ExtremeCloud™ IQ for Education

Education: An Industry Under Transformation

The digital transformation of education is happening for many reasons. Innovations in education technology in both K-12 and higher education are empowering educators to deliver a more enriched, personalized, and engaging learning experience, with increased operational efficiency and at reduced cost to IT.

Why Cloud?

Education has already embraced the cloud, an Extreme Networks cloud survey of over 1,000 education IT professionals found that over 94% of institutions are hosting at least one solution in the cloud. Now the many benefits of cloud-based IT can be brought to bear on networking and network management with cloud-driven networking. 40% of education institutions have plans to make the move to cloud-driven networking in the next 1-5 years.

Here are a few key reasons for the shift:

- Giving students the tools they need to succeed: The primary focus in education is arming students with the tools they need to learn and be successful in the classroom and their future careers. The cloud allows educators to access the resources students need on demand. It's becoming more common for education technology and online-based curriculum materials to run in the cloud.

- Protecting student data: Collecting data to identify trends and patterns that could potentially benefit staff and students is becoming increasingly popular, particularly among higher education institutions. At the same time, data collection and analysis require accompanying protection of sensitive student and staff information. Cloud security tools allow IT administrators to protect this information. It also offers data encryption and logging capabilities to satisfy education specific compliance requirements.

- Cost management: Budget is always an issue in education, whether K-12 or higher education. The cloud allows for fiscal responsibility, eliminating the need to invest in hardware and data closet/data center environments that incur maintenance costs. The cloud provides the opportunity to allocate limited financial resources entirely and place the focus on teaching and learning.

Cloud Infrastructure Management is on the Horizon

Although many education applications such as email, Learning Management Systems (LMS) and Student Information Systems (SIS) are migrating to the cloud, infrastructure management solutions have largely remained on-premise in education. This is expected to change. While only 17% of education organizations leverage cloud management today, 40% of education institutions have plans to make the move within 1-5 years. (Extreme Networks Survey)

ExtremeCloud IQ is an infrastructure management solution that meets the reliability, scalability, security, and intelligence required for education networks. Using an innovative third-generation cloud architecture, ExtremeCloud IQ is designed to streamline every aspect of the network from deployment to maintenance and delivers a F.A.S.T infrastructure management solution:

- **Flexibility:** right-sized for skills, scale, and business objectives

- **Agility:** speed and continuous delivery of new management features and capabilities

- **Security:** proven protection in the most risk-sensitive environments

- **Technology:** access to best of breed technologies in the world

Purpose-Built Solutions for Better Education Outcomes

Personalized Learning

STEM and Robotics

Online Student Testing

Student Safety

Personalized Learning

Take advantage of digital content, adaptive techniques, 1:1 computing, smart displays, and the latest developments in EdTech. To deliver this effectively, your network must be able to easily integrate with your student directory and provide bandwidth where and when it is needed. Learn more.

STEM and Robotics

Robots labs, drones, and STEM learning are important for preparing students for the jobs that will be available when they graduate. AR/VR/ MR are playing a growing role at all levels of education, not just increasing student engagement, but reducing costs as students can explore remote lands and historic times from within the classroom. Learn more.

Online Student Testing

K-12 standards compliance, online testing requires high speed, low latency networking, device management, and network analytics to ensure the best possible testing experience. Learn more.

Student Safety

State and federal governments have legislated requirements to protect student safety and privacy. The ability to grant students increasing digital freedom as they demonstrate good digital citizenship is an important educational tool. Underlying these requirements is the challenge of operating in a restricted IT resource environment and still achieving the best educational outcomes. Learn more.

