



Transforming WAN Performance and Security through Black Box and HPE Innovation

Overview

As a trusted provider of steel reinforcing, concrete construction, and wire fencing systems, the client has long been integral to Aotearoa New Zealand's infrastructure landscape. Their projects span rural communities and major construction sites, underpinned by a reputation for quality, innovation, and dependable delivery. However, as their operational needs increased, the limits of their current WAN and firewall capabilities became increasingly apparent. Restricted network visibility and inconsistent support from their previous provider began to erode performance and delay fault resolution. These issues threatened both their productivity and service excellence.

Recognising that continued growth required a stronger, more agile technology backbone, the IT leadership set out to modernise their network environment. They envisioned a solution that would be secure, cloud-managed, and scalable, enabling real-time insights and reliable connectivity across all locations. Partnering with Black Box, they undertook a comprehensive transformation, integrating HPE Juniper's Mist AI and vSRX firewall solutions to establish a centrally managed, resilient architecture. This new foundation not only restores visibility and performance but also positions the organisation to adapt and scale with confidence in the years ahead.

Challenges

The client encountered persistent challenges with their former service provider, whose lack of responsiveness and inconsistent technical support fell short of expectations. This resulted in delayed resolution of critical faults, leaving the business vulnerable and internal IT teams without immediate assistance.

Compounding this were unreliable failover links that often failed to activate, and an underperforming internet link connected to the managed firewall, increasing the risk of downtime and business disruption. The organisation also struggled with poor visibility into network activity, making it difficult to monitor traffic patterns or gain meaningful operational insight. The managed firewall had inconsistent policy enforcement, leaving the business exposed to potential malicious actors. These limitations prompted the client to seek a provider capable of delivering a modern, cloud-managed solution that could enhance connectivity, provide fast, robust backup links, and deliver real-time visibility and control over the network infrastructure.

AT A GLANCE

CHALLENGES

- Lack of responsiveness and support from previous provider
- Limited visibility into network traffic
- Slow backup links at main sites

SOLUTIONS

- Deployment of new fibre services and 4G LTE failover at primary locations
- Dynamic VPN over CGNAT for remote satellite-connected site
- Complete WAN redesign using HPE Juniper Mist-based MPLS SD-WAN
- Centralised perimeter security with a managed HPE Juniper vSRX firewall
- Integration of HPE Juniper User-FW and Mist AI for identity-based policies and real-time network insights

RESULTS

- Enhanced WAN reliability, uptime, and performance across all sites
- Faster support and issue resolution via Mist Cloud and Black Box managed services
- Real-time network visibility and control using Mist dashboards and HPE Juniper telemetry

BENEFITS

- End-to-end visibility, granular policy enforcement, and integration with HPE Juniper Mist Cloud
- Reduced operational costs via centralised management
- Secure onboarding of dynamic or temporary sites without compromising security posture
- More dynamic and responsive support partner with Black Box managed services



Solutions

The client partnered with Black Box, a HPE Juniper Elite Plus partner, to redesign and implement a next-generation network and security architecture. At the core of the solution was a HPE Juniper Mist-managed vSRX firewall serving as the central security perimeter to ensure robust protection.

The network underwent a full WAN redesign, with MPLS routing handled via BGP and a dynamic IPsec tunnel from a remote site, positioned behind CGNAT and Starlink, to enhance connectivity. To support external users and teams, an SSL VPN was implemented and seamlessly integrated with Active Directory through JIMS integration. Additionally, HPE Juniper's User-FW and Mist AI were utilised to deliver user-based policies and real-time network insights, enabling precise control and visibility. The solution also introduced new fibre services for key locations and strategic VLAN segmentation, including dedicated support for IP security cameras, to optimise performance and security across the network.

Why Black Box?

The client chose Black Box for its proven ability to deliver modern, resilient network infrastructure, combining local expertise with global capability. As a trusted HPE Juniper partner and leading managed services provider, Black Box brought deep technical expertise and a results-driven approach, meeting the client's need for greater visibility, performance, and simplified management.

This transformation demonstrates why global enterprises choose Black Box for future-ready, secure-by-design solutions delivered through an agile model that aligns with compliance, uptime, and core business objectives. Combining engineering excellence with forward-looking strategy, Black Box empowers organisations to scale with confidence in a rapidly evolving technology landscape, supported by local expertise and global reach.

Results

Integration with HPE Juniper Mist Cloud has already delivered tangible operational benefits, particularly in monitoring link performance and gaining application-level insights across the MPLS WAN. While policy control through Mist is planned for future phases, the current environment benefits from centralised visibility and simplified management. This has resulted in cost savings compared to the previous WAN solution and significantly improved responsiveness through automated outage notifications. As the deployment expands to include Mist-managed switches and access points, further visibility and operational advantages are expected.

Security remains central to the design, with a HPE Juniper vSRX firewall providing granular policy enforcement and robust perimeter protection across key zones, including Trust, VPN, and Internet, with further granular policies at the WAN sites. The 4G failover solution also ensures resilience at key sites, enabling secure and seamless connectivity during primary link outages.

Black Box is a global leader in digital infrastructure solutions, delivering network and system integration, managed services, and technology products to Fortune 100 and top global enterprises. With a presence across the United States, Europe, India, Asia Pacific, the Middle East, and Latin America, Black Box serves businesses across financial services, technology, healthcare, retail, public services, and manufacturing.