

WHITEPAPER

Network as a Service



Introduction

Network as a Service (NaaS) is a cloud service model where customers rent or consume networking services from a provider, such as an Internet service provider or a system integrator, instead of setting up their own network infrastructure. The enterprise network is evolving rapidly with the digital landscape, especially as organizations are increasingly challenged by the complexities of managing hybrid, multi-cloud environments.

Network as a Service (NaaS) offers a transformative solution, enabling businesses to consume network resources on a subscription basis, similar to public cloud services. This model provides customers with outcome-based services without the complexities of owning and managing network devices. By leveraging NaaS, businesses can achieve greater flexibility, scalability, and cost efficiency, allowing them to focus on their core operations while ensuring robust network performance and security.



Market view of NaaS

The market for NaaS is witnessing significant growth, driven by the increasing complexity of hybrid and multi-cloud environments. As businesses adopt more cloud-based solutions, scalable and flexible network services become paramount. NaaS addresses these needs by offering dynamic connectivity, integrated security, and simplified management.

1

Internet Service Providers (ISPs) are crucial in the NaaS ecosystem, offering on-demand bandwidth through Ethernet, MPLS, and wireless services. This allows businesses to scale their network needs efficiently. Top ISPs like AT&T, Verizon, and Lumen deliver integrated, optimized network services for seamless connectivity to cloud-hosted applications, providing the flexibility essential for reliable and scalable network solutions.

2

System Integrators are pivotal in the NaaS market, combining network hardware, software, management, and orchestration platforms in a subscription model. They provide comprehensive solutions like SD-WAN and SDN, helping businesses manage network complexities. Their expertise ensures seamless integration and robust connectivity, enhancing overall network performance.

3

The Hardware and Software with OEMs like Cisco and HPE play a crucial role in the NaaS market. Cisco's NaaS solutions offer self-service capabilities, on-demand usage, and scalable options, all billed on an OPEX model. Their approach integrates network switches, routers, gateways, and firewalls for a comprehensive suite of services. Similarly, HPE's GreenLake for Aruba provides flexible and efficient NaaS solutions, allowing businesses to consume network resources as needed. These OEMs leverage their extensive experience and technological expertise to deliver robust and scalable NaaS solutions that meet the evolving needs of modern enterprises. Integrating technologies like Secure Access Service Edge (SASE) and AI-driven analytics will boost NaaS capabilities, making it vital for modern network infrastructure.

Challenges faced

1

High technical Debt: The EOL / EOSL devices across the estate lead to performance and security risks and increased ageing hardware liability.

2

Cost Efficiency and Predictability: Upgrading network infrastructure involves substantial capital expenditure which the Opex model of NaaS helps address. It also brings predictability to the Operational expenses.

3

Complexity and Management: The hybrid, multi-cloud model has significantly increased the network complexity, making it difficult for organizations to manage and maintain their network infrastructure efficiently.

4

Scalability and Performance: Businesses struggle to scale their network resources dynamically to meet the changing demands. Also, achieving high network performance is challenging.

5

Visibility and SLAs: No visibility and single-pane-of-glass view across the entire network estate. Lack of guaranteed levels of availability, network uptime, response and resolution times for addressing issues.

6

Security: Ensuring robust security across diverse network environments is a persistent challenge.

Use Cases of NaaS

NaaS provides a wide range of use cases that cater to the diverse needs of businesses. Not all enterprises may require a NaaS model for their business. Also, you are not required to have NaaS across your entire enterprise. It is wise to adopt the NaaS selectively, applying it where it best benefits the organization.

Here are some opportunities or use cases of NaaS that you can think of.

Dynamic connectivity

1

Businesses can adjust bandwidth and secure connectivity on demand to meet fluctuating requirements. This flexibility is crucial for organizations that experience varying levels of network traffic and need to ensure consistent performance. Simplified interconnection across multiple global locations and data centres for seamless communication and transfer can also be consumed under NaaS connectivity. Many organizations can look for on-demand internet connectivity as a flexible standby connectivity to avoid disruptions caused by outages, ensuring business continuity. Such connectivity options are majorly consumed by Internet service providers (ISPs).

Network security

2

Use cases such as real-time DDoS protection can be leveraged with NaaS solutions, which often come with built-in security features, including 24/7 monitoring and threat mitigation, protecting businesses from cyber-attacks and ensuring uninterrupted network availability. Integrators can implement advanced security measures such as zero-trust architectures and AI-driven threat detection, providing robust protection across diverse network environments. Most organizations considering Zero Trust Network Architecture (ZTNA) can also consider consuming the same through NaaS. System integrators who offer the right technology partnership for ZTNA can better provide these approaches.

Global enterprise connectivity

3

is another significant use case, where NaaS simplifies interconnection across multiple global locations and data centers. This particularly benefits multinational corporations requiring seamless communication and data transfer between their offices. NaaS facilitates seamless connections to public and private clouds for cloud-first businesses, enhancing performance and reducing latency. This is essential for organizations that rely heavily on cloud services. This is typically consumed from the Cloud providers or Hyperscalers who offer directly or through system integrators who offer the right Hyperscaler partnerships.

