

# York University Selects A10 Thunder CGN for Network Infrastructure Scalability



Industry | Education

York University is Canada's third largest university, with more than 60,000 students, including 25,000 resident students. With two campuses located in the heart of the greater Toronto area, the University prides itself on offering distinguished academic programs, exceptional faculty, and state-of-the-art facilities enriched by a technology-enhanced, student-focused learning environment. Ranked fourth in Canada, and recognized as one of the top 100 universities in the world, York's 11 faculties and 26 research centers conduct ambitious, groundbreaking research that extends across traditional academic boundaries. York's distinctive and collaborative approach to research brings fresh insights and solutions to local and global challenges.

*A10 went above and beyond to provide York University with scalable network infrastructure that not only handles the dramatic increase in demand, but also met our budget requirements. All-inclusive licensing and quick implementation made A10's solution the optimal choice for us.*

— Eriks Rugelis  
Manager, UIT Network Development, York University



Network Solution  
A10 Thunder CGN



Critical Issues

- Budget constraints and scale
- IPv4 address conservation
- Number of students accessing internet coupled with number of connected devices per student
- Scalability important for future growth



Results

- Scalable infrastructure that supports 60,000 students and up to 240,000 connected devices
- Operational stability and subsequent reduction in workload of network operations staff
- Unexpected benefit of packet capture feature for debugging specific component failures in adjacent network infrastructure
- Multi-year capacity in an environment where network workload/usage continues to increase year-over-year

## Challenges

York University needed a network infrastructure that could handle its growing student body. The demands of a university's network correlate closely with both the number of students and the number of connected devices per student. Additionally, if a university is hosting large public events, demand on the network can spike, and it's critical that the system can scale as network load increases.

A10 Networks® Thunder® CGN line of carrier grade networking gateways deliver high-performance address and protocol translation, providing users with extended IPv4 connectivity, broad IP transition options, and enhanced application reliability. Built on A10 Networks Advanced Core Operating System (ACOS®) architecture, the A10 Thunder CGN product line offers performance scalability up to 150 Gbps, a range of physical, virtual, and hybrid offerings, and integrated distributed denial of service (DDoS) protection.

## Selection Criteria

The team at York University evaluated several vendors. The A10 Thunder CGN line of carrier grade networking gateways was chosen primarily for scale and performance, with the guidance of network services consulting firm AMA, a partner of A10.

"A10 went above and beyond to provide York University with scalable network infrastructure that not only handles the dramatic increase in demand, but also met our budget requirements," says Eriks Rugelis, Manager, UIT Network Development at York University. "All-inclusive licensing and quick implementation made A10's solution the optimal choice for us."

A10 Thunder CGN offers York University the following differentiators (quotes are from Eriks Rugelis, Manager, UIT Network Development at York University):

**Ease of deployment.** A10's intuitive web-based GUI and de facto standard CLI provide flexible management and easy deployment. "A10 engineering support was able to deploy our entire system in just two visits."

**Competitive performance.** "We previously had to log every individual transaction. We can do high-speed logging now, which reduces the workload of our network staff."



**Scalability.** The NAT44 feature provides large-scale IPv4 address preservation.

**No licensing model that met key budget requirements.** A10 Thunder CGN hardware appliances and virtualized solutions feature all-inclusive budget licensing, which eliminates unpredictable costs by obviating the need to purchase licenses during unforeseen peak loads. A variety of innovative and advanced features are included, such as Infrastructure-as-a-Service (IaaS) capabilities, Distributed Denial of Service (DDoS) protection, and A10 Networks aFlex® scripting technology. Also included is A10 Networks aXAPI® REST-based API for management. "All-inclusive licensing was a big part of why we chose A10's solution."

**Exceptional service and support.** "A10 Networks technical support was very helpful with providing guidance and assistance with a complex multi-vendor debugging exercise. A10 has gone above and beyond to exceed our expectations."

