REGION FOCUS: WORLDWIDE

2023 ENTERPRISE NAAS STATE OF THE MARKET:

As Adoption Continues, Benefits of As-a-Service Models Crystallize

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IDC Opinion

The adoption of as-a-service models for IT infrastructure continues to accelerate. In today's environment of economic uncertainty and budget scrutiny, organizations are tasked with faster responsiveness to new initiatives and investing within budget parameters. This requirement for improved IT agility means that the traditional procurement strategies of significant capital investment, long planning, and procurement cycles must be reevaluated. Organizations are embracing as-a-service (XaaS) models to reduce the complexity of managing their IT ecosystems, align usage with budgets, and improve operational efficiencies.

In January 2023, IDC conducted a survey for HPE to understand interest levels and investment strategies for adopting as-a-service models for digital technologies, including enterprise network as a service (NaaS).

Key findings of this study include:

- 72% of respondents agree that as-a-service consumption models offer better IT agility compared with traditional consumption models, 67% agree that XaaS delivers better value than traditional consumption models, and 64% agree that XaaS is a strategic enabler for transformation efforts.

- Key benefits of NaaS include allowing organizations to optimize infrastructure, access new technology, ease management burdens, and improve operational costs.

- Financial flexibility is a key benefit of NaaS: 62% of respondents prefer to fund IT expenditures with operating budgets or want the option to use opex, depending on the situation.

- Advantages of NaaS have pivoted to financial flexibility over scale-up or scale-down capabilities by a ratio of 4:1. More than 65% of respondents agree that eliminating up-front capex and easing budgeting were key factors for choosing NaaS.

- Underlying customer premises equipment (CPE)/ hardware of a NaaS offering is very or extremely important to the majority of respondents.

- Faster access to new technologies because of reduced planning and procurement cycles speeds responsiveness to new business initiatives.

Methodology

IDC conducted a global survey with HPE to gain insights into as-a-service models. Those surveyed included 255 respondents from Australia, New Zealand, Singapore, India, Germany, France, the United Kingdom, and the United States.

The respondents represented a broad cross section of vertical industries and global revenue up to $10 billion. All respondents were:

- A director, executive/senior vice president, or C-level executive

- An influencer or decision maker on IT financing decisions

- Familiar or very familiar with network as a service (NaaS)

Enterprise network as a service (or enterprise NaaS) is defined as network infrastructure consumed via an operating expense (opex) model inclusive of hardware, software, management tools, licenses, and life-cycle services.

Situation Overview

Digital-first businesses are focused on continuing to evolve and adapt to new business requirements. Organizations rely on technology to achieve strategic competitive advantage and are focusing more on outcomes in their cloud selection and deployment processes. For most organizations, information technology (IT) infrastructure is one of the crucial pillars of digital transformation (DX).

An IDC study conducted in 2022 found that almost 70% of enterprises plan to refresh their IT infrastructure within the next two years. Critical to these transformation efforts are the underlying business requirements that make DX necessary. Ensuring a superior business user experience is quickly becoming table stakes for most organizations, and the areas of influence will come from multiple parts of the company. IDC's research on efforts to improve the overall experience determines that the main goal for organizations is to reduce the complexity of managing infrastructure and enable IT teams to focus on business-enabling outcomes that drive revenue.
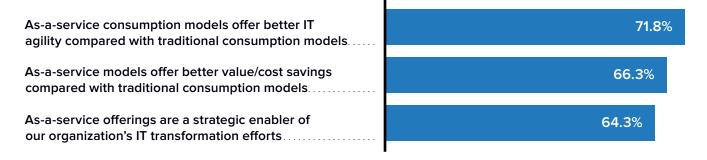
XaaS: Drivers and Benefits

IDC's latest NaaS survey underscores previous IDC research and surveys on the drivers and benefits of XaaS. One of the key findings in this new survey is that 72% of respondents agree that as-a-service consumption models offer better IT agility compared with traditional consumption models. Additionally, 67% agree that XaaS delivers better value than traditional consumption models, and 64% agree that XaaS is a strategic enabler for transformation (See **Figure 1**.) As market awareness of XaaS deepens, organizations are gaining a better understanding of XaaS benefits, namely that as-a-service models are an enabler of improved operational efficiency and better business outcomes.

