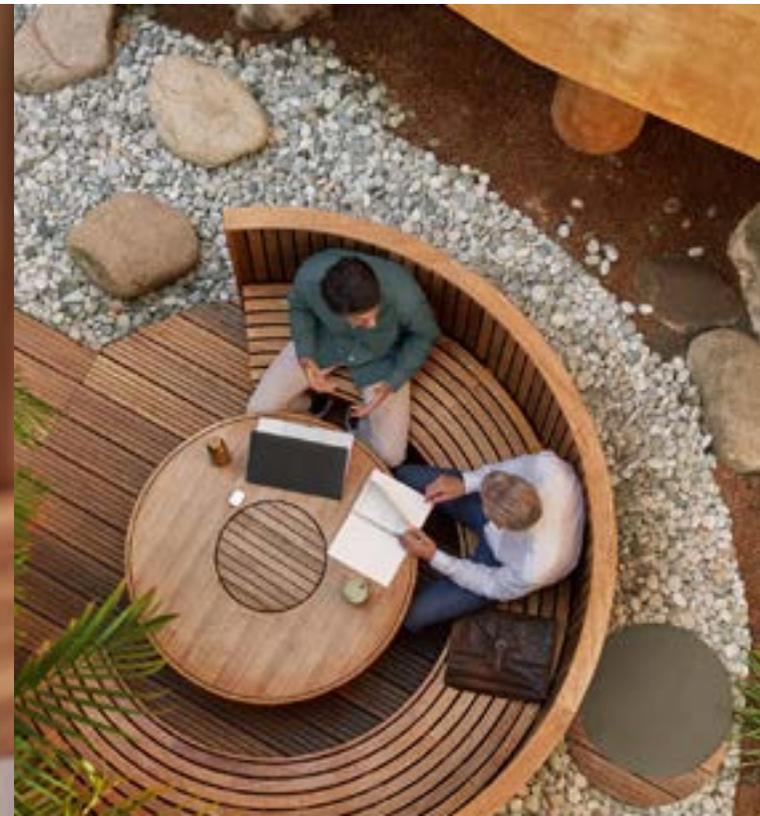


# Network-as-a-Service (NaaS)

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## Network-as-a-Service (NaaS)

### What is NaaS?

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# What is NaaS?

NaaS can have different definitions, depending on who you ask. At the highest level, it means the consumption of network hardware and software as-a-service from a network vendor. The biggest divide comes into play when you ask whether the definition of NaaS includes the overall management of the network, often called NaaS managed services, provided by the vendor or a managed service provider (MSP).

The fundamental definition of NaaS is the delivery of network services inclusive of hardware and software. People often associate as-a-service delivery with delivery of services entirely through the cloud. However, NaaS can come with some differences, namely that NaaS deployments typically require hardware and software on-premises for access networking. Management of the network hardware and software is often done by the organization's in-house IT personnel today.

Others claim NaaS is the comprehensive day-to-day management of the network, or that it includes the managed services component. In this definition, NaaS is a holistic approach where complete installation, implementation, maintenance, and support are provided by the network vendor or MSP.

Despite these varied definitions, most people believe NaaS is network infrastructure (hardware and software) delivered as-a-service. Real differentiation comes in terms of how NaaS is consumed and operated.

## Did you know?

**Organizations using NaaS today plan to have it deployed at 70% of their sites within the next two years.**

Source: IDC White Paper sponsored by HPE, Enterprise NaaS State of the Market: As Adoption Continues, Benefits of as a Service Models Crystalize Doc#US50530723, April 2023



# Why NaaS now?

## Why is NaaS the latecomer to the mix? What has changed?

### The shifting landscape

Organizations have traditionally invested significant resources to design, build, and operate networking infrastructure within their long-term real estate footprint for client-server connectivity.

The following factors have changed the dynamics of traditional networks and may explain why NaaS has become the answer to today's market needs.

### 1. The Workplace

Laptops and mobile devices have enabled users to conveniently access enterprise applications from outside the office and onto non-enterprise networks (e.g., home office, remote co-location). The COVID-19 pandemic accelerated the adoption of hybrid work, resulting in people connecting more frequently from non-enterprise-controlled sites.

This pattern shift has led companies to right-size their real estate footprints. Results include reduced footprints in traditional corporate spaces and new investments in smaller spoke or home office locations to support the ever-increasing distributed workforce. This dramatic shift requires more flexibility and agility with the technology that supports these new models.

