Network modernization

The fast-track to your competitive edge

Contents

Speed, agility and precision | The importance of network modernization | Defining the future network | Turbocharge your network | Sustainability in network infrastructure | Security as a driver for business enablement | Edge connectivity and campus sites | Get your network race-ready | Next steps

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2

Speed, agility and precision: how to succeed in the digital race

Modern, secure and high-performance networks are the backbone of any successful organization. They enable seamless communication, efficient operations and robust security — all crucial for maintaining a competitive edge.

If your business were a high-performance race car, the network would be your engine, powering every twist, turn and straight. But what happens if that engine can't keep up with the speed of innovation? You lose precious seconds — or worse, the race.

Network modernization is like upgrading your engine. With advanced tools, seamless connectivity and optimized performance, your network becomes a turbocharged racing machine — ensuring you can stay ahead of the competition, navigate challenges effortlessly and remain in contention for that checkered flag.

Just as a well-prepared race car can navigate sharp turns, accelerate quickly and maintain top speed, a modern network can adapt to changing business needs, support new technologies and ensure data security.

> ❝ If your business were a high-performance race car, the network would be your engine, powering every twist, turn and straight."

The importance of network modernization

Shifting gears

Modernizing networks for the digital age

Just like the modern racing landscape, the conditions under which networks are expected to operate have changed dramatically. To remain competitive, businesses are under pressure to modernize their networks.

The surge in connected devices, skyrocketing bandwidth demands and the need for uninterrupted connectivity are pushing traditional network infrastructures to their breaking point. Legacy systems simply can't keep up with the agility demanded by modern enterprises, resulting in inefficiencies, security gaps and operational roadblocks.

Hybrid and remote working only adds to this complexity, as organizations have to provide secure and seamless access to resources across multiple locations. This shift underscores the need for networks that are not only flexible but also capable of evolving and scaling with the ever-changing needs of the business.

Despite these challenges, network modernization holds immense potential. Breakthroughs in AI, machine learning and automation are transforming the way networks perform, offering businesses an opportunity to enhance security, reduce operational costs and unlock new efficiencies. By embracing these technologies, organizations can gain real-time visibility, detect threats proactively and automate responses, ensuring their networks are always ready for tomorrow's demands.

According to NTT DATA's 2024 Infrastructure Lifecycle Management Report, 69% of currently active hardware will reach last day of support lifecycle milestone and will no longer be supported by 2027.

Speed, agility and precision

The importance of network modernization

Defining the future network

Turbocharge your network

Sustainability in network infrastructure

Security as a driver for business enablement

Edge connectivity and campus sites

Get your network race-ready

Next steps

Defining the future network

Network modernization is about building robust, secure and high-performance networks that can keep pace with the evolving demands of modern businesses.

The future network will be defined by five key elements:

1. AI-powered efficiency

AI and machine learning will revolutionize network performance, automating tasks and enabling predictive maintenance. Future networks will self-heal, adapt in real time and optimize continuously.

2. Fortress-grade security

As cyberthreats become more advanced, networks will incorporate cutting-edge security frameworks like secure access service edge (SASE) and zero trust to stay ahead of emerging risks.

3. Green by design

Sustainability will be at the heart of network modernization, with energy-efficient technologies and eco-friendly practices reducing carbon footprints and aligning with environmental goals..