FIGURE 1

Respondents Agree: XaaS Provides Better IT Agility and Value

Q. What is your reaction to the following statements about as-a-service offerings for critical IT infrastructure based on your broader company's business goals and requirements?
(% of respondents who agreed or strongly agreed)

As-a-service consumption models offer better IT agility compared with traditional consumption models...... **71.8%**

As-a-service models offer better value/cost savings compared with traditional consumption models............ **66.3%**

As-a-service offerings are a strategic enabler of our organization's IT transformation efforts.................. **64.3%**

n = 255;

Base = all respondents;

Notes: Managed by IDC's Global Primary Research Group; Data not weighted; Scale: 1 = Strongly agree; 5 = Strongly disagree;

Source: IDC's *NaaS Survey*, January 2023

Growing Interest in Using Network as a Service (NaaS)

A survey question asked respondents who are open to using NaaS or who are already using NaaS what type of IT infrastructure they're currently using, flexible consumption or as-a-service for. Network connectivity (WAN) is used by 69.8% of those respondents, while network equipment (LAN) is used by 49.8% of respondents. About half of respondents (48.6%) use flex consumption for compute power, while a lower percentage (41.2%) use XaaS for storage.

On average, the respondents already using NaaS said they were using NaaS at 63.9% of their sites, with plans to grow their usage of NaaS in the future. Two years from now, the same respondents said, they expect 70% of their sites to use NaaS models, on average. This survey data shows not just strong interest in NaaS, but an expectation among enterprises to grow their use of NaaS models in the future.

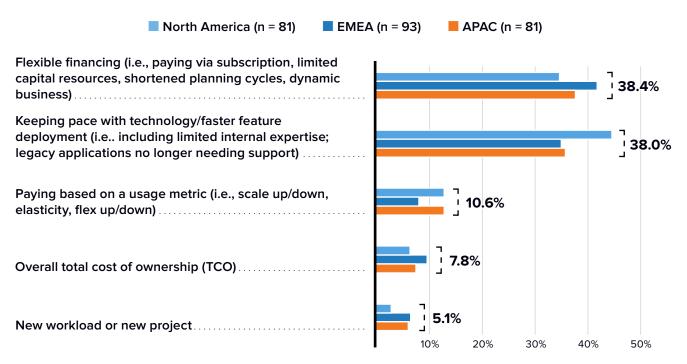## NaaS Catalysts: Financial Flexibility at the Top

There are a variety of reasons an enterprise would begin using NaaS. **Figure 2,** next page, shows survey data that points to flexible financing and keeping pace with technology/faster feature deployments as two of the top catalysts for deploying NaaS. Other options — such as paying based on usage metrics (flexible consumption), overall total cost of ownership (TCO), or having a new workload or project — were chosen by fewer respondents, indicating that they were important but less significant catalysts. Financial flexibility is defined as paying by subscription, with limited capital resources.

In fact, this data reveals a noteworthy distinction: Survey respondents are more interested in the benefits of flexible financing compared with usage-based pricing, by an almost 4:1 ratio. Specifically, the aspects of flexible financing related to subscription pricing for faster planning cycles, reduced capital requirements, and enabling a more dynamic business environment are appealing to survey respondents. As market awareness and use of NaaS increases, there is a new awareness of its advantages, and the greatest incentives have pivoted to financial flexibility instead of scale-up or -down capabilities.

FIGURE 2

Top Catalysts for NaaS: Flexible Financing and Keeping Pace with Technology

Q. What was the initial catalyst for choosing to use enterprise NaaS in your organization?

(% of respondents)

■ **North America (n = 81)**   ■ **EMEA (n = 93)**   ■ **APAC (n = 81)**

Flexible financing (i.e., paying via subscription, limited capital resources, shortened planning cycles, dynamic business) **38.4%**

Keeping pace with technology/faster feature deployment (i.e.. including limited internal expertise; legacy applications no longer needing support) **38.0%**

Paying based on a usage metric (i.e., scale up/down, elasticity, flex up/down) **10.6%**

Overall total cost of ownership (TCO) **7.8%**

New workload or new project **5.1%**

10%   20%   30%   40%   50%

n = 255;

Base = all respondents;

Notes: Managed by IDC's Global Primary Research Group; Data not weighted;

Source: IDC's *NaaS Survey*, January 2023

Another survey question revealed that more than 65% of respondents agree that eliminating up-front capex and easing budgeting was a key factor for choosing NaaS, further substantiating the importance of financial flexibility for organizations.

