



Tackling the Top 5 Challenges to Network Modernization



HOW NETWORK AS A SERVICE (NaaS) IS PAVING THE PATHWAY FOR INNOVATION

RELIABLE AND ROBUST NETWORK CONNECTIVITY HAS NEVER BEEN MORE CRITICAL.

The business challenges brought by COVID-19 tested reliability and capacity, clearly demonstrating the limitations of inflexible network infrastructure.

The same transformational pressures that are changing the way we work are also reshaping networks. The as-a-service model is emerging as the foundation for nearly every form of enterprise technology.



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The benefits of the NaaS model

Because both the technology and service models are more flexible, organizations can control costs by reducing the number of required technology refreshes while leveraging technology more fully and extending shelf life. This pays off in several ways.

Operational efficiency can be enhanced because infrastructure provisioning and management is automated using software. That can translate into a significantly reduced need for hardware to be replaced or maintained in the field, along with fewer service interruptions. The virtualized operating model allows the network to adapt automatically to equipment failures and provide additional resources during heavy load times. Performance is more predictable, which can enable applications to run more smoothly and improve user experience.

NaaS also enables new technology innovations like augmented reality/virtual reality, machine learning, 5G wireless networks, and multi-access edge computing devices to be incorporated into the network. These technologies can be integrated without the need for large-scale equipment upgrades and service outages. Automation enables the network to “route around” such disruptions, usually without users even noticing.

Network as a service addresses the top two priorities identified in the [2020 CIO COVID-19 Impact Study](#): expense management and improving IT operations and performance. It also addresses the third most pressing issue: optimizing employee digital experience.

Network as a service comes of age

In recent years technologies and standards have evolved to enable end-to-end networks to be built with modular software running on standardized platforms.

NaaS can take this to the next level by providing an end-to-end solution that is programmable, scalable, reliable, and delivered on a subscription/pay-as-you-go basis. NaaS delivers all the benefits of as-a-service offerings while dramatically simplifying the task of network administration.

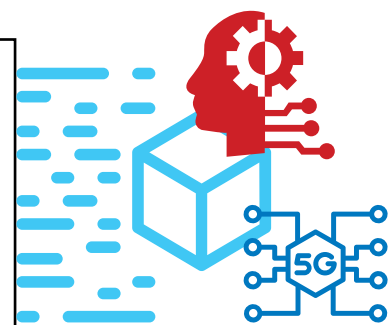
NaaS helps optimize business resources by providing an extensible service model in which costs and resources are delivered according to the needs of each customer. Network and business operations can be simplified through automated and centralized control with full customer visibility and backed by a seasoned team of experts.

New levels of business performance and agility can be achieved through the use of flexible, programmable resources that scale up and down as needed. Organizations no longer need to overprovision network resources to accommodate occasional surges of traffic.

Innovation is enhanced when companies don't have to worry about managing infrastructure, a task that few would say is a core competency. NaaS allows organizations to offload many of their network management responsibilities to specialists that have the expertise and economies of scale to deliver service levels that are equal to or better than those they could provide themselves.

Network capacity can be made available for whatever the business needs at the time. Centralized, policy-based controls can accelerate deployment and updates with minimal impact on users. Application-awareness features powered by artificial intelligence automate traffic routing decisions through rules-based controls based upon the needs of each application rather than the best estimates of human operators. Intelligent controls can improve application performance and automated tiering assigns traffic to service levels based upon programmable policies.

▶ **NAAS ENABLES NEW TECHNOLOGY INNOVATIONS LIKE AUGMENTED REALITY/VIRTUAL REALITY, MACHINE LEARNING, 5G WIRELESS NETWORKS, AND MULTI-ACCESS EDGE COMPUTING DEVICES TO BE INCORPORATED INTO THE NETWORK.** ▶



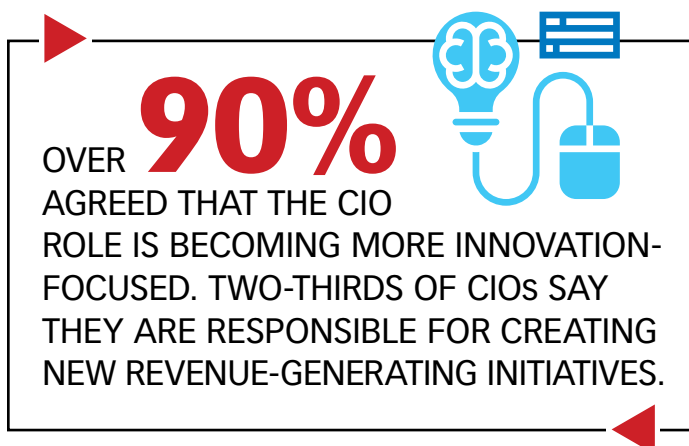
Building on a NaaS foundation

There is no question that businesses in the post-pandemic world will need to be more distributed, collaborative, and adaptable.

