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"As-a-Service" Models Accelerate the Shift from Infrastructure Management to Business Outcomes

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Executive Summary

As organizations look to digitally transform, they're investing in technologies that provide access to cutting-edge innovations, from machine learning (ML) and artificial intelligence (AI) to ubiquitous connectivity and assuring high-quality digital experiences for employees and customers. Digital transformation (DX) has raised the awareness of new consumption models like network as a service (NaaS).

- ✓ **Organizations are increasingly relying on as-a-service models for more aspects of IT,** including network as a service (NaaS).

- ✓ **The mainstream adoption of cloud computing services has increased organizations' comfort levels with using as-a-service models.** Now, those models are expanding beyond public cloud and being applied to resources across all aspects of IT- in a data center, a colocation facility or at an edge location.

- ✓ **NaaS is the latest as-a-service model:** It provides flexible consumption of network infrastructure, including network hardware, software, management tools, licenses, and life-cycle services.

- ✓ **As-a-service models, and NaaS specifically, can bring numerous advantages to organizations,** including easing deployment and ongoing management, assuring high-quality user experiences, providing detailed visibility and insights that optimize network performance, and having natively integrated security as part of the NaaS offering.
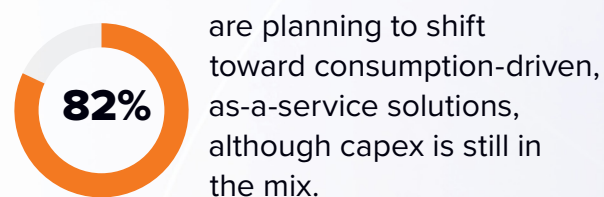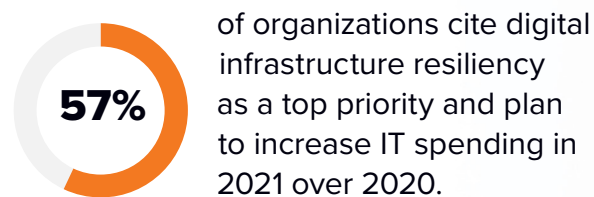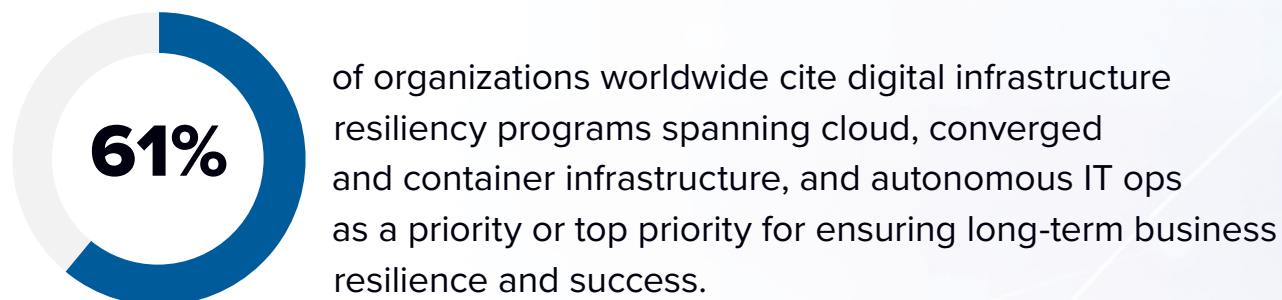
This IDC InfoBrief will discuss the rise of as-a-service models, explore the advent of NaaS, and provide essential guidance on how enterprises can begin to adopt NaaS.

"IDC believes this market will start to blossom in 2021 and beyond with a variety of offerings appearing on the market from the leading enterprise networking vendors."

Source: IDC #US47093920

Digital Transformation Drives Interest in As-a-Service Models

Digital transformation (DX) remains a key initiative for most organizations. Focus is on investing in tools like AI that provide more insights into business operations, asset tracking, and real-time diagnostics that reduce downtime across all locations, from the edge to the cloud.

