



Optimizing Network Performance with AI-Driven Infrastructure for a Global Digital Transformation Services Provider

Overview

A global digital transformation services provider specializing in customer experience, AI, cloud infrastructure, and security had to modernize its network. Operations were expanding, demands were growing, and the infrastructure needed to perform reliably at scale. With offices across India serving Fortune 1000 clients, there wasn't room for network problems.

Black Box and Juniper Networks came in to deploy an AI-driven Juniper Mist solution across wired, wireless, and NAC infrastructure. The work brought proactive monitoring, automated troubleshooting, and secure access to multiple sites. What they got was solid infrastructure for digital operations that adjusts when requirements shift.

Challenges

The network environment wasn't meeting performance and reliability demands anymore. Legacy infrastructure gave no visibility across wired, wireless, and NAC domains, which made catching problems early almost impossible. Performance issues meant manual fixes, and manual fixes meant downtime, slower operations, and bigger bills. The client also required something that scaled fast, kept access secure, and handled monitoring plus issue resolution automatically. Without those pieces working together, they were looking at disrupted services, wasted efficiency, and operational costs spiraling up. The client needed a complete AI-driven platform that optimized network performance, cut downtime, and scaled with growth while keeping security standards tight.

AT A GLANCE

CHALLENGES

- Needed a network upgrade with superior technology, performance, and cost-efficiency
- Lack of end-to-end visibility across wired, wireless, and NAC domains
- Requirement for highly reliable, scalable, and secure infrastructure
- Need for proactive optimization, seamless access, and automated troubleshooting

SOLUTIONS

- AI-driven Juniper Mist deployment across wired, wireless, and NAC environments
- Proactive wireless performance optimization and dynamic packet capture for troubleshooting
- Secure, straightforward access to critical network resources
- Network automation through APIs for efficiency and scalability
- Proactive root cause identification to minimize downtime

RESULTS

- 22% boost in network performance through AI-driven optimization
- Reliable, uninterrupted connectivity across all sites
- Better customer experience through AI-driven insights and proactive resolution
- Reduced downtime and operational costs by 40%

BENEFITS

- Optimized network performance with AI intelligence
- Secure, high-speed, and dependable connectivity
- Lower operational overhead through automation and proactive management
- Scalable infrastructure ready for future growth
- Better user experience with consistent, reliable network access



Solutions

Black Box put Juniper Mist AI-driven solutions across the client's wired, wireless, and NAC environments. The platform watches performance constantly, captures packets dynamically, and runs automated root cause analysis. Less hands-on work, more uptime. The deployment gave secure, straightforward access to network resources and turned on API-enabled network automation to make operations run smoothly. Real-time insights and AI-driven optimization let IT teams spot issues coming and fix them before anyone notices. This work improved performance while also strengthening security, reliability, and scalability. The network now handles growing digital demands and shifts with business requirements.

Why Black Box?

The client picked Black Box because of proven expertise in AI-driven networking, solid experience with multi-site deployments, and a strong partnership with Juniper Networks. Global capability combined with local execution meant the transformation stayed smooth, efficient, and matched business goals. This project demonstrates Black Box's ability to deliver scalable, automated, and intelligent network solutions that help enterprises operate confidently and securely in a rapidly evolving digital environment.

Result

AI-driven optimization pushed network performance up 22%, giving faster, more reliable connectivity across every site. Proactive troubleshooting and predictive analytics dropped downtime and operational costs by 40%, which resulted in IT teams spending more time on innovation instead of maintenance.

The client now benefits from a secure, seamless, and scalable network, with real-time visibility and insights for better decision-making. End users experience consistent, high-quality access to resources, enhancing productivity and customer satisfaction. Collaborating with Juniper Networks and Black Box, the client built a network infrastructure that keeps pace with how quickly digital requirements change.