Top NaaS Benefits: Technical, Financial, and Operational

As NaaS adoption continues to increase, enterprises are realizing the benefits of as-a-service models for networking.

NaaS benefits can be broken down into three major categories:

▶ **Financial:** Predictable costs, easier budgeting

▶ **Technical:** Faster access to new technology (alleviate skills gap challenges)

▶ **Operational:** IT staff constraints/efficiency/metering and usage

Financial: While financial flexibility ranks as the number 1 catalyst for NaaS, it also ranks as the top benefit of NaaS for North American and APAC respondents. The financial flexibility offered by NaaS subscription models allows organizations to improve deployment agility across a broader footprint than traditional capex acquisition approaches. NaaS models can align the size and usage of the network to the cost of the network, enabling increased financial flexibility.

Respondents to the survey stated that they experienced a 45% increase in average savings for initial solution acquisition costs through the adoption of flexible consumption or as a service for IT infrastructure provided over the approaches used before. This includes overall design and planning resource investments as part of that savings.

Technical: One the biggest benefits of NaaS is the ability to get faster access to new technology, which was the top benefit identified by respondents from EMEA. NaaS models are typically used for new network infrastructure deployments, such as technology like Wi-Fi 6/6E, multi-gigabit Ethernet switching, or SD-WAN/SASE deployments. Furthermore, because a NaaS offering typically uses a cloud-based management platform, NaaS users get fast access to new features and functions of the network management platform without the need for on-premises management. Cloud-based management of NaaS allows enterprises to get access to new technology but not have to burden IT staff to implement the new technology.

Operational: NaaS models ease management burdens on enterprises by allowing them to choose how much of the network management to shift to a NaaS provider. The choices range from self-management to partial or complete management by the NaaS provider. The ability to more quickly increase or decrease network resource capacity and new features and functions of the network management platform are other key benefits of NaaS. Adopting a flexible financing subscription

model enables improved deployment agility and initial acquisition cost savings across an entire footprint — including highly distributed sites — compared with a traditional capex budgeting approach with high up-front investments.

Network Management Options with NaaS

While the elements of enterprise NaaS models include hardware, software, licenses, and life-cycle services delivered via an opex subscription model, how NaaS is managed can differ based on the specific deployment. Some customers are looking to outsource the complete NaaS offering, including the network management, to a NaaS provider. For a variety of reasons, some enterprises may prefer to maintain aspects of the network management. For example, if there is strong expertise in-house to manage parts of the network or mission-critical workloads that need dedicated resources on staff, then companies may opt to manage parts of the NaaS themselves.

Survey data revealed that about 60% of respondents believe NaaS should include the complete outsourcing of the network to a third party/NaaS provider (see **Figure 3**, next page). However, 40% of respondents believe that complete outsourcing of the network does not need to be included as a part of NaaS implementation, often with the assumption that the NaaS deployment will be managed in-house. Interestingly, respondents in the European region were most likely to be interested in complete outsourcing of a NaaS model.
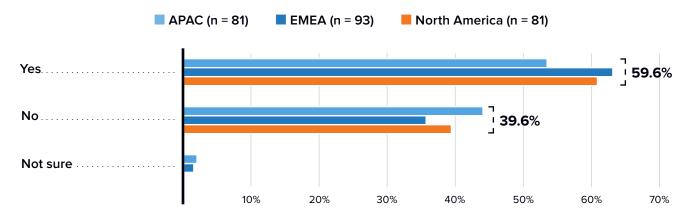
Outsourcing the complete life cycle and management to a NaaS provider can have significant benefits for organizations. NaaS providers can leverage their expertise as the purveyors of the network infrastructure to optimize the deployment and ongoing management; moreover, outsourcing to a NaaS provider or NaaS partner allows enterprise IT workers to focus on business-enabling tasks, rather than managing the network.

