REPORT

Network-as-a-Service (NaaS): 4 Things IT Pros Want

This report is based on data gathered from a survey of more than 900 IT professionals.

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Executive Summary

This report is based on data gathered from a survey of more than 900 IT professionals, commissioned by Lumen and conducted by Boston Consulting Group: BCG, Network Connectivity Buyer Survey, May 2023.

Enterprises are evolving the way they use and leverage networking resources. They are looking for a better networking experience. One that includes a consumption-based, on-demand networking model and offers enhanced security, SASE, edge and other over-the-top (OTT) services. These shifts are occurring with large enterprises, which prioritize an automated experience, and with midsize companies, which often prefer more hands-on support due to perceived complexity and internal resource constraints.

90% of midsize and large enterprises plan to migrate to Network-as-a-Service (NaaS) within the next 3 years.

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Network-as-a-Service (NaaS) is an emerging and transformational approach to technology that offers organizations a new way to consume and integrate networking and security solutions. Recognizing that current networking infrastructures can be cumbersome and complex, organizations cited their top networking challenges and key purchasing criteria:

Top networking challenges

- Slow activation process for connections
- Low levels of predictability, flexibility, scalability and agility
- Excessive or overly complicated costs

Top reasons for considering NaaS

- Freedom from locked-in or long-term financial commitments
- Simplified accessibility, management and usage
- Confidence in the ability to add, remove or change connections and services as needed

Adoption of NaaS will depend on providers delivering a better customer experience via fast, reliable and scalable connections while offering additional over-the-top (OTT) services such as security, SASE and edge compute.

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Introduction

What is NaaS?

Network-as-a-Service (NaaS) is an approach for delivering networking functionality—hardware, software and enterprise WAN services — in a cloud-like model with subscription- or consumption-based billing. Fundamentally, NaaS is:

- A framework rather than a single product or service
- Automated to deliver a smooth end-to-end experience
- Fast, flexible and easy to use

As an emerging technology with many components, NaaS currently has no industry standard definition. But in essence, NaaS can be described as the **evolution of network consumption** designed to:

- Simplify the overall networking experience
- Outsource onsite equipment and infrastructure
- Offer flexible services, terms and pricing
- Leverage existing technology to create a purely digital on-demand experience
- Streamline ordering and management to take effect in minutes or even seconds

Why do IT pros want NaaS?

NaaS offers a transformational experience that addresses significant long-standing pain points around the pricing, activation and flexibility of traditional networking solutions. Top reasons for preferring NaaS include

- **Faster buying cycles** – reducing quoting and negotiating timelines
- **Quicker activation** – services up and running in hours or days, not months
- **Agility** – multi-cloud infrastructure requires short-term connections and dynamic bandwidth
- **Predictability** – alleviates missed commitment dates for reliable resource planning
- **Flexibility** – no long-term service contracts so users can add or change services as business demands
- **Scalability** – adding or upgrading connections in minutes, not months
- **Visibility and control** – monitor and manage services via one pane of glass
- **Cost** – limited upfront cost shifts network requirements from CapEx to OpEx

Figure 1

Traditional networking vs. NaaS experience comparison

Traditional networking	NaaS
• Negotiated contracts	• Accept terms & conditions
• Manual quoting and service contracts	• Cloud-like buying experience with transparent pricing billed hourly
• Port and service immutably coupled	• Standalone ports with multiplexed service connections (public or private)
• Manual service actions (install, change) often takes months	• Service actions fully automated (in minutes) once a port is installed
• Human-centric touchpoints	• API or UI-centric touchpoints

The 3 “hard-to-dos” with traditional networking

In many traditional networking scenarios, businesses rely on decades-old legacy network technology that wasn’t built for our digital, cloud-centric world. These systems, typically offered by traditional telecom providers, make fundamental steps in the experience harder than they need to be.

Hard to buy

Businesses need fast provisioning of data center connections, but the buying experience for new connections and ports is non-digital—and it can take up to 90 days to complete. Research shows that 25% of companies see purchasing networking services as a cumbersome experience.

> “We need to activate internet easily for pop-up clinics, ideally on an online portal.”
>
> **– Large healthcare system IT professional**

Hard to manage

Traditional models limit flexibility and control. Customers are forced to pay standard monthly rates, regardless of how they use the service, with 19% of companies experiencing insufficient network flexibility.

> “We are paying for peak bandwidth all the time. I’m sure lots of it’s wasted. We want to have a consumption-based model.”
>
> **– Midsize company IT professional**

Hard to use

Connectivity isn’t always reliable, and interfaces often don’t integrate well with other apps and solutions. Data shows that 18% of companies lack the ability to monitor and manage all network activities through a common interface.