61% of organizations worldwide cite digital infrastructure resiliency programs spanning cloud, converged and container infrastructure, and autonomous IT ops as a priority or top priority for ensuring long-term business resilience and success.

The pandemic has accelerated the digital transformations of many businesses.

Organizations that were further along the DX adoption curve were able to weather the rapid shifts in decision making. This underscores the belief that organizations that were already well underway in their DX journey have proven to be both agile and resilient.

57% of organizations cite digital infrastructure resiliency as a top priority and plan to increase IT spending in 2021 over 2020.

82% are planning to shift toward consumption-driven, as-a-service solutions, although capex is still in the mix.

n = 738, Data weighted by country GDP
Source: *Future Enterprise Resiliency & Spending Survey,* IDC, February 2021

The Shift to Multicloud Models Has Changed the IT Landscape

Delivering consistent IT environments that can support resilient decision making at scale is a critical requirement, whether on-premises, colocation, cloud, or edge. These conditions add more complexity for IT managers.

As-a-service models enable organizations to focus on business outcomes and reduce operational complexity instead of managing their infrastructure.

Data from IDC's 2021 datacenter survey shows top datacenter priorities:

Ensure data security and compliance

Improve existing IT utilization rates

Plan better for capacity needs

Gain greater network performance

Improve the ability to keep track of assets

Increase flexibility to move workloads as needed

Source: *IDC's Datacenter Operational Survey,* April 2021; n = 400

How IDC Defines As-a-Service

IDC defines consumption-based or flexible "as-a -service" models for IT infrastructure as a financial model offered by IT vendors and partners to help customers add IT capacity, software, and services.

These models are flexible arrangements in which procurement of hardware, defined software, deployment, support, optimization, and life-cycle management services are all handled by a single third-party vendor under one contract.

Key characteristics of as-a-service models for IT:

Dedicated IT assets, orchestration/ operating software, and services are included in one contract with all consumption tracked through metering.

The service can be used within multiple locations for one customer within a contract.

Capacity can be scaled up or down.

A portal with metering and monitoring capabilities provides a clear view into the cost and utilization of the solution.

Life-cycle services offerings include assess, plan, design, implement, support/manage, and disposition services.

Source: *IDC's Worldwide Consumption-Based IT Infrastructure Taxonomy,* March 2020

As-a-Service Models Help Generate Positive Outcomes

What attracts organizations to as-a-service models?

- ▷ Adopt new technology and upgrades at a lower price

- ▷ Stay on the latest technology

- ▷ Want a cloudlike experience (automated and self-provisioning)

- ▷ Want our environment kept optimized and functioning at a higher level

- ▷ Have the vendor take more risk in managing our IT environment

- ▷ Want to move to an opex model for cash flow reasons

- ▷ Need an edge-based solution (improve cost-based economics)

Solutions to Focus On

Which datacenter resources is your organization using/ consuming or planning on using with the consumption-based infrastructure programs?

Legend:
- 5,000 or more employees
- 1,000 to 4,999 employees
- 500 to 999 employees
- Total

