Customer PROFILE

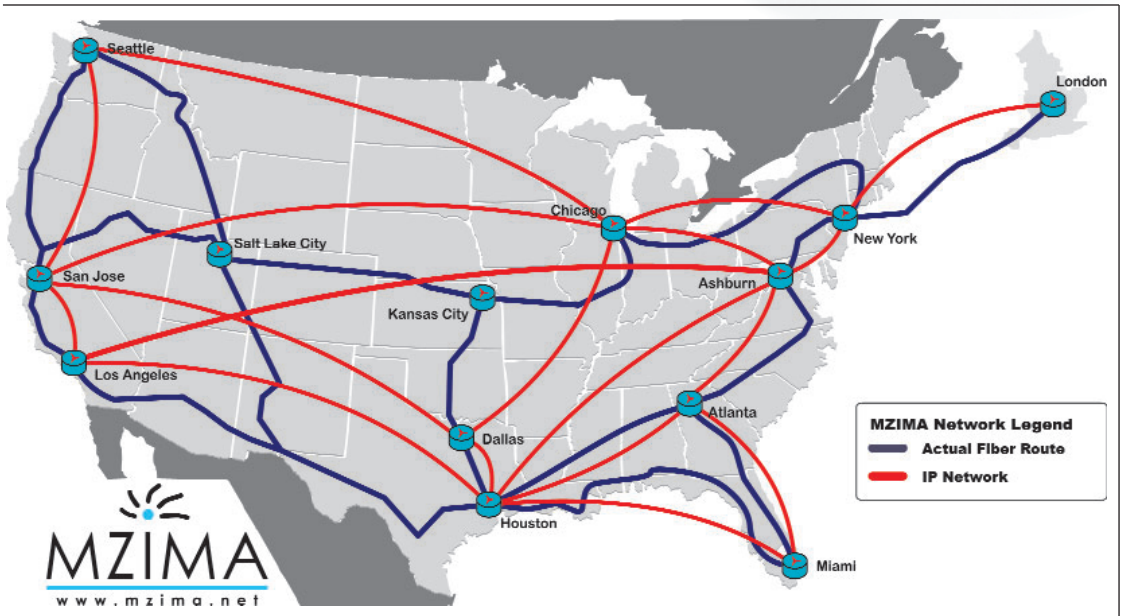
Mzima Networks Routes Its Way to Reliability with a Force10 Ethernet Backbone

Customer
Mzima Networks

Industry
Service Provider

Application
Network Backbone

Highlights
Mzima Networks replaced its legacy SONET/SDH network infrastructure with the Force10 TeraScale E-Series to provide customers a high quality, lower cost IP transit solution.



Mzima's transcontinental Ethernet backbone includes 10 POPs with an additional three pending.

Mzima Networks subscribes to the maxim "find a niche and fill it." Founded in 2001 by a team of seasoned industry executives and network engineers, Mzima saw an opportunity to provide a high quality, lower cost alternative to traditional service providers using a unique combination of route-optimized transit and private peering. Today, Mzima provides high performance IP connectivity over its transcontinental Ethernet backbone.

Not long ago, though, the company had a dilemma on its hands. Current network usage trends were quickly outpacing the capacity of Mzima's U.S. points of presence (POPs), and its expensive SONET/SDH infrastructure could not scale to profitably keep up with the amount and type of demand Mzima was seeing. With traffic doubling every six to eight months, most of it low margin, best effort, Mzima knew it needed a change.

"We were like FedEX, built to deliver overnight letters at $17 a pop while trying to profitably service customers paying 39 cents for first-class mail," said Grant Kirkwood, chief technology officer at Mzima. "The fundamental infrastructure had to change."

The Problem: High Cost Infrastructure Chasing Best Effort Traffic

According to Kirkwood, the traffic mix on the Internet had changed so significantly over the last few years that the existing infrastructure was a mismatch. "Eighty percent of the traffic is best effort, so there's no need to have expensive SONET/SDH infrastructure geared to handle large amounts of premium traffic," he explained.