> “Telco interfaces are hard to use. They don’t integrate well with other NaaS solutions and applications.”
>
> **– Midsize company IT consultant**

Adoption Criteria

Market growth and customer data indicate three key customer criteria for the NaaS roadmap:

- Dedicated connections and WAN are the most important use cases
- Security is paramount for network connectivity
- NaaS solutions must integrate with existing infrastructure and include vendor support

Due to scarce networking personnel and increasingly complex network solutions, companies also expressed a strong interest in simplified management tools, pricing and support. Here is a closer look at the data broken down by what companies expect from NaaS providers.

Expectation #1: Easy purchasing and provisioning

- Ability to provision features quickly (27%)
- Use of self-service control panels: zero-touch/quick deployment via dashboards (29%)
- Easy integration with existing infrastructure and applications (33%)

> **25% of companies see purchasing networking services as a cumbersome experience**
>
> We need to activate internet easily for pop-up clinics, ideally on an online portal."
>
> **– Large healthcare system IT professional**

> **27% of companies need quicker provisioning when it comes to network connectivity**
>
> It always takes too long to get internet from telcos. On average 60-90 days."
>
> **– Midsize financial tech company IT professional**

Expectation #2: Simplified network management

- 28-30% of companies prefer to manage services themselves vs. engaging with a representative
- 23% of companies have to manage multiple vendors
- Companies want to scale capacity up/down easily (19%) and affordably (18%)

21% say network connectivity is slow or inconsistent

We are paying for peak bandwidth all the time. I'm sure lots of it's wasted. We want to have consumption-based model."

– Midsize company IT professional

19% of companies say it takes a long time to scale capacity up or down

We need fast provisioning of data center connections, but currently we can't do it fast enough."

– Midsize company IT consultant

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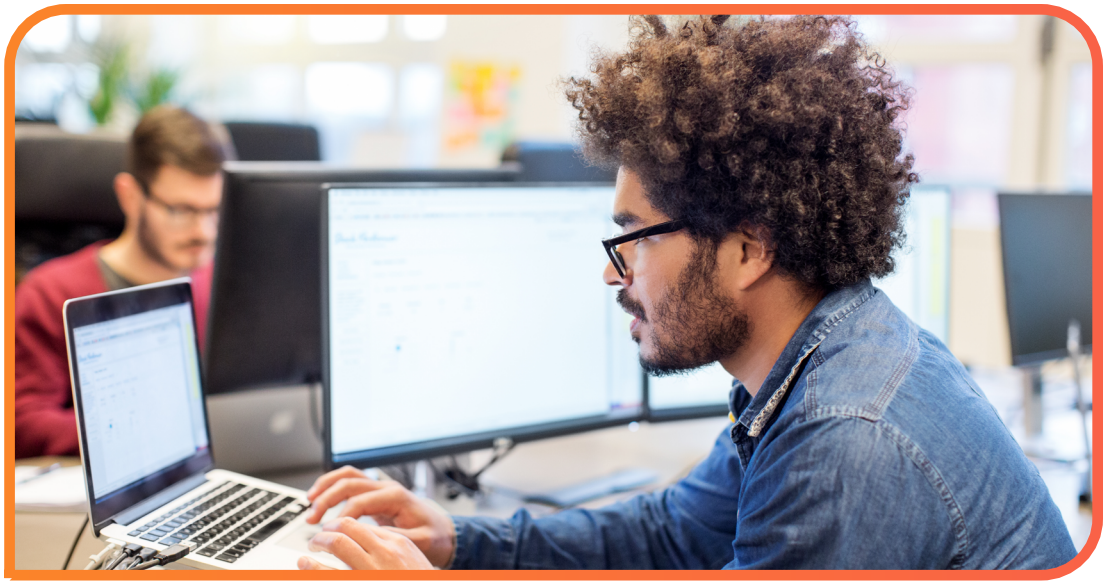

Expectation #3: Secure, reliable connectivity

- Improve service quality and reliability (42%)
- Improve security (49%)
- Vendor support options (32%)

> **21% of companies experience inconsistent reliability**
>
> Connectivity isn't always reliable. So we have not just wireline but also wireless connection."
>
> **– Senior-living provider IT professional**

> **49% of companies see improved security as a need for network connectivity**
>
> We wouldn't consider any network solution without good security."
>
> **– Midsize human resource consultant**

Expectation #4: Financial flexibility

When considering subscription costs, most companies prefer to commit to an advanced networking solution for less than three years because of fast-changing technologies and the need to select the most competitive vendors. And companies want to pay only for the resources they use.