Bar chart categories: Networking (routers/switches), Primary storage solutions, Mainframe servers, Secondary storage solutions (including data protection (DR), archive, etc.), x86 Servers, Converged infrastructure solutions, Hyperconverged infrastructure appliances. X-axis from 0 to 60.
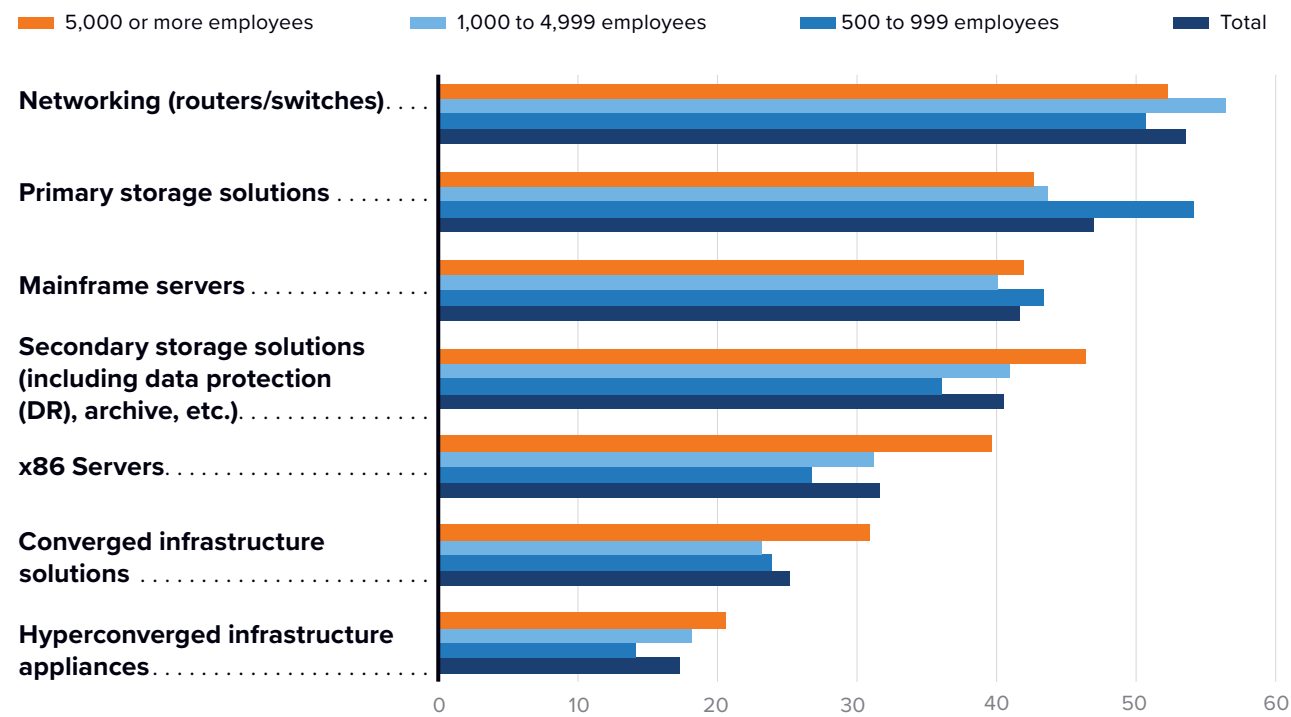
Source: IDC's *Consumption-Based Infrastructure Market Trends Survey,* September 2020; n = 600