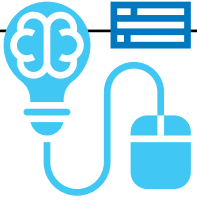
Business is changing fundamentally. Vertically integrated organizations are giving way to ecosystems of partners and suppliers who share data and workflows. More people will work in remote locations in the future and connect over an assortment of wired and wireless networks with unpredictable performance levels.

Private networks are constrained by physical infrastructure, unable to quickly scale to meet demand. The access and high-performance levels that ecosystems demand are nearly impossible to maintain manually. The need to install, test, and maintain physical equipment is time-consuming and expensive. Also, enforcing security by physically locking down every access point is labor-intensive and risky.

Software-defined networks, like those used within NaaS infrastructures, eliminate most of these problems. Wide-area networks can be deployed and modified without costly site visits, making temporary and pop-up field operations easy to accommodate. Capacity can automatically scale to meet demand depending on where people are and how they use the network. Identity-based security implemented in the cloud can be smoothly and precisely accommodated and administered from a single console. New features can be rolled out automatically in a seamless and constant upgrade cycle. Disruptive technology refreshes can occur less often. All users, regardless of location or device, can expect to have the same high-performance experience.



OVER **90%** AGREE THAT THE CIO ROLE IS BECOMING MORE INNOVATION-FOCUSED. TWO-THIRDS OF CIOs SAY THEY ARE RESPONSIBLE FOR CREATING NEW REVENUE-GENERATING INITIATIVES.



A platform for digital business

The 2020 IDG State of the CIO Survey found that two-thirds of CIOs say they are responsible for creating new revenue-generating initiatives. Over 90% agreed that the CIO role is becoming more innovation-focused.

CIOs are aware that legacy infrastructure impedes digital transformation and innovation. Transformational technologies like edge computing and hybrid cloud require adaptable, high-performing networks. Applications such as artificial intelligence, machine learning, augmented reality, and holography require a high level of bandwidth with low latency. Legacy networks also limit the ability of organizations to take advantage of revolutionary new wireless technologies like 5G and Wi-Fi 6. Among a few of the new use cases NaaS enables are:

- Rapid deployment of temporary branches at events and customer sites.
- Near real-time robotic control in time-sensitive environments.
- Predictive maintenance based on streaming data.
- Advanced transportation infrastructure such as vehicle sensors, situation-aware traffic controls, and smart meters.
- Customized video streams over 5G networks.
- Remote healthcare diagnostics.
- Policy-driven access control.

The top 5 challenges: Barriers to modernization

Enterprises may encounter several major challenges to network modernization. Partnering with an experienced service provider can minimize their impact.

CHALLENGE: Shortage of qualified staff to implement and manage network infrastructure and new technology.

STRATEGY: Outsource to an experienced network service provider until necessary skills are on board.

CHALLENGE: Cost of training staff to manage changing technology and infrastructure.

STRATEGY: A network service provider can take over full management responsibility or enable co-management with the customer.

CHALLENGE: Developing management tools can be costly and time-consuming.


STRATEGY: Partner with a provider that has proven tools in place and can integrate them with your management assets. Tie the network transformation to strategic “big bet” business outcomes, and make sure the business understands that IT should be treated as a revenue generator rather than a cost center.

CHALLENGE: Orchestrating multiple vendors and solutions.

STRATEGY: Delegate to a third party that has vendor relationships and the skills to integrate their technologies.

CHALLENGE: Capital expenditures required to replace outdated equipment.

STRATEGY: Transition to a subscription/pay-as-you-go model and minimize capital expenditures. Also, demonstrate to the business that the more flexible technology promises to require less frequent tech refreshes.



NaaS PROVIDES PREDICTABLE COST AND PERFORMANCE, NEARLY LIMITLESS SCALABILITY, FLEXIBLE INTEGRATION OF NEW TECHNOLOGIES, AND WORLD-CLASS SECURITY AT HIGH LEVELS OF AUTOMATION.

Conclusion

The rapid adoption of cloud computing by businesses of all sizes and types affirms the compelling benefits of flexible, adaptable infrastructure. The need to install, configure, test, and manage hardware is, for most companies, an expensive and challenging chore. Network as a service turns unpredictable and costly physical infrastructures into flexible and manageable resources that easily accommodate new technologies and scale with the business.

NaaS can provide predictable cost and performance, nearly limitless scalability, flexible integration of new technologies, and world-class security at high levels of automation. Businesses may be able to reduce operational costs and redirect their budgets toward innovation.

Figuring out the best approach can be challenging. However, by working with a seasoned service provider that has the experience, global network, technology, and partnerships to support a broad range of enterprise needs, businesses can successfully implement a NaaS platform to pave their pathway to the future.

LEARN MORE ABOUT [THE NEXT STEPS ON THE NaaS JOURNEY.](#)