The NaaS model offers hourly billing rates for maximum flexibility and are ideally comparable to monthly rates. NaaS can grow with your business to meet future capacity demands, eliminating the guesswork of trying to determine how much bandwidth your business will need next week, next month or next year.

35% of enterprises surveyed want customized pricing and plans

Figure 2
Breakdown of purchasing criteria by organization size

Key purchasing criteria for adding new connection by company size	Overall	Midsize (50-249 FTE)	Large (250+ FTE)
Companies surveyed	919	413	506
Customized pricing and plans	35%	36%	34%
Seamless integration and vendor coordination	33%	32%	34%
Dedicated account management and support	32%	31%	32%
Rapid provisioning and quick deployment	29%	27%	31%
Simplified billing and contract management	25%	26%	24%
Training and documentation resources	23%	22%	24%
Online ordering and self-service portals	22%	18%	25%

Barriers to adoption

Not surprisingly, organizations listed cost and lack of familiarity as their top concerns, but to varying degrees for midsize and large enterprises. Telcos are generally regarded as a preferred provider by midsize enterprises due to clear marketing messages about cost efficiency, ease of deployment and sufficient customer support that are all seen critical to adoption.

Figure 3
Breakdown of top concerns by organization size

Key purchasing criteria for adding new connection by company size	Overall	Midsize (50-249 FTE)	Large (250+ FTE)
Companies surveyed	320	141	179
Cost of subscription	51%	65%	40%
Lack of familiarity	34%	42%	28%

Figure 4

Breakdown of preferred term commitment by organization size

	Overall	Midsize (50-249 FTE)	Large (250+ FTE)
Companies surveyed	973	439	534
No commitment	2%	4%	1%
3 months	5%	5%	5%
6 months	12%	12%	12%
1 year	35%	36%	33%
2 year	23%	21%	24%
3-5 year	14%	12%	16%
5+ year	4%	4%	5%

Variable usage charges are a key difference between NaaS and legacy pricing. Legacy models typically require a flat bandwidth rate, but with NaaS, users can scale their bandwidth up and down to meet their specific needs.

Figure 5

Sample comparisons of Legacy vs. NaaS billing rates

Off-net (1GB)		On-net (1GB)	
Legacy monthly bill[1] (1GB DIA)	**NaaS Monthly bill[3]** (1GB DIA)	**Legacy monthly bill[2]** (1GB DIA)	**NaaS Monthly bill[2]** (1GB DIA)
Port charge: $200 (fixed charge)	Port charge: $200 (fixed charge)	Port charge: $200 (fixed charge)	Port charge: $200 (fixed charge)
Off-net Access charge: $938[4] (fixed charge)	Off-net Access charge: $938[4] (fixed charge)	On-net Access charge: $318 (fixed charge)	On-net Access charge: $318 (fixed charge)
IP logical charge (1GB): $713 (fixed charge)	IGB Price.hr: $1.07/hr	IP logical charge (1GB): $727 (fixed charge)	IGB Price.hr: $1.07/hr
	Total usage: 70% (variable usage)		Total usage: 90% (variable usage)
	Usage charge: $539[5]		Usage charge: $693[5]
Total: $1,851 (fixed charge)	Total: $1,677 (variable charge)	Total: $1,245 (fixed charge)	Total: $1,211 (variable usage)

1. Sample bill from a packaging solutions company.
2. Sample bill from a physical therapy and performance provider.
3. Illustrative NaaS bill provided by Lumen showcasing key difference in line items.
4. Access charges for off-net customers are directly passed-through to the end customer.
5. Usage charge calculated as 1.07 x 24 (hrs/day) x 30 (days/month) x usage %; Rates include taxes.

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Use Cases: How organizations can implement and use NaaS

Data center fabric

Objective

Provide instant access to a dynamic internet connection to from a public data center

