

Revolutionizing Managed Network Services: The Power of AI-led Automation



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Foreword by Verizon Business:

Verizon Business is actively enhancing its Managed Network Service (MNS) capabilities through significant investments. Our strategy encompasses the integration of our cutting-edge AIOps toolset, the application of advanced analytics, the deployment of large language models (LLMs), and the construction of comprehensive data lakes tailored to our customers' needs. This reflects our commitment to leveraging technological advancements to deliver superior network solutions.

At the heart of Verizon Business's strategy is a pragmatic methodology that utilizes a blend of both proprietary and client-specific tools and platforms. This approach, combined with our deep expertise in integrating AI, machine learning (ML), and natural language processing (NLP) technologies into our standard operations, positions us at the forefront of the MNS industry.

Our investments are not just about enhancing service quality and achieving cost efficiencies; they are fundamentally aimed at transforming the MNS landscape and the customer experience. For example, our recent partnership with HCLTech augments Verizon Business' industry leadership, extensive global reach and technology expertise, with HCLTech's solutions and automation innovation in the MNS domain. This partnership is set to forge a state-of-the-art, digital technology platform for Verizon Business that not only modernizes network services, but also emphasizes a data-centric approach to network management, offering our customers unparalleled service.

This, we believe, is the future of Managed Network Services, where innovation and practicality converge to create value beyond cost savings—ushering in a new era of network service delivery that is both efficient and future-ready.

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Enterprises are focusing on realizing efficiencies and business outcomes including cost and process optimization through their digital transformation initiatives. Everest Group's research finds that enterprises can achieve all those benefits and can save an additional 23-28% of their network spend through intelligent automation (both process and AI-driven) by partnering with the right network service providers using managed network services.

The need for seamless workload and data connectivity across public and private networks has grown significantly in recent years. Enterprises rely on networks to create value within an enterprise and serve customers.

23- 28% of additional savings can be obtained from an enterprise network spend through intelligent automation.

Today's complex digital businesses with diverse infrastructures demand network operations to:

- Support varied workloads across traditional data centers, multiple branch offices, hybrid cloud environments, mobile and remote workers
- Manage various types of end-points like Internet of Things (IoT) devices, mobiles, workstations, and servers
- Automate provisioning of networks to support demand bursts
- Achieve secure network operations while handling distributed workloads with zero trust security.

Challenges due to traditional networks

Traditional network operations often cannot meet the demands of today's dynamic and multidimensional networks.

Our research finds that 57% of enterprises believe their current network infrastructure needs to be improved to support cloud-driven IT operating models. This percentage would be higher if other technologies, such as Edge and IoT, were included.

The traditional model relies on manual intervention to address network issues. This reactive approach leads to several challenges, including slow incident response, limited network visibility, inefficient operations, and high operational costs.

Businesses require network-on-demand to improve flexibility and bandwidth without compromising security to function efficiently and uninterruptedly.

With these priorities, managed network services models are an attractive and lucrative option for enterprises to address critical objectives.

MNS models to the rescue

Managed network services involve outsourcing end-to-end network access and transport solutions, including traditional and next-generation local area networks (LAN), wide-area networks (WAN), data centers, cloud, and campus networks.

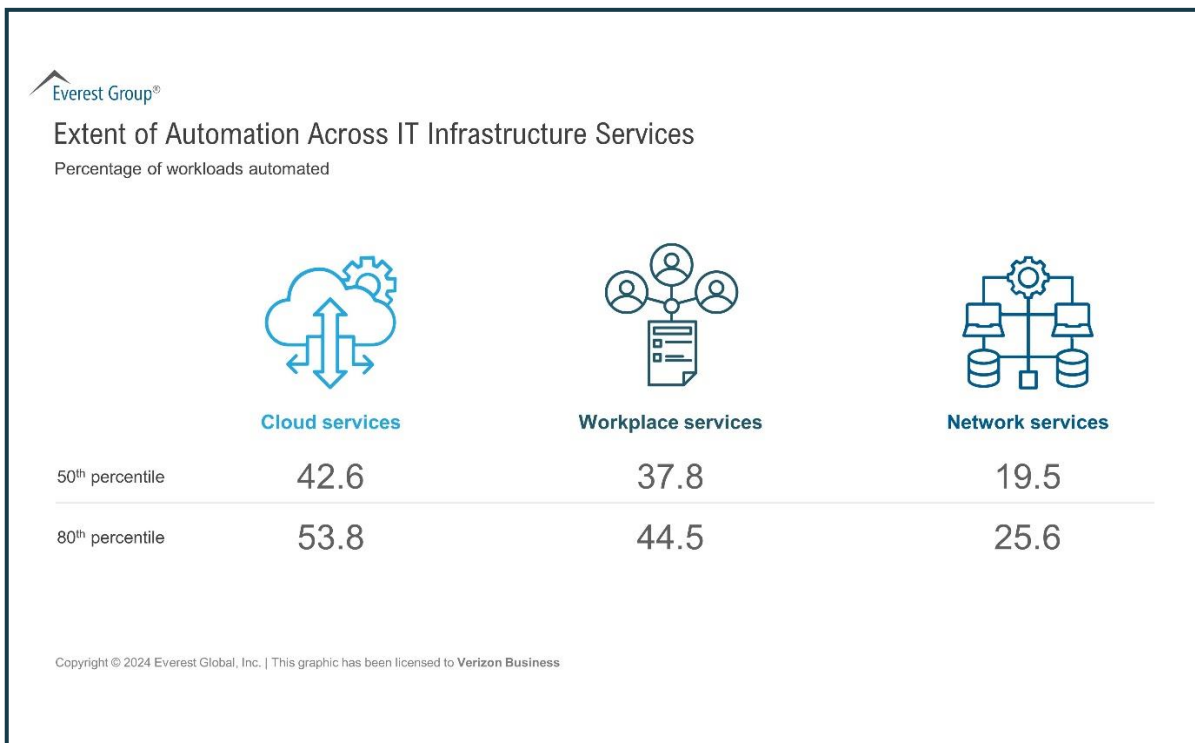
Technology modernization needs to be coupled with operations transformation to achieve scalable benefits. By failing to focus on technology and operations, enterprises may face value leakage in the form of poor resource utilization, talent and knowledge gaps, and subpar operational visibility.

