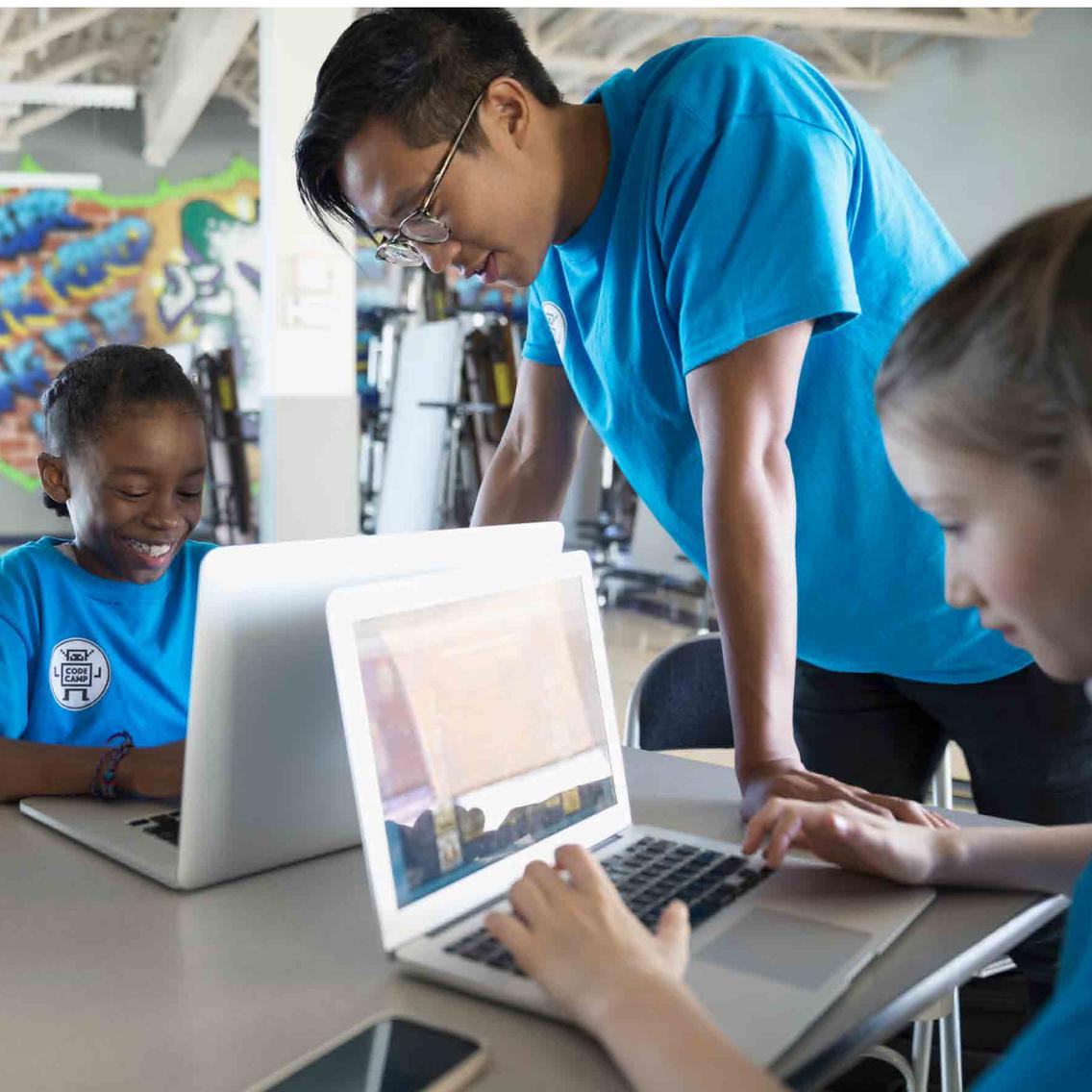


# How a top school district deploys security to transform K-12 students into 21st century digital citizens.

**Organization:**

Lewisville Independent School District

**Headquarters:**

Lewisville, TX

**Users:**

59,000 students and staff

**Industry:**

K-12 education

**Objective:**

By deploying Cisco Umbrella in conjunction with Cisco Firepower NGFWs, Lewisville ISD raised the network's BitSight score, decreased malware and cut remediation time in half.

**Solution:**

[Cisco Umbrella](#)  
[Cisco AMP for Endpoints](#)  
[Cisco Firepower 4150 Security Appliances](#)  
[Cisco Identity Services Engine \(ISE\)](#)  
[Cisco Cloud Email Security](#)  
[Cisco Stealthwatch](#)  
[Cisco Security Connector](#)

**Impact:**

- Improved BitSight score by 70 points
- Cut remediation time by 50 percent
- Significantly decreased command-and-control and phishing traffic

*“The capabilities and reporting we get with Umbrella and Firepower put us in a much better position to be able to quickly figure out what’s going on and remediate issues.”*

**Chris Langford**

Director of Network, Infrastructure and Cyber Security  
Lewisville ISD



## The challenge

Enterprise-strength, school budget-friendly security

The northwest Dallas-Fort Worth, Lewisville Independent School District (ISD) is recognized for financial integrity and exceptional tax dollar management by the Texas Education Agency Financial Integrity Rating System (FIRST). This type of fiscal responsibility and resource stewardship contributed to LISD voters approving a \$737 million bond package, which included approximately \$100 million for Technology. This bond package will ensure every Lewisville student graduates with skills to be successful in the 21st century workforce.