FIGURE 3

60–40 Split of Respondents Regarding Whether NaaS Must Include Complete Outsourcing of Network to a Third Party

Q. When you think of enterprise NaaS, do you believe it must include the complete outsourcing and management of your network to a third party?
(% of respondents)

n = 255;

Base = all respondents;

Notes: Managed by IDC's Global Primary Research Group; Data not weighted;

Source: IDC's *NaaS Survey*, January 2023

Underlying NaaS Hardware Is Important

Another aspect for NaaS users to consider is the underlying hardware that would be part of a NaaS offering. Almost two thirds (64%) of respondents to this survey said that the underlying customer premises equipment (CPE)/hardware of a NaaS offering is very or extremely important. This data shows that most enterprises place a priority on the underlying hardware in a NaaS and not just on the delivery of service levels of the network.

There is also an expectation that an enterprise NaaS will use the latest and newest infrastructure. A follow-up survey question asked respondents if the NaaS were based on service-level agreements (SLAs), would having the latest infrastructure still be important? A majority (58%) of respondents responded yes, which reinforces how important the underlying components of a NaaS offering are.

NaaS Payment Models

There are a variety of considerations for enterprises when deploying NaaS. One of the key considerations is the pricing model used. As the survey data shows, finance is a key driver and benefit of using NaaS models. Survey data finds a strong linkage between reducing capex spend and NaaS. Of respondents who are using or planning to use NaaS, 66% agree that eliminating up-front capex and easing budgeting was a "key factor" for choosing NaaS. The mix between using capex and opex to finance IT infrastructure is a hybrid investment approach. However, XaaS — and NaaS specifically — is ushering in an era of leveraging more opex models. Nonetheless, capex spending will remain due to specific conditions.

One survey question asked which approach the respondents' organizations prefer for financing IT infrastructure. About one third of respondents (32.5%) prefer an opex approach, 28.2% prefer a capex approach, and 29.4% said it "depends on the situation"; another 10% have no preference. There are regional differences, too: Respondents in North America are more likely (49%) to prefer an opex approach, while in the Asia/Pacific region, 38% of respondents prefer a capex approach.

There are a variety of reasons for an organization to prefer either opex or capex. Opex budgeting can reduce or eliminate initial up-front costs, which can ease approvals and spread costs out over a longer period. Resource hours spent on conversations around approvals can be reduced, and budget defense should become easier due to cost predictability. A large percentage of respondents said that whether opex or capex is preferred depends on the situation. For example, some grant-funded or short-term funded projects require capex spending.
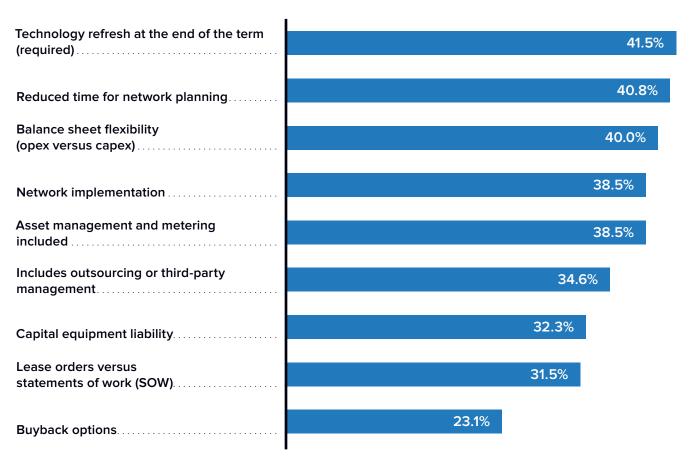
Understanding NaaS Versus a Lease

As NaaS models have come to market, there remains some confusion about the difference between NaaS and traditional leasing models. While leasing models are usually used to reduce the need for significant capital expenditures, IDC survey data shows that the advantages of XaaS versus a lease include the ability to shorten planning cycles, financial and deployment flexibility, and transparency due to monitoring that provides operational and technical insights. Still, about half of the respondents to the IDC survey didn't see a difference between NaaS and lease models. A follow-up question asked those who believe there is a difference between NaaS and lease, what the biggest differences are (see **Figure 4**, next page.)

FIGURE 4

Biggest Differences Between NaaS and a Lease: Tech Refresh, Reduced Planning, and Opex Versus Capex

Q. What do you think are the fundamental differences between an enterprise NaaS subscription and a lease?
(% of respondents)

Technology refresh at the end of the term (required) — 41.5%

Reduced time for network planning — 40.8%

Balance sheet flexibility (opex versus capex) — 40.0%

Network implementation — 38.5%

Asset management and metering included — 38.5%

Includes outsourcing or third-party management — 34.6%

Capital equipment liability — 32.3%

Lease orders versus statements of work (SOW) — 31.5%

Buyback options — 23.1%

n = 130;

Base = respondents who believe there is a difference between NaaS and lease;

Source: IDC's *NaaS Survey*, January 2023

These are important distinctions. Key differences between NaaS and a lease include:

- **Technology refresh at the end of the term:** NaaS offers the ability to refresh equipment with newer technology, etc. This was the top difference among respondents.

