

## Case Study

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# Clemson University Balances Network Performance and Security with Help from Gigamon



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**JOHN HOYT**

Security Infrastructure and Operations Director,  
Clemson University

**Challenge**

After a 100Gb speed upgrade, Clemson University needed an alternative approach to generating NetFlow data for its security tools when the new networking equipment no longer supported the format.

**Solution**

- Gigamon Deep Observability Pipeline
- GigaSMART®
- GigaVUE-OS

**Customer Benefits**

- Maintain security after 100Gb network upgrade
- Increase NetFlow from 30,000 flows/second to 70,000 flows/second
- Optimize existing security stack
- Increase visibility by over 75 percent
- Reduce false positives by over 60 percent

Clemson University's sprawling 1,400-acre campus houses everything from classrooms and research technology to power stations, water treatment plants and supervisory control and data acquisition (SCADA) systems.

For Security Infrastructure and Operations Director John Hoyt, protecting those assets and the network they all connect to is a big job — and it is not without obstacles.

"Students, faculty and researchers — including those traveling abroad — all want to connect, collaborate and share over an open network easily, but at the same time, my team is responsible for protecting sensitive, critical assets like their data and research," Hoyt explained.

"It can be tough to maintain a balance between network access, performance and protection."

For that reason, when the network operations (NetOps) team chose to upgrade to a 100Gb network with equipment from Juniper Networks that did not support NetFlow, Hoyt felt the scales tip a bit too far in favor of speed over security.

For years, Hoyt had relied on NetFlow to analyze network traffic, gain important insights into usage patterns across systems and uncover potential security risks.

"I understand the need to upgrade a network to meet the demands for increased throughput," said Hoyt. "But for my team, the loss of NetFlow was a serious issue. We depend on NetFlow to give us the broad and deep visibility we need to troubleshoot incidents and track down problem users and systems."

## Gigamon Recommended by Trusted Peers

"Universities are different from corporations, which may be less inclined to share 'competitive' information," said Hoyt. "In higher education, we're in this fight together."

"If I have questions, I turn to the community. If someone reaches out to me, I'm happy to share lessons learned. My community colleagues are an invaluable source of trusted information, and when they recommended Gigamon, I listened."

Hoyt took their advice and sought support from the university's upper management and executive leadership to bring back NetFlow. After careful due diligence, Clemson chose the Gigamon Deep Observability Pipeline. It was cost-effective, supported 100Gb throughput, IPv6 and NetFlow Version 9.

## Increased Visibility

With the new platform in place, Clemson had confidence in its ability to perform broader and deeper inspections of network traffic. Hoyt and his security operations (SecOps) team rapidly increased the flow rate from 30,000 flows per second to 70,000 flows per second.

"To protect the university from cyberthreats, we need to know our network — and Gigamon — provides the visibility we need to know what's traversing our network," said Hoyt. "Our board of directors and executive staff are prioritizing security, and they understand how challenging it is for my team to do our jobs without adequate network visibility."

## Optimized Security Stack

With NetFlow support from the Gigamon Deep Observability Pipeline, Hoyt's team can now get a high-level, metadata view of information — for example, data location, author or timestamp — and, with Flow Mapping®, they can prioritize which tools see what data.

The university also extended intelligence with additional GigaSMART® applications, which expand the capabilities of the Gigamon Deep Observability Pipeline. This allows organizations to perform functions such as de-duplication, to avoid unnecessary packet-processing overhead on security tools, and load balancing to spread monitoring across multiple devices and enhance visibility into packet contents.

"I always felt we were barely scratching the surface with our network monitoring," said Hoyt. "My highest priority was finding a solution that allowed us to watch more than the ocean of data passing at the network border, which allowed us to sharpen our focus on the data we care about most."

Today the SecOps team feels more assured that they are not missing important traffic and have the ability to highlight and inspect activity of interest. This approach helped them reduce false positives by 60 percent and optimize inline security tool performance.

Ultimately, with the help of Gigamon, Clemson was able to support its staff and research students with the network speed their projects require while also ensuring that the university's security posture remains strong against today's evolving threat landscape.

## About Gigamon

Gigamon offers a deep observability pipeline that harnesses actionable network-level intelligence to amplify the power of observability tools. This powerful combination enables IT organizations to assure security and compliance governance, speed root-cause analysis of performance bottlenecks, and lower operational overhead associated with managing hybrid and multi-cloud IT infrastructures. The result: modern enterprises realize the full transformational promise of the cloud. Gigamon serves more than 4,000 customers worldwide, including over 80 percent of Fortune 100 enterprises, nine of the 10 largest mobile network providers, and hundreds of governments and educational organizations worldwide. To learn more, please visit [gigamon.com](https://gigamon.com).



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