### 2. Devices

The emergence of connected IoT devices in addition to bring-your-own-device (BYOD) connectivity has continued to extend the requirements of today's networks. Different traffic patterns and new security methodologies are challenging networks for secure connectivity.

### 3. Technology

Constant innovation in technology makes it challenging for organizations to keep pace. Whether it is access to new 12000 MHz of 6 GHz spectrum with Wi-Fi 6E, new wireless encryption security with WPA3, or new work from home “branch of one” capabilities, the speed of innovation can cause equipment to become outdated too quickly to address today's dynamic climate. New technology also makes it challenging to find and train personnel. When new features and functions are properly updated, security is enhanced.

### Top 3 catalysts for adopting NaaS:

#### 1. Flexible financing (i.e. paying via subscription)

#### 2. Keeping pace with technology

#### 3. Paying based on a usage metric

Source: IDC White Paper sponsored by HPE, Enterprise NaaS State of the Market: As Adoption Continues, Benefits of as a Service Models Crystalize Doc#US50530723, April 2023

# Why NaaS now?

## Why is NaaS the latecomer to the mix? What has changed?

### 4. Application hosting

The accelerated adoption of software as-a-service (SaaS) has dramatically diversified how enterprise applications are accessed both from a LAN and WAN perspective. The days of needing to exclusively route all app traffic behind the firewall are long gone. Today, many business lines and departments within organizations own applications that are not managed by the IT staff. For IT departments, these trends are driving the need for quicker lifecycle investments for SD-WAN capabilities to provide enterprise level QoS and security to new application hosting sites.

### 5. COVID-19

Finally, there are no surprises here. COVID-19 served as a catalyst that changed the way today's corporate IT staff must plan and procure their respective networks. At the very start of the pandemic, many organizations quickly had to shift network priorities to remote access capabilities for the masses. Remote work and access have now become the new normal. The impact on business was sudden, as organizations had to preserve cash. Large capital investments earmarked for strategic planning had to be put on hold due to all the uncertainty and shifting personnel and facilities strategies. For some, planning cycles have changed within organizations and have shortened from 3- to 5-year planning efforts to 1- to 2-year planning efforts (or even shorter).

Networking has certainly been the latecomer in terms of as-a-service offerings. However, consumption of cloud-based technologies has grown. Planning cycles have shortened. Network boundaries are diminishing. Technology continues to evolve and change rapidly. Meanwhile, new business demands, and the dynamics of COVID-19 have created the need to review what NaaS can provide as the workplace requirements and technology have shifted.

**71%** of respondents say their long-term planning cycles have shortened due to COVID

**82%** of that group said they have shortened to 2 years or less

Source: IDC InfoBrief sponsored by Aruba, a Hewlett Packard Enterprise company, Network as a Service: State of the Market, Doc # US48894322, Mar 2022



### Top 3 benefits of adopting NaaS:

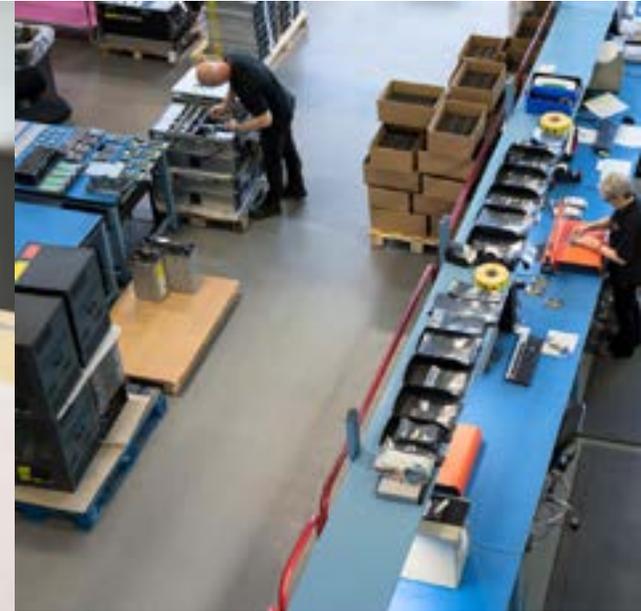
1. Faster access to new technology
2. Predictable costs, easier budgeting
3. IT staff constraints/efficiency

Source: IDC White Paper sponsored by HPE, Enterprise NaaS State of the Market: As Adoption Continues, Benefits of as a Service Models Crystalize Doc#US50530723, April 2023

