



Network-as-a-Service (NaaS) eGuide

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driven by Mist AI 



Ready for a better network?

Every organisation requires running many critical elements in harmony to deliver success. These are often broken down into elements – technology, people and process – yet all of these elements are compromised if an organisation is unable to connect these into a cohesive whole. Whether public or private sector, large or small, without a reliable network underpinning digital infrastructure, every organisation will struggle with its core functions.

The pandemic highlighted the criticality of network connectivity. At its peak, 45% of the UK's workforce relocated to home offices, along with millions of students attending lessons over video conferencing. It became increasingly clear that organisations without dependable and performant network connectivity struggled, leading to disruption, lost revenue and poor customer service.

With the pandemic receding, many organisations are now taking a strategic look at how to ensure that their network not only meets the needs of the entire organisation, but is also ready to cope with unexpected issues – such as cyber-attacks, forced relocation or massive growth in demand – at an individual, campus or multisite level.

Hybrid working

The world of hybrid work is also here to stay. For organisations that are now routinely engaged in video conferencing with increased use of network connected applications delivered from the cloud, there is a pressing need to modernise and improve the reliability of the network.

IP networking is highly interconnected. Great Wi-Fi connectivity is dependent on how it's deployed within the local site. And as organisations start to utilise more remote sites, these individual Wi-Fi enabled locations must be supported by well-managed Wide Area Networks (WAN) that should utilise resilient multipath connectivity to ensure high availability. In networking, the whole is greater than the sum of its parts!

For many organisations, if the network is sluggish, productivity drops. For more digitally centric organisations, any outage means that it simply cannot function. In countless surveys, network – and especially Wi-Fi issues – are consistently in the top 3 of calls to the helpdesk. Many IT managers report that the first time they are made aware of network issues at a remote site is when the phone starts ringing with complaints from unhappy users. It is in this context that more organisations are evaluating a better way to gain access to always on, dependable, secure and low-maintenance network connectivity by switching to a Network-as-a-Service approach.





Design



Installation



Training



Support



Management

What is Network-as-a-Service?

Network-as-a-Service does what it says on the tin! In the simplest description, it allows organisations to buy network connectivity like any other utility such as electricity, gas or water. However, unlike a typical utility where customers pay based on the volume consumed, NaaS is more akin to a subscription service that's inclusive of hardware, software, management tools, licenses, plus the time and experience of the technical staff that set it up and ensure that it is working as planned. The subscription model is flexible and can be tailored based on number of users, sites, and the type of performance and resiliency an organisation requires.

A typical NaaS project includes design, installation, training, support and management and will consider current network infrastructure. Existing networking elements that are suitable for a NaaS deployment are integrated to protect capital investment and reduce ongoing subscription costs. And like other types of utilities, the NaaS will adhere to a service level agreement that specifies speeds, availability and types of support, which can range from telephone assistance all the way through to an engineer turning up on site within a few hours, in the event of a hardware failure.

Flexibility and transparency

Flexibility is one of the key benefits and allows a tailored service suited to each customer. NaaS can extend across every location, from large college campuses all the way down to individual home offices. NaaS can also include the local and wide-area-network connectivity with support for just a single site, nationwide and international site-to-site connectivity.

Another beneficial element of the switch to NaaS is the transparency it offers organisations. A Financial Director can work out the exact cost for network connectivity for an entire company from a fixed short-term 6-month contract to a longer 3-year commitment. The typical CAPEX heavy network upgrade cycle that normally takes place every 5-7 years is no longer a necessary burden as all equipment used for the NaaS is maintained by the network service provider. If the business wants to move or add additional sites or users – or is forced to reduce its footprint in leaner times – then the NaaS service can scale in line with the organisations business development strategy.



How does NaaS work?

NaaS is a broad industry term and, as such, each vendors' implementation is slightly different. However, the core concept is similar to traditional IP network design and implementation but with several improvements.

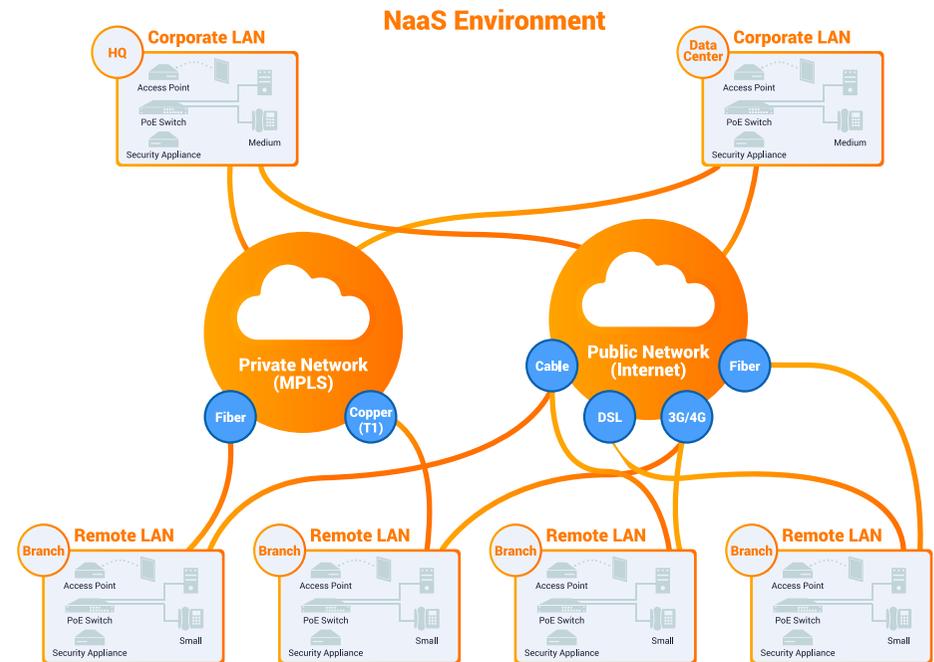
The first is that the NaaS will typically use multiple telecoms operators to balance connectivity and mitigate any outages. If, for example, there is a problem with the BT business broadband network, the NaaS will reroute traffic over a Colt MPLS network, or maybe use a Vodafone 5G connection instead. This level of redundancy can be specified during the NaaS design phase or added later if needed.

