Brownsville ISD Easily Manages BYOD Explosion and Eradicates VPN with Exinda

Brownsville Independent School District is the largest school district in the Rio Grande Valley metropolitan area of South Texas, spanning 95 square miles and serving over 48,000 students and 7,200 staff throughout the district's 60 school locations.

After the district implemented a Bring Your Own Device (BYOD) program, bandwidth utilization drastically increased and the Technology Services department could not successfully manage the influx of mobile devices with their existing Next-Generation Firewall (NGFW). In order to continue providing its students with top-notch digital learning experiences, IT staff realized they would need to seek out a complementary application control solution.

Improved Learning Experience	Controlled BYOD Explosion	Blocked VPN Connections

The Challenge

In order to provide its students with a personalized, collaborative learning environment, Brownsville ISD launched a BYOD program. But with such a vast student population, the BYOD initiative quickly grew to over 54,000 laptops, tablets and e-readers – which proved to be difficult for the district's Technology Services department to control with their existing network management tools. Brownsville had a Fortinet FortiGate firewall appliance in place for web filtering, but found that it could not provide enough visibility into what was happening on the network in order for IT staff to adequately control student activities and devices.

To facilitate enhanced digital learning experiences, the district relies heavily on streaming services such as YouTube for viewing instructional video content. Although YouTube is one of the district's most critical applications, the IT department could not always guarantee consistent access for all students, which impacted the overall learning experience.

Additionally, IT was fielding a surge in help desk calls from teachers, reporting that students were bypassing the district's web filter to access inappropriate content during class. To ensure appropriate network use and to gain a better understanding of how bandwidth was being used, Brownsville realized it needed to seek out an additional solution.

"We determined we were never, ever going to have enough bandwidth. We could have a 10 Gbps pipe and it still wouldn't be enough if we couldn't get a handle on our users. Our FortiGate has some traffic shaping capability built in, but it couldn't tell us enough. We needed to be able to see who was doing what, when, and how often so we could conserve valuable bandwidth and control the explosion of mobile devices."

— **Chris Rowan**
Network Engineer,
Brownsville ISD

The Solution

With a deep understanding of both Brownsville's network setup and its solution requirements, the district's strategic technology partner, MicroShare, recommended Exinda for its real-time network visibility and granular application control. After a demo, Brownsville's IT staff was convinced Exinda was the right choice to complement their existing firewall and web filter, and chose an Exinda 8762 to support the district's current and future needs.

With help from a MicroShare engineer, the Exinda was deployed on-site and configured in less than 30 minutes, and immediately after, Brownsville had full visibility into all network activity. What quickly jumped out at IT staff was the amount of Facebook, online gaming, P2P and suspicious outbound VPN traffic taking place that they were previously unaware of.

Together with MicroShare, an initial policy set was created to block access to unsanctioned applications like VPN and P2P, limit the amount of bandwidth available to social media and gaming, and prioritize critical applications like YouTube and online testing platforms.

"We have a very large, very complex network and any new solution must integrate with our current infrastructure and not the other way around. I wanted a solution that was easy to set up, would show me who was using up all the bandwidth and give me the means to control it – today, tomorrow, next week and beyond."

— **Chris Rowan**
Network Engineer,
Brownsville ISD

The Results

With Exinda in place, Brownsville's IT department can now see exactly how bandwidth is being used across the district's 60 school locations, and can take action to protect or control traffic based on district priorities.

By configuring policies to choke off P2P file sharing and block outbound VPN connections, Brownsville has been able to successfully stop students from bypassing the district's web filter to access inappropriate content, as well as conserve bandwidth for educationally relevant applications.

 Above all, Exinda has helped Brownsville improve the user experience for its students. By providing consistent access to critical services the district depends on like YouTube, Brownsville's students can now reap the full educational benefits of the district's BYOD program and on-demand video learning.

"Students are endlessly creative and will always look for new ways to bypass the web filter. If a student is using secure HTTP traffic, the web filter can't see it. But Exinda can detect this traffic and has helped us control it. Before Exinda, the end user experience for streaming was first-come, first-serve. Now everyone is able to watch videos when they need to for educational purposes and the user experience has greatly improved."

— **Chris Rowan**
Network Engineer,
Brownsville ISD