



## CUSTOMER CASE STUDY

# NEW JERSEY'S HIGHER EDUCATION NETWORK (NJEDGE.NET), AN IP-VPN CASE STUDY

## SUMMARY

NJEDge.Net is a nonprofit consortium of 45 colleges and universities in New Jersey dedicated to promoting collaboration between its member institutions statewide through the integration of existing and emerging technologies for instruction, research, and public service. NJEDge.Net selected Verizon and Cisco Systems® to design, install, and manage an interactive, multiservices network that facilitates new, joint-degree programs, institutional collaboration and online learning among its member institutions. Together, Verizon and Cisco® not only provided backbone network connectivity and basic Internet access, but also Internet protocol-virtual private network (IP-VPN) services and a multimillion-dollar, managed video portal service.

## CUSTOMER PROFILE

NJEDge.Net was created to provide and support a wide variety of technology needs and requirements of the higher education institutions located in the state of New Jersey. The services enabled by NJEDge.Net extend the reach of higher education to off-campus learners, K-12, corporate, and community constituents across the state. The population served by NJEDge.Net includes more than 400,000 full- and part-time students, 10,000 full- and part-time faculty, and 55,000 professional and non-professional staff.

Verizon and Cisco collaborated and provided the custom telecommunications infrastructure of the data, voice, and video backbone for the NJEDge.Net consortium network. Verizon brings the knowledge and experience of a trusted communications service provider and Cisco offers advanced internetworking expertise. Together, the two companies were able to provide a cost-effective solution designed specifically to address the organization's network requirements.

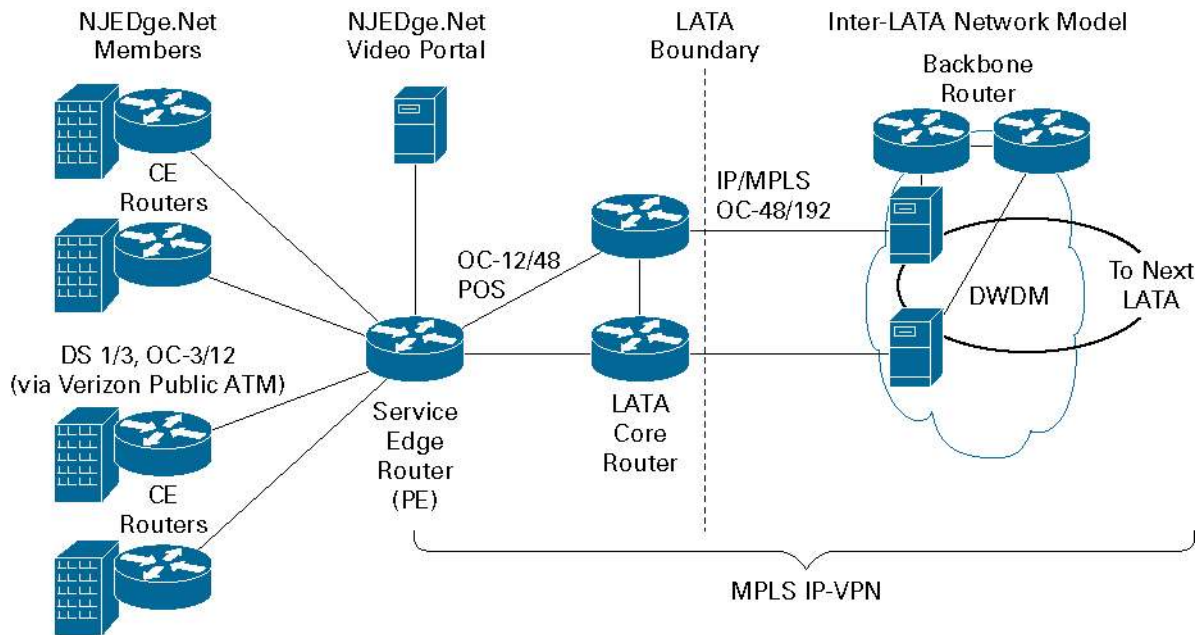
The customized IP-VPN service is based on Verizon's multiprotocol label switching (MPLS)-enabled network infrastructure.<sup>1</sup> This technology allows the consortium to accelerate deployment of mission-critical IT applications with scalable bandwidth and integrate multiple applications on a single network connection. Additionally, NJEDge.Net is able to support advanced applications such as Internet2 on a quality-of-service (QoS)-aware network. The network infrastructure also supports the Cisco Enhanced Interior Gateway Routing Protocol (EIGRP) in a selected community of interest.