Network Management, Orchestration, and Automation

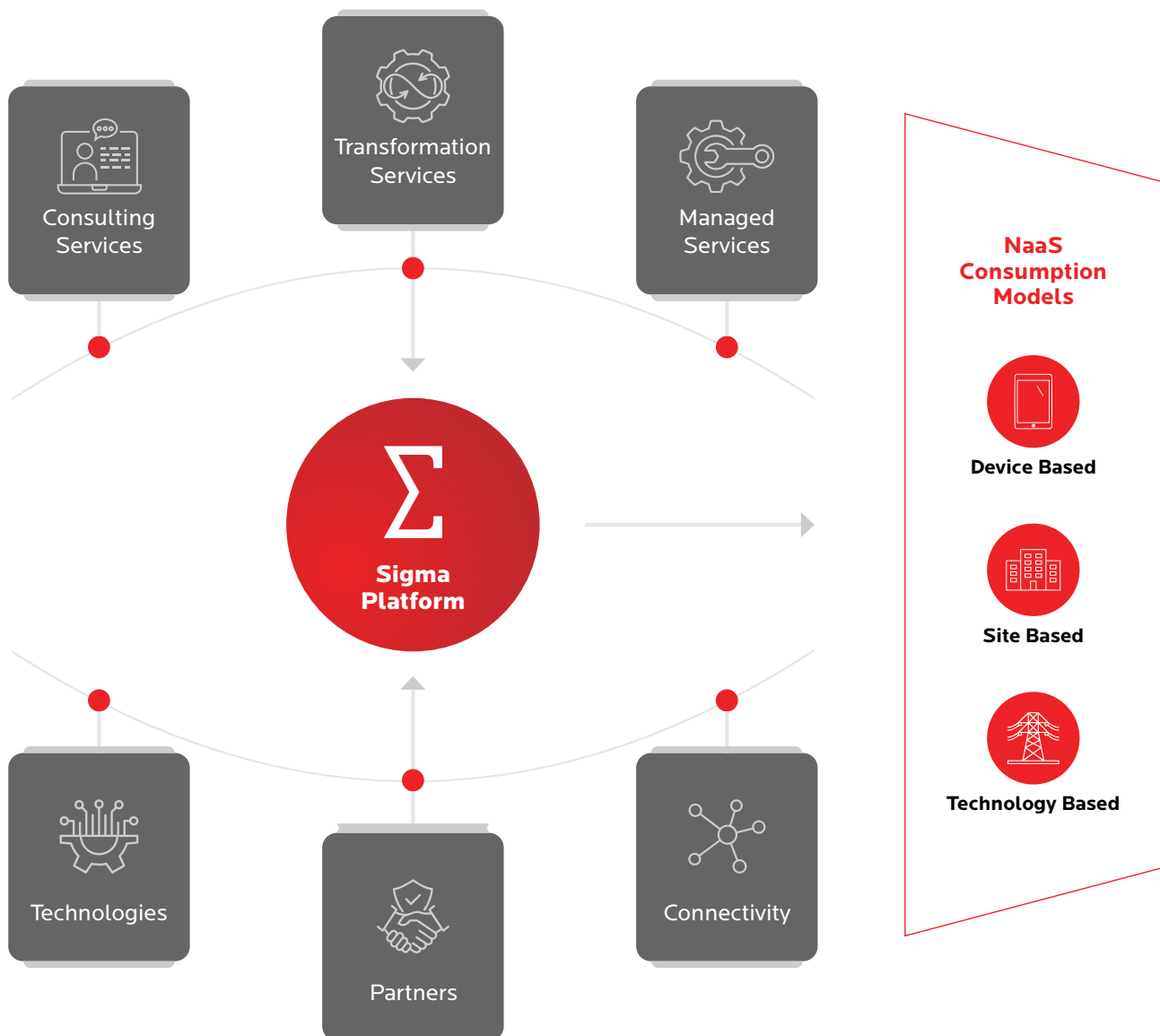
4

Organizations can leverage NaaS to network management and automate network provisioning, configuration, and management, reducing manual intervention and operational costs.

This is especially true when you want a single-pane-of-glass view for monitoring and managing the entire network estate, improving visibility and control. This will give SLA accountability and provide flexibility on operational costs. At the same time, the network can also be scalable, supporting business growth and accommodating increased traffic and new applications without significant infrastructure changes.

Birlasoft's NaaS Solution

Birlasoft's Network as a Service (NaaS) offering is designed to address businesses' comprehensive needs by bundling end-to-end network service lifecycle management. This includes the design, build, deployment, transformation, and management of network services in a completely Opex model. Birlasoft leverages its Sigma platform, which integrates with monitoring tools, enables automation (self-heal/self-service), and provides powerful analytics through AI and ML. The platform also features integrated dashboards that offer a single-pane-of-glass view across the network estate.



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Ramesh is an Associate Vice President at Birlasoft, leading the Network Practice within the Infrastructure Services division. A seasoned expert in enterprise networking, he brings a wealth of experience in designing, building, and transforming large-scale network infrastructures for global enterprises.

At Birlasoft, Ramesh drives the development of intelligent, AI-led network solutions that enable agility, security, and operational excellence. His focus areas include software-defined networking (SDN), SD-WAN, SASE, cloud networking, and secure access architectures. He is a strong proponent of automation-first strategies, leveraging NetDevOps, observability, and AI-Ops to deliver resilient and self-healing network environments.

Empowered by **Innnovation**

Birlasoft combines the power of domain, enterprise, and digital technologies to reimagine business processes for customers and their ecosystem. Its consultative and design thinking approach makes societies more productive by helping customers run businesses. As part of the multibillion-dollar diversified CKA Birla Group, Birlasoft with its 12,000+ professionals, is committed to continuing the Group's 170 year heritage of building sustainable communities.

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