As-a-Service Models Help Organizations Solve Technology and Business Challenges

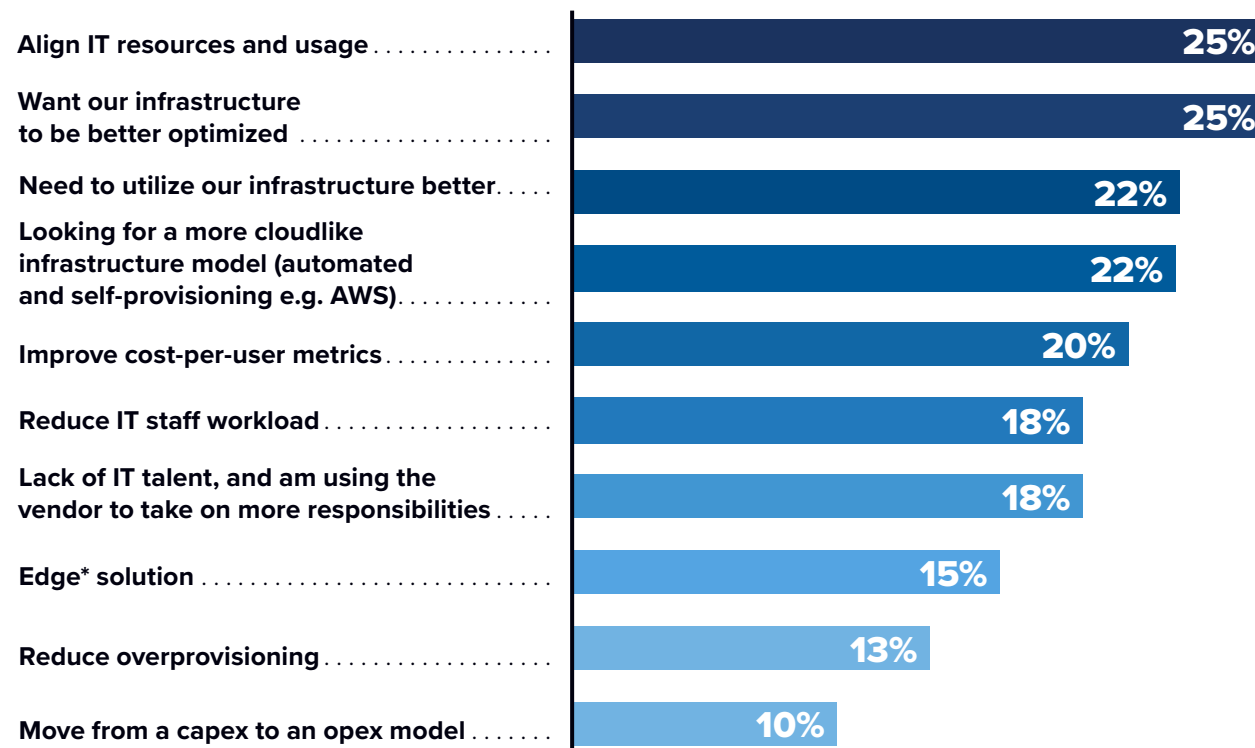**Flexible consumption offerings help organizations focus on business-enabling tasks.**

As-a-service offerings provide pre-integrated and tested systems that can span networking domains. They also provide centralized visibility and analytics into the network as well as the consumption metrics, and they can provide rapid access to new technology, delivered as a service.

What challenge are you trying to solve with consumption-based?

Challenge	%
Align IT resources and usage	25%
Want our infrastructure to be better optimized	25%
Need to utilize our infrastructure better	22%
Looking for a more cloudlike infrastructure model (automated and self-provisioning e.g. AWS)	22%
Improve cost-per-user metrics	20%
Reduce IT staff workload	18%
Lack of IT talent, and am using the vendor to take on more responsibilities	18%
Edge* solution	15%
Reduce overprovisioning	13%
Move from a capex to an opex model	10%

Source: IDC's *Consumption-Based Infrastructure Market Trends Survey*, September 2020; n = 600

*Edge IT is the deployment of IT resources at peripheral or edge locations, relative to where an organization's central or core IT is located.

The Unique Challenges of Enterprise Networking

Top enterprise networking issues:

Too much time spent on day-to-day network management; not enough time for valuable networking talent to focus on business-enabling tasks

Multidomain integration complexity: Different systems for various domains (datacenter, campus/LAN/WLAN, WAN, cloud, Internet of Things)

Need more centralized policy, governance and automation given the scale, distributed nature and complexity of today's networks

Lack of visibility into network operational health and user/application experience

5G & WiFi 6

Need to access new technology (e.g. Wi-Fi 6, 5G, 100GbE/400GbE)