AI-led MNS models can provide technology and operational benefits to help enterprises move from legacy networks to software-defined networking, eliminating repetitive and mundane tasks. AI-led automation can catalyze the implementation and success of end-to-end network solutions, combining technological and operational benefits for enterprises.

The case for AI-led automation in MNS

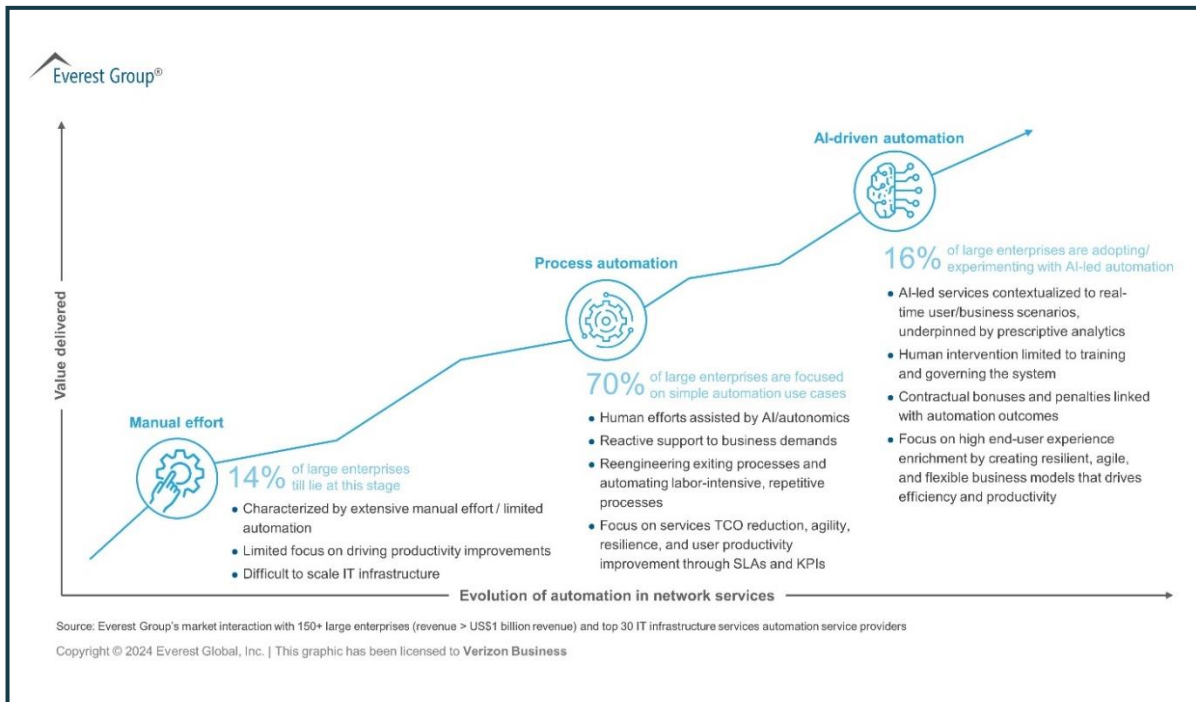
Embedding AI across network automation initiatives delivers many benefits, including improved efficiency, customer experience, and network performance, resulting in optimized business operations.

Our research finds that automating network services can save 20-25%. In a five-year deal, the savings can increase to 50-55% for other infrastructure stacks. While the network infrastructure and performance monitoring activities can witness an increase in productivity of 50-60% through AI-led automation.



Although automation in network services has lagged, AI can now help bridge that gap.

