Sheffield Hallam University
Delivers Innovation and Community Success

Supports advanced learning through outstanding digital IT services

Sheffield Hallam University

- **University details:**
  50,000+ students
  5,000 staff members

- **Network Management Software:**
  Entuity Network Analytics

- **Entuity Customer since:**
  November 2000

Overview

Sheffield Hallam University was founded in 1843 and strives to be one of the world's leading applied universities. The University has continually grown to support students in a variety of majors. From design, art and education to science, technology, engineering and a business school; over 50,000 students today are taking advantage of a university steeped in tradition that also has a futuristic outlook in preparing them for successful and rewarding careers upon graduation.

Supporting the student community and its 5,000 staff members, spread over two campuses, the Sheffield Hallam IT department is also forward thinking in its strategic plans to ensure that its technology platform can evolve and function at its best. Higher education today is no longer bound to a physical campus which makes the IT department a critical component, providing the network performance to support the changing education process.

The Challenge

The University wanted to streamline its network management from a complex, expensive management solution to an all-in-one, easy to use and less costly software product. Their requirements also necessitated providing for legacy device management as well as new technologies that will keep the University on the cutting edge. As the University has expanded, it was also vital to reduce the risk of service outages so that students and staff could expect and rely on a digital environment to meet their online learning needs 24/7.

The Solution

To deliver outstanding student and staff user experiences, the Sheffield Hallam University IT Organization chose Entuity Network Analytics (ENA) -- a flexible, all-in-one product that reduces the risk of downtime, keeps up with new technologies and lowers the cost of ownership. In addition, the ease of use and enterprise scalability of ENA makes it ideal for multi-campus deployments.

The Results

Always-on University Services Powered by Proactive Monitoring

The SHU network team continually shows the ENA Event View on their NOC dashboard screen. Both the network team and operations team have access which facilitates complete 24/7 management coverage for any network issues. Proactive monitoring is woven into ENA and is set up for key personnel to receive automatic email notifications when issues arise. This helps supply fast insight for faster resolution, a must for supporting round the clock, always-on students.

Richard Lester, one of the network engineers at Sheffield Hallam, uses events monitoring to track new devices that are added to the network. Richard said, "I find it extremely useful for monitoring the ports on switches. It gives me visibility to see if we've got any outages that need to be looked at. In fact, we've set up configuration rules for some problematic switches, so when they are disabled, they automatically go straight back up. And we can tell which ones and how often they are performing erratically using ENA." These analytics provide accurate data to help them make the best decision -- does it make sense to pull out and replace poor performing switches or does it mean only further adjustments have to be made to make the switches operate effectively. Without key analytics the decision making process is a haphazard guess and is detrimental to all of IT.

New Equipment Rollouts with Zero impact on University Services

Entuity Network Analytics is able to aid in capacity planning for SHU for their rollout of new switches being deployed in new classrooms and labs. According to Lester, "Entuity has been valuable in helping us implement these new rollouts minimizing the risk of poor performance. I get reports on how many licenses are in use, how the switches are performing, all of which ensure our constituents are not adversely impacted." Once the switches are live, further adjustments can be made to fine-tune devices to make the most of Sheffield Hallam's investment in new capital equipment.

Custom Reports support University senior management and departments

Like most departments, transparency is important and being able to generate IT reports for internal University requests is essential. "For example, Senior Management requires network asset lists for budgeting and asset management, and a custom ENA report can generate these details automatically for us," states Lester. "We know the data is accurate, and the report takes minutes to run which allows the report to be sent almost as soon as they request it."

Another report they use consistently is a CRC report, which illustrates where there is packet loss creating poor performance. Prior to ENA, it needed drawn out, manual effort to understand what was causing this issue and to pinpoint where it was. Today, SHU runs a report to see where CRC errors are occurring on the network, this shows the area to address. "It's often a case where fiber cables need to be replaced or traffic is moved to another switch. I look at this report weekly and can get advance visibility to head off problems before any staff members complain of network slowness." This type of proactive management is vital in preserving network service levels for exceptional end-user performance throughout their multiple campuses.

Maximizing IT staff's productivity and increasing network analytics accuracy

Automation of network management has two main outcomes – it removes the burden of tasks and workloads from the IT staff, so they can become more innovative, and it increases the accuracy of their network data. "Before ENA was in use, network topology maps were done manually. This runs the risk of inadvertent bad data or missed devices completely, plus the network is not static—it's always changing. Now using Auto-Discovery in ENA, I can schedule it to run automatically every few months. It saves me lots of time and I've even caught rogue switches that were added to the network without our knowledge, which can increase the potential of derailing performance," describes Lester. Networks are complex, and the SHU IT staff rely on ENA to provide the analytics to make better decisions that move network performance to outstanding levels.

Solving IP traffic gridlock & understanding its impact on network services using ENA NetFlow

ENA NetFlow capabilities allow Sheffield Hallam's IT team to see if network IP traffic is congested, where the traffic is coming from and going to, and how much traffic is being generated. Supporting today's network with its critical IP applications such as VoIP and Video Conferencing, NetFlow's analytics assist in understanding where performance issues lie. NetFlow analytics shape future network plans, isolate security issues, offers "denial of service" monitoring, and usage-based network billing. It is capable of providing information about network users and applications, peak usage times and performance data. As SHU expands its network, they are looking to make extensive use of Entuity Network Analytics and ENA NetFlow giving them even more insight for Capacity and Availability planning processes.

Future projects on the horizon for Sheffield Hallam

"We just pulled out of all our analog phones and replaced the entire system with VoIP service," states Lester. This is a big project to integrate voice usage into the network. In the future, the IT Team hopes to add wireless management into ENA and get even more value from the product. VoIP requires specialized metrics to track voice jitter and traffic patterns to ensure voice quality is equal to the landline phones that were replaced. SHU also will have to monitor bandwidth to make certain that enough capacity/headroom is available to accommodate the two campus' voice calls. "ENA is going to continue to equip us with valuable techniques for new technologies that will keep Sheffield Hallam on the forefront of IT technology. We will be prepared to support our students and faculty in their academic careers in the years to come."