4. Edge computing revolution

The explosion of IoT devices and demand for real-time data will drive edge computing, offering ultralow latency connectivity and empowering faster data processing at the edge.
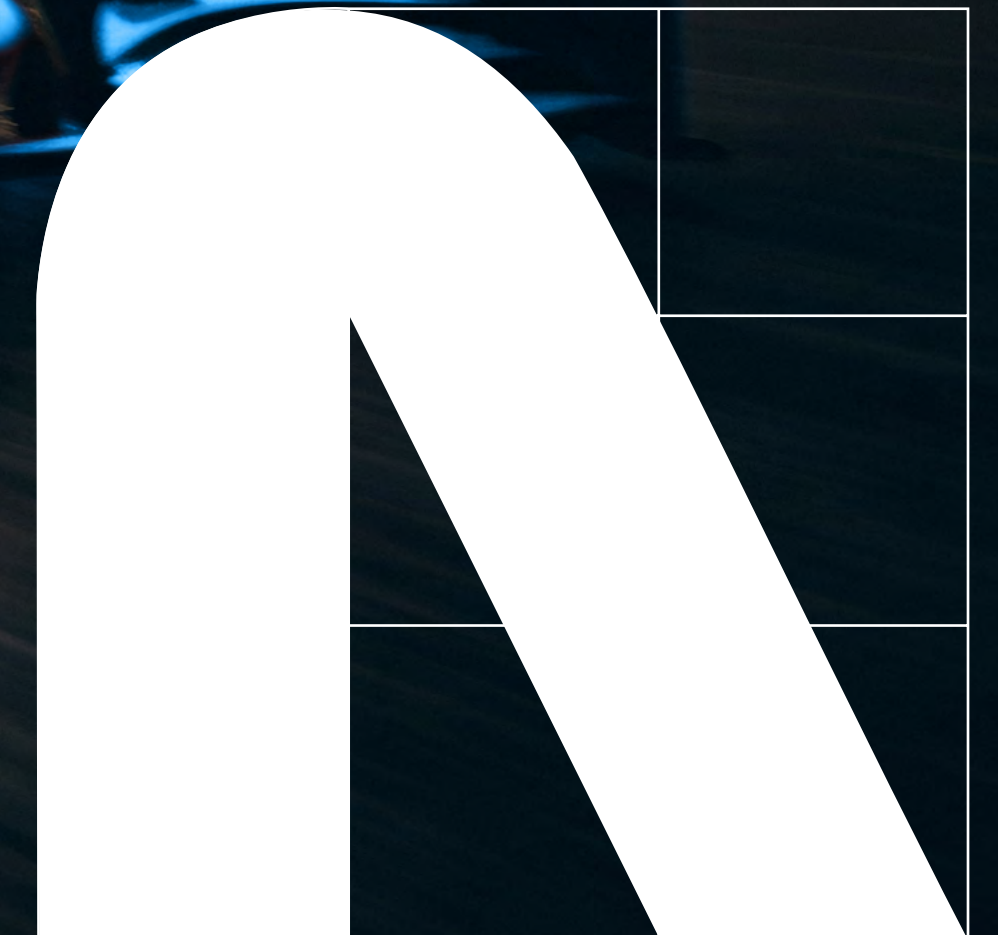
5. Adaptive flexibility

Future networks will be built for agility and growth, effortlessly scaling to meet evolving business needs and integrating the latest technologies seamlessly.

By embracing these advances, businesses can build resilient, secure networks that meet today's demands and support innovation and long-term success.

Speed, agility and precision | The importance of network modernization | Defining the future network | Turbocharge your network | Sustainability in network infrastructure | Security as a driver for business enablement | Edge connectivity and campus sites | Get your network race-ready | Next steps

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Turbocharge your network with AI-driven efficiencies

In racing, an expert spotter helps you navigate the track, optimize performance and stay ahead of the competition. This is the premise behind AI-driven networks, where advanced technologies work seamlessly to enhance network performance and reliability.

On track for self-driving networks: smarter performance, seamless control

The promise of self-driving networks is that they're engineered to leverage AI and machine learning to intelligently automate network management tasks.

The objective is to ensure the best possible performance while reducing the need for manual intervention and the errors that can accompany this. These networks will work smartly to dynamically adjust to changing conditions, predict potential issues and implement corrective actions in real time, much like that expert spotter above the circuit.

These self-driving networks will transform how businesses manage their IT infrastructure, with groundbreaking benefits:

- **Automated optimization for smoother operations:** AI constantly fine-tunes network performance, optimizing bandwidth, reducing latency and making operations smoother.

  With HPE Aruba Networking's AIOps, IT teams can reduce support tickets and meet SLAs, ensuring users experience the best performance possible. This leads to significantly fewer tickets per device and a 30% faster ticket-handling time, giving clients a much better service.

- **Predictive maintenance to reduce downtime:** AI doesn't just react to issues; it can predict them. By monitoring network health, AI tools can identify potential failures before they happen, enabling proactive fixes and minimizing costly downtime.

  NTT DATA's SPEKTRA platform uses AIOps to provide real-time insights and ensure uninterrupted service from edge to cloud.

- **Improved security:** Traditional security methods can't keep up with today's threats. AI-driven networks detect and neutralize security risks instantly, providing unmatched protection.