Another big difference is that all of the parts are managed by a single entity. The NaaS service may use a dozen different hardware and software elements as well as potentially half a dozen different telecoms operators, yet all of these parts are managed by a single network service provider with an expert technical team based at a centralised 24/7 Network Operation Centre. This ensures the service is working at the agreed service levels. There is never a situation where different suppliers start 'passing the buck' if there is a problem. The network service provider is the single point of contact and contractually responsible for delivering the service.

The last element is the increased use of automation, including the emergence of artificial intelligence. One of the most advanced is **Juniper Networks' Mist AI**, a cloud service utilising machine learning. It has been trained to detect issues that networks will typically face from time to time, at both the overall service level and within specific devices.

It then runs automated processes to resolve these issues before small problems turn into performance degradation or – worst case scenario – an outage. The Mist AI system has been trained on millions of real-world use cases and makes wireless, LAN and WAN operations more predictable, dependable, and measurable. It also provides detailed analysis to the NaaS operator and the end-customer through real time reporting tools to aid with tasks such as capacity planning, service improvement and preventative maintenance.

Early adoption of NaaS has initially been embraced by larger organisations, but in recent years it is becoming more popular with smaller organisations, especially in light of the pandemic where reliable and secure network connectivity was an absolute priority.



IN THE REAL WORLD:

A rapidly growing business

A mid-sized PR and marketing agency had grown rapidly over the last decade. It had changed offices twice in the last 4 years, and each time the disruption of the network move was a considerable burden. With the opening of a second office in the North of England, it decided to move to NaaS as a way of not only streamlining its networking provisioning but also to overcome the difficulty it had in recruiting and retaining skilled IT staff. NaaS not only connects its two main sites but also supports key home-based workers and provides dedicated access to several hosted applications that reside within Microsoft Azure. The benefits of its switch to NaaS included more consistent and better performing network connectivity and the ability to grow as needed within a predictable cost model.

IN THE REAL WORLD:

A highly distributed organisation

A large logistics firm with over 50 depots across the UK had traditionally managed its network in-house and this had proven adequate for its needs. However, in the last few years, its aging network had started to struggle with the growing volume of digital data. Everything from CCTV to systems used for pick and pack tasks were causing significant network loads, which prompted the company to evaluate a major network and Wi-Fi upgrade. However, following a detailed costs vs benefit analysis conducted by the company finance director, it was concluded that a NaaS solution would allow it to forgo the significant CAPEX investment and move to a more preferable OPEX model. When combined with less internal IT staffing costs, the move to NaaS will deliver a ROI of roughly 18 months when compared to the more complex and expensive network upgrade. The move to NaaS has also strengthened its business continuity and disaster recovery position by using multiple telecommunication service providers at each site through integrated SD-WAN connectivity.

IN THE REAL WORLD:

A business without IT / network manager

This small estate agent never needed a full time IT person. Instead, it relied on a member of the lettings team who used his good understating of technology to support its 12 staff using mostly Microsoft Office productivity software. Unfortunately, the company suffered a technical issue which knocked out its internet access. Following calls to its broadband provider – who insisted that the fault was not within its network but instead lay within the customers premises – the estate agent eventually found a local IT support firm who managed to fix the problem but only after three days of disruption. The local IT support firm recommended NaaS as a better option to give the estate agent ‘peace of mind’ along with a more robust network service while it agreed to provide a day-to-day IT help desk service. The result is a more reliable network access, and the small firm has never needed to recruit a full time IT person.



Summary

As the examples highlight, NaaS is not a ‘one size fits all’ approach. It is suitable for a wider range of organisations and can be delivered based on your needs and – most importantly – budget. NetUtils has been a pioneer in the delivery of advanced networking services for nearly three decades and is also a Select PSS level partner with Juniper Networks, the market leader in NaaS technology.

It does not matter if your organisation has 10 or 5000 staff across a single site or tens of sites; NetUtils can design a NaaS offering that is ready to meet your individual needs. We can work with your existing IT support company to deliver an integrated solution through your current trusted partner, as well as a range of complementary services including cyber security, compliance, disaster recovery and expert-led technical consulting and support. So, take the first step to finding out if NaaS offers a benefit for your organisation. Fill in our “**NaaS discovery questionnaire**” and our team will advise you on how NaaS can help your organisation ensure that network connectivity is always on, always secure and always supported!

About us...

NetUtils are a leading UK specialist integrator of network, security and data solutions for enterprise, telco, MSPs and ISPs. With more than 29-years history and over 400 enterprise and service provider clients including household names across finance, education, public sector, manufacturing, and healthcare, NetUtils brings its customers the depth and breadth of people, technologies and services to improve business performance in this ever-changing digital world.



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 <https://netutils.com>

 info@netutils.com

 020 8783 3800

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