## What are the advantages of NaaS?

While today's enterprise on-premises networks are still being designed, built, and operated by IT organizations, the planning and procurement methodologies are evolving. With enterprises embracing public cloud, and shifts in workplace, devices, and technology, the corporate network perimeter has essentially disappeared. Competitive pressures are forcing organizations to focus on core business competencies. IT personnel must therefore change how they procure, design, build, and run networks to become more agile and dynamic. NaaS addresses many of the needs of today's enterprises in the following ways:

- 1. NaaS facilitates flexibility to meet dynamic business requirements.** As-a-service models provide organizations with the financial flexibility to meet continued business objectives without requiring significant capital investments, whether for compute, storage, or network resources. Subscription-based models support agility and pivots in business strategy. NaaS offers a more stable and predictable planning process for operational budgeting, including pay-as-you-go capabilities for added resources only when needed. Added managed services can be implemented to help centralize all of the network and oversee all network operations.
- 2. NaaS lowers operational risk.** Oftentimes, adding services for NaaS deployments mitigates risks with proactive advisory and management capabilities. Faster deployment of new features and functions provides enhanced security. Proactive management capabilities often include AIOps (AI for IT Operations) driven insights, or highly skilled networking experts, to ensure the organization is maximizing its deployment with the latest product features, functions, or configurations. This proactive management approach is designed to optimize performance and operations, and to correct any issues before they cause an outage. NaaS can provide comprehensive day-to-day management of the network to offload lean IT staff resources.
- 3. NaaS empowers organizations to keep pace with innovation.** Technology is changing rapidly. The pace of this change means some equipment quickly becomes obsolete and staff are left unprepared. NaaS enables methodology and astute financing for organizations to keep equipment and resources up to date with quicker tech refresh cycles for capital investments like hardware and software updates. Faster deployment of new features and functions help enhance security to ensure the network is in a good state of repair. NaaS provides the ability to meet line-of-business requirements to launch new services and capabilities faster. Extended services ensure optimal performance and keep organizations safe from security vulnerabilities caused by out-of-date equipment or configurations.



**4. NaaS is more sustainable and secure.** Sustainability is top of mind for many organizations. Environmental concerns continue to mount given shorter lifecycle refreshes and greater technology debris. IT Asset Disposition (ITAD) management can be quite costly. Many organizations manage obsolete equipment in warehouses due to fears that company or personal information may be leaked when hardware components are recycled.

Effective NaaS programs help alleviate these security- and cost-related fears. Repurposing equipment and proper disposal are important but costly. Sustainable reuse and retirement are key attributes of a NaaS offering and allow organizations to meet sustainability goals more easily.

**77%** believe ITAD Services are important for consideration of NaaS offerings

**82%** of organizations recognize the importance of ITAD and sustainability goals

Source: IDC InfoBrief sponsored by Aruba, a Hewlett Packard Enterprise company, Network as a Service: State of the Market, Doc # US48894322, Mar 2022



## What use cases are good for NaaS?

While there are an infinite number of use cases for deploying a NaaS solution, here are some very common initiatives and use cases for NaaS deployment.