  HPE Aruba Networking Central platform leverages advanced analytics to keep the network safe from cyberattacks.

How AI is transforming network management

AI is transforming network management by enabling intelligent insights, adaptive responses and real-time decision-making. AI allows networks to evolve, becoming more self-sufficient, resilient and responsive to changing business demands.

AI analyzes network data to proactively optimize routing, balance loads and prioritize business-critical applications.
NTT DATA and HPE Aruba Networking work together to create networks that not only boost performance but also enhance security, giving businesses a competitive edge.

AI anticipates potential network issues before they disrupt operations, enabling real-time automated fixes like traffic rerouting and patch deployment.
With HPE Aruba Networking's AIOps, businesses gain predictive insights of up to 95% accuracy, ensuring seamless network stability.

AI streamlines routine tasks, freeing up IT teams to focus on strategic goals while reducing operational costs.
By combining NTT DATA's networking expertise with HPE Aruba Networking's AIOps, businesses gain actionable insights that drive both efficiency and innovation.
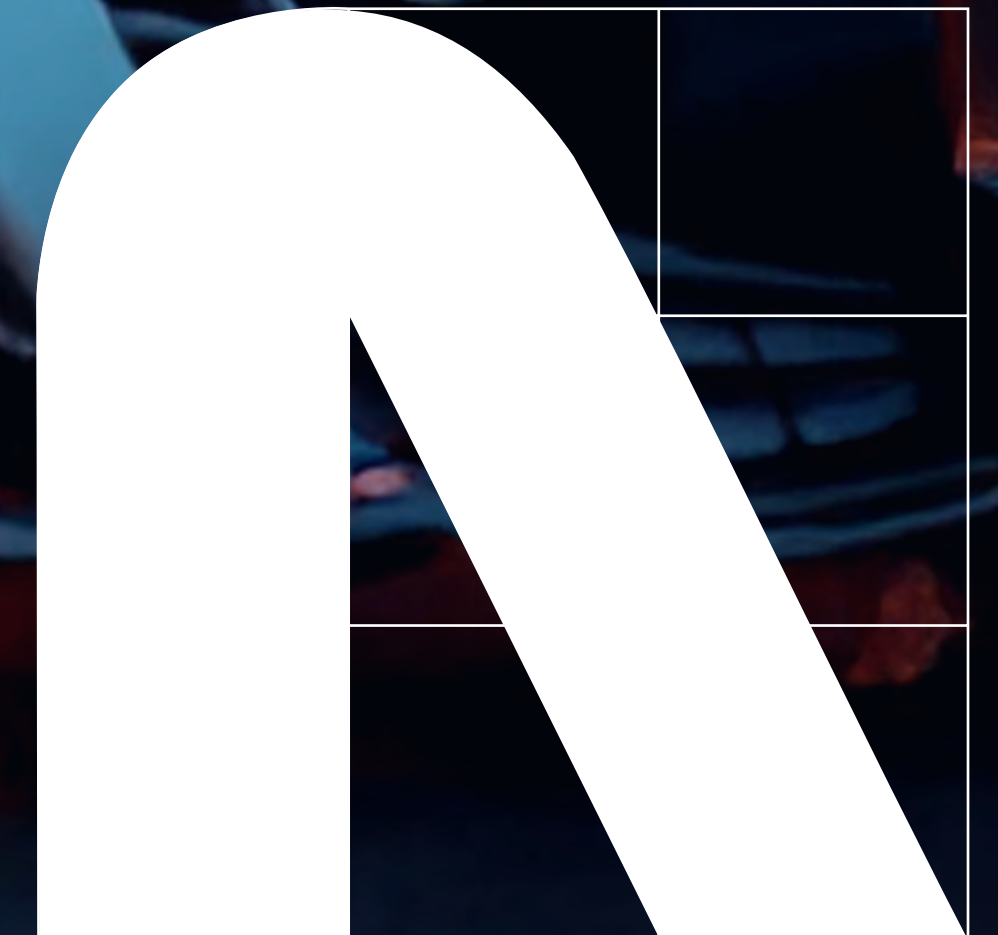
HUBER+SUHNER

Managed SD-WAN connects HUBER+SUHNER in China to rest of world

HUBER+SUHNER, a global manufacturer of connectivity solutions, faced network complexities and frequent outages that risked disrupting manufacturing processes and revenue. NTT DATA's managed SD-WAN solution, powered by AI, connected their sites in China to global operations, reducing network complexities and increasing uptime by 30%. The AI-driven approach optimized network performance and reliability by continuously monitoring traffic, automating management tasks and enhancing security. This transformation enabled their IT team to focus on application environments, ensuring seamless manufacturing processes.

