

New York State Office of the Chief Information Officer/ Office for Technology

Melodie Mayberry-Stewart, Ph.D.
Chief Information Officer

OneNetNYS

Digital Government to Government (G to G)

Executive Summary

The OneNetNYS project is a partnership between New York State counties and state agencies to streamline access to applications throughout the state. OneNetNYS is designed to provide faster, more secure and robust connectivity to state data center resources and other state agency applications. Prior to OneNetNYS, each State agency had to install and pay for a dedicated circuit and network equipment at each remote county location. There was no way to share spare circuit capacity with other entities. In addition to being costly, this model often required individual counties to integrate dozens of state circuits into their network architecture; a logistical challenge and poor security model. Troubleshooting and monitoring the status of the circuits was extremely difficult. The large number of network interconnects made it costly and difficult for both the state and counties to secure and administer these connections. Additionally, many county users needed two computers to access state and county applications. OneNetNYS simplifies county and state connectivity at a significant cost savings.

OneNetNYS provides a pair of high speed network connections to each county and the county in turn uses these connections as their gateway for access to any application in the state data center and beyond—a single gateway for the greater county network to reach all participating state entities.

OneNetNYS increases efficiency by laying newer network security technology, such as firewalls, Virtual Private Networks (VPN), and Intrusion Prevention Systems (IPS) over established and proven network infrastructure. OneNetNYS allows government to leverage investments in LAN/WAN technology beyond the normal scope to deliver applications to a broader user-base. OneNetNYS is an excellent example of collaborative success between New York State's local governments and state agencies.

Business Problem and Solution

OneNetNYS reduces the need for individual state agencies to install dedicated circuits and network hardware at each county location. OneNetNYS provides a single point of entry to the core data center in each county. The connection is then handed-off to the county network to deliver application access to the county remote locations. VPN tunnels allow each participant a distinct connection to desired applications in either the state or county data centers over the shared network infrastructure. Integration of the state and county networks is achieved by using the same VPN technology, eliminating the need for users to access multiple computers and printers for access to disparate networks. OneNetNYS fosters interoperability and information sharing on an intergovernmental level by providing this central framework that all agencies, counties and municipalities can participate in to streamline and simplify the way government communicates.

OneNetNYS substantially increases the security of the interconnected environments through the use of centrally managed firewalls, VPN tunnels, and IPS devices. The firewalls limit access between participants to only the communication that is required to access the service. This principle of “least privileges” reduces the type of network communication used by viruses, worms and other malware. The VPN tunnels ensure that information transmitted across the shared state infrastructure is encrypted. This not only protects content and integrity of sensitive information but it also assists in customer compliance with current security policies, regulations and laws. The IPS devices prevent and alert on suspicious network activity in real time. Using VPN tunnels to traverse a public facility, using IPS’s to scan traffic passing between disparate networks, and applying the principle of least privileges are all examples of how industry “best practices” are employed in this solution.

Significance

CIO/OFT is leveraging investments in network security by extending the services to the remote locations. Prior network integration models between state and county networks were less secure and exposed the network to viruses and other forms of network attacks. There was limited firewall security, and little or no intrusion prevention control. In the OneNetNYS model, traffic crossing between state and local networks is routed through the OneNetNYS core to take advantage of the security appliances. This illustrates how innovation can result in a fundamental change in the way we do business.

OneNetNYS increases operational effectiveness by decreasing the time required to deliver an application across the state and efficiently using bandwidth. Prior to OneNetNYS, a state agency that did not have existing county connectivity would have

to install circuits and communication equipment that would take approximately 60 days per county location. Although multiple installations could be in progress at one time, a statewide rollout would routinely take in excess of a year. The ultimate result of such a model is a large number of circuits being installed in each county. Each circuit carried a proprietary application to relatively few users, often leaving spare bandwidth capacity and no way to share it. With OneNetNYS, a state agency can provide streamlined access through a shared high capacity circuit and send a simple notification to their remote locations advertising the new application. OneNetNYS core appliances measure agency traffic and report bandwidth usage metrics. The new process no longer relies on an extensive installation effort, and is completed within a few weeks, if not a few days, a transformational result on the business processes.

Benefit of the Project

A shared infrastructure resulting in the reduction of circuits and communication hardware, more efficient bandwidth usage, the extension of security devices and access to state and local applications via a single PC make OneNetNYS a very environmentally friendly and cost effective solution for statewide application delivery.

Transparency in government is improved through increased service to the citizen. Leveraging local infrastructure enables a greater number of locations to access state and local resources. Time to market of new services is reduced dramatically with no additional infrastructure deployment necessary. Data exchange increases when partnerships are leveraged between entities. In Onondaga, Jefferson and Broome Counties, State Police access county GIS and dispatch systems through the OneNetNYS infrastructure to aid public safety efforts.

Participating counties and state agencies are the immediate beneficiaries of OneNetNYS, but the citizens they serve are the ultimate benefactors. There are currently more than 70 state and county applications and/or resources available through the OneNetNYS solution. Among the state applications are the Integrated Justice Advisory Board Portal, eMedNY, Unemployment Insurance, the CONNECTIONS child welfare system, Welfare Management System, NYSeMail, the A\$\$ets child support application, Imaging/Electronic Document Repository and e-Justice. County resources include KinderTrack daycare tracking, Onondaga Intranet, Fraudlog Database, OnBase Imaging, TREAT report generator, Time and Attendance Tracking, and Treasury and Financial systems.

It is estimated a single state agency will need to spend \$700,000 per year to extend the network to one site in each of New York's 57 upstate counties. Often agencies have multiple sites in counties. The cost for five agencies to deliver similar network connectivity to each county is approximately \$3.5 million. OneNetNYS provides a

solution to accommodate access to multiple agencies applications at a fraction of the cost.

CIO/OFT spends approximately \$30,000 per year for intrusion prevention sensors alone that support OneNetNYS. For this service to be replicated at each of the 57 counties would cost approximately \$1.7 million. Routing network traffic through the OneNetNYS core extends this protection for little additional cost.

OneNetNYS transitioned from its pilot to production phase July of 2007. OneNetNYS is currently in operation in 50 counties throughout the state where local county networks have the ability to expand network access to their remote sites. The remaining counties will be added as local municipalities enhance their infrastructure. There are 10 state agencies actively participating in application delivery with marketing efforts continuing to attract participants, most notable, New York City. OneNetNYS processes an average of 45 gigabytes of data per day through its core.

Through this collaborative effort, New York State is already realizing improvement to infrastructure management, security and application delivery in the upstate counties. Expanded installation into New York City in 2009 will multiply these benefits several fold. CIO/OFT is committed to the continued improvement of enterprise technology services to better meet the needs of our customers and the citizens of New York. The value of OneNetNYS can easily be transferred to other state agencies in New York through participation in OneNetNYS. Other states could benefit from implementing a similar solution, and are likely to face the same challenges in delivering applications from various state agencies to municipalities throughout the state.

List all supporting organizations and public and private partners that assisted in this innovation:

NYS Office of Temporary and Disability Assistance
NYS Office of Children and Family Services
NYS Department of Health
NYS Department of Criminal Justice Services
NYS Department of Labor
NYS Department of Motor Vehicle
NYS Division of Budget
NY State Police
NY Integrated Justice Advisory Board
50 NYS Upstate Counties
Juniper
McAfee

Network General
Verizon