



# PHILADELPHIA ADVANCES SMART CITY VISION WITH ALL-JUNIPER NETWORK

## Summary

**Company:**

City of Philadelphia

**Industry:**

Government

**Business Challenges:**

Continue to scale citywide network to support city operations and constituent services

**Technology Solution:**

- MX Series Universal Routing Platforms
- Juniper Access Points, Juniper Mist Wi-Fi Assurance, Juniper Mist Wired Assurance, and Juniper Mist Edge
- EX Series Ethernet Switches
- QFX Series Switches
- SRX Series Services Gateways with Juniper Advanced Threat Prevention
- Junos Space Security Director with Policy Enforcer

**Business Results:**

- Delivered network services to 30,000 city workers across dozens of departments and agencies with sustained 99.99% availability
- Empowered city workers and visitors with superior network user experiences from any device
- Built the foundation for smart city services for a safer, more sustainable city

More than 1.5 million people call the City of Philadelphia home. It's the birthplace of liberty and cheesesteaks. Philadelphia is also an innovator in delivering technology to enable city operations and digital services. The city's Office of Innovation and Technology (OIT) delivers IT services to support 30,000 workers across dozens of departments.

OIT built CityNet, its advanced MPLS network based on Juniper Networks® MX Series Universal Routing Platforms more than five years ago. Recently, that network was upgraded to 40 Gbps to meet rising digital demands. Based on proven success, the city now relies on Juniper solutions to connect and secure hundreds of offices, private data centers, and cloud instances.

"Juniper is a service provider network solution that crosses into the enterprise," says Dennis Doyne, chief network operations officer for the City of Philadelphia.

## Delivering Digital City Services

City employees in police, fire, public health, tax, streets, and in other departments access critical data and applications over an all-Juniper network. Beyond the work of city administration, the enterprise network supports digital services such as 311 for municipal information and reporting, high-definition video surveillance, gunshot detection, and prison inmate location and management. CityNet provides an agile foundation to launch smart city services, and the city is rolling out 100,000 smart LED streetlights to support safer neighborhoods while shrinking energy expenses.

With a highly segmented MPLS network based on MX Series routers, OIT can ensure that departmental traffic is isolated over a robust, shared infrastructure. CityNet's virtual routing and firewall architecture provides microsegmentation and detailed logical separation of traffic.

Leveraging its resilient, agile network foundation, OIT also offers IT services like E911 to surrounding communities, monetizing its investment and enhancing citizen services.

*"Being a Juniper shop makes my life and my team's lives easier. We run a network that supports 30,000 employees with four people. We have efficient network operations."*

- Dennis Doyne, chief network operations officer, City of Philadelphia

## Empowering the City Workforce

OIT saw an improvement in network user experience after installing the Juniper® Series of High Performance Access Points, driven by Mist AI™, across agency offices. AI-driven automation, actionable insights, and the elasticity of a microservice cloud enables Juniper to deliver optimized, secure network experiences to city workers and visitors while simplifying support.

The city leverages Juniper Mist Edge to empower key staff working from home to connect seamlessly to their applications and data as if they were sitting in their offices. Juniper Mist Edge extends the Juniper Mist Cloud Architecture to distributed locations and replaces legacy VPN technology.

*“CityNet has run at four nines of reliability every year since we deployed Juniper for the core.”*

- Dennis Doyne, chief network operations officer, City of Philadelphia

## Actively Protecting the City Against Cyberthreats

State and local governments are under heightened cyber attack, but a Juniper threat-aware network helps OIT protect the city’s network and endpoints. OIT consolidated and simplified its security ecosystem with Juniper Networks SRX Series Services Gateways for advanced firewalling, Juniper Advanced Threat Prevention for threat intelligence, and Policy Enforcer, a component of Junos Space® Security Director, to automatically take action.

Ultimately, a threat-aware network reduces risk. “I’m in charge of the network, but I have no responsibility over the servers and workstations,” Doyne says. “If an endpoint is breached, people will blame the network. Policy Enforcer is helpful to mitigate that risk.”

Policy Enforcer imposes threat remediation and microsegmentation policies, mitigating the risk of compromised endpoints. If bad actors were able to hack a smart streetlight, for example, the impact of their actions would be limited. The network would automatically detect and stop the attack, and traffic from the smart streetlights would be isolated from all other applications.

## Operational Simplicity Powers Scale

Juniper delivered secure, reliable networking for the City of Philadelphia. “CityNet has run at four nines of reliability every year since we deployed Juniper for the core,” Doyne says.

It’s that kind of dependability that enables the network team to focus on delivering strategic value.

“Being a Juniper shop makes my life and my team’s lives easier,” Doyne says. “We run a network that supports 30,000 employees with four people, and on a day-to-day basis, the network is run by two or three people. We have efficient network operations.”

## For More Information

To find out more about Juniper Networks products and solutions, please visit [www.juniper.net](http://www.juniper.net).

## About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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