Read the case study

Speed, agility and precision | The importance of network modernization | Defining the future network | Turbocharge your network | Sustainability in network infrastructure | Security as a driver for business enablement | Edge connectivity and campus sites | Get your network race-ready | Next steps

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Sustainability in network infrastructure: building for the future

Think of sustainability as using cutting-edge, eco-friendly materials in a race car to deliver top performance, comply with regulations and reduce environmental impact. In network infrastructure, sustainability is about adopting energy-efficient technologies, sustainable practices and resilient systems for evolving business needs.

1

More energy-efficient best practices

Sustainability starts with smarter energy use.

NTT DATA and HPE Aruba Networking are leading the way to cut energy consumption and promote eco-friendly practices. NTT DATA is committed to net-zero emissions by 2030 and aims for 100% renewable energy in its data centers by the same year, with a broader goal of net-zero emissions by 2040. Meanwhile, HPE Aruba Networking is reducing emissions by using free-cooling systems and hybrid solutions at over 898 sites, switching from diesel to solar power and using renewable energy sources to drive their operations.

2

Fewer power-hungry technologies

The latest technologies are transforming connectivity by reducing power consumption while enhancing performance.

Wi-Fi 6 and Wi-Fi 7 offer faster data rates, improved performance in high-density areas and increased energy efficiency. Wi-Fi 6, with its Target Wake Time (TWT), schedules device wake times to reduce power usage and extend battery life. HPE Aruba Networking switches further optimize energy use by incorporating Energy-Efficient Ethernet (EEE) and intelligent power-management features, ensuring minimal energy consumption without compromising on performance.

3

More sustainable operations

Sustainability is not just about the technology we use; it's also about how we operate.

NTT DATA and HPE Aruba Networking are committed to using eco-friendly materials, with HPE Aruba Networking designing products for reuse, repair and recycling, featuring modular components for easy upgrades. Both companies focus on waste reduction through initiatives such as zero-paper billing and trade-in programs, enabling the reuse or recycling of old equipment, helping to minimize environmental impact.

Adaptive networks for smart spaces and buildings require smart, forward-thinking solutions.

AI-driven efficiencies, powered by machine learning, help optimize performance, automate tasks and predict maintenance needs, ensuring networks remain reliable as demands evolve.

NTT DATA and HPE Aruba Networking design networks to be scalable and flexible so they can grow and adapt alongside the business and emerging technologies.

HPE Aruba Networking's GreenLake service further supports sustainability by promoting efficient refresh cycles, reducing power consumption, and contributing to the circular economy through recycling and upcycling.

Security as a driver for business enablement

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14

In racing, safety systems that protect the driver and the vehicle — and adhere to prescribed safety standards — are crucial to a safe and successful race. In network infrastructure, comprehensive security frameworks and advanced security solutions are essential to protect the network against evolving threats and ensure compliance with regulations.

However, security is also an enabler — transforming the network from a vulnerable target into a powerful asset, built for resilience, flexibility and performance.

Keeping up with compliance

To remain secure and resilient, businesses need to comply with security regulations such as the Network and Information Systems Directive (NIS2) and the Digital Operational Resilience Act (DORA). These regulations mandate stringent security measures designed to protect critical infrastructure and digital services against cyberthreats.

By adhering to these regulations, organizations can:

- **Strengthen their security posture,** drastically reducing the risk of data breaches and vulnerabilities.
- **Boost resilience** with a network that not only survives but thrives through disruptions, ensuring business continuity in the face of adversity.
- **Build trust** with their customers, partners and stakeholders by showing their commitment to security through compliance

" Security is also an enabler — transforming the network from a vulnerable target into a powerful asset, built for resilience, flexibility and performance."

The power of SASE

SASE is redefining network security in a digital-first world. By seamlessly integrating security and networking into one agile solution, SASE delivers an unparalleled, integrated approach to network defense.

