

CASE STUDY

Revving Up Security Automation for a Community College's Lean IT Team

"It's a truly lucky man who knows what he wants to do in this world, 'cause that man will never work a day in his life." So says the Carroll Shelby character in the 2019 film *Ford v Ferrari*. Yet when Shelby, an icon of the U.S. auto industry, surveyed the northeast Texas community where he had grown up, he saw a plethora of people who needed help finding a career path.

"There are many young men and women who are stuck in dead-end jobs," he reportedly said.¹ "They went straight to work after high school. [...] All of a sudden, they found [...] they could not get out of this rut they had dug themselves into. I want to give those people the ability to get an education and learn a trade that will help them get ahead."

That explains the birth of the Carroll Shelby Automotive Program, a cornerstone curriculum at Northeast Texas Community College, located between Dallas and Texarkana. In addition to the robust program for aspiring automotive technicians, the college provides specialized workforce training in a number of high-demand fields, as well as university-transfer courses that prepare students for bachelor's degree programs.

Lean IT Team Requires Security Simplicity

Over its nearly 40 years in operation, the college has grown significantly. It now serves around 3,000 students across five campuses. Keeping those students safe, as they leverage technology in preparation for their careers, is the job of Sebastian Barron, Northeast Texas Community College's director of computer and technical services.

Barron's biggest security concern is ransomware. "As a college, we have a vast amount of data, and we have obligations to maintain some of that data, such as transcripts, for an extended period of time," he says. "The volume of data we store makes us a prime target for hackers." However, protecting the network, data, and users is challenging.

Barron's team—which, in addition to him, consists of a server administrator and two help desk staff—must manage and secure systems across the 20 buildings on NTCC's main campus, as well as locations as far as 20 miles away. "I am dependent on my solution providers to help our small team simplify network configuration and monitoring," Barron says.

Several years ago, simplicity was a trait the college's network sorely lacked. NTCC was using standalone web-filtering hardware, a packet-shaping device, and several other pieces of security equipment in addition to its firewall. When NTCC needed to refresh the firewall hardware, Barron and his team considered their options with an eye toward streamlining capabilities.



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- Sebastian Barron, Director of Computer and Technical Services, Northeast Texas Community College

Details

Customer: Northeast Texas Community College (NTCC)

Industry: Education

Location: Mount Pleasant, Texas

Business Impact

- Proactive approach to security enables IT team to solve issues before others notice the problem
- Drastic reduction in network and security administration
- IT team has more time for future-oriented activities, including updating security policies and undertaking development work

They had not used Fortinet solutions, but when they tested a FortiGate Next-Generation Firewall (NGFW), they were impressed with its ability to detect specific threats in their environment. “Even more important,” Barron says, “deploying a FortiGate would mean we could get rid of the standalone devices, because the FortiGate provided all the same functionality in a single device. We started looking at cost, and the decision was a no-brainer.”

An Expanding Fortinet Presence

NTCC deployed a FortiGate NGFW with the FortiGuard Labs Unified Threat Protection (UTP) Service Bundle. The UTP Bundle includes intrusion prevention, content security, and web security services. “The FortiGuard services are our most important tool, quite honestly,” Barron says. “Our DNS filter, our web filter, and a number of other firewall features leverage the FortiGuard services, which make everything super easy to control.”

The new FortiGate firewall replaced seven discrete pieces of hardware in the data center, centralizing administration of a variety of security functions within one intuitive interface. Barron next decided to replace the college’s standalone spam-filtering device with the FortiMail email security solution to protect faculty and staff email accounts.

“Spam filtering, by nature, is not easy, but FortiMail makes it easy for us,” Barron says. “We get complete visibility—we can see everything—and if a threat does get through, we quickly understand why. And FortiMail makes it simple to tweak the rules to make sure the same threat will be caught in the future.”

For a few years, NTCC used FortiMail and the FortiGate NGFW alongside a competitor’s switches and access points (APs). Barron says the Fortinet solutions worked well, but inefficiencies in the broader network infrastructure were straining his team. “I would have to manage users for all these different services and jump around to the individual switches and APs,” he explains. “Just documenting which device is where, and maintaining all those passwords, was very time-consuming. We really needed to standardize the switches and access points.”

