

Securing Access for All

Real-world experiences
from education institutions



Introduction

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Security Breaches

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The primary mission of every school is to give every student the opportunity to achieve success.

With advancements in pedagogy, evaluation, and student engagement improving education daily, what does student success actually look like in today's world?

As learning opportunities become more advanced, students achieve increasingly greater levels of success. First, they become connected—with peers, experts, teachers, resources, and information. They have access. Once they're connected, they are taught to use these resources effectively to become active learners. They increase their engagement. Beyond active learning, students encounter opportunities for transformative development that transcends traditional curricula — they are involved in a holistic experience that spurs innovation.

In today's hyper-connected world, delivering educational access overwhelmingly means providing access to the internet.

At school and at home. In the classroom and out. Students need access anytime, anywhere, and on any device.

As more students are granted access and connect devices to networks, more data is being transferred and stored every day. This now requires a strong defense to protect against cybersecurity breaches and enhance student success. As the attack surface in education continues to expand and threats become more sophisticated, schools and universities must find the best ways to tackle these challenges. Read on to learn what's at stake and how Cisco is helping to protect schools and universities from cybersecurity threats.



Security Breaches: What's at Stake

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Disruption of learning

Network downtime and loss of critical application operations are common effects of inadequate security. The more that schools and universities rely on networks to provide access, the more an unavailable network impedes a student's ability to succeed.

With the increasing need for mobility and connectivity anywhere and at any time, visibility into the network, cloud and devices is a must.

Identity theft

Schools and universities are ripe with valuable student data – from Social Security numbers and personally identifiable information to financial data and health records – making them prime targets for hackers.

And, for university-affiliated teaching hospitals, a new breed of threats seek to exploit any exposure of medical records and data from medical devices and hospital applications.

Loss of intellectual property

Universities are incubators for valuable research and innovation, making their intellectual property and findings attractive to cyberattackers and at risk of costly breaches.

Financial costs

Ransomware is on the rise, especially in K-12 schools. These attacks force schools to pay large sums of money – which many schools do not have – as ransom for their data or systems to be restored.

6
TRILLION
DOLLARS

The cost of cyber crime damages globally by 2021.¹

200
DOLLARS

The average cost per lost or stolen record in education globally.²

5
BILLION
DOLLARS

The cost of ransomware damages globally in 2017. This is up 15x in the last two years.³

Shawnee Mission School District Secures Digital Learning

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📍 Shawnee Mission, Kansas, US

👤 27,500 Students and faculty

Following a 2014 initiative to digitize learning, Shawnee made strides in creating a completely digital environment. However, its fragmented infrastructure hindered progress and presented a security risk.

In order to provide its students with a truly modern education, SMSD knew it needed to invest in a comprehensive approach to security. It had to protect the new devices and make it possible for teachers and students to interact in a fundamentally different and more effective way.

CHALLENGE

- Securely manage 30,000+ student and educator devices
- Ensure protection inside the firewall
- Provide collaboration tools to better connect students and educators

SOLUTION

- Cisco Security Enterprise License Agreement
- Cisco Firepower 9300 Security Appliance
- Cisco Advanced Malware Protection
- Cisco Web Security Appliance
- Cisco Identity Services Engine
- Cisco Nexus® 9000 Series Switches
- Cisco collaboration tools

RESULTS

- Drastically improved network visibility
- Protects students from potential online threats
- Decreased the number of malware incidents
- Improved productivity and collaboration among students and teachers
- Demonstrated strong financial accountability with ELAs, which was critical for federal reimbursement eligibility



“ There were a lot of moving parts and different tools. It was very complex, and security was not an integral part of our previous strategy.”

“ Security is no longer a second consideration for us... it’s an assumed part of everything we do. This ELA is an integrated set of tools that allows my existing team to meet our larger mission: transformed digital learning.”

- Drew Lane, Executive Director of ICT,
Shawnee Mission School District

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Mody University Embarks on a Bold Digital Journey

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📍 Lakshmangarh, Rajasthan, India
👤 4,700 Students and faculty

Embarking on a bold digital journey, Mody University saw a wireless environment as the foundation of its connected learning vision. However, obsolete Wi-Fi and zero visibility into users, applications, devices, threats, files, and vulnerabilities hampered the educational experience.

CHALLENGE	SOLUTION	RESULTS
<ul style="list-style-type: none">• Provide secure Wi-Fi access for students, staff and guests to enable high-speed digital learning• Implement a secure BYOD policy so students could access materials from any device• Protect the campus network, automate security tasks and speed remediation	<ul style="list-style-type: none">• Cisco Catalyst switches• Cisco Aironet access points• Cisco ASA 5500-X with FirePOWER• Cisco Prime Infrastructure and Smart Net Total Care Services	<ul style="list-style-type: none">• Met student expectations for high-speed connectivity and access to materials—anywhere and from any device• Empowered administration with greater insight into the network, threats and vulnerabilities• Digitized the student experience, transforming delivery and consumption of learning materials



[Read the full story >](#)



Previously, Wi-Fi was limited to about 45 percent of classrooms and indoor areas. Now, coverage is almost 100 percent.



There was no bring-your-own-device solution, so students were unable to freely access learning resources and keep in touch with friends and family. Our new Cisco infrastructure and network solution enhanced the satisfaction level of users.”

- Amit Pareek, Systems Administrator
Mody University

Deakin University Gets Smart about Cybersecurity

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📍 Victoria, Australia

👤 58,865 Students and faculty

Deakin University has an ambitious digital transformation plan in place, setting the bar for how higher education should be administered in a digitally disrupted world. Behind the scenes of this digital advancement, the Victorian university knew cybersecurity needed attention.

