



Image credit: [Copyright: peshkov](#)



Chris Grundemann

Jan 1, 2022

Network as a Service Buyers Checklist

Edge & Networking

Network as a Service Buyers Checklist

Table of Contents

- 1 Summary
- 2 NaaS Solution Approaches
- 3 NaaS Assessment Criteria
- 4 Chris Grundemann
- 5 GigaOm
- 6 Legal
- 7 About Chris Grundemann
- 8 About GigaOm
- 9 Copyright

1. Summary

This buyers guide is intended for practitioners, decision-makers, and technology buyers who need to evaluate Network as a Service (NaaS) solutions.

NaaS Primer

The era of cloud consumption and digital transformation has greatly increased the demands placed on networks for organizations of every size. At one time, it was common for all critical business applications to live on-premises, and that made connectivity and security much less complex in most cases.

Today, connectivity and security are anything but simple, with hybrid-cloud, multi-cloud, SaaS, distributed workers, and IoT forcing companies to think about networking in new ways. The internet is critical infrastructure, physical connectivity is increasing in complexity, and security is at the forefront. Most IT departments need more resources to deal with the protocols, peering, and complex network topologies (often across infrastructure they don't control) required to meet these challenges.

In response, we've seen a multitude of network-as-a-service products and platforms spring up to fill the need. NaaS comes in multiple flavors, but they all aim to deliver value by making networking easy again—often easier than it was in the pre-cloud world, and certainly faster to deploy new services. NaaS, like most other XaaS (cloud) offerings, accomplishes this by outsourcing the architecture, engineering, and operation of the physical infrastructure to a provider or partner, which frees up your IT team to focus on your business' true differentiators while it also provides more visibility and control than you probably would have otherwise.

What is NaaS?



Network as a Service (NaaS) enables an organization to provision, allocate, and acquire network resources on an on-demand basis, in response to shifting and intermittent demand. It offers these benefits in a private, segmented network that is isolated from many attack vectors and enables quick turnup of network connectivity across business partners, customers, and service providers.

The term network-on-demand (NoD) can be used synonymously with NaaS, as both refer to networks that are software-defined and can be altered programmatically. They also possess centralized administration tools and the ability to both turn services up and tear them down quickly. NaaS can greatly simplify connectivity, and speed turn-up from months of build out to a few simple clicks, potentially lowering costs as well with usage-based billing. However, before you choose a particular NaaS provider, there are several key elements to think about. The remainder of this guide will dive into these considerations as you begin your NaaS journey.

2. NaaS Solution Approaches

Networks have become increasingly complex in recent years, even as the need for seamless connectivity with numerous data centers, clouds, edge networks, remote workers, and IoT devices grows. Digital transformation requires that IT networks and teams be more flexible than ever before, and the ability to provision, allocate, and acquire network resources on an on-demand basis is now an urgent need. Modern networks, therefore, must be secure, adaptable, and responsive to the shifting and intermittent demands of the business.

NaaS can handle all of these demands in a private, segmented network that is isolated from many cyberattack vectors and enables quick turn-up of network connectivity among business partners, customers, clouds, workers, devices, and more. NaaS is a natural extension of the everything-as-a-service economy, which makes it an excellent, future-facing solution for IT organizations.

The defining characteristic of NaaS is its adherence to a cloud model that enables you to operate your network easily and achieve the outcomes you expect from it—all without the need to own, build, or maintain the underlying infrastructure. More specifically, the right NaaS can replace physical routers, VPN concentrators, load balancers, firewalls, and existing telco-centric private networks. And it allows you to scale up and down as demand changes, nearly instantly.

This flexibility also allows you to pay for network and security services based on usage, and enables your network to scale smoothly along with your business. For many, this may be as simple as easily adding people, devices, locations, cloud providers, and more to your network as the business expands. In other cases, it might mean scaling up and down for seasonal events or other swings in business volume.

As with any other digital infrastructure platform, visibility and control are paramount in a NaaS solution. NaaS provides the ability to let you monitor and manage all included services, as well as track usage and billing. In addition to reporting, dashboarding, and centralized policy management, NaaS also allows you to order and deploy all available services on demand. NaaS will become for network infrastructure what the public cloud is for compute and storage infrastructure, so expect nothing less.

NaaS also includes advanced capabilities. A robust NaaS will provide useful AI-driven insights, starting with intelligent recommendations and alerts that can help improve utilization of services, optimize workload traffic, and even protect the business. These AI-driven capabilities often can extend to capacity planning, which helps you ensure that SLAs and SLOs are met or exceeded.

Ultimately the goal is closed-loop issue resolution and self-correcting networks, although this is largely still on the horizon.

The right NaaS solution should bring the following benefits:

- **Access from anywhere:** We can no longer constrain where our employees do their work. Our networks need to meet them wherever they are when they need access to their applications and data.
- **Enhanced security:** As noted earlier, NaaS integrates network connectivity and network security. Look for NaaS solutions that natively integrate both cloud-based and on-premises security, and a provider that can prevent and remediate threats.
- **Flexibility:** Again, the cloud model is core to the concept of NaaS, and this means it allows you to make both small changes and large reconfigurations on demand and in real time.
- **Improved application experience:** We live in a multi-cloud world, and that means we must deliver applications and data *from anywhere to anywhere* under strict SLAs and SLOs.
- **IT simplicity and automation:** NaaS allows you to leave behind the cost and complexity of implementing upgrades, bug fixes, and security patches across a sea of physical network devices.
- **Scalability:** Many businesses must be able to scale up and scale down as needed, and NaaS is by definition more easily and affordably scalable than any traditional, hardware-based network.
- **Visibility and insights:** A software-defined network inherently provides simpler and more powerful monitoring, enforcement, and telemetry capabilities than any box-by-box CLI methods can.