The benefits of SASE are compelling:

- **Total security coverage:** A unified solution that combines secure web gateways, firewall as a service and zero trust network access, protecting the network from every angle.
- **Adaptability and ability to scale:** SASE evolves with the business; it's a flexible, scalable solution that can keep pace with dynamic requirements.
- **Optimized performance:** By embedding security into the network infrastructure, SASE reduces latency, boosting performance and delivering a seamless experience to users across the board.

Cloud-delivered security controls contribute to delivering state-of-the-art SASE solutions, blending security with superior performance to safeguard the network while keeping the business compliant with the latest industry regulations.

Network access control

Network access control (NAC) solutions such as Aruba ClearPass, and Cloud Authentication and Policy, and Security Service Edge are every network's frontline defenders, ensuring only the right people and devices gain access to the business assets and sensitive data.

Here's how they make a difference:

- **Precision control:** NAC solutions provide granular control, enforcing strict access policies to protect sensitive data and critical infrastructure.
- **Seamless integration:** With support for a wide range of devices and vendors, NAC solutions simplify security management across diverse environments, reducing complexity while boosting security.
- **Total visibility:** Real-time insights into network activity help the business respond swiftly to potential threats, strengthening the ability to proactively manage risk and maintain a secure environment.

KNORR-BREMSE

Knorr-Bremse drives digitization with managed SD-WAN

Knorr-Bremse, the world's leading manufacturer of braking systems for rail and commercial vehicles, needed a modern network to support their digitization strategy, including the adoption of Microsoft 365 and Teams. NTT DATA's managed SD-WAN provided high availability and bandwidth across 114 sites worldwide, resulting in a 50% increase in operational efficiency and seamless migration of key applications to the cloud.

Read the case study

brose
Excellence in Mechatronics

Brose boosts performance and reliability to drive global operations and digital growth

Brose, a leading automotive supplier, faced challenges with network downtime and the need for flexible connectivity. NTT DATA's managed SD-WAN solution provided high-performing, flexible network connectivity, reducing network downtime by 45% and supporting internet security, remote access VPN and application acceleration capabilities. These enhanced security measures protect the network against threats, enabling Brose to navigate the complexities of their digital landscape and drive business growth.

Read the post

Edge connectivity and campus sites: closing the gaps

Edge computing is much like combining the onboard intelligence of a high-performance race car with the expertise of the trackside crew to deliver faster, smarter and more localized management for top performance.

For networks, edge computing and campus-site solutions play a vital role in supporting seamless communication and efficient data transfer, enabled by high-performance connectivity.

Connecting the edge

Edge connectivity is another backbone of modern networks. By bringing computing power closer to the data source, it reduces latency, improves performance and enhances the user experience.
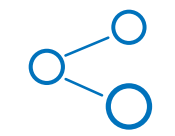
Together, NTT DATA and HPE Aruba Networking offer solutions that unlock several key benefits:

Reduced latency: Processing data closer to the source minimizes delays, ensuring faster response times and a smoother user experience.

Enhanced security: Localized data processing reduces the risk of breaches and keeps sensitive information secure.

Scalability: These solutions easily scale to accommodate business growth and new technologies.

NTT DATA's edge solutions use AI, advanced analytics and IoT to drive innovation, while HPE Aruba Networking's EdgeConnect SD-Branch solution consolidates network functions, improving performance and reducing hardware needs.

Speed, agility and precision | The importance of network modernization | Defining the future network | Turbocharge your network | Sustainability in network infrastructure | Security as a driver for business enablement | Edge connectivity and campus sites | Get your network race-ready | Next steps

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Campus-site solutions, purpose-built for expansive sites

Campus-site solutions are essential for providing reliable, high-performance connectivity across large environments like universities, corporate campuses and healthcare facilities.

Modern campus networks ensure seamless communication and data transfer, with features such as:

Reliable connectivity: HPE Aruba Networking's campus switching solutions ensure secure, dependable connectivity across the site.

High performance: Wi-Fi 6 and Wi-Fi 7 technologies provide faster speeds, better performance in crowded environments and improved energy efficiency.

Comprehensive management: Tools like HPE Aruba Networking Central ("Aruba Central") simplify the management of wireless networks, ensuring smooth operations and optimal performance.