CHALLENGE	SOLUTION	RESULTS
<ul style="list-style-type: none">• Create a unified approach to security, eliminating multiple vendors• Ensure a first line of defense against threats• Protect students and staff from phishing and email threats• Provide flexibility in the security controls that IT could apply to the network	<ul style="list-style-type: none">• Cisco Umbrella• Cisco Email Security• Cisco Stealthwatch• Cisco Identity Services Engine• Next Generation Firewalls	<ul style="list-style-type: none">• Lower risk from cyber threats with integrated security• Protection against email cyber threats• Streamlined security policies for controlling network access

“ The cybersecurity ecosystem is complex and evolving every single day. By partnering with Cisco we have removed a big portion of the complexity and risk.”

“ It’s really naive for anyone playing in the disruptive digital space not to invest the same research and hard work into the cybersecurity space.”

- William Confalonieri, Chief Digital Officer,
Deakin University

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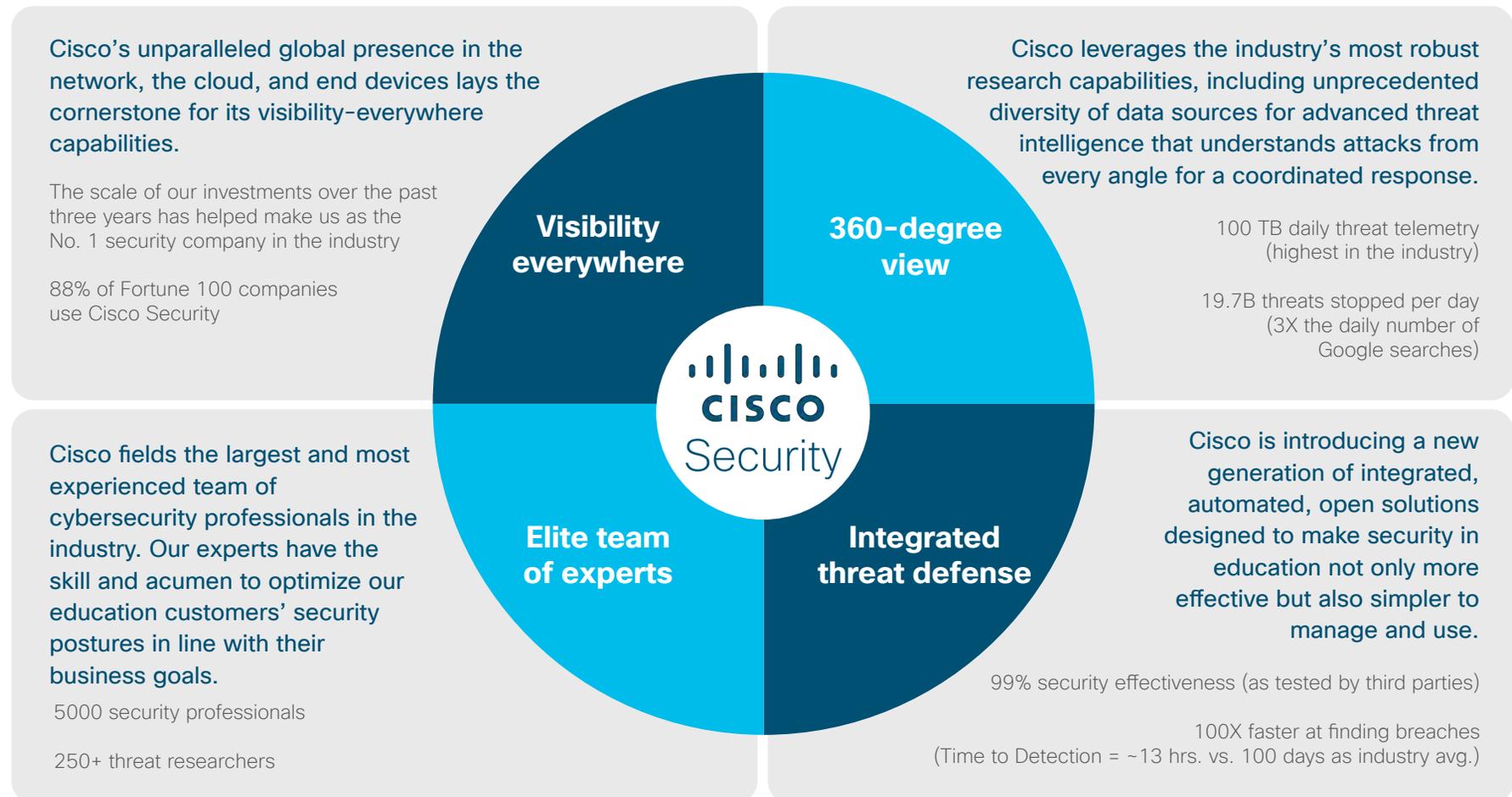
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Cisco's technology, scale, and expertise provide the broad and deep capabilities needed to improve security in education. This means simple, open, and automated security with integrated threat defense that detects and remediates threats faster and accelerates innovation.



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Explore the Cisco education portfolio:

Cisco education
virtual tour

Cisco education
technologies
and solutions

Empowered Education
eBook

Learn more about education security challenges and strategies:

Tackling the Ransomware
Threat in Higher Education

Keep Your School District
Safe from Hackers and
Ransomware

Cisco Security

Security Services Play a
Key Role in the
Transformation of Higher
Education



Sources:

- 1: CSO Online "Cybercrime damages expected to cost the world \$6 trillion by 2021"
- 2: Ponemon Institute's 2017 Cost of Data Breach Study: Global Overview
- 3: CSO Online "Ransomware damages rise 15X in 2 years to hit \$5 billion in 2017"