### Hybrid workplace

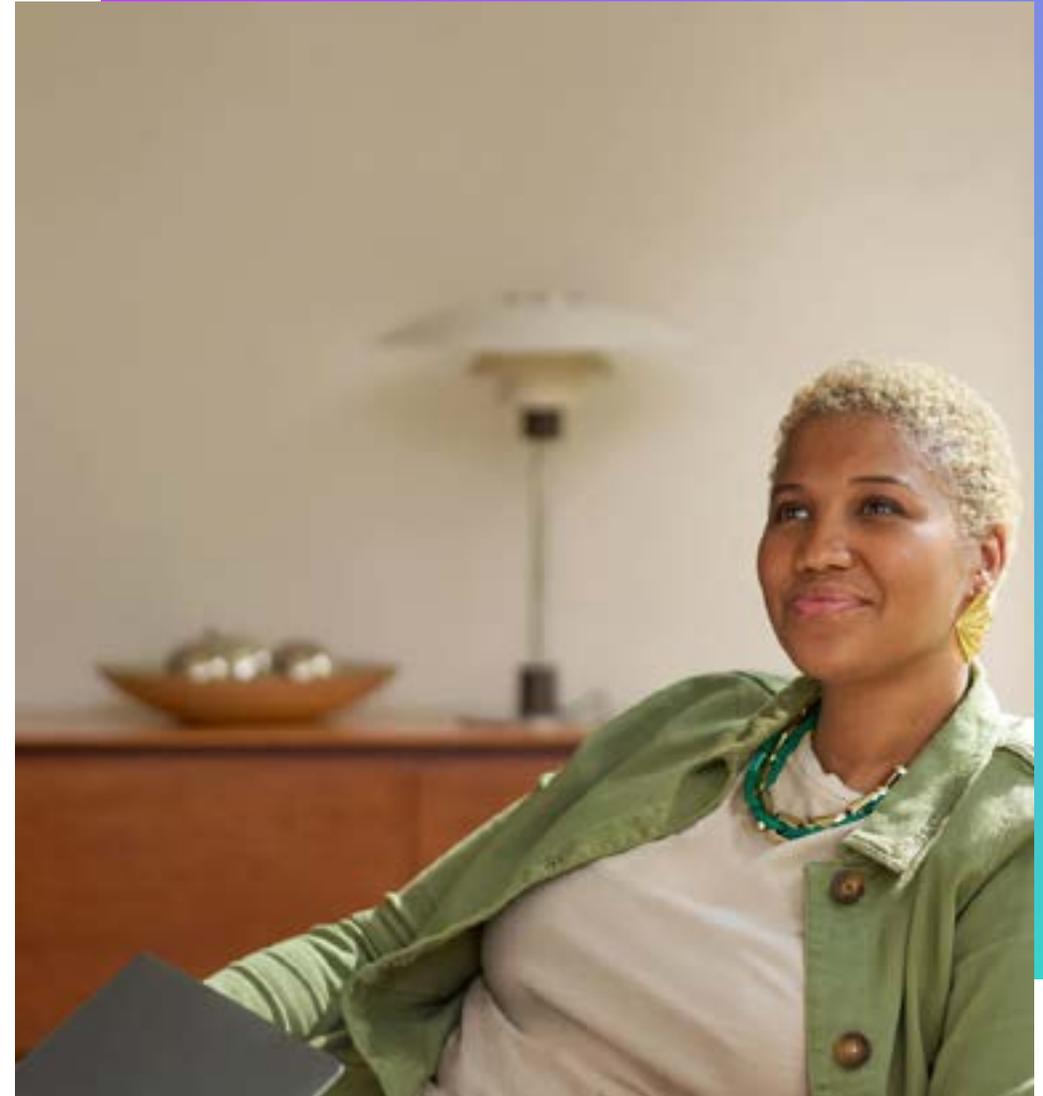
Hybrid work has transformed how companies operate. The desire to deploy more enterprise-grade connectivity at homes and transform existing office space to collaboration/community sites are fueling network investments. By consuming the network as a service, organizations can quickly and efficiently enable these initiatives in an agile, cost-effective manner.

### Connected retail

Retailers want a reliable, up-to-date network to deliver a consistent shopping experience, both in-store and out. The retail sector is also one that has fully embraced cloud-like consumption and pricing that can be cost allocated at a per-store-level. NaaS enables a more consistent connected retail experience through up-to-date equipment and configurations that can be charged back accordingly into a per-store P&L model.

### Hybrid learning

Rapid pivots from in-person to online learning, a dramatic increase in the use of collaboration tools, and endpoints that refresh on a consumer lifecycle basis can make enabling hybrid learning an adventure. Whether you need to support in-class instruction, online exams, or remote learning on-demand, NaaS provides financial flexibility, technical expertise, and operational resources to ensure students and staff stay connected. Universities and schools can take advantage of the quick and easy deployments and streamlined management without worrying about specialized expertise and constant training.





## How is NaaS different from a lease?

Many people think of NaaS without the managed services component as simply a lease of the hardware and software. However, there are some key differences. Each implementation and experience working with various vendors will differ, but some highlights include the following:

- 1. Contracts.** The lease of hardware and software involves the same ordering process as making a purchase. Multiple purchase orders and separate support agreements are involved. With NaaS agreements, typically a single Statement of Work (SOW) provides a customized solution built for optimized performance and business outcomes that are inclusive of hardware, software, support, and services.
- 2. Overprovisioning.** Leasing hardware and software requires the same rigorous planning when an organization makes a large capital investment, often procured as a one-time event. This leads to the added cost and inherent risks of overprovisioning or underprovisioning. NaaS delivers the flexibility to overcome those challenges.
- 3. Liability and risk.** The pace of change in technology and added devices can often expose vulnerable networks. NaaS often reduces the liability and risk of a network by ensuring the latest features and functions are implemented. Ideal NaaS services include additional dashboard analytics and operational conditions of the network environment. Leasing is focused on the financing of the network hardware and software, typically in a static environment without active services and analytic tools for optimal performance.