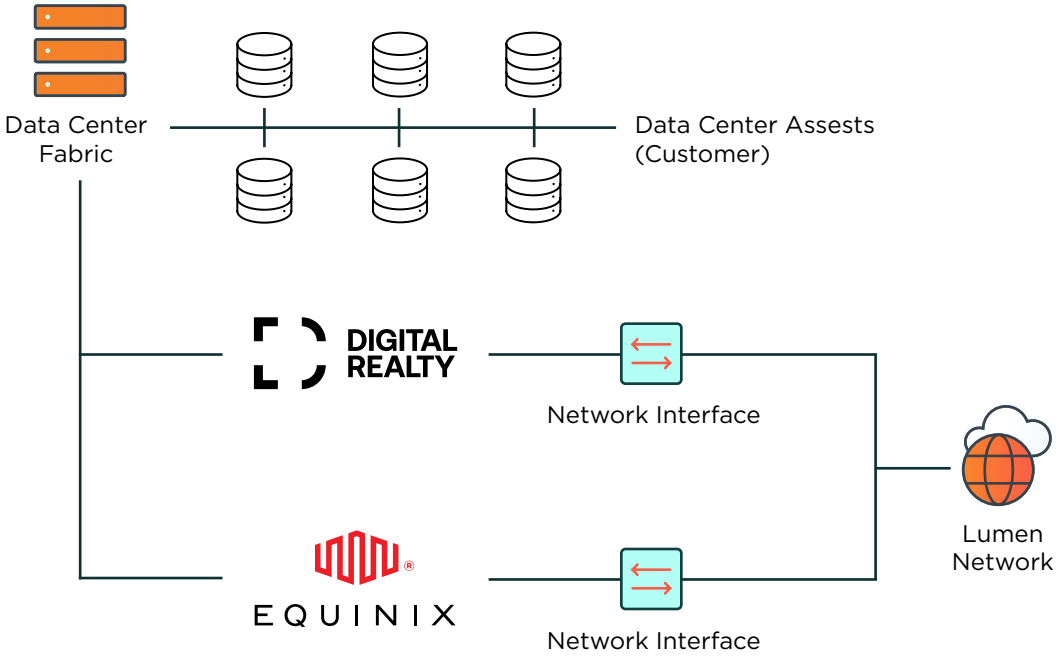
Features

- Secure dedicated connection
- Ability to turn connection on/off
- Scalable bandwidth
- Pay-per-use model

Example of usage

Manufacturer frequently needing to transfer live plant/factory data back to corporate HQ

UC1
Data Center Fabric



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Existing M-UNI Port

Objective

Provide instant access to a dynamic internet connection to/from an enabled enterprise location

Features

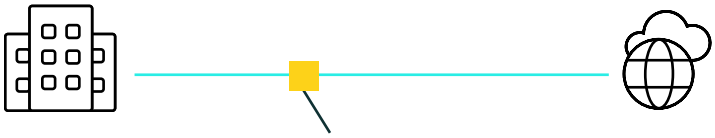
- Ability to turn connection on/off
- Scalable internet speed
- Pay-per-use model
- New location provisioned in minutes

Example of usage

Conference management company with fluctuating bandwidth requirements between event and nonevent days

UC2

Existing M-UNI



On-Net Metro 2/3 Customer Building

Multiplexed UNI Port (Existing)

Lumen Internet 3356

New M-UNI Port – unassigned

Objective

Instantly assign an existing port at an enterprise building and provide immediate access to a dynamic internet connection to/from that new location

Features

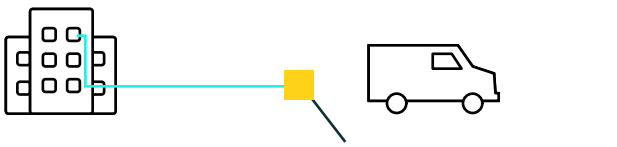
- Same as the Existing M-UNI Port
- New location provisioned in just a few days

Example of usage

Conference management company with fluctuating bandwidth requirements between event and nonevent days

UC3

New M-UNI Port



On-Net Metro 2/3 Customer Building

Install New Multiplexed UNI Port

M-UNI Port

Extension to Suite

Digitally Scheduled All work in one window

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Conclusion

When compared with traditional networking and security experiences, NaaS appeals to the emerging need for simplified, self-service networking that can easily spin up or down like cloud services. To win customers, NaaS providers must offer:

Better customer engagements via a streamlined network experience with instant access to dynamic internet connections and additional services

- Online, on-demand and self-service provisioning
- Plug into network management tools
- Flexible billing and pricing options
- Wide on-net presence
- Customer-first mindset
- Customer base expansion

Richer set of features with a fully integrated platform enabling instant and flexible connections

- Easy, fast and reliable connectivity
- Security robust for today and adaptable for tomorrow
- Information and communications tech services
- Single pane of glass for network management

Broader footprint

- On-net and off-net interoperability
- Local and global coverage
- Multi-cloud environment support
- Single pane of glass for network management

Learn more

About Lumen® Network-as-a-Service and Lumen® Internet On-Demand at https://www.lumen.com/en-us/networking/internet-on-demand.html

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