

The University of South Carolina Improves Visibility After 100Gb Network Upgrade to Increase Traffic Capacity with Gigamon



Gigamon has been a great vendor to work with. They've been very reliable, and we hope to continue a long relationship.”

TOM WEBB

Deputy CISO and Director of Security Operations
University of South Carolina

CHALLENGE

The University of South Carolina upgraded its core network from 10Gb to 100Gb and needed a monitoring infrastructure to keep up with the resulting surge of traffic.

SOLUTION

- + GigaVUE-HC3 Series and GigaVUE-HC2 Series visibility nodes
- + GigaVUE TA-100 and GigaVUE TA-10 Series edge traffic aggregation nodes
- + GigaSMART traffic intelligence module
- + GigaStream traffic distribution

CUSTOMER BENEFITS

- + Maintained pervasive visibility during network upgrade
- + Deduplicated network packets by 6X
- + Reduced irrelevant inbound traffic to monitoring tools by 75 percent
- + Reduced network latency and improved tool utilization
- + Load balanced traffic across datacenters

With more than 50,000 students and staff, the University of South Carolina's Columbia campus occupies more than 350 acres. Managing a university network isn't like running IT in an office building. Network and security teams must deal with tens of thousands of users, spread out across multiple buildings on hundreds of acres — and many of them live there full time.

Juggling various networking and security needs while continually keeping equipment and software up to date can be a real challenge.

Everyone and everything connects to the university's network, so safety and security are top concerns. At the University of South Carolina, Tom Webb, Deputy CISO and Director of Security Operations, and Jonathan Martin, Senior Network Security Engineer, found themselves navigating these challenges. They also faced a major infrastructure change — upgrading the university's core network from 10Gb to 100Gb for its 50,000 students and staff.

With the surge in traffic capacity, Tom and Jonathan knew they would need a monitoring infrastructure that could keep up. "We made the stipulation that if we're upgrading the core data center, we also have to upgrade our visibility," said Tom. "That was a prime requirement in the project."

Fortunately, they knew where to turn. The university had been a satisfied Gigamon customer since 2009. "We always had great tech support from Gigamon and positive experiences with the account team," said Tom.

SOLUTION

The university's primary data center is running two GigaVUE® visibility nodes (one GigaVUE-HC2 and one GigaVUE-HC3 series), with a GigaSMART® De-duplication module to reduce packet duplication. A secondary datacenter, with GigaVUE TA-100 and GigaVUE TA-10 Series edge traffic aggregation nodes, serves to forward aggregated traffic back to the primary data center.

IMPROVING LOAD BALANCING

"We're using GigaStream® technology across all of our different hardware platforms for load balancing," explained Tom, "because at 100Gb, a single product is not going to be able to handle it."

This arrangement provides crucial flexibility. He added, "The way GigaStream technology works, you're able to pull stuff in and out as easily as you patch it and put it back in deployment. It also improves efficiency by weighting traffic delivery to match tool processing capabilities or port bandwidth capacity."

With the Gigamon Visibility and Analytics Fabric, the university can now route its traffic into a suite of tools for analysis. "We're feeding several different intrusion detection systems that we have, including some advanced threat prevention (ATP) solutions from a leading vendor," said Tom.

TANGIBLE RESULTS

To get the most from all those tools, the university also needed to cut down on extraneous and irrelevant traffic. One crucial way to do that is via de-duplication with Gigamon.

"We had six times packet duplication at one point," said Jonathan. "Obviously we can't monitor the network at those rates." With the GigaSMART de-duplication traffic intelligence module, they were able to overcome this problem across the university network and reduce the load on tools.

PLANS FOR THE FUTURE

The university doesn't plan to rest on its laurels when it comes to gaining network visibility. "SSL decryption is something that we're planning on implementing, so we can see all the encrypted communications coming inbound to protected enclaves in our datacenter," said Tom.

“That’s the next part of the project.” Overall, the upgrade project was built on the University’s long relationship with Gigamon. “Gigamon has been a great vendor to work with,” said Tom. “They’ve been very reliable, and we hope to continue a long relationship.”

© 2020 Gigamon. All rights reserved. Gigamon and the Gigamon logo are trademarks of Gigamon in the United States and/or other countries. Gigamon trademarks can be found at www.gigamon.com/legal-trademarks. All other trademarks are the trademarks of their respective owners. Gigamon reserves the right to change, modify, transfer, or otherwise revise this publication without notice.



Worldwide Headquarters
3300 Olcott Street, Santa Clara, CA 95054 USA
+1 (408) 831-4000 | www.gigamon.com