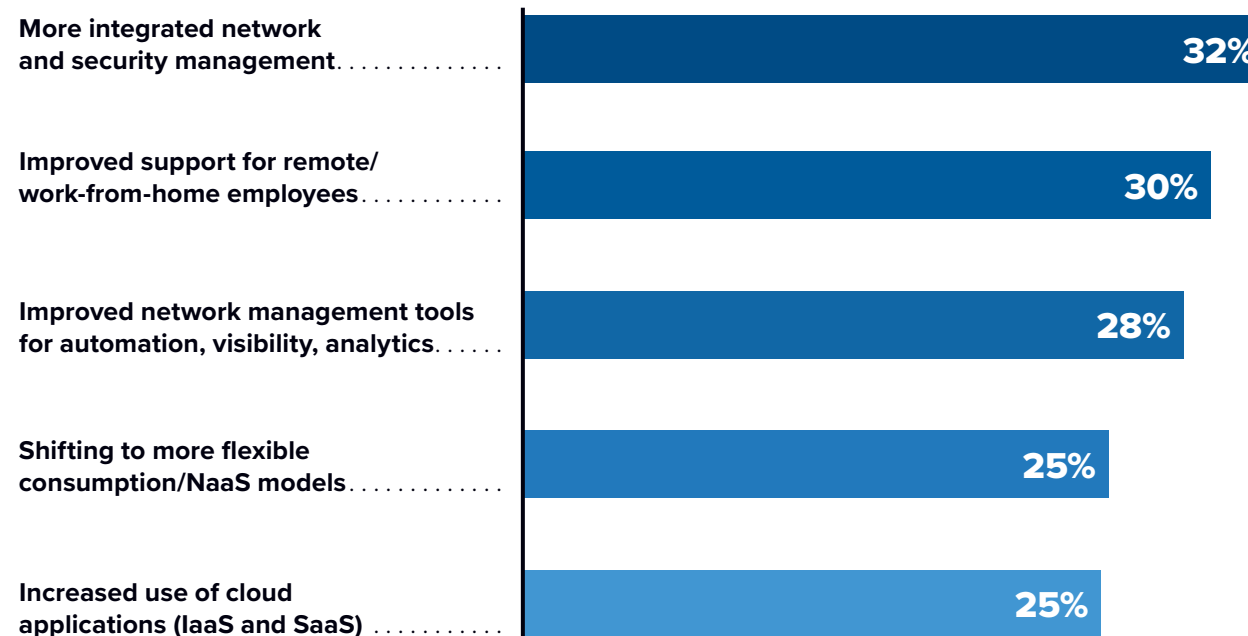**Need to securely optimize access** to multiple clouds and get insights into resources outside of IT's control

Source: *IDC's Datacenter Operational Survey,* April 2021; n = 400

Enterprise Network Strategy: Focus on Agility and Security

Organizations are seeking more flexibility and agility in procurement and management of network resources.

The COVID-19 era exacerbated important changes to the enterprise network. It increased desire for network security; enhanced the need for network management, automation, visibility and analytics; and heightened the focus on as-a-service models.

What are the most important changes to your network operations in 2020 in response to COVID-19 that will become permanent changes to your organization?

More integrated network and security management	**32%**
Improved support for remote/ work-from-home employees	**30%**
Improved network management tools for automation, visibility, analytics	**28%**
Shifting to more flexible consumption/NaaS models	**25%**
Increased use of cloud applications (IaaS and SaaS)	**25%**

Source: IDC's *Enterprise Networking: Emergence of The New Normal Survey,* December 2020, U.S. n = 250

Enterprise NaaS Emerges as a Flexible Consumption Model of Network Infrastructure

Enterprise NaaS is a subscription model for network infrastructure:

Hardware   **Software**   **Management**   **Licenses**   **Life-cycle services**

▶ **Offers optional usage-based commitments,** including pay-per-use or pay-as-you-grow models

▶ **Allows customers to choose the level of services associated with the offering,** specifically for planning, deployment, and ongoing management of the NaaS

▶ **Enables network to be managed from the cloud,** enabling centralized visibility, advanced automation enhanced by ML and AI, and fast access to new features and functionality

▶ **Includes detailed analytics and insights via a dashboard** for service health, capacity planning, modeling, cost optimization, proactive recommendations, and predictive problem resolution

