

XO Communications Gains Network Visibility and Control with Arbor Networks SP

Customer

XO Communications

Industry

Internet Service Provider, Wholesale Network Transit Provider

The Challenge

Gain intelligent visibility into and remove congestion on a rapidly growing network.

The Solution

Deploy Arbor Networks® SP solution, consisting of the SP Collector Platform and SP Flow Sensor appliances, for granular, cost-effective visibility into customer traffic; intelligent traffic engineering; peering/transit analysis.

The Result

Rely on SP to identify legitimate versus illegitimate traffic, remove network congestion, manage and secure the network—reducing customer churn and eliminating unneeded investments in network infrastructure.

Ranked as one of the largest service providers in the United States, XO Communications delivers a full spectrum of communication services to businesses, government agencies, carriers and wholesale customers nationwide. Its services extend from Voice over Internet Protocol (VoIP), network transport and fixed/wireless access, to data, Internet, managed and hosting services. The provider delivers these services to over 90,000 customers via a network that consists of approximately one million miles of metro fiber, nearly 1,000 central office colocations and a fully peered IP network with more than 100 private and public peering relationships. As its network continues to grow rapidly, XO Communications relies on Arbor Networks® SP solution ("SP") for intelligent network engineering and detailed peering/transit analysis. By leveraging SP's best-in-breed functionality, XO Communications is reducing its network infrastructure costs and improving customer satisfaction.

The Need to Control a Growing Network

Back in 2005, managing rapid network growth and dealing with traffic congestion were just some of the challenges facing Anthony Haraguchi, Senior Manager of IP Engineering at XO Communications. At that time, Haraguchi's staff of four had visibility into basic traffic statistics, such as bytes in/out. But this was not granular enough to tell where the traffic was coming from or going to. "Plus we constantly had to determine if the traffic was legitimate vs. illegitimate," explains Haraguchi. "Removing congestion due to legitimate traffic is fine, but if you do this for illegitimate traffic, it actually makes matters worse."

Haraguchi and his team knew that Netflow, a technology already embedded in the company's network infrastructure equipment, had the information they were looking for. After trying to conduct their own in-house Netflow analysis, they quickly realized that this was a large undertaking due to the huge amount of data that needed to be collected, analyzed and turned into something presentable. They decided to start their investigation of commercial Netflow analysis products. "When we asked our peers in the industry, overwhelmingly they recommended SP—and that's how we started our relationship with Arbor Networks," says Haraguchi. XO Communications quickly got its SP trial up and running and gained some hands-on experience. "We soon realized that SP pretty much gave us everything we needed to overcome our challenges," Haraguchi adds.

Intelligent Visibility into Network Traffic

XO Communications' SP deployment is a combination of SP Collector Platform ("SP CP") and SP Flow Sensor ("SP FS") appliances—all of which are deployed in a central location. The SP CP appliances collect flows from all the peering routers, while the SP FS appliances collect flows from the customer edge routers, which contain a high number of router interfaces ranging from 1 Gbps to 10 Gbps.

"By using SP to gain an understanding of traffic flow, we have been able to retain customers and make more informed hardware purchases to augment certain sections of the network."

Anthony Haraguchi, Senior Manager, IP Engineering, XO Communications



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SB/XOC/EN/0516-LETTER

The SP solution allows XO Communications to:

- Easily collect network statistics and turn them into something usable for real-time or historical analysis
- Gain granular visibility into its customers' network traffic by understanding where the traffic is coming from or going to—either by autonomous system number (ASN), prefix or protocol
- Manage traffic coming into the edge and across the network backbone
- Differentiate legitimate traffic from illegitimate traffic

Rapid ROI and Continuous Business Benefits

XO Communications soon realized the business benefits associated with using SP to gain comprehensive visibility into traffic flows and remove congestion in network hot spots. "If the congestion from legitimate traffic continued, it would have led to a number of dissatisfied customers," explains Haraguchi. "At the same time, if we did not address the increase in illegitimate traffic, there would have been even more impact on more customers."

The ROI on the SP solution was rapid. That is because XO Communications was able to reduce costs by eliminating the purchase of additional network infrastructure that would have been required to accommodate the illegitimate traffic. As Haraguchi confidently says, "By using SP to gain an understanding of traffic flow, we have been able to retain customers and make more informed hardware purchases to augment certain sections of the network."

Since 2005, the demand for XO Communications' 10 Gbps dedicated Internet access services has grown—along with its use of SP. "Once we jumped into the 10 Gig game, the SP products played an instrumental role in understanding the customer and peering traffic," explains Haraguchi. "This insight enabled us to control the traffic and reduce the impact on our backbone." The bottom line: The SP solution has enabled XO Communications to simultaneously manage and secure its rapidly growing network traffic.

Highlighted Products & Information

SP
SP Collector Platform (CP)
SP Flow Sensor (FS)