- **Reduced time for network planning:** With NaaS, organizations do not have to do the same extensive design and planning that is involved when leasing or purchasing equipment using capital investments.

- **Balance sheet flexibility (opex versus capex):** NaaS accelerates enterprise use of opex for networking.

- **Network implementation:** Done by the NaaS vendor or partner, this reduces the burden on customers related to day 0 and day 1 tasks.

- **Asset management:** NaaS allows organizations to transition the ownership of infrastructure to the vendor or partner.

- **Third-party management is inclusive:** NaaS vendors handle the relationship with third-party tools that are integrated into the offering, enhancing the value of the offering.

- **Capital equipment liability:** With NaaS, liability shifts from customer to vendor, specifically with regard to asset depreciation and IT asset disposition costs.

- **Lease order versus statement of work:** In lease models, procurement and design are typically done by the customer versus the vendor/partner.

- **Buyback option:** Buyback options that are a part of the lease option can be arduous, since the technology and equipment can be updated by the vendor rather than involving an added procurement process.

NaaS Decision Makers

As the enterprise NaaS market has matured in recent years, an important trend has emerged regarding which executive roles within an enterprise are making decisions about the use of NaaS. One driver for adoption of NaaS models has been visionary C-level executives (CEO, CIO, COO, etc.) who are leading their organizations' broader digital and network transformation initiatives. These leaders are keen to consider new ways of consuming enterprise network infrastructure via NaaS models.

IDC's survey data validated this point. A survey question asked who within the respondents' organizations would be the final decision maker on whether to implement NaaS. The top responses included the CIO, a C-level executive within IT, a vice president within IT, and the COO. Implementing NaaS models can be an important step that helps accelerate organizational transformation goals by reducing management overhead, optimizing costs, and improving experiences for both IT and end users.

Future Outlook

Scenarios

As organizations consider enterprise NaaS models, IDC has the following guidance for enterprises that could be ideal candidates to use NaaS.

This includes:

- **Network infrastructure refresh:** As an organizations is pursuing a new network infrastructure, it should consider a NaaS offering for some or part of the deployment, leveraging a subscription model in addition to traditional deployments. Common network refreshes today are occurring in an upgrade to Wi-Fi 6 or Wi-Fi 6E WLANs, multi-gigabit Ethernet access switching, or an SD-WAN/SASE deployment.

- **Network and digital transformation initiatives:** Senior leaders of an organization — particularly those in the C-level — who are driving digital and network transformation initiatives have been some of the early adopters of NaaS. As IT leaders at companies consider ways to accelerate their transformation journeys, NaaS can play a role.

- **Use of cloud:** Another set of early adopters for NaaS models have been organizations that heavily leverage cloud resources for other parts of their IT stack or network. For example, organizations that use infrastructure-as-a-service (IaaS), software-as-a-service (SaaS), or platform-as-a-service (PaaS) models for

a high percentage of their enterprise workloads and applications are the most likely to use NaaS models. Similarly, within networking, organizations that are already using cloud-based network management platforms have been some of the earliest adopters of NaaS. Fundamentally, NaaS models can help apply cloud operating model principles to the enterprise network.

- **Domain deployments:** As the benefits of NaaS crystallize — as shown by evidence in this paper — NaaS is being adopted by organizations across a variety of industries and for an increasing number of use cases. IDC's survey data found that some of the top industries and domains for NaaS include:

  ▶ **Retail/hospitality/wholesale:** Campus or branch offices, manufacturing/plant floor

  ▶ **Manufacturing:** Manufacturing/plant floor

  ▶ **Resources and construction:** Retail/customer-facing locations

  ▶ **Finance and professional services:** Datacenter

  ▶ **Energy:** Manufacturing/plant floor, datacenter

Challenges/Opportunities

Challenges

The enterprise NaaS market is still in its early days but is expected to mature rapidly in the coming years. One challenge for the market is confusion regarding what a NaaS model is. As noted in the "NaaS Versus a Lease" section of this white paper, about half of respondents to IDC's survey said they do not see a difference between NaaS and lease. Continued market education by vendors and partners is needed to teach enterprises the important unique characteristics of NaaS versus other models.