▶ **Features a marketplace for customers** to browse, sign up for, deploy, and add or change NaaS offerings from vendors and their partners
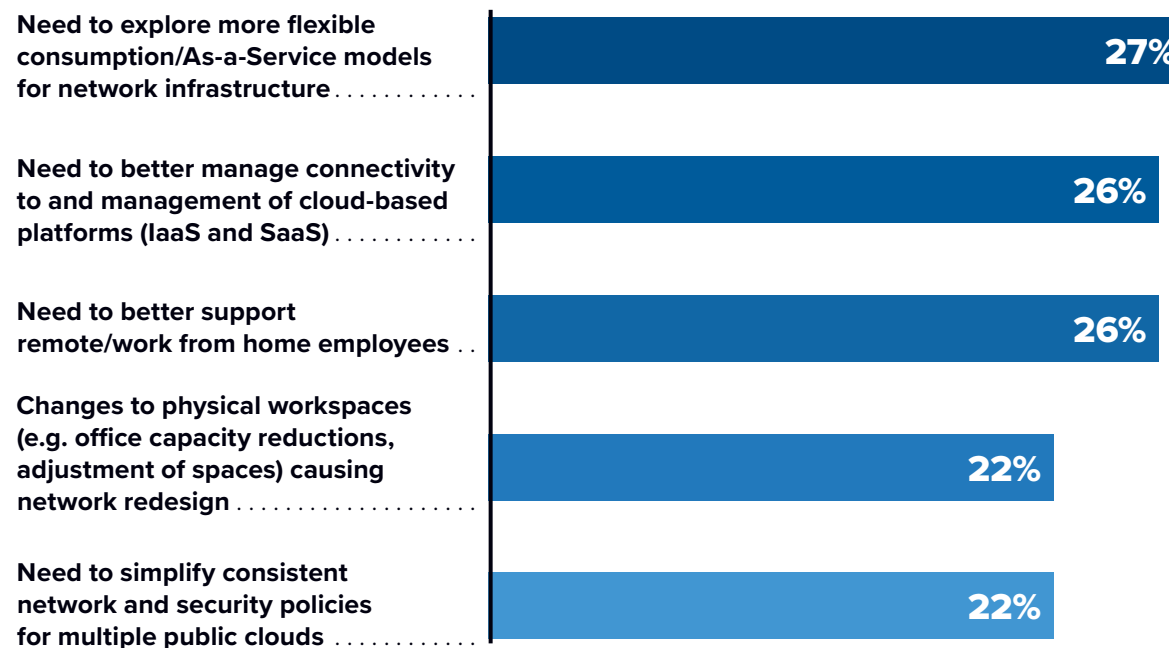
Source: IDC's *Enterprise Network as a Service Emerges as a Model for Flexible Consumption of Network Infrastructure,* December 2020

Flexible Consumption/As-a-Service Models Rank as a Top Network Strategy Goal for 2021

Enterprise networking goals:

▷ Simplify operations while assuring high-quality application and end-user experiences

▷ Provide full-stack management across infrastructure, from the datacenter to the LAN, WAN, and cloud

▷ Integrate offerings, specifically for networking, with embedded security and cross-domain management (LAN and WAN, for example)

▷ Increase visibility and analytics, driving enhanced user and application experience assurance

▷ Expand infrastructure with ability to spin up resources quickly

▷ Predict and automate: the management platform automatically recognizes and remediates network performance or security issues

What are the top priorities for your organization's networking strategy for 2021?

Need to explore more flexible consumption/As-a-Service models for network infrastructure **27%**

Need to better manage connectivity to and management of cloud-based platforms (IaaS and SaaS) **26%**

Need to better support remote/work from home employees . . **26%**

Changes to physical workspaces (e.g. office capacity reductions, adjustment of spaces) causing network redesign **22%**

Need to simplify consistent network and security policies for multiple public clouds **22%**

Source: IDC's *Enterprise Networking: Emergence of The New Normal Survey,* December 2020, U.S. n = 250

Desired Outcomes of Enterprise NaaS: Simplify Procurements and Management, Access New Technology

What do enterprises hope to achieve from NaaS models?

