed similar deployments take as long as six months, DE-CIX's IT staff took just 60 days to install and migrate all its customers. "This was remarkable considering we moved 320 ports, and there wasn't a single problem."

Clear Skies Ahead

Looking ahead, Summa sees clear skies ahead for his business. "We made a great choice with Force10. I know other exchange points continue to use other vendors, and they have to bring in new boxes every day. With Force10, we have an infrastructure that can grow as we do."



Force10 Networks, Inc.
350 Holger Way
San Jose, CA 95134 USA
www.force10networks.com

408-571-3500 PHONE
408-571-3550 FACSIMILE

© 2007 Force10 Networks, Inc. All rights reserved. Force10 Networks and E-Series are registered trademarks, and Force10, the Force10 logo, Reliable Business Networking, Force10 Reliable Networking, C-Series, P-Series, S-Series, EtherScale, TeraScale, FTOS, SFTOS, StarSupport and Hot Lock are trademarks of Force10 Networks, Inc. All other company names are trademarks of their respective holders. Information in this document is subject to change without notice. Certain features may not yet be generally available. Force10 Networks, Inc. assumes no responsibility for any errors that may appear in this document.

CP35 907 v1.3

[PAGE 2 OF 2]