“The bond included funding for computers, technology, and technology-related infrastructure for classroom integration to give our students tools to access, create and collaborate as accomplished digital citizens,” says Chris Langford, Lewisville ISD’s Director of Network, Infrastructure and Cyber Security. “School districts—which typically allot limited tax dollars to operate large, data-intense networks accessible by students, parents, staff, outside government agencies, and third-party vendors—are especially vulnerable to cyber threats, which is why the bond package prioritized cybersecurity.”

“To do that, we first sought to identify the most effective, affordable way to safeguard our 53,000 students and 6,000 staff members from unsuitable content, ransomware, phishing, command-and-control callbacks and other threats,” says Langford. “We also wanted to ensure appropriate access to information for schoolwork everywhere in Lewisville’s digital learning environment, from the classrooms of the district’s 69 campuses to the desks in students’ homes.”



## The solution

### Searching for a force multiplier in security

A lack of network access control coupled with aging firewalls provided a natural starting point. “Our previous firewalls were maxing out the CPU utilization, and we could not enable next-generation firewall features, so we began to search for a replacement,” says Langford.

“We discovered that Cisco Firepower next-generation firewalls delivered considerably more volume, variety, and granularity of information than the other next-gen firewalls we evaluated,” he says. “Firepower’s at-a-glance dashboards made it quick and easy to see what’s happening and prioritize our response.”

Firepower’s advantages prompted Lewisville’s team to explore the Cisco Security portfolio for a network access control solution as well. “Since multiple Cisco solutions offered the best fit for our needs, we realized that a Cisco Enterprise License Agreement (ELA) was the most efficient and cost-effective way to update and strengthen the district’s cyber security with an integrated ecosystem in which all of the pieces communicate with and enhance each other,” says Langford.

“We calculated that had we not moved forward with the ELA, we would have had to invest in 8 to 10 different security products piecemeal. We would also have incurred the time and hassle of trying to get the various manufacturers and their APIs to communicate with each other,” says Langford. “We didn’t want to run into a situation where a simple software update to one product could break integration with the other products, thereby creating a complex mess resolvable only through multiple calls to multiple vendors. If we have an issue, we call one number and it all works together because it’s all Cisco.”

The first piece of the ELA was Cisco Umbrella. Langford said, “While we did have some basic DNS security already in place, it was not nearly as advanced as Umbrella. Once we understood how vital advanced DNS security is in proactively blocking threats before they reach the network, we realized we should have been looking for advanced DNS security all along.”

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**Chris Langford**  
Director of Network,  
Infrastructure and  
Cyber Security  
Lewisville ISD



## The results

Stronger security, visibility, and ratings

“Deploying Umbrella was so easy that we were unprepared for the dramatic and immediate results it netted. We did not expect a single product to move the needle so much or so fast,” says Langford.

How dramatic? “Within four weeks of deploying Umbrella, our BitSight score increased from 570 to 640; that’s the equivalent of raising a consumer credit score 70 points in less than a month,” he says. “And elements classified by BitSight as ‘botnet infections’ and ‘potentially exploited’ which had negatively influenced our pre-Umbrella score instantly vanished upon implementation.”

“BitSight provides us with a good benchmark of our cyber security performance in an easy to understand format, like a credit score. Having such a dramatic increase in our score in such a short period of time shows LISD’s Board Members, leadership, and community that the investments we are making in cyber security are effective,” says Langford.

“Before installing Umbrella, investigations relied on whatever limited information we might be able to discern from the content filter,” says Langford. “With Umbrella’s Active Directory (AD) integration, we can expedite investigations and pinpoint issues by user and device, which has cut our time to remediation in half.”

Lewisville ISD will be able to extend this security with plans to roll out Cisco Security Connector to over 50,000 iPads provided to students and staff as part of the district’s 1:X Blended Learning Model. “Cisco Security Connector ties back into our environment to give us usage data and blocks connections to malicious sites.”

Once Firepower 4150 NGFWs came online, Lewisville ISD benefited from greatly expanded visibility and robust, granular reporting into its network as never seen before. “Post-deployment, we have so much more information and can know with a single look that we’re blocking a significant amount of command-and-control and phishing traffic,” he says. “We can isolate and fix things that previously we didn’t know existed.”

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Firepower NGFWs mean new opportunities to fortify the district's security. "With our former firewall, we couldn't take advantage of next-gen functionality like the full application control, next-generation IPS, and traffic decryption Firepower brings us," says Langford. "We're in a much better security position than we were before."

"The combination of Umbrella and Firepower NGFW enable us to proactively block threats we weren't blocking before, troubleshoot faster and easier, and know with unprecedented specificity how we're protecting our students against threats, so they can concentrate on acquiring the skills and knowledge they'll need after graduation."

Langford continued, "The way that Firepower NGFW, Stealthwatch, ISE and AMP all integrate together is great. We are now getting alerts from Stealthwatch when it detects unusual activity and can easily investigate and resolve those concerns within the tools. We are also beginning to implement the automatic mitigation features of Stealthwatch, which will help protect us outside of office hours."

As Lewisville's Cisco Security ecosystem grows to include Cisco AMP for Endpoints, Cisco Identity Services Engine (ISE), Cisco Cloud Email Security, Cisco Stealthwatch, and Cisco Security Connector, each element serves to further automate and strengthen the district's security practice.