MARKET PERSPECTIVE

Five Key Enterprise Networking Trends to Watch in 2020

Brandon Butler Rich Costello Mark Leary Rohit Mehra

EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: Five Key Enterprise Networking Trends to Watch in 2020

2020 is a dynamic time in enterprise networking. As the world responds to a global health crisis and ensuing economic turbulence in the near term, enterprises are still exploring new technology solutions that will help move the needle when it comes to digital transformation. This document outlines five of the top technology trends in enterprise networking in 2020 and beyond.

Key Takeaways

- Cloud-managed WLAN, SD-WAN, and unified communications increase in popularity.
- As the SD-WAN adoption rapidly continues, early signs emerge on the evolution toward SD-Branch.
- Machine learning–enhanced automation extends across multiple areas of the network.
- Flexible consumption models for networking software and hardware lead to the emergence of networking as a service (NaaS).
- Visibility and analytics platforms help optimize operations and ensure security of networks.

Recommended Actions

- While increasingly realizing that legacy network architectures do not meet the needs of the modern digital business, enterprises should look to fully embrace cloud, provide ubiquitous mobile connectivity, and gain advanced insights into what's happening on their networks.
- Enterprises need to reconsider how networks should be architected and managed. For example, consider the power of cloud-based management platforms today as vendors are increasingly enhancing these platforms with AI/ML-powered automation.
- To reap the most success, vendors should embrace trends driving modern enterprise networking and recognize the opportunity to guide customers through this journey.

Source: IDC, 2020

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NEW MARKET DEVELOPMENTS AND DYNAMICS

Introduction

2020 is a dynamic time in networking. The first half of the year will be dominated by a global health crisis that has in turn caused economic turbulence across many parts of the world. The novel coronavirus is creating uneven impacts across various sectors of the economy while putting into focus the importance of networking as a way of connecting businesses to their internal employees and external customers and enabling strong business continuity plans today while preparing the foundation for a stronger transformational motion as normalcy returns. Meanwhile, organizations around the globe continue to undertake digital transformation (DX) initiatives, looking to embrace 3rd Platform technologies such as cloud computing, ubiquitous mobile connectivity, big data and analytics, and Internet of Things (IoT) deployments. Legacy networking systems strain to efficiently handle these technologies that have become critically important for enterprises. This has led organizations to pursue transformations of their enterprise networks to ensure they can meet the demands of their digital business.

From a technology perspective, one key theme that will crystalize in 2020 and beyond is network transformation extending from the silo-based innovations in various domains of the enterprise network toward end-to-end evolution of the network. In recent years, network transformation has occurred at many different layers of the network, from the corporate datacenter to the enterprise campus to remote and branch offices connected via the wide area network (WAN) and further out to the public cloud and IoT deployments. Meanwhile, a range of new applications and use cases are traversing these networks, including big data applications, cloud, mobile, social, and video traffic, along with enterprise-grade unified communications and collaboration (UC&C).

Increasingly, the combination of these technology advancements and data-intensive traffic use cases will drive enterprises to consider how they can evolve their network more holistically. Significant innovation has occurred across each of these domains, but enterprises are looking to manage this network transformation in a more cohesive way. This creates an opportunity for vendors and end users alike to consider how new technologies and management platforms can extend across these domains to provide value to enterprises. The five key trends outlined in the sections that follow provide a glimpse into what will be driving networking as this wave of transformation takes hold.

Five Key Enterprise Networking Trends to Watch in 2020

The Cloud-Managed Networking Market Is Set to Surpass $10 Billion by 2022; More than 50% of New WLAN, SD-WAN, and UC Deployments Will Be Managed via Cloud-Based Platforms

Enterprises are increasingly relying on cloud-based platforms for managing networking and communications. There are a variety of advantages cloud-based management platforms provide including:

- Centralized management of the full life cycle of management tools (day one provisioning and day two management and support)
- Enabling business continuity by removing the requirement of on-premises deployment, operations, and management
- Dynamic scalability
- Faster access to new features
- Ability to shift from a capex model to an opex consumption model

- A transition path to networking as a service (NaaS), UCaaS

This trend is exemplified in the wireless LAN (WLAN) segment, where today, over 25% of WLAN deployments are managed via cloud-based platforms. Organizations get centralized policy control of user and device access policies on WLAN across multiple sites, not to mention centralized visibility and near-zero-touch provisioning in many cases.

Cloud-managed networking is popular in other aspects of enterprise networking: IDC expects the unified communications (UC) segment of the worldwide cloud-based management platform market to be about $5 billion by 2022. Many of the UC operations management platforms today can be offered to customers on premises and/or in the cloud. These management platforms provide tools that can help customer organizations design, deploy, and operate new UC environments; migrate end users; and improve levels of automation (e.g., reduce manual administration tasks), among many other capabilities.

