

Executive Summary White Paper

Modernizing a Mission-Critical Network Infrastructure for the Regional Housing Authority

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Overview

Under the strategic leadership of Dr. Tiffany Tremont, President and CEO of Silotech Group and a Doctor of Science in Cybersecurity, Silotech continues to set the standard in mission-focused IT modernization. Leveraging deep federal expertise and public-sector innovation, Silotech transformed the Regional Housing Authority's aging infrastructure into a resilient, intelligent, and secure platform ready to serve community needs for years to come.

The Regional Housing Authority (RHA) is responsible for delivering affordable housing and essential services across 16 field locations and a central headquarters. Its legacy IT environment built on aging firewalls, unmanaged switches, and static VPN connections had become a bottleneck to service delivery, security, and reliability. Silotech Group was engaged to design and deploy a resilient, intelligent, and secure network modernization, leveraging Juniper Networks' SRX and EX platforms along with Mist AI and the Marvis Virtual Network Assistant. The resulting architecture now provides enterprise-grade performance, high availability, and AI-driven network insight ensuring uninterrupted access to critical applications that serve the community.

The Challenge

Prior to modernization, RHA's network relied on:

- A single, non-redundant firewall with no high availability or clustering capabilities
- Legacy Layer 2 switches lacking redundancy, segmentation, and power-over-Ethernet support
- Manually configured VPN tunnels for each field site, requiring reconfiguration after any IP or routing change
- No centralized monitoring or analytics, resulting in reactive support and prolonged downtime
- Inconsistent wireless coverage and weak authentication across sites.

These limitations caused frequent outages, inefficient troubleshooting, and security risks—hindering the Housing Authority's ability to manage tenants, process transactions, and maintain operational continuity.

The Solution

Silotech's tailored solution reflects a broader philosophy—modernize with purpose, secure with intelligence, and deliver with zero disruption. Our team combined cutting-edge technology with decades of public sector experience to architect a future-ready environment.

Silotech designed a comprehensive Juniper-based solution focused on resilience, automation, and centralized intelligence:

Headquarters Modernization

- Dual Juniper SRX1600 firewalls in an active-passive HA cluster, delivering sub-second failover, deep packet inspection, and unified threat management (UTM).
- Three EX4400 switches in a Virtual Chassis configuration, operating as a single logical switch for improved redundancy and simplified management.
 - Redundant uplinks between the firewall cluster and switches ensure no single point of failure.

Field Site Standardization

This standardized deployment across all 16 field sites ensures consistent security posture, simplified lifecycle support, and readiness for future capabilities like IoT integration, secure telework, and centralized management—all at enterprise scale.

- Each site received a Juniper SRX300 firewall and EX4100 switch, deployed via standardized configuration templates
- Mist Access Points provide Wi-Fi 6/6E connectivity, enabling seamless roaming, 802.1X authentication, and resident guest access via dynamic VLAN assignment

AI-Driven Management

- Mist AI delivers telemetry-based analytics across all sites, offering real-time insight into client experience, throughput, and latency.
- The Marvis Virtual Network Assistant (VNA) continuously correlates wired, wireless, and WAN data to predict and resolve issues before they affect users.

Deployment and Results

Silotech executed the full network transformation within a 36-hour installation window, pre-staging all hardware to minimize downtime. The headquarters transition took just over one hour, and all field sites were operational within the allotted time frame. Within four hours of going live, Marvis identified a faulty WAN cable at one field location, automatically isolating the issue

and preventing a service callback demonstrating the value of AI-assisted diagnostics immediately.

The new infrastructure now offers:

- High availability and dual WAN failover across the enterprise.
- Proactive monitoring and automated troubleshooting through Mist AI and Marvis.
- Standardized configuration for rapid site deployment and easier maintenance.
- Enhanced wireless performance with seamless roaming and security enforcement.

The Outcome

Silotech Group successfully transformed RHA’s network into a highly available, intelligent, and secure digital infrastructure. This modernization has empowered the organization to deliver services reliably, minimize maintenance overhead, and future-proof its operations.

This project exemplifies Silotech’s commitment to technology innovation with a community impact, ensuring RHA’s network is as dependable as the mission it supports—providing safe, affordable, and connected housing to those in need.

Why Silotech Group, Inc.

Silotech Group is a recognized leader in secure digital transformation for government and mission-driven organizations. Led by Dr. Tiffany Tremont, a Doctor of Science in Cybersecurity, Silotech brings over three decades of experience serving agencies such as NSA, DISA, DLA, and the California Army National Guard. From large-scale infrastructure modernization to AI-driven cybersecurity, our solutions deliver measurable outcomes, seamless scalability, and operational resilience—every time.

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