splunk> a CISCO company

CUSTOMER STORY

NJIT Creates Opportunities and Drives Student Success with Splunk

Key Challenges

Following the cloud migration of their student information system, NJIT struggled with limited visibility into downtime and disruptions, experiencing surges in help desk calls for long load times, and other issues.

Key Results

With Splunk, NJIT achieved holistic visibility across the network, allowing the team to quickly identify and respond to issues, optimize campus density to allocate resources, and appropriately schedule maintenance to support student success.

NJIT New Jersey Institute of Technology

Industry: Higher Education

Solutions: Security, Observability

Partners: TekStream (Splunk Elite MSSP), Blackwood (Cybersecurity Technology Broker)

Products: Splunk Cloud Platform, ITSI, Enterprise Security, APM, Synthetic Monitoring

Outcomes

- 13,000 students served
- 120 staff hours per year reclaimed through automated maintenance testing
- Double-digit reduction in MTTD and MTTR
- Zero registration slow-downs during peak periods
- On track for 99.99% availability of student-facing systems
- Faster, data-driven maintenance scheduling that cuts unplanned downtime

Getting into college and thriving is not an easy accomplishment for almost any student.

But if you're the first in your family to attend university, or if English isn't your first language, navigating the labyrinth of U.S. college systems, rules, and programs can make the educational process even more confusing and overwhelming. And any disruptions or system errors in these services can inadvertently create barriers to learning and future success.

This is exactly the type of experience that the dedicated staff and educators at New Jersey Institute of Technology (NJIT) are helping students to avoid. As one of the nation's leading polytechnic universities and a top-tier research institution, NJIT supports a diverse student population, with a significant portion identifying as first-generation U.S. citizens or non-native English speakers. Many students are the first in their families to attend college, making their college experience a gateway to a future of new possibilities and generational success.

"I could talk about technology all day long, but if I'm not doing things that impact student success and help improve our research and advance innovation, to me, it doesn't really matter. What really matters is our commitment to creating a culture that works for everyone and understanding how we can really help students succeed," says Blake Haggerty, Interim Vice President of Information Services and Technology.

To provide students with the best possible educational experience, Haggerty and his team at NJIT needed a technology vendor and partner that would enable student access across public safety, campus activity, and learning management systems, while also maintaining and expanding digital learning capabilities, workforce, and talent development. Having a partner that also shared their commitment to student success and to diversity, equity, and

inclusion was a welcomed bonus. Enter Splunk, implemented by Splunk Elite Partner TekStream and licensed through trusted higher-education-focused cybersecurity partner, Blackwood.

"With Splunk, we saw all the right tools in the stack, the right vision and quite frankly, the right commitment to higher education," says Haggerty. "There are a number of players, but not all have that passion like we do for the mission."

> With Splunk, we saw all the right tools in the stack, the right vision and quite frankly, the right commitment to higher education. There are a number of players, but not all have that passion like we do for the mission.
>
> **Blake Haggerty,** Interim Vice President of Information Services and Technology

Student success starts with always-on access

Student success hinges on 24/7 access to vital campus systems and services like high-speed internet and video conferencing applications. In today's educational environment, maintaining live streaming without disruptions is essential for approximately 80% of NJIT's students who can't physically be present in the classroom, making a 99.99% availability target critical. Because post-maintenance application testing is now automated in Splunk, the team avoids up to 120 hours of manual verification each year. Those recovered hours let engineers focus on proactive performance tuning rather than late-night emergency checks.

Splunk made it easy, not only helping NJIT get ahead of downtime and disruptions, but allowing them to resolve those issues when it's least disruptive to learning. For example, Haggerty and his team regularly detect incidents and issues that require a system reboot. Splunk Core with Observability Cloud tells them if rebooting at that time would be inconvenient (e.g., students are in the middle of midterms), so they can schedule a reboot in between classes or when the students are out of the physical or virtual classroom, such as weekends.

Splunk Observability Cloud also provides insight into the entire university network, allowing the team to understand when students are most active on NJIT's systems — such as during student enrollment. Before Splunk, students regularly experienced system disruptions, long wait times, and access issues when they were registering for classes.