Meanwhile, vendors are increasingly enhancing their cloud-based platforms with machine learning (ML) and artificial intelligence (AI)-powered automation. Cloud-based management platforms are an ideal place to integrate these advanced algorithms to crunch anonymized data across multiple customer sites, helping improve operations, monitor trends, and apply automated response management. Taken together, by 2022, more than 50% of new enterprise networking deployments across the WLAN, software-defined WAN (SD-WAN), and UC segments will be managed via cloud-based platforms, bringing the cloud-managed enterprise networking market to over $10 billion.

As SD-WAN Deployments Grow, the Market Gradually Transitions to Software-Defined Branch and More Holistic Management of Edge Network at Security

SD-WAN remains one of the fastest-growing segments of enterprise networking, thanks to the myriad benefits this technology enables. SD-WAN platforms allow organizations to utilize multiple WAN connectivity methods — including MPLS, broadband, and cellular — and manage those via a centralized controller that conducts dynamic path selection across those links. Doing so ensures service levels, allows for prioritization and segmentation of traffic, and creates optimized access to cloud-based platforms. A recent IDC survey found that 42% of respondents had already deployed SD-WAN either in part or in full, with 95% expecting to deploy SD-WAN within the coming two years. That is powering the rapid growth in this market, from $1.3 billion in 2018 to $5.7 billion in 2023 at a CAGR of 33%.

As deployments of SD-WAN continue to proliferate, a shift is underway. SD-WAN is a critically important technology for solving the routing pain points of connecting branch offices to the cloud and sites within the enterprise. But there are a wide variety of additional network, security, and management capabilities that enterprises are looking to optimize across their WAN and across the enterprise. In the past, these functions were mostly delivered as single-function, purpose-built hardware appliances. Today, they're available as virtual network functions (VNFs) or cloud-based network functions (CNFs). Enterprises are increasingly looking to comanage a variety of VNFs/CNFs in a centralized platform at the edge of their networks. This has led to the emergence of the software-defined branch (SD-Branch) as a deployment model and architecture.

SD-WAN is a foundational component of SD-Branch. The most common function that will be deployed in an SD-Branch context is a virtualized router that enables SD-WAN. When organizations use additional virtual network functions in conjunction with SD-WAN, then it becomes an SD-Branch. Other VNFs/CNFs that will be used in an SD-Branch context include WAN optimization, a firewall/next-

generation firewall, a WLAN controller, a secure web gateway, and network analytics/visibility tools, among others.

IDC predicts that up to half of the SD-WAN market will evolve into the SD-Branch market by 2024 as SD-WAN vendors add additional network, security, and management functionality to their SD-WAN platforms beyond routing connectivity.

Machine Learning-Enhanced Automation Extends Across Multiple Areas of the Network, from the Enterprise Campus Out Across the WAN to the Cloud and the IoT Edge

Network infrastructure and network operations are undergoing an unprecedented change to support digital transformation initiatives and move at the speed of digital business. Architectures and the underlying infrastructure must become more agile and flexible, of course, but the same demands are made of those who operate and manage networks on a daily basis.

In response, network engineers and network operators are looking to gain knowledge and proficiency in areas such as network automation, programmability, and cloud (APIs and VPCs). Network operations teams must master not only automated provisioning and elastic scaling of network infrastructure — to support the dynamic ebbs and flows of digital business — but also the post-deployment day two needs of being able to provide faster troubleshooting and remediation of issues that can impair network availability and performance.

With networks serving as the digital nervous system for increasingly important applications and data, network operators are expected to leverage pervasive real-time telemetry and visibility to provide faster identification, isolation, and automated resolution of network security incidents. In this context, policy- and event-based detection and prevention will be essential to ensure that networks and their operators play valuable roles in protecting the integrity of workloads. Organizations are looking to embrace these new operating principles across all areas of their networks — from the datacenter to the campus and out across the WAN to the branch and the edge of the enterprise network.

Many of these capabilities will be enabled by AI/ML technologies, but for network operators and the organizations to which they belong, the value will be realized in tangible outcomes and business value. Indeed, by 2023, more than 50% of enterprises will adopt a proactive posture to network operations, delivering better alignment with business objectives through a reconciliation of the need for control with the imperative of moving fast.

