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The Complete Buyer's Guide to NaaS

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Overview

This guide is meant to walk through the different decision points when considering Network as a Service (NaaS) for enterprise campus networks. While NaaS can be applied to any network segment (e.g., firewall, WAN, datacenter), this guide primarily focuses on campus networks.

What is Network as a Service (NaaS)?

NaaS defined

NaaS can be summarized as a highly automated network service delivery model. It simplifies networking by removing the CapEx and management burden while delivering high performance, secure connectivity, and flexible scalability. NaaS goes beyond operational consolidation to incorporate engineering that enables the delivery of guaranteed network performance levels and increased levels of security delivered by default.

The 3-decades old network problem

Over the last 30 years, enterprise networks have grown increasingly complex as organizations have added new technologies and services. This has led to a patchwork of products that work in silos and are resource-intensive, putting a lot of stress on operators and creating poor experiences for users on the network. Cloud adoption has transformed businesses by enabling them to focus more on their core competencies and strategic objectives, rather than spending valuable resources on maintaining IT infrastructure. Adopting the cloud often gave organizations benefits like increased efficiency, cost savings, limitless scalability, and native security.

Yet, the rapidly growing infrastructure powering the enterprise campus networks has made it nearly impossible for these benefits to be realized. Resource-strapped teams continue to struggle with the burdens of network ownership, monitoring, and management, as the infrastructure powering the enterprise campus networks grows in complexity.

Network Tidbit

15%

Gartner predicts on-premises NaaS will be adopted by 15% of all enterprises by the end of 2024, up from less than 2% in 2022[1]

[1] Gartner

Critical characteristics of NaaS

Service level driven

While the network grows to be more vital to all businesses, the increasing adoption of different technology trends such as Bring Your Own Device (BYOD), IoT, and cloud has made it challenging for organizations to manage and connect their campus networks. NaaS should change this by delivering a holistic, outcome-oriented service. Modern organizations need a change from best-effort “response times” to guaranteed service levels.

Security that delivers

Attackers have evolved from a single threat actor using static malware with a single payload delivery method to dynamic multi-stage malware that can evade detection even from the best-of-breed security solution. Rather than adding on different security tools, security should be native to NaaS to improve every organization’s security posture, reducing the complexities of having to implement effective security controls for the campus network.

Complete lifecycle management (LCM)

Networks are complex. NaaS completely takes care of the network lifecycle management end-to-end, eliminating the need for trivial, redundant, and mundane tasks. The complexity of planning, designing, owning, optimizing, troubleshooting, and refreshing the network is completely offloaded. NaaS should provide a holistic experience, giving enterprises the freedom to focus on core business development.

