

Philadelphia Advances Smart City Vision



More than 1.5 million people call the City of Philadelphia home. It's the birthplace of liberty and the cheesesteaks. Philadelphia is also an innovator in advanced IT services, with a citywide network that supports 30,000 workers in dozens of departments from first responders to urban planners. The city's Juniper backbone has delivered 99.99% uptime over more than five years.

OVERVIEW

Company	City of Philadelphia
Industry	Government and Non-Profit
Products Used	MX960, Advanced Threat Prevention, Security Director, Wireless Access Points, MX Series, Wi-Fi Assurance, Wired Assurance, Edge, EX Series, QFX Series, SRX Series, Advanced Threat Prevention, Policy Enforcer
Region	Americas

CUSTOMER SUCCESS AT-A-GLANCE

30,000

City workers across dozens of departments and agencies have sustained network service availability

Empowered

City workers and visitors with superior network user experiences from any device

Developed

The foundation for smart city services for a safer, more sustainable city

CHALLENGE

Delivering Digital City Services

The city's Office of Innovation and Technology (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.

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.

SOLUTION

Empowering the City Workforce

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.

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.

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."

OUTCOME

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."

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Dennis Doyne
Chief Network Operations Officer, City of Philadelphia

Corporate and Sales Headquarters

Juniper Networks, Inc.
1133 Innovation Way
Sunnyvale, CA 94089 USA

Phone: 888.JUNIPER (888.586.4737)

or +1.408.745.2000

www.juniper.net

APAC and EMEA Headquarters

Juniper Networks International B.V.
Boeing Avenue 240 1119 PZ Schiphol-
Rijk

Amsterdam, The Netherlands

Phone: +31.207.125.700



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