



Financial services firm trades up to faster datacenter throughput

Customer Profile

Knight Capital Group, Inc. (NYSE Euronext: KCG) is a global financial services firm that provides market access and trade execution services across multiple asset classes to buy-side and sell-side firms. Its headquarters are in Jersey City, New Jersey.



Situation

As market trades have moved from voice calls to electronic transactions, the demands for speed and throughput on data center infrastructure have increased exponentially. Rather than getting caught in a situation where its data center could no longer keep up with the volume of traffic it had to process, Knight Capital Group decided to anticipate the market's need by upgrading the network's capacity.

"If we're going to offer liquidity to our clients, we have to offer connectivity and the ability to process data in real time," says John Oliveira, Managing Director at Knight. "We have to be able to do it faster than our competitors in order to give our clients the advantage – especially with the market being as volatile as it is right now. Any delay in processing information or orders can cost them a lot of money."

Knight's massive data center was built around the Cisco 6500 switch, which had served the company well. But as processing requirements increased and servers were added by the hundreds, there was concern that the switches would eventually be overwhelmed – especially if a market event triggered a large, sudden jolt of data.

"There are statistics out there that show how much just a millisecond of latency in data transfer costs," Oliveira says. "It can be significant."

Oliveira and Knight wanted to get out ahead of potential problems. Since an upgrade would require switching to a different operating system, Knight decided to look at products from several companies. In the end, however, one stood out above the others.

Solution

After consulting with Chris Lischy, EVP of sales and his team at Universal E-Business Solutions in New York City, Oliveira decided to replace his Cisco 6500s with Cisco Nexus switches. Universal, a Cisco Gold Partner, had the necessary financial market experience Knight required. The move to Nexus would give Knight full 10GB capability, with support for 40GB and 100GB for the future, as well as the high availability required by a financial services enterprise that traded an average of 10.2 billion shares per day in the first quarter of 2010. The high capacity of the Cisco Nexus also allowed them to add capacity without having to expand the space.

Results

At the time of the installation, the Cisco Nexus switch was so new it hadn't had much chance to prove itself in the field, making it an educated risk. But Oliveira felt confident that his internal team and Universal E-Business could make it work.

"Universal has a strong relationship with Cisco and is well-acquainted with the product line," Oliveira says. "They understand our needs as well, and were able to act as a bridge whenever we needed one."

Although Oliveira tested the configuration extensively, there was still some apprehension when it came time for deployment.

"You can do all the testing you want in the lab, but you never really know if the airplane will fly until you put it in the air," he says.

As he was preparing to roll out the switches, Oliveira discovered that another area was installing a new application. He talked to the person in charge of that project and determined he could piggyback the switch deployment process with the new application's QA testing, allowing him to gain confidence in the platform in a much less-intrusive way.

As the deployment proceeded, Oliveira realized there were features missing that most enterprises wouldn't miss but that were important to Knight's business. Lischy and Universal interceded on their behalf, and Cisco made several additions to the product -- additions that are now being included as part of the standard product. Oliveira was impressed and delighted with the company's flexibility and willingness to listen.

The goals for the upgrade were to make sure there were zero packet drops or compatibility issues, even with the increase in throughput, and to provide room for growth. Oliveira has seen both goals met.

"There have been a few market jolts since we started," he says. "Ordinarily my phone would've been ringing like crazy as a result. But I didn't receive a single call any of those times. That tells me it is working."

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