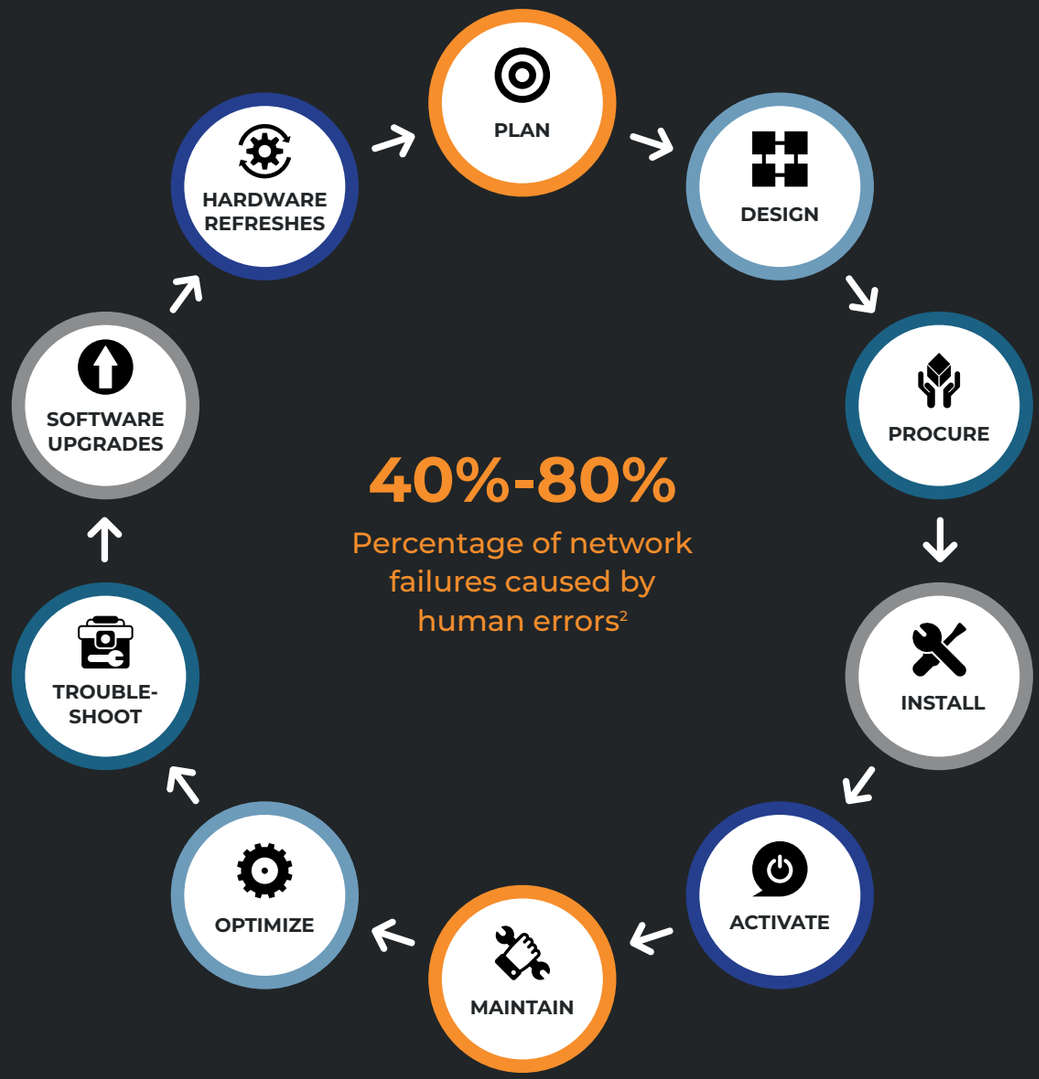
Flexible consumption model

Businesses are dynamic, necessitating an equally dynamic network. But the need for flexibility doesn’t stop there. The cost structure of the network should also adjust to the continuous changes of the business, scaling to meet business needs and offer predictability. NaaS should have a flexible consumption model that can scale up or down depending on the service’s usage.

The complexities of network lifecycle management: From Day 0 to Day N

Today's Network Experience

- Requires certified experts
- Manual configurations
- Reactive troubleshooting
- Complex
- Time consuming refreshes
- High CapEx costs
- Hidden OpEx burdens



40%-80%

Percentage of network failures caused by human errors[2]

NaaS

- Entire LCM included -aaS
- Automation-driven
- Guaranteed performance levels
- Singular usage-based cost model

[2] Network Automation Market Research Report

Today's market trends: Why now for NaaS

Evolution of enterprise traffic

Traffic leaving to go direct to internet instead of back to HQ

Costs up 22.7%

Securing the network has gone up because of the growing complexities[3]

IoT proliferation

14.4 billion active IoT connections in 2022[4]

76% remains unsecured

These IoT devices do not encrypt when transmitting data[4]

Major skill gap

87% of organizations agree that they are experiencing skill gaps[5]

$800,000 spent annually

by employers looking for qualified talent[6]

Growing network complexity

75% of organizations agreed ROI was impacted because of IT complexity[7]

Network OpEx cost up 15%

For over 70% of enterprises every year for the next 5 years[8]