Like any other new technology architecture, some enterprises also have concerns regarding the security, implementation, and TCO of NaaS models. These are natural concerns for a model like NaaS that is in its relatively early days. Over time, as more organizations adopt NaaS models, these concerns will lessen. There is no reason NaaS models would significantly impact the security of an organization's network; in fact, the opposite could be true. NaaS models could actually help improve the security of the network as a NaaS vendor uses advanced management techniques to monitor and manage abnormal behavior on the network, including security events and performance degradations.

Opportunities

The enterprise NaaS market remains promising, as enterprises, vendors, and partners continue to explore opportunities to apply NaaS models to their digital and network transformation journeys.

Improving operational efficiency will be a key driver for NaaS in the future. Some organizations may deploy NaaS to help with a specific pain point of their network infrastructure, while others may adopt NaaS for its full life-cycle benefits.

For example, NaaS can help ease service activation, management, and decommissioning across a number of areas, including:

- Network implementation

- Asset management and metering

- Incorporating third-party management

- Capital equipment liability

- Lease orders versus statements of work

- Setting up buyback options

One key to the NaaS market's continuing to mature will be a broadening range of vendors and partners offering NaaS models. Beyond the network infrastructure vendors, IDC survey data found that key partners for delivering NaaS to enterprises included managed service providers (MSPs), value-added resellers (VARs), and systems integrators (SIs). IDC recommends that enterprises work with existing partners they use for other parts of their network or IT stack to see what NaaS models they offer.

Conclusion

It's an exciting time in the enterprise NaaS market. Enterprises are already familiar with the benefits of the as-a-service model, particularly as it relates to IT agility, value, and the strategic aspects that flexible and opex consumption models enable. Increasingly, those benefits are being applied within the networking domain as enterprise NaaS models continue to gain traction. This IDC study reinforced previous research that shows enterprises gaining significant value from NaaS models, including financial, operational, and technical advantages. As networking vendors and partners enhance their NaaS offerings and enterprise adoption proceeds, the value of NaaS models will continue to grow. In today's world, where enterprises are not just digitally transforming but looking to operate a digital business at scale, IT agility, financial flexibility, and being responsive to the needs of the business are paramount. Fundamentally, as-a-service models — and NaaS specifically — can help organizations accelerate their digital and network transformation goals.

Appendix: Definitions

Consumption-based models for IT infrastructure are an emerging 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 one third-party vendor under one contract. The ability to increase or decrease capacity is negotiated in the contract.

Enterprise networking as a service (or enterprise NaaS) is defined as network infrastructure consumed via an operating expense (opex) model inclusive of hardware, software, management tools, licenses, and life-cycle services.

Finance lease is a type of lease in which a finance company is typically the legal owner of the asset for the duration of the lease, while the lessee not only has operating control over the asset but also has some share of the economic risks and returns from the change in the valuation of the underlying asset. At the end of lease term, the lessee may decide to return the asset or buy the asset (for a market-determined price, known as a fair market value). Most leases are funded from an operating budget because of their monthly payment structure. These models have a predetermined term, with set parameters of the equipment included in the lease, established interest rates, and end-of-lease-terms. Traditional leases do not allow organizations to increase or decrease capacity without renegotiating the terms and conditions of the original lease. In other words, there is limited flexibility.

Subscription is an annuity model where the cost is based on use of a resource. The subscription fee is a bundled package where the fair value of the license fee is not separately determinable from the maintenance/ support portion.

About the IDC Analysts

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Brandon is a research manager with IDC's Network Infrastructure group, covering enterprise networks. His research focuses on market and technology trends, forecasts, and competitive analysis in enterprise campus and branch networks. His coverage includes technologies used in local and wide area networking such as Ethernet switching, routing/SD-WAN, wireless LAN, and enterprise network management platforms. 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.

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Susan leads IDC's worldwide research on the IT equipment, software, and services financing markets. As research vice president for IDC's Flexible Consumption and Financing Strategies for IT Infrastructure research, she provides analysis and insight from both a supply-side and a buyer's 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 G. Middleton

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