NTT DATA's Managed Network Service offers full automation, simplifying management while keeping campus networks secure and efficient with services that cover multivendor hardware, software and virtual networks.

Deeper integration, greater value

When different components are able to work together better, outcomes are amplified. Integrating edge connectivity and campus-site solutions with existing networks boosts overall performance and enhances the user experience.

NTT DATA and HPE Aruba Networking work together to ensure this seamless integration for clients in over 50 countries around the world. HPE Aruba Networking's open-source technology ensures existing investments continue to deliver value while boosting network performance — without the need for a complete overhaul.

Other benefits include:

Unified management: Aruba Central simplifies network management across all layers, reducing operational complexity and enabling teams to focus on achieving business results.

Enhanced performance: By reducing latency and speeding up network performance, integration ensures smoother operations, empowering employees and improving the customer experience.

By adopting edge connectivity and campus-site solutions from NTT DATA and HPE Aruba Networking, businesses can create fast, reliable networks that evolve with their needs, ensuring top performance in today's digital world.

Dennemeyer is working with NTT DATA to interconnect international offices

Dennemeyer, a global intellectual property services provider, partnered with NTT DATA to connect multiple international offices using a managed SD-WAN, optimizing secure connections to the cloud. This strategic engagement enhanced their digital transformation journey, improving performance by 35% and enhancing end-user experiences while maintaining high security.

Laurent Brochmann, Managing Director of Dennemeyer, commented, "NTT DATA is the right partner for us. We chose them for their global and local presence, relationship of trust and because they were able to address all stacks in a personalized way."

Read the article

Secure, managed SD-WAN connects Inalfa Roof Systems

Inalfa Roof Systems, a global supplier to the automotive industry, struggled with disparate technology offerings and security challenges across multiple regions. NTT DATA's managed SD-WAN with cloud-based security consolidated their technology into a single solution, improving security by 40%, enabling remote work and reducing total cost of ownership by 25%.

Read the case study

Speed, agility and precision | The importance of network modernization | Defining the future network | Turbocharge your network | Sustainability in network infrastructure | Security as a driver for business enablement | Edge connectivity and campus sites | Get your network race-ready | Next steps

Get your network race-ready

Your checklist to stay in pole position

It's clear that network modernization is a strategic imperative for any organization aiming to stay ahead in today's competitive landscape. Just like a high-performance race car needs to be finely tuned and equipped with the latest technologies to win, your network infrastructure must be modernized, secure and resilient to ensure long-term success.

✓ **Accelerate network modernization:** Partner with NTT DATA and HPE Aruba Networking to access cutting-edge technologies and expert guidance for navigating network modernization.

✓ **Leverage AI-driven efficiencies:** Leverage AI and machine learning to optimize network performance, automate routine tasks and provide predictive maintenance for smoother, more efficient operations.

✓ **Embrace sustainability and readiness:** Adopt energy-efficient technologies and sustainable practices to ensure your network is resilient and able to adapt to business and technology needs.

✓ **Enhance security:** Implement robust security frameworks, ensure compliance and deploy advanced solutions like SASE and NAC to safeguard your network.

✓ **Leverage edge connectivity and campus site solutions:** Use edge computing and modern campus-site solutions for seamless communication, high-performance connectivity and effective data transfer across your network.

Then, lead the way

By modernizing your network with NTT DATA and HPE Aruba Networking, you position your organization to outpace the competition. Our innovative solutions and expert support ensure that your network is not only robust and secure but also capable of supporting innovation and long-term growth.

In the race toward network modernization, taking the lead means embracing the latest technologies, adopting sustainable practices and ensuring comprehensive security. With NTT DATA and HPE Aruba Networking as your trusted partners, you can confidently navigate the digital landscape, knowing that your network is race-ready and poised for success.

Next steps

Start with a network assessment or in-depth advisory that dives into your IT strategy, the role of your network and your current technical environment. We'll explore your strategic direction, future network needs and any challenges standing in the way of achieving your objectives.

The insights gathered from this engagement with our network experts will serve as the foundation for designing a tailored solution that aligns with your business goals.

Book your assessment

Learn more

Speed, agility and precision | The importance of network modernization | Defining the future network | Turbocharge your network | Sustainability in network infrastructure | Security as a driver for business enablement | Edge connectivity and campus sites | Get your network race-ready | Next steps

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24