[3] PurpleSec [4] IoT For All [5] McKinsey & Company [6] CareerBuilder [7] SolarWinds [8] Gartner

The Nile Access Service

Delivering a holistic enterprise-grade network service that just works simply and securely with:

- **Guaranteed performance for an always-on network**
- **Native zero trust security to enhance overall security posture**
- **Complete network lifecycle management: Day 0 to Day N**
- **A singular pay-per-user cost model that scales up or down**

7 questions to ask if NaaS is right

1. Is my team being ***hindered by spending excessive time troubleshooting*** repetitive and trivial issues, ***preventing them from focusing on critical business initiatives and other high-priority tasks***?

2. Is my organization ***effectively accounting for the increased risks, costs, and complexities*** associated with adding security products and managing them?

3. Does my network possess the ***flexibility to adjust costs based on evolving business demands and external factors*** such as mergers, macroeconomic events, or changes in consumer behavior?

4. Is my network ***capable of supporting both the immediate and future business needs and initiatives***, such as digital transformation, architectural refinements, and smooth cloud migration?

5. Does my network ***leverage automation and analytics to consistently and proactively mitigate issues***, minimizing risks within the enterprise campus network?

6. Can my network ***provide users with a great network experience*** while seamlessly incorporating new technologies ***without unnecessarily complicating the infrastructure***?

7. Are there any obstacles preventing your organization from efficiently ***refreshing campus network technologies and seamlessly adopting new features*** that can ***drive business transformation and enhance competitiveness***?

NaaS deployment models

MSP-driven network

MSP-driven networks bring together different products to offer as a “network package”. These early versions of NaaS act relies on a intermediary between the user organization and incumbent network vendors to offload parts of network operations and infrastructure management. The managed networks rely on certified network engineers and well-documented best practices to manually manage the network unless automation engineers are available to configure and manage automation tools. However, retaining these experts can pose challenges, which may result in delays when scaling networks or expanding to different sites due to limited resources. It’s worth noting that user organizations using this model may face hidden operational expenditure burdens, as the current model does not encompass delivering network performance guarantees or native security measures for a stronger security posture.

NaaS Tip

MSP can eliminate complexities within their network and simplify infrastructure for their customers by offering a service powered by NaaS

Lift and Shift NaaS

As network complexities grew, traditional network vendors added basic automation scripting capabilities to assist with simple tasks. Dedicated monitoring or dedicated automation products might be available to assist with advanced use cases. However, these products can be immensely complex to configure and manage. These disparate network pieces are used to lift and shift into a NaaS-like offering to offload some of the burden of the network’s lifecycle using automated responses. Seamless integrations between these network pieces with a singular pane of view and a singular OpEx pricing model may still be a work in progress. Once a contract is signed for a “lift and shift” NaaS, organizations may find themselves bound by inflexible agreements and subject to expensive penalties until the contract term expires. While such models can be useful for transitioning to a predictable usage-based OpEx structure, they lack the ability to dynamically scale down to adapt to sudden changes in demand or requirements.

Purpose-built NaaS

Purpose-built NaaS looks to provide a holistic network, untangling the user organization from the burden of reactive network management, allowing them to focus on their core business objectives. It takes a more holistic and outcome-based approach to simplify the network for both end users and network operators, eliminating outdated functionalities left in the legacy network design, and hidden costs associated with managing them.

Similar to a “lift and shift” NaaS, a purpose-built NaaS is led by vendors, but diverges to design a more inclusive network model delivering complete Day 0 to Day N network lifecycle management for organizations to simply consume. Rather than having to worry about the complexities of managing the network’s lifecycle, a purpose-built NaaS offloads the burdens and offer the service in a singular consumption-based model. The service is generally built with performance guarantees to protect against network downtimes, which can be costly for organizations with unreliable networks. Security and other capabilities are typically engineered into the service to strengthen the security posture and provide a turnkey service from Day 0.