Shift from products and solutions to outcomes and experiences

Enable consistent, high-quality user experiences from anywhere

Allow IT to move from day-to-day management to focusing on business-enabling tasks

Enable IT agility, including more rapid responses to changing business needs

Integrate security, including unified offerings that are tested with native integrations

5G & WiFi 6
Accelerate access to technologies

Simplify Day 0, Day 1, and Day N procurement, planning, and ongoing operations

Adopt a cloudlike operating model to on-premises infrastructure

What to Look for in an Enterprise NaaS Model

Marketplace to browse, evaluate, purchase, and amend NaaS offers

Dashboard to centrally manage NaaS deployment, monitor network performance, and assure NaaS metrics

Natively integrated security for cloud-based access broker or secure internet gateway

Centralized visibility, monitoring, and assurance of service levels, service health, capacity planning, modeling, and cost optimization, including insights into network health and NaaS consumption

ML/AI-enhanced operations: Performance or security monitoring by NaaS vendors or partners to automatically identify and remediate issues before they impact users

Multidomain management applied in the enterprise campus, datacenter, branch, edge, or multicloud

Cloudlike agility to spin up or down resources and features as needed via digital marketplace

Integrated offers across cloud security, zero-trust networks, multicloud connectivity, and visibility

Ecosystem of partners that can deliver NaaS and natively integrate tools into NaaS offerings

APIs for integrating with external systems

Subscription-based pricing: optional ability to pay per use or pay as you grow, based on predefined metrics

Essential Guidance

Consider how as-a-service models could benefit your organization. What are your greatest pain points for managing your network? Would a NaaS model that offers more flexibility, ease of use, and advanced tools help overcome those in a better way than traditional procurement models?

- ✅ **Start by evaluating NaaS for new technology deployments,** new building outlays, or new project initiatives, or consider how you could incrementally incorporate NaaS into an existing environment.

- ✅ **Technology decisions should not be made in a silo:** Consider what technology innovations are needed in your organization that will drive digital and business transformation. Include all decision makers when evaluating NaaS offerings; both IT and finance are needed to evaluate the use of capital or operating budgets.

- ✅ **In the era of cloud, mobile, and advanced threats, manual management simply does not scale.** Rely on automation, enhanced by ML and AI where comfortable.

- ✅ **Focus on user and application experiences,** not on individual products and components.

- ✅ **Consider how cloud-like agility, flexibility, and resource consumption can be applied** to various aspects of IT, including networking.

- ✅ **Work with trusted partners that have a strong track record and a broad ecosystem,** that understand your needs, and that provide comprehensive life-cycle services support.

- ✅ **Security should be a paramount concern for any technology buying decision;** NaaS models allow organizations to work with a trusted partner to secure their enterprise environments by, among other measures, detecting threats quickly and resolving them thoroughly and efficiently.

About the Analysts

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Brandon Butler is a senior research analyst with IDC's Network Infrastructure group covering enterprise networks. In this role, he is responsible for market and technology trends, forecasts and competitive analysis in Ethernet switching, routing, wireless LAN, and adjacent emerging segments such as SDN and SD-WAN. While contributing to ongoing forecast and market share updates, he also assists in end-user surveys, interviews, and advisory services, and contributes to custom projects for IDC's Consulting and Go-To-Market Services practices.

More about Brandon Butler

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Susan Middleton leads IDC's worldwide research on IT equipment, software, and services financing markets. As research director for IDC's Flexible Consumption and Financing Strategies for IT Infrastructure research, her analysis provides insight from both a supply-side and a buyers' point of view. Susan's core research coverage includes the evolution of procurement models from purchasing, leasing and financing to the new as-a-service models, also known as flexible consumption. Based on her analysis and expertise on procurement strategies and IT equipment life cycles, Susan's research helps vendors and buyers understand the top drivers of the new flexible consumption models and the impact of these new buying behaviors on long-term IT equipment values and forecasts.

More about Susan Middleton

Message from the Sponsor

The shift to pay-as-you-consume spending gives organizations more flexibility and cost predictability to manage their IT spend—something that 85% of CIOs and IT decision makers agreed is important to their business.

- Cisco 2021 CIO and IT Decision Makers Trends Pulse

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