So, what should you consider in a solution? You can compare your priorities against what a particular vendor provides by using the NaaS Checklist below.

3. NaaS Assessment Criteria

			Top Priority	Secondary Priority	Not a Priority
TABLE STAKES	Software Defined	All NaaS offerings are software defined, which makes them both agile and flexible.			
	Management and Orchestration Portal	All NaaS offerings are fully managed solutions—purchased, provisioned, configured, monitored and optimized through an online user portal.			
	Network Virtualization	All NaaS offerings leverage network virtualization to free you from the confines of the physical infrastructure.			
	Cloud Connectivity	All NaaS offerings provide managed connectivity to public clouds and SaaS applications.			
KEY CRITERIA	API Controls	Programmatic access allows you to operate your NaaS in the same manner and with the same tools as other XaaS solutions, enabling integration with DevOps, ITOps, and Infrastructure as Code.			
	Automated Network Segmentation	Connectivity is only half the story. The ability to easily segment the network for security (and privacy) are equally important in your NaaS solution.			
	Secure Remote Access to Management Portal	All NaaS platforms provide access from specific locations, while some allow access from any location, and some provide access directly from user (and/or IoT) devices.			
	Managed Peering	In addition to cloud connectivity, WAN connectivity, and data center interconnection, some NaaS providers offer access to internet exchange points (IXPs) on their platforms.			
	Telemetry and Analytics	While all NaaS platforms provide some level of visibility, not all offer the same scope, granularity, and context for both private and public networks.			
	Network Services Marketplace	As with any cloud offering, one of the measures of an advanced and mature NaaS platform is the breadth of additional services available, and how easy it is to add them to your own account.			
EVALUATION METRICS	Scalability	The ability to scale up and down involves metrics like maximum capacity (bandwidth), number of sites, number of users, number of links, virtual circuits, and global reach, among others.			
	Breadth of Feature Set	Overall breadth of features addresses functionality around both network and security and extends to other capabilities exposed by the solution.			
	Flexibility	This factor measures performance in several areas, including options for connectivity into the NaaS, ability to turn specific features on and off, configuration options, topology restrictions, and more.			
	Ease of Use and Usability	Remember your operations team and consider what it will feel like to use the platform. Think about how well integrated it may be with other tools the vendor provides.			
	Solution and Partner Ecosystem	A robust ecosystem should span both connectivity and service options. Look at how many public clouds, SaaS apps, Interexchange carriers, and data centers are “on-net.”			
	Total Cost of Ownership	Pay attention to the completeness of the solution and whether you need to buy other services to get the functionality you require.			

Source: GigaOm 2021

4. Chris Grundemann

[Chris Grundemann](#) is a passionate, creative technologist and a strong believer in technology's power to aid in the betterment of humankind. He is currently expressing that passion by helping technology businesses grow and by helping any business grow with technology.

Chris has well over a decade of experience as both a network engineer and solution architect designing, building, securing, and operating large IP, Ethernet, and Wireless Ethernet networks. He has direct experience with service provider and enterprise environments, design and implementation projects, for-profit and not-for-profit organizations, big picture strategic thinking and detailed tactical execution, and standards and public policy development bodies. Chris frequently works with C-level executives and senior engineering staff at internet and cloud service providers, media and entertainment companies, financials, healthcare providers, retail businesses, and technology start-ups.

Chris holds eight patents in network technology and is the author of two books, an [IETF RFC](#), a [personal weblog](#), and a multitude of industry papers, articles, and posts. In addition to being the lead research analyst for all networking and security topics at [GigaOm](#), he is the co-host of [Utilizing AI](#), the Enterprise AI podcast. He is also a cofounder and Vice President of [IX-Denver](#) and Chair of the [Open-IX](#) Marketing committee. Chris has given presentations in 34 countries on 5 continents and is often sought out to speak at conferences, NOGs, and NOFs the world over.

Currently based in West Texas, Chris can be reached via [Twitter](#).

5. GigaOm

GigaOm provides technical, operational, and business advice for IT's strategic digital enterprise and business initiatives. Enterprise business leaders, CIOs, and technology organizations partner with GigaOm for practical, actionable, strategic, and visionary advice for modernizing and transforming their business. GigaOm's advice empowers enterprises to successfully compete in an increasingly complicated business atmosphere that requires a solid understanding of constantly changing customer demands.

GigaOm works directly with enterprises both inside and outside of the IT organization to apply proven research and methodologies designed to avoid pitfalls and roadblocks while balancing risk and innovation. Research methodologies include but are not limited to adoption and benchmarking surveys, use cases, interviews, ROI/TCO, market landscapes, strategic trends, and technical benchmarks. Our analysts possess 20+ years of experience advising a spectrum of clients from early adopters to mainstream enterprises.

GigaOm's perspective is that of the unbiased enterprise practitioner. Through this perspective, GigaOm connects with engaged and loyal subscribers on a deep and meaningful level.

6. Legal

© [Knowingly, Inc.](#) 2022 “*Network as a Service Buyers Checklist*” is a trademark of [Knowingly, Inc.](#) For permission to reproduce this report, please contact sales@gigaom.com.