#### 4. Balance sheet flexibility.

All accounting practices differ within each organization. NaaS is often accounted for as OPEX, with some organizations preferring to categorize NaaS as CAPEX. From the CIO perspective, NaaS is aligned to an operational IT budget point of view. From the CFO perspective, it is typically a question related to financial statements. The benefit of NaaS is that it is a usage-based agreement delivering services for the OPEX point of view. For example, a simple NaaS SKU associated as a service-based delivered service could be more easily consumed from an OPEX perspective.

**5. Asset management.** NaaS often includes intelligent deployments for achieving the best business outcomes. This includes asset management of all hardware, software, support, and service components. Leasing typically adds more decision layers, such as purchasing, renewing, or renegotiating multiple lease schedules. The holistic approach to a NaaS SOW alleviates organizations from the burden and resources of asset management.

Consequently, while there can be vast differences between a lease and a NaaS implementation, careful consideration needs to occur with each individual organization to assess the best method to meet its business needs. NaaS offers more flexibility in the financial treatment of network deployments for organizations. Careful consideration should be done with advice and consultation from accounting and finance professionals.

**65%** agree that eliminating upfront CAPEX and easier budgeting was a key factor for choosing NaaS

#### **NaaS ushers in enterprise shift from CAPEX to OPEX budgeting**

**62%** respondents either prefer or want the option of using OPEX to fund IT infrastructure

Source: IDC White Paper sponsored by HPE, Enterprise NaaS State of the Market: As Adoption Continues, Benefits of as a Service Models Crystalize Doc#US50530723, April 2023



# How do NaaS services differ from traditional IT support services?

## What is a Managed Service for NaaS?

Traditionally, in IT terms, as-a-service models have often been equated to the cloud delivery model, delivering value to the end customer without the customer covering the costs, maintenance, and risks of owning specific hardware or software. The customer can consume information technology as a managed service, such as storage, software, or compute power as required. NaaS is a little different from your traditional as a-service model because not everything utilizes the cloud delivery model. NaaS involves the deployment of customer premise equipment (CPE) hardware (e.g., Wi-Fi access points, ethernet switches) and software tied to a specific location, unlike storage or CPU power delivered as a service. While NaaS has been an industry term for many years, it's a latecomer to the mix due to the significance and requirement for on-premises technology.

## What's different with NaaS managed services?

A managed service, as it relates to NaaS, is quite different from traditional services. Most traditional IT services provide a reactionary approach to services. The traditional approach to IT services usually revolves around managing and resolving open tickets for the underlying technology. Network issues often arise that can affect groups, individuals, or applications when, for example, someone cannot gain access to the network or a particular file. The approach is completely reactionary.

In contrast, a managed service for NaaS is about holistic management of an organization's network to meet a desired business outcome. The approach is proactive in terms of optimizing the performance and efficiency of the network.

The goal is to minimize network support issues before they happen. The services usually begin with faster deployment of your infrastructure with installation and migration services. Active monitoring is done to ensure your infrastructure is rightsized, and upgrades happen when they are needed. Operational reviews are important to keep your team aware of changes and, of course, performance optimization is always top of mind. The services are proactively oriented to monitor and optimize the network and are aimed at eliminating potential support calls. Vendor-specific tools are generally available, leveraging the expertise of millions of network professionals and customer scenarios to efficiently scale and optimize network environments from the vendor.

**60%** of respondents believe NaaS must include complete outsourcing of day-to-day network management to a third-party.

Source: IDC White Paper sponsored by HPE, Enterprise NaaS State of the Market: As Adoption Continues, Benefits of as a Service Models Crystalize Doc#US50530723, April 2023



# Identifying the need/ questions to ask yourself

## How do you know when you need NaaS?

With today's economy moving towards as-a-service opportunities for compute and storage, when is the right time for NaaS?

Two things are clear: First, NaaS is becoming an increasingly hot topic in organizations across multiple sectors and regions. And second, NaaS can address many of the challenges facing IT teams today, from the demand for better network security, flexibility, scalability, and performance to the need to deliver greater innovation and business outcomes. Technology leaders are recognizing the potential in this new consumption model, which can incorporate both subscription-based financing and optionally, network management.

But how can you be sure it's a viable solution for your own organization— and that now is the right time to pursue it? To help you figure this out, we've identified three key questions every organization considering NaaS should ask themselves.