Now, Haggerty's team combines Splunk data with data from their Banner Student Information System (their ERP system), which is used to process financial transactions, organize and process class enrollment, and allocate class resources. From there, the team can work more collaboratively with enrollment services to prepare for the spike in registrants, allowing them to spin up CPU to accommodate the surge of online users and dial it back down when registration closes. As a result, students can easily and efficiently register for classes whenever they want, with no interruptions to their day — or their academic plans for the semester.

> Cybersecurity isn't just about preventing threats. It's about creating a secure, uninterrupted learning environment. With Splunk, we can proactively identify vulnerabilities and reduce downtime, which directly supports the success of our students and the university's mission.
>
> **Sharon Kelley,** NJIT Executive Director of Information Security & CISO

"We're able to sleep better because we're seeing things before they become an issue. In prior worlds, we were unable to do anything like that," Haggerty says. "Moving to that predictive versus reactive state — that's benefit number one, first and foremost."

Data drives insight into student experience

To help students get the most out of their educational experience, Haggerty and his team first needed a 360-degree view into NJIT's mission-critical services — and Splunk was there to help NJIT understand its campus activity in more depth. Splunk Observability Cloud and Splunk Synthetic Monitoring revealed campus density patterns, giving the team a window into the number of students using facilities like the library or dining hall at any given time. That insight helped the university to better distribute campus resources to match students' organic movements on campus and avoid overcrowding.

And future use cases will continue to marry academic data to campus infrastructure data to provide a clearer picture of the relationship of the use of campus spaces and student success to drive a whole student experience across all of NJIT. For example, by getting the big picture of vehicle traffic flows and available parking spaces across campus, they could guide commuting students to lots and parking spaces closer to their classrooms — in turn, reducing the chances they'd park illegally and be ticketed, which might compound existing financial stresses.

Splunk Core, Synthetic Monitoring, ITSI, and Splunk Observability also give the NJIT team a large window into which applications and systems are working — and which ones aren't. In 2023, Haggerty and his team conducted a comprehensive user experience study on student services and applications then combined the results with Splunk usage patterns and analytics to identify improvements to the student services IT platform. With Splunk, Haggerty and his team could drill down into where students were experiencing issues such as long load times, as well as which services were difficult to access, outdated, or not adequately meeting student needs. The resulting data helped them to go to administrators with an accurate picture of applications that needed to be updated or replaced altogether. The same alerting that trims MTTD and MTTR by double digits also flags anomalies in student-facing services long before users are aware of them.

"We're using everything we have at our fingertips to better understand our users and then ask them, 'Is this what you need?'" Haggerty says. "It allows us to really dig in and think differently."

> I could talk about technology all day long. But if I'm not doing things that impact student success and help improve our research and advance innovation, to me it doesn't really matter. What really matters is our commitment to creating a culture that works for everyone and understanding how we can really help students succeed.
>
> **Blake Haggerty,** Interim Vice President of Information Services and Technology

Opening doors to a real-world future

Few things can open doors for students like hands-on experience. By partnering with NJIT's Ying Wu College of Computing, Haggerty gave students a chance to learn practical skills by working on real-world projects that would set them up for future success.

Working with Splunk and TekStream, the team is building a student-powered SOC to augment security team shortages to help students gain valuable cybersecurity skills, and possibly a new career path. Haggerty and his team hired several students to run the SOC and is designing a program that will cover critical security functions while also accommodating students' unique interests and goals, for example systems security or forensic investigations. Working at the SOC will also teach students valuable skills such as incident response processes, observability best practices, and using monitoring systems. By automating routine testing, the operations team can redirect the 120 staff hours they've reclaimed into mentoring the student SOC, a win-win that builds skills while keeping the campus safer.

Going forward, Haggerty and his team will continue to rely on Splunk to evolve and grow in parallel with the needs of the students and the university. In the near future, that means feeding Splunk data into machine-learning models to forecast demand spikes, expanding automated remediation playbooks, and wiring security analytics directly into the student-led SOC. By partnering with students in that effort, NJIT and Splunk are further preparing them for a lifetime of learning.

"I very much view the students as a core part of that plan and being able to help us. And they're excited," Haggerty says. "Having them right here in our own shop — you can't get any better than that."

Ready to see how data-driven operations can boost student success at your institution? Learn more at Splunk.com/education.

25_CMP_cust_NJIT_v4