NTCC considered several vendors. The due diligence process revealed that none of the alternatives offered the same ease of management as Fortinet switches and APs. “Each of the competitors’ products required more in-depth knowledge and training than FortiSwitches and FortiAPs,” Barron says. A proof of concept proved the value of standardizing on Fortinet: “We built out a Fortinet network infrastructure in one of our buildings to test and see how it worked. It was great.” The college replaced 74 legacy switches with FortiSwitches and deployed over 100 FortiAP access points—installing one in each classroom, as well as the college’s dormitory, and more than doubling the number of access points across the five campuses.

The Whole Network Picture in One Box

The college also rolled out FortiAuthenticator to improve end-user authentication and FortiToken to support virtual private network (VPN) access. “I was anxious, because with authentication solutions we used in the past, the end-user experience was horrible,” Barron says. “But setting up FortiAuthenticator was incredibly easy. It literally took us 20 minutes, and it just does what it is supposed to do.”

Business Impact (cont.)

- Ease of use means staff can cover for one another and new employees can get up to speed more quickly
- Simplified security audits

Solutions

- FortiGate Next-Generation Firewall
- FortiMail
- FortiSwitch
- FortiAP
- FortiMonitor
- FortiAnalyzer
- FortiAuthenticator
- FortiToken

FortiGuard Security Solution

- Unified Threat Protection (UTP) Service Bundle

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- Sebastian Barron, Director of Computer and Technical Services, Northeast Texas Community College

Finally, to streamline management of the network, NTCC deployed FortiMonitor and FortiAnalyzer. “FortiMonitor keeps an eye on all our critical servers and our branch locations,” Barron says. “We configured it to email us for some things and call us for others, depending on the severity of the issue. It is as persistent or as quiet as you want it to be. Because we get phone calls for critical issues, we receive the alert and can fix the issue before Monday morning. That enables us to be more proactive in keeping network services online.”

Meanwhile, FortiAnalyzer provides single-pane-of-glass visibility. “It all works together seamlessly,” Barron says. “Literally, FortiAnalyzer shows your whole network picture in one box, without requiring you to jump through hoops. For example, I can see which building on campus is using the most bandwidth at a certain time of day or which access points are most frequently used in our public spaces. I can see exactly what is going on, and I could not do that before.”

A Proactive Approach to Security Management

All told, the transition to Fortinet transformed NTCC cybersecurity. “Previously, we would wait for help desk tickets to come in and then react,” Barron says. “Now we are proactive.”

The visibility and reporting from the Fortinet Security Fabric simplifies security audits. And gaining that visibility requires minimal effort from Barron's lean team. “Honestly, we have not touched most of these solutions since we first set them up,” Barron says. “They just work. Plus, unlike our legacy vendor, whose solutions required an extensive technical background, this is all GUI-based. Anyone with a basic understanding of networking can go in and add a VLAN [virtual local-area network] to a port, for example.

“That means any of our IT staff can go in and see what is going on with a particular switch or an access point,” he adds. “We are no longer relying on a single person to manage each networking and security solution because no one else knows how. It also means new staff can hit the ground running.”

To illustrate the improvement from NTCC's legacy environment, Barron describes the process of updating switches. “Shortly after I started with NTCC, I upgraded some of our switches,” he says. “It took me six weeks. I had to plug in every single switch and hard-code the IP address. All that hard-coding completely disappeared when we moved to Fortinet. We replaced all 74 of our switches in four days, and it took that long partly because taking down the old switches was a little slow.”

Moving Forward on the Fortinet Path

Because of the efficiency of the Fortinet solutions, Barron says, he “can now dedicate more time to other things than just physically watching the infrastructure and fixing problems. I have the comfort of knowing that everything is OK with our network—because if it was not OK, I would already know about it. So, with the time that I do not have to monitor an assortment of different solutions, I can dedicate time to developing our security policies and enhancing our security posture. That enables my team to provide better service to NTCC students, faculty, and staff.”

“Everybody is wearing multiple hats,” he adds. “Before, we did not have time to focus on development or on improving our information systems. Now, since Fortinet enables us to spend less time gathering data and implementing fixes, we can spend more time on strategic and value-added work.”

Next, NTCC is considering deploying FortiEDR endpoint security, as well as the Fortinet video surveillance system. The college is also looking at rolling out the FortiWeb web application firewall (WAF) to protect its student portal and provide visibility into traffic to the portal.

“We plan to keep moving down the path that we are already on with Fortinet,” Barron concludes. “I am one of those people that believes ‘If it isn't broke, don't fix it.’ Well, our relationship is definitely not broken. We have had no bad experiences at all with Fortinet. We have not needed much support, but when we have requested help, Fortinet's support has been phenomenal. I do not know how many more Fortinet products we can get, but we will take what we can.”



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