



# Automated Management and Non-Stop Resilience for Educational Institute

NIT Raipur, in India, gets a non-stop, resilient solution featuring simplified and automated management.

“ NIT Raipur’s new Allied Telesis network is one of the first deployments of an SDN-enabled network in the campus of an Institute of National Importance in India. The new LAN has many advanced features, such as a centralized SDN controller, automatic configuration, backup and restoration, automatic firmware updates, plug ‘n’ play capability, zero-touch provisioning, data, voice and video convergence, and multi-service support. This state-of-art LAN has been a game-changing value-for-money solution for the Institute, and the network is completely ready for the future large-scale deployment of advanced campus LAN services such as Unified Communication, Video Streaming and IP TV.

**Dr. Shrish Verma**, Head, Central Computer Center, NIT Raipur

## Challenge

Founded in 1956, the National Institute of Technology (NIT) Raipur is a technical institute funded by the Government of India, located in Raipur in Chhattisgarh, India. NIT Raipur is one of the oldest institutes of its kind in India. Offering Bachelor’s degrees in Technology and Architecture as well as Master’s degrees in Technology and Computer Applications, the Institute has approximately 2700 students, all of whom require both wired and wireless connectivity.

By 2015 the campus network was showing definite signs of age. The devices were performing badly, and the infrastructure was no longer sufficient, lacking in both intelligent design and sufficient bandwidth. With a view to both bringing it up to speed and future-proofing, NIT Raipur decided it was time to upgrade.

NIT Raipur had several critical requirements for its new network. They needed:

- ▶ a single converged network to support Voice, Video and Data
- ▶ a resilient design, with no single point of failure
- ▶ high-speed automated network recovery in the event of any problems

The Institute was also interested in implementing Software Defined Networking (SDN) in the future, so the solution had to be futureproof and ready for next-generation technologies.

## Why Allied Telesis?

NIT Raipur chose Allied Telesis over several industry-leading network providers. Allied Telesis was the easy choice for the Institute, thanks to its cutting-edge technologies—including Allied Telesis Autonomous Management Framework™ (AMF)—and superior service and support.

## Solution

NIT Raipur now have a brand-new campus network, with the entire implementation based on three-tier architecture with AMF. The new network is fully managed, with no single point of failure.

The network core comprises four SwitchBlade x908 modular switches, two of which use Virtual Chassis Stacking (VCStack™) to create a single virtual chassis. The VCStack is connected to the other two SwitchBlades in a high-speed Ethernet Protection Switched Ring (EPSRing™). This combination of VCStack and EPSR creates a fully utilized and resilient network core.

“ The key objectives for our campus network were convergence, high performance, low latency, resilience, fail-safe operation, security, availability, automation, minimum maintenance, agility, scalability, robustness and future-proofing, while balancing the Total Cost of Ownership. The Allied Telesis solution effortlessly meets our stringent requirements and has proven itself over the last three years of operation. 160 Gbps dynamic failover at the core, sub-50 ms ring convergence, a high level of network automation and SDN-based management are some of the features which characterize our new advanced network.

**Sunil Pandey**, Sr. Technical Officer (IT),  
NIT Raipur

The x510 Series distribution switches are connected in two further EPSR rings. The versatile x510 Series are also used as access switches at the edge of the network.

This powerful solution is perfect for distributed environments like the NIT Raipur campus. EPSR provides high performance for this converged network carrying voice, video and data, with automatic failover in as little as 50ms in the event of a link or device failure. This resilient design ensures always-available access to online resources and applications, for both staff and students.

### Unified management

The new network is under central control thanks to AMF, which provides centralized management of the entire network, as well as automation that simplifies day-to-day administration. Intelligent software reacts to changes within the network and automatically changes the topology. Network switches are automatically backed up, and can be recovered with zero-touch, and new devices can be added to the network with plug-and-play simplicity.

### Success

The new network was successfully implemented in April 2015. The project met all the expected timeframes, easily fulfilling NIT Raipur's requirements, and was complemented with industry-leading service and support.

The cost-effective new solution has met all the Institute's requirements, and is prepared for the future adoption of SDN and other next generation applications that support a modern learning environment.

The entire campus now enjoys a brand new high-performance network, providing voice, voice and data services, with immediate and constant access to online information. Thanks to AMF, NIT Raipur IT staff have an easy-to-manage network, with automated backup and recovery, reducing administration time and cost. Allied Telesis is committed to supporting NIT Raipur both now and well into the future, with superior services and support.

### Featured Products

## AMF™

#### AMF

AMF delivers real and immediate value to businesses by solving one of IT's most pressing needs. It provides a converged infrastructure, where all switches, routers and firewalls can be managed as a single entity, reducing complexity and TCO, and allowing more to be done with less. Powerful features—like auto-backup, auto-recovery, auto-provisioning and auto-upgrade, along with centralized management—enable plug-and-play network expansion and zero-touch recovery.

## VCStack™

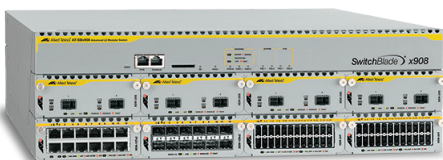
#### VCStack

Using Allied Telesis VCStack in a network allows multiple switches to appear as a single virtual chassis. VCStack and link aggregation provide a solution where network resources are spread across the virtual chassis members, ensuring resiliency.

## EPSRing™

#### EPSRing

Allied Telesis EPSRing solutions provide high performance, high reliability, flexible, scalable distributed network cores. The core can be as small or as large as is needed, connected by copper or fiber, or even copper and fiber in the same ring. The recovery time when links or nodes go down is extremely fast—as low as 50ms, making this solution ideal for the provision of converged voice, video and data services.



#### SwitchBlade x908 Advanced Layer 3 Modular Switch

The ideal solution for the modern enterprise network core where reliability, resiliency and high performance are the key requirements

#### x510 Series

Security and resiliency features, coupled with easy management, make the x510 Series switches an ideal choice for network distribution and access applications.