### 1. Would your organization benefit from more flexible financing?

Through NaaS, which allows organizations to consume network hardware, software, and potentially services on a subscription basis, organizations can:

- Pay only for what they use, through a payment structure based on their exact business requirements.
- Overcome limited budgets and CAPEX freezes, by moving to a possible OPEX model.

- Gain financial freedom and increase flexibility, by avoiding rigid contracts.
- Optimize cash flow for investments and innovation, not maintenance.
- Simplify budget approvals, by providing a more predictable cost over a set time period.

### 2. Do your current resources hinder your ability to achieve your business goals?

Enterprise networks have increased exponentially in scale, complexity, and importance—meaning the risks they face are higher than ever, while the margin for error is constantly shrinking. So, what are organizations expected to do? Should they leverage the expertise of a third party? It is an age-old dilemma: will automation or outsourcing replace existing IT teams? Does NaaS address the following challenges?

- Solve internal IT resourcing challenges, as well as freeing up their IT teams further to focus on innovation and strategic initiatives.
- Meet increasingly complex business demands on the network, plus security demands, which may exceed the internal team's current abilities and certifications.
- Optimize the quality of user and application experience, by leveraging best practices, specific expertise, and continuous improvements in accordance with service-level agreements.
- Extract the full value of the current network, which requires the skills and time of trusted networking experts.
- Scale easily to meet growing business needs and company objectives.



By reducing this time—either through Artificial Intelligence (AI) and automation or giving responsibility to a third party—NaaS enables teams to move from firefighting to igniting innovation. This means driving digital transformation across entire lines of business, integrating new technologies, devising data-backed strategies to improve processes and experiences, and, most importantly, building a network that can support the future business.

NaaS also provides a great solution for organizations hoping to better leverage their existing assets. In addition to helping organizations acquire new technologies, NaaS can be used to refinance existing equipment as well, providing a welcome cash injection for both your business and IT department.

Finally, NaaS programs can help your organization properly reuse, recycle, or dispose of unused network components. This way, you can benefit from a tech refresh while eliminating waste: better for your organization, better for the environment.

### 3. What do you want to achieve as a business?

NaaS is not about financing, or even managing, IT. Instead, it is about transforming the business through automating workflows, solving problems, optimizing processes, increasing security, and enabling the next generation workplace. It is about driving valuable outcomes for all functions, from finance and operations to human resources and even corporate social responsibility (CSR).

Understanding exactly what those outcomes should be is a matter for the entire business. Therefore, as you seek to answer the questions posed in this guide for your organization, you need to ensure that all relevant parties are involved. Think beyond the C-suite. Think of building management, business line managers, security. Invite the ‘unusual suspects,’ so to speak.



# 4 key capabilities to look for in a NaaS offering

## 1. Financial flexibility

Financial flexibility is at the heart of as-a-service offerings. The ability to pay as you grow is one of the key advantages of NaaS, enabling organizations to address today's dynamic business climate where change can happen rapidly. A NaaS offering should provide a usage or subscription-based model that includes all the necessary hardware, software, and services required for the use case.

## 2. Enhanced security

The pace of innovation in technology continues to advance more quickly over time. The importance of implementing new features and functions quickly is paramount. A NaaS implementation enables enhanced security while leveraging the expertise of vendors and trained partners. It is the top driver for NaaS for most organizations to ensure they can recycle their hardware every few years. Many network leaders say the optimal contract term is 3–5 years, with an option to renew. Contracts should be flexible and change orders should be straightforward and simple.

## 3. Greater sustainability

Sustainability is top of mind for many progressive organizations. Sustainability in today's business climate is often a critical component in the decision process. Often, organizations set sustainability goals to bring balance to our extended ecosystem. A solid NaaS program should include capabilities for organizations to reach their sustainability goals.

## 4. Full-service management options

A NaaS offering should include the ability to add full network management services, so the complete management of the network can be outsourced. This adds extended flexibility should your organization discover the need to completely outsource the network infrastructure. Typically, vendors with this capability have advanced tools to maximize and optimize the performance and utilization of the network. Many times, those tools can be utilized without the outsourcing services that your organization can leverage.

**64%** respondents say the underlying hardware/CPE is very important when considering a NaaS offering

Source: IDC White Paper sponsored by HPE, Enterprise NaaS State of the Market: As Adoption Continues, Benefits of as a Service Models Crystallize Doc#US50530723, April 2023

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