NaaS Tip

Purpose-built NaaS generally provides performance guarantees to protect against network downtime, estimated to cost enterprises **$300,000 per hour** [9]

[9] Gartner

Comparison summary

Factors to consider in a network	Purpose-built NaaS	Lift and Shift NaaS	MSP-driven network
Day 0 **(Design and planning)**	Included -aaS	Bundle add-on option	Service add-on option
Day 1 **(Procure, install, activation)**	Included -aaS	Bundle add-on option	Service add-on option
Day 2 **(Monitoring, troubleshooting)**	Included -aaS	Bundle add-on option	Service add-on option
Day N **(HW refresh, SW upgrades)**	Included -aaS	Bundle add-on option	Possible service add-on option
Network Performance	Guaranteed performance levels	Reactive network support	Reactive network support
Security Posture	Very High Security native to service	Medium Manual configuration and monitoring	Medium Manual configuration and monitoring
IT involvement	Very Low	Low to Medium	Medium to High
Cost Model	Pay by usage	Lease subscription	Lease subscription
Total Cost of Ownership (TCO)	Low Reduce hidden OpEx burdens	Medium Requires many add-on costs	High OpEx burden falls on organization

NaaS TCO benefits

The cost model of today's networks is complex. It involves many stages, including network planning, procurement, deployment, management, and security. Each stage requires different tools, each with its own associated costs.

Calculating NaaS TCO

When calculating the Total Cost of Ownership (TCO) for a network, it is essential to consider the costs associated with Day 0 to Day N operations. Network TCO extends beyond direct quantitative expenses such as infrastructure costs and encompasses qualitative factors like managing and maintaining a network amidst growing complexity and risks.

One of the significant benefits of moving to NaaS for organizations is the transition from a CapEx model to an OpEx model, which allows for payment based on utilization rather than infrastructure ownership. Evaluating network costs should involve assessing the network TCO plus the ROI realized.

Did you know?

NaaS by Nile has helped organizations using traditional CapEx-based network models reduce their TCO by **30-50%**

Higher Education
620 Users

Network Costs (3 Year)	
Day 0	47%
Day 1	6%
Day 2/n	47%

NaaS (3 Year)	
TCO Savings	53%
ROI	129%

Healthcare
2000 Users

Network Costs (3 Year)	
Day 0	39%
Day 1	14%
Day 2/n	47%

NaaS (3 Year)	
TCO Savings	49%
ROI	112%

Example cost benefits of NaaS

Network Costs	Example NaaS Benefits
Infrastructure	Eliminates 25% support cost [a]
Implementation	Eliminates 48% deployment cost [b]
Operations	Up to $118,500 savings on network operations [c] and $90,000 on help desk tickets [d]
Productivity	$3.5M in cost savings [e]
Security risks	50% reduction in compliance violations [f]

[a]Maintenance included -aaS

[b]Deployment included –aaS. Assumes heavy coordination and planning is needed. Reoccurring costs as organization scales

[c]Assumes 75% of annual hours spent on network operations10 and salary range of network operations manager to be $98,000 to $158,00011 ([10]Forbes, [11]Salary.com)

[d]Assumes 2-3 tickets submitted by users/year, 1-hour[12] average time to resolve help desk ticket costing $24-$30 per hour[11] ([12]Endsight)

[e]Assumes 12 hours/year of downtime costing $300k/hour with NaaS reducing 75% of network downtime

[f]Nile estimated based on built in security functionalities with automation-driven network that proactively detect anomalies and fixes them with little to no IT involvement.

Summary

NaaS brings the benefits of the cloud to help simplify network infrastructure. When evaluating NaaS, organizations should look for one that completely takes care of the network's lifecycle, has security engineered into the service, can guarantee performance, and has a flexible consumption model to adapt to the dynamic workforce. The NaaS should provide access to the latest networking technologies and infrastructure needs, enabling the business to focus on the core needs.

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Learn more about the impact NaaS can have in your business

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