Why ExtremeCloud IQ: Technology Benefits
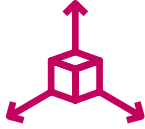
Scalability and Elasticity   **Reliability**   **Flexible Deployment Models**   **Secure by Design**   **AI/ML Driven Insights**

Scalability and Elasticity

ExtremeCloud IQ is one of the only 3rd generation cloud-based infrastructure management platforms, making it well suited for the unique demands of education networks. Based a microservices, clustered-based architecture, ExtremeCloud IQ not only offers massive scaling, it also offers school systems the much-needed elasticity to be better able to cope with on-boarding of new technology as innovation initiatives unfold.

Reliability

The network is the nervous system of the school system, whether K-12 or a large university. It therefore needs to be reliable and stable. Unlike previous generation cloud-based management platforms, ExtremeCloud IQ ensures no impact to the underlying infrastructure or network services with the loss of Internet connectivity. Furthermore, even in the event of the subscription service expiring, full access to the management tool is still permitted for monitoring purposes. Infrastructure changes, however, would have to be completed upon renewal of the subscription service. In addition, the 3rd generation architecture which is microservices and cluster-based contributes to the extremely high levels of availability and reliability and eliminates any concerns of single points of failure.

Flexible Deployment Models

Unlike many competitive offerings, ExtremeCloud IQ offers public, private, local and hybrid deployment options. The same microservices-based architecture and the same operating system is used for every deployment model ensuring a high level of feature consistency between each. Furthermore, our cloud technology is cloud-provider agnostic meaning that it can be hosted in AWS's, Azure's or Google's cloud environment, in addition to the private and local options.

Secure by Design

ExtremeCloud IQ is secure by design. Extreme Networks was the first major cloud-managed networking vendor to attain ISO/IEC 27001 certification for its Information Security Management Systems (ISMS). Furthermore, ExtremeCloud IQ offers compliance with local data protection regulations with automated PCI and GDPR audits, with the ability to easily flush any data (MAC addresses for example), quickly and easily, with the appropriate logging tools for tracking. Furthermore, features such as firewalling, threat detection with continuous monitoring, DDoS-attack prevention and flow control are also available to help secure the end to end network.

AI/ML Driven Insights

In higher education, the analysis of vast amounts data via AI/ML holds the key to delivering better student and staff outcomes. The same holds true for the networking. Large data pools allow the network to learn and to ultimately become more intelligent. ExtremeCloud IQ has a massive data pool, analyzing over 3 Petabytes of data every day with its rich AI/ML capabilities. This gives it the intelligence to provide education IT professionals with the critical insights they need to help detect network problems – even before they affect students and staff:

- **Client 360:** Provides a real-time or historical snapshot of the "total user experience", including quantitative health metrics for each student, staff or connected device.

- **Network 360:** Provides a real-time or historical snapshot of the overall network health. Key performance indicators can be aggregated by day, week, or month, and includes device health, client health, Wi-Fi health, network health, services availability, applications, and security.

- **Comparative analytics:** ability to anonymously benchmark

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Why ExtremeCloud IQ: Education Benefits

Increased Agility   **Increased Efficiency**   **Superior Quality of Experience**

Increased Agility

Whether it's the quick on-boarding of a 1-1 computing initiative with 1,500 Chromebooks or the deployment of security cameras, cloud management takes the complexity out of networking and Wi-Fi so that technology reliant education initiatives can be completed faster, with greater ease.

Increased Efficiency

Whether it's the unique delivery of a lesson plan through the adoption of new technologies or it's the deployment and management of the network, education has the need to increase efficiency.

Superior Quality of Experience

A heightened student and staff experience is top of mind for education technology decisions, and the network is critical to achieve it. ExtremeCloud IQ provides education IT professionals with the critical insights they need to identify problems, resolve network errors, and optimize performance before they affect students and staff. Machine-learning calibrated client health and network health are provided, providing administrators with a wealth of data pertaining to client and network operation, connectivity health, faults, and performance and presents that data in a simple and informative way. Additional features such as dynamic Wi-Fi RF Monitoring and programmable radios help to ensure optimal performance of the Wi-Fi network.

Extreme networks

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