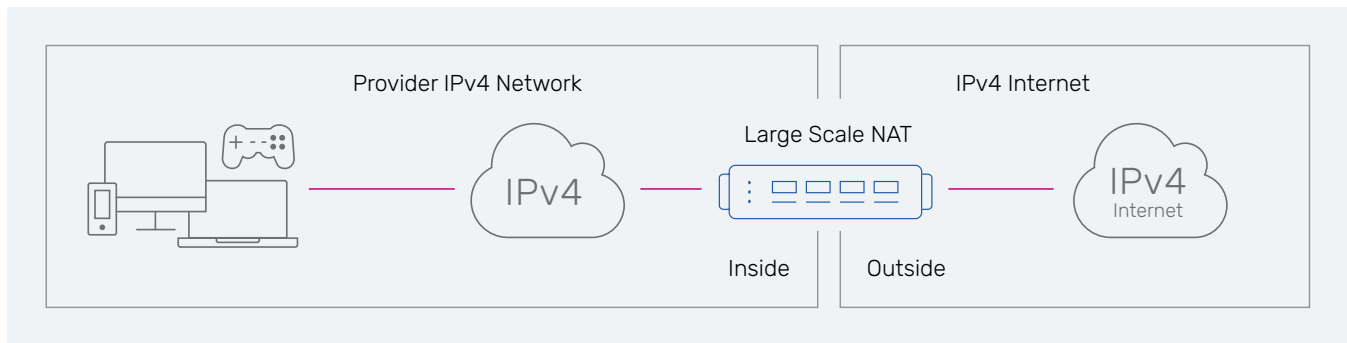


Figure 1. A10 Thunder CGN solution meets the scalability, deployment and budget requirements of a university's network.

## Solution

A10 Thunder CGN enhances service availability and optimizes network infrastructure efficiency. For management and oversight, A10 Networks aGalaxy® Centralized Management System provides a consolidated interface to manage and monitor A10 devices. A10's varied product offerings for scaling, optimization, and monitoring provide the most efficient hardware and virtual form factors, and this ensures effective use of data center resources. The combination of high performance in a small form factor results in lower costs through reducing power usage, rack space consumption and cooling requirements.

## Results

York University now has a scalable infrastructure that supports 60,000 students and up to 240,000 connected devices. Operational stability and the subsequent reduction in workload of network operations staff have brought additional benefits.

The A10 Thunder CGN solution exceeded York's requirements with a multi-year capacity in an environment where network workload/usage continues to increase year-over-year—all within budget.

*"Working with A10 made a complex project straightforward and efficient," Rugelis says. "Both the A10 team's support and solution exceeded our expectations in addressing our scalability and budget demands."*



## Next Steps

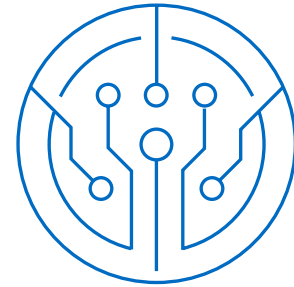
For more information, please contact your A10 representative and visit: [A10networks.com/cgn](https://www.a10networks.com/cgn)

## About ACOS

The A10 Networks Advanced Core Operating System (ACOS®) is an application networking software architecture optimized for 64-bit multi-core processor systems. In order to maximize the capabilities of these increasingly dense multi-core CPUs, ACOS implements a shared memory architecture that scales more efficiently than conventional memory management architectures, like inter-processor communications (IPC).

This shared memory architecture enables A10 products to utilize these increasingly common multi-core CPUs efficiently and scale performance with increasing CPU cores, enabling ACOS-based products to process two to five times more web transactions in certain head-to-head product comparisons per unit of computing and memory resources, power, rack space or list price.

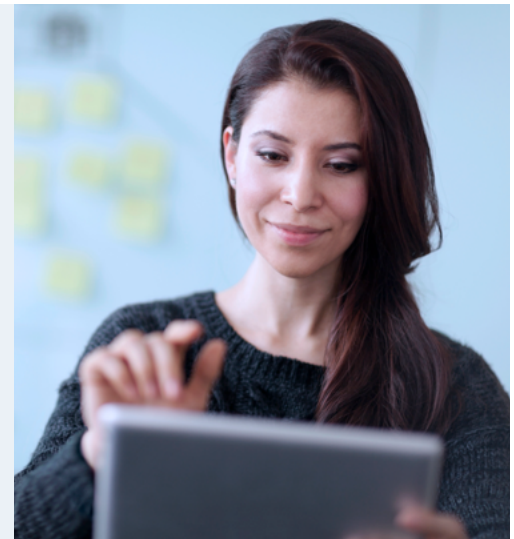
For more information, please visit: [A10networks.com/acos](https://www.a10networks.com/acos)



### About AMA

Founded in 1987, AMA believes in the power of technology to transform businesses and leverages the power of cloud computing to simplify I.T. complexity.

AMA is a managed services provider of network/security infrastructure and core networking services (DNS, DHCP and IP Address Management). We design, build and manage fast, secure and reliable communication infrastructure that enables organizations in both private and public sectors to embrace mobility and take full advantages of cloud computing.





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## About A10 Networks

A10 Networks (NYSE: ATEN) provides secure application services for on-premises, multi-cloud and edge-cloud environments at hyperscale. Our mission is to enable service providers and enterprises to deliver business-critical applications that are secure, available and efficient for multi-cloud transformation and 5G readiness. We deliver better business outcomes that support investment protection, new business models and help future-proof infrastructures, empowering our customers to provide the most secure and available digital experience. Founded in 2004, A10 Networks is based in San Jose, Calif. and serves customers globally.

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