

University of South Carolina: Gaining Visibility Even As You Boost Network Traffic Capacity



AT A GLANCE

Customer Benefits

- Upgraded network from 10Gbps to 100Gbps while maintaining pervasive visibility into network traffic
- Deduplicated network packets by a factor of six
- Reduced irrelevant traffic inbound to monitoring tools by 75 percent by filtering Netflix, YouTube and similar traffic
- Reduced network latency and improved tool utilization
- Load balancing across datacenters

Gigamon Solution

Gigamon Security Delivery Platform with:

- One GigaVUE-HC3 Series and one GigaVUE-HC2 Series visibility nodes
- GigaVUE TA-100 and GigaVUE TA-10 Series edge traffic aggregation nodes
- GigaSMART traffic intelligence module for De-duplication
- GigaStream traffic distribution for load balancing

Vendors Aided by Using Gigamon Solutions

- Bro
- Elastic Stack
- FireEye
- Snort IDS

Challenges

Managing a university network isn't like running IT in an office building. You're dealing with a network where the users' number in the tens of thousands, spread out across multiple buildings on hundreds of acres — and many of them live there full time. Juggling their various networking needs, while constantly keeping equipment and software up to date, can be a real challenge. Everyone and everything connects into the university's network — and 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 while facing a major infrastructure upgrade: a move to upgrade their core network from 10Gbps to 100Gbps for about 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 have to upgrade our visibility," said Tom. "That was a 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® Deduplication module to reduce packet duplication. A secondary data center, with GigaVUE TA-100 and GigaVUE TA-10 Series edge traffic aggregation nodes, serves to forward aggregated traffic back to the primary datacenter.

Load balancing

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

This arrangement provides crucial flexibility, he says: "The way GigaStream technology works, how 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 Security Delivery Platform, 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," says Tom.

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Results

To get the most of all those tools, the university needed to cut down on extraneous and irrelevant traffic. One key way to do that is via de-duplication. “We had six times packet duplication at one point,” says Jonathan. “Obviously we can’t monitor the network at those rates.” With the GigaSMART Deduplication traffic intelligence module, they were able to overcome this problem across the university network.

Plans for the Future

And the University isn’t just resting 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-in inbound to protected enclaves in our data center,” says 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,” says Tom. “They’ve been very reliable and we hope to continue a long relationship.”

About the University of South Carolina

The University of South Carolina Columbia is the flagship school of the University of South Carolina System and enjoys a rich history of more than 200 years of academic leadership. With more than 50,000 students and staff, the University of South Carolina’s campus in Columbia occupies more than 350 acres.

About Gigamon

Gigamon is the company driving the collaboration of networking and security teams. We make threats more visible with the Gigamon Security Delivery Platform, a next-generation packet broker purpose-built for security. Whether on-premises, virtual or in the cloud, organizations use a single platform for visibility to stop tool sprawl and save costs. Learn how you can make your infrastructure more resilient, more agile and more secure at www.gigamon.com, our blog, and [Twitter](#), [LinkedIn](#) and [Facebook](#).