## SITUATION

NJEDge.Net wanted to work with companies that could help the consortium move the state of New Jersey to the forefront of technology-mediated, educational practices. More specifically, the New Jersey President's Council wanted to build an advanced network that would link all of its colleges and universities and achieve economies of scale. To meet this goal, NJEDge.Net needed to replace the consortium's disparate broadcast video, private data, and Internet networks; as well as its antiquated, videoconferencing system.

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<sup>1</sup> Verizon Select Services Inc provides IP-VPN service.



## CHALLENGES

One of the significant challenges encountered by NJEDge.Net was to develop this network solution without changing consortium members' existing LAN and WAN access methods, and while preserving the privacy of members' intranet traffic. A QoS-enabled, high-bandwidth network met this challenge while also enabling distance-learning applications and advanced collaboration environments such as Internet2.

Other challenges included:


- Implementing new forms of interinstitutional collaboration and joint degree programs
- Extending the institutions' accessibility and reach of off-campus learners
- Creating optimal environments for learning management systems to support teaching and learning throughout the state
- Providing advanced network applications such as Internet2
- Providing enhanced network security

Additionally, the network needed to be able to efficiently and cost-effectively transport voice, video, and data.

## SOLUTION

Verizon provided NJEDge.Net with a comprehensive, statewide IP-VPN solution—delivered over the MPLS-enabled network, built end-to-end with Cisco Systems equipment. Verizon also provided a customized video portal, enabling NJEDge.Net to extend the institutional reach of distance learning with sophisticated videoconferencing technologies and collaboration tools.

The network provides the scalable bandwidth and flexibility needed to accommodate multiple access technology deployed at each college or university, enabling member institutions to join the network without buying new, on-site, network-access equipment. The MPLS architecture also provides reliability and security on par with Frame Relay or Asynchronous Transfer Mode (ATM) service, and Verizon backs its state-of-the-art network architecture with service-level agreements (SLAs).



Without requiring a dedicated or private network, NJEDge.Net traffic now flows securely over Verizon's MPLS-enabled network infrastructure. Furthermore, the Verizon IP-VPN service that NJEDge.Net purchased is a Cisco Powered Network designated service—meaning it is operated over a network built end-to-end with Cisco equipment with the highest standards for performance and reliability. Instilling this level of confidence is critical for businesses that want to outtask all, or part, of their networks to qualified service providers such as Verizon.

## **BENEFITS**

This cooperative venture has enabled member colleges and universities such as Rutgers, Stevens Institute of Technology, Drew, Fairleigh Dickinson, New Jersey Institute of Technology, and Seton Hall to access the Internet with faster connections and share resources among all of the institutions. It has also allowed access to state funding for grants and financing of system upgrades to the existing infrastructure.

By implementing secure, high-quality networking technology, NJEDge.Net now realizes the benefits and features of a private network while lowering its total cost of ownership. Verizon IP-VPN Service supports advanced applications such as Internet2, real-time video conferencing and distance learning, remote access to expensive scientific instrumentation, as well as NJEDge.Net's New Jersey Virtual University—a workforce training project.

Thanks to its new network, NJEDge.Net is able to take advantage of economies of scale, provide expanded opportunities for integrating emerging technologies and promote new forms of interinstitutional collaboration.

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