Despite its potential, AI adoption within network services remains in the early stages, as illustrated below:



While enterprises can initiate automation on their own, outsourcing to a reliable MNS provider with proper objectives and critical results can provide additional benefits. By combining technological and operational strategies, enterprises can accelerate their network journey.

Benefits of Partnering with an MNS Provider

Sustainable and scalable network operations transformation requires modernizing technology and changing operating models. Various providers are evolving their MNS offerings to address the changing market requirements.

Let's explore the technology and operational elements that can launch this change.

Technology Levers

The following six cutting-edge tools and methodologies empower an MNS provider to deliver automation and optimization:

1. **Network Visibility and Analytics** – AI-powered monitoring and analytics turn mere data into actionable insights. These intelligent systems proactively identify anomalies, predict potential issues, and pinpoint root causes in real-time, transforming networks from reactive entities to proactive guardians.

2. **AIOps** – AIOps advances automation by integrating AI and machine learning throughout the network operations lifecycle. This results in self-learning systems that continuously optimize configurations, automate incident remediation, and predict future resource needs. With AIOps, the network becomes a self-aware entity, constantly evolving and adapting to changing demands.
3. **Infrastructure as Code (IaC)** – IaC transforms network infrastructure from a physical maze to a code-defined blueprint. This enables version control, automated deployments, and consistent configurations across the entire network. IaC makes practically treating a network like any predictable and rapidly evolving software application a reality, simplifying network management and accelerating innovation.
4. **Security and Compliance** – In today's threat-laden landscape, security is the foundation. AI-powered threat detection and prevention systems act as digital watchdogs, identifying and neutralizing malicious actors before they wreak havoc. Automated patching and vulnerability management keep network defenses constantly evolving, while zero trust security principles ensure granular access controls, minimizing the attack surface. These measures transform the network from a vulnerable outpost to an impregnable fortress.
5. **Cloud Integration and Hybrid Work** – MNS providers offering multi-cloud and hybrid cloud support ensure seamless connectivity across these diverse environments. The network becomes the invisible bridge connecting the digital domain, wherever it may reside.
6. **Intent-Based Networking (IBN)** – IBN's revolutionary potential should be considered. Instead of configuring individual devices, IBN allows enterprises to define desired network outcomes, and the system automatically translates those into the necessary configurations across the infrastructure. This innovation simplifies network management, reduces errors, and enables dynamic adaptation to changing business needs.

Operational Levers

Beyond technology, successful network transformation requires a shift in the operational approach. Here are some driving forces that should be considered to maximize the impact of an MNS investment:

- **Process Optimization:** Streamlines workflows, automates manual tasks, and eliminates redundancies to boost efficiencies and reduce operational costs
- **Performance Monitoring and Reporting:** Provides real-time insights into network performance and resource utilization to identify bottlenecks and optimize resource allocation
- **Continuous Improvement:** Fosters a culture of continuous learning and improvement, leveraging data and feedback to refine the MNS strategy and adapt to evolving needs.

Enterprises today can partner with MNS providers on the following use cases:

Use case	Benefits for enterprises
Automated network monitoring	Allows for proactive problem resolution, helps prevent network disruptions, and reduces costs related to outages
Predictive analytics	Enables proactive maintenance, reduces downtime, and enhances overall network reliability
Intelligent security measures	Detects patterns indicative of cyberattacks and autonomously implements security measures to protect the network
Dynamic network optimization	Ensures optimal performance and resource allocation, even when workloads change
Automated incident response	Reduces the response time to security threats and minimizes the impact of potential breaches
Cognitive network operations	Allows for the development of self-learning capabilities that improve decision-making, problem-solving, and adaptability over time
AI-enabled network planning	Ensures the network can support evolving business requirements
Continuous learning and adaptation	Allows for ongoing optimization and improvement in network management through an iterative learning process

While the technological and operational aspects and use cases are critical in choosing an MNS provider, the following factors are important to consider:

- **Partnerships:** Most MNS providers have robust technology provider partnerships. However, for MNS to work efficiently, it is equally important to partner with system integrators who can provide seamless integration with IT operations and best-in-class AI and automation capabilities
- **Unified portal and omnichannel service desk:** An important trait in an MNS provider is the ability to offer a single pane of glass view into network performance and provide multiple avenues for raising service desk tickets
- **Scalability and flexibility:** The provider needs to adapt to evolving needs and scale their MNS offerings as the business grows
- **Right metrics:** Beyond service level agreements (SLAs) and key performance indicators (KPIs), enterprises need to embed experience level agreements (XLAs) within their MNS contracts to enhance the user experience and performance.

The Dawn of Network Automation

In today's evolving network operations landscape, AI-driven managed network services, powered by intelligent technology and operational measures, are within reach. By strategically partnering with the right MNS provider and deploying these tools, enterprises can unlock efficient, scalable, and secure networks supporting the digital transformation journey with agility and ease. Embracing network automation can propel businesses to new heights of success ■