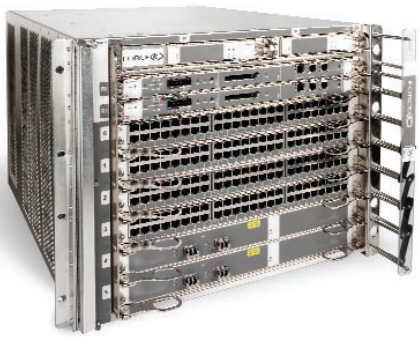
"SONET/SDH-based infrastructure is overkill for current traffic trends," Kirkwood pointed out. Without a more scalable, cost-effective solution that better matched current and future traffic needs, "we were hard pressed to profitably meet our customers' growing capacity demands."

Mzima Networks Routes Its Way to Reliability with a Force10 Ethernet Backbone

Customer PROFILE

"Force10 engineering was amazingly responsive. They worked with us continuously to implement changes, make improvements and fix software bugs. It was a major difference from our prior vendor experience; the support we got was fantastic."

Grant Kirkwood
Chief Technology Officer
Mzima Networks



The Force10 E300 switch/router

Looking at Options

Mzima could not afford to wait. "As traffic levels continued to increase, we were going to run out of capacity at the rates customers were willing to pay." At the time Mzima relied on SONET/SDH throughout its network, but the cost of an incremental upgrade was not only expensive but impractical for the level of traffic growth. There was no avoiding a forklift upgrade. The SONET/SDH architecture would have to be replaced but the resiliency characteristics of the network would have to remain. So, Mzima looked to Ethernet – and Force10.

"Our initial assumption was that Force10 could meet our price and performance requirements," Kirkwood recalled. "But we also wanted to be sure we retained the resiliency and traffic management features that our previous infrastructure provided," he added.

The Force10 Experience

Mzima expected it would take a year – from start to finish – to deploy its new infrastructure. After all, it was outfitting POPs in 12 U.S. cities and one in London. They found, however, that the Force10 TeraScale E300 switch/routers were a good fit. With support for hundreds of BGP peers per E300, two could provide the routing capacity Mzima anticipated it would require over the next several years in most of its POPs while the larger locations would require just three.

Scalability was a key success factor, and the Force10 E300 had that in spades. With a non-blocking capacity of 400 Gigabits per second (Gbps), the E300 could support up to 288 Gigabit and 48 Ten Gigabit Ethernet ports. Designed to provide high performance routing functionality, the E300 also supports IPv4/IPv6 dual stack forwarding with flexible CAM partitioning to tune hardware table allocations.

Redundant power supplies and route processor modules (RPMs) add to the system resiliency, eliminating unplanned network downtime. To top it off, each delivers 1.2 Terabits per second (Tbps) of backplane capacity, which will provide the long term scalability Mzima requires to efficiently expand its network.

To mimic the traffic monitoring of its previous network, Mzima planned to implement standards-based sFlow but required customization to provide a high level of in-depth information. "From day one, Force10 engineering was amazingly responsive," lauded Kirkwood.

"They worked with us continuously to implement changes, make improvements and fix software bugs. It was a major difference from our prior vendor experience; the support we got was fantastic. We hoped to get some new functionality out of the customized sFlow, and the results exceeded our best hopes," he asserted.

Force10 implements sFlow on its line card processors, which in turn communicate with the hardware and send data to sFlow servers. This allows accounting on all ports – at line rate – without affecting the performance of the system.

"Using Force10, we can give our customers more information about their traffic than we did before. We can provide them with 10 Gig ports, which is a huge cost advantage over other providers. And, the new infrastructure allows us to do a better job of line-rate filtering and traffic analysis," Kirkwood stated.

He added, "In addition, we also have a much better view of what's going on with our own network traffic, and a scalable, cost-effective solution that is a far better match with today's and tomorrow's network traffic patterns."

With Force10, Mzima was able to cost effectively migrate from its legacy SONET/SDH infrastructure, while continuing to deliver the fastest, most reliable network connectivity available.

FORCE10

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

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