Flexible Consumption Models for Enterprise Networking Software and Hardware Continue to Gain Favor in the Market, Leading to the Emergence of Networking as a Service

A variety of trends are converging that in summation amount to an emerging shift toward more enterprise networking solutions being delivered to enterprises as a service and via flexible consumption models. Drivers include advanced features and capabilities of enterprise networks increasingly being delivered — in near real time — via integrated hardware and software platforms (e.g., automation platforms enhanced by ML and AI). Enterprise networking vendors have also been on a multiyear transition to subscription-based license models for networking software, which has been accelerated by the shift to cloud-managed enterprise networking (see the Cloud-Managed Networking Market Is Set to Surpass $10 Billion by 2022; More than 50% of New WLAN, SD-WAN, and UC Deployments Will Be Managed via Cloud-Based Platforms section). Enterprises gain a range of

benefits when transitioning to more flexible consumption models for networking software and licenses. For one, features and functionality can be added or taken away more rapidly compared with perpetual license models. This allows networking licenses and software capabilities to match the needs of the customer's deployment requirements. Flexible consumption models also allow organizations to transition enterprise networking from a capex model to an opex model that is more in line with how public cloud services are billed.

The natural evolution of this trend, eventually, is for enterprise network hardware components to be offered through flexible consumption models as well as delivered to enterprises as a service. This shifts the burden of ownership, deployment, and maintenance from the enterprise end user to the vendor (or a managed service provider). In turn, when enterprise networking hardware and software are delivered via flexible, subscription-based consumption models, this is referred to as networking as a service. IDC expects vendors, VARs, and managed service providers to increasingly offer enterprise networking solutions across software and hardware via NaaS delivery models into the future. These NaaS delivery models will likely find favor with enterprise IT end users as well – they are already consuming cloud services via a similar as-a-service model, plus it provides them with the ability to scale capacity up or down fairly quickly without significant up-front financial outlays.

Driven by the Need for Detailed Analytics and Visibility, the Combined Enterprise Network Performance Management and Network Packet Broker Markets Will Reach $2.8 Billion by 2024

Network infrastructure is growing more critical and complex as networks are forced to support more diverse use cases, higher bandwidths, and lower latencies. At the same time, there are challenges in budgets, staff skills, and time available to focus on new initiatives. One response to this is an enterprise desires for a more intelligent and inclusive approach to network management – one that is built upon detailed data collection, in-depth analysis, and automated command and control. Rising from today's network performance management (NPM)/network packet broker (NPB) markets, next-generation network analytics solutions establish a foundation for critically important management functions:

- Design: Data-driven baseline norms validate network designs, deployments, and adjustments. Key benefits include improve integrity, accelerate new technology adoption and site/service activation, and adapt readily to digital transformation demands.
- Resolution: A comprehensive real-time network traffic analysis enables precise identification of root causes and targeted repairs. Key benefits include leverage more inclusive correlations, cut repair times, and enable proactive problem identification.
- Security: Detailed network insights deliver timely threat detection and direct rapid corrective response. Key benefits include Speed anomaly detection, tighten NetOps-SecOps linkages, boost external inputs, and offer guided remediation.
- Automation: Accurate measurement drives automated management – from initial setup to complex troubleshooting to ongoing enhancements. Key benefits include deliver validated actions, lessen staff requirements, and leverage latest in automation (e.g., cloud, SDN, policies, programmability).

Offering these diverse capabilities will require technology suppliers to excel in both internal product development (e.g., machine learning, artificial intelligence, data collection and processing, dashboards) and external solution delivery (e.g., cloud-based analytics, developer tools, systems integration, customer support, technology partnerships, managed services). The reward for vendors and enterprises alike is the ability to more intelligently manage the network using data to meet the

advancing demands placed on the network. In the 2020–2024 forecast period, the market for these evolving NPM/NPB solutions will reach $2.8 billion in 2024.

IDC'S POINT OF VIEW

Enterprises across the globe are re-architecting their networks to meet the needs of their digitally transforming businesses. As they do so, a handful of key tenets are driving these changes. The first trend is the continued advancement of software management platforms for controlling all aspects of the network. These platforms, which are being enhanced by machine learning and artificial intelligence algorithms and made more intelligent with data, allow for increased levels of centralized management, agility in network operations, and assurances that the network is performing optimally.

A second major trend is the continued adoption of the cloud, both as a destination for enterprise workloads and as a model for managing enterprise networks. Vendors across the networking industry are creating new ways of enabling hybrid cloud computing, while organizations continue to gain comfort with utilizing cloud-based platforms to manage their enterprise networks. There are a variety of other existing technologies that have come to the market in recent years that will reach closer to mainstream adoption levels in 2020, including SD-WAN and the transition to SD-Branch and Wi-Fi 6, among others.

Combined, this presents a significant opportunity for networking vendors to help enterprises meet these trends. Enterprises are looking to upgrade their networks to keep pace with competition, digitally transform their business, and delight both internal users and external customers. Vendors that identify with and create solutions around these trends will fare well in 2020 and beyond.

LEARN MORE

Related Research

- *COVID-19 Impact on the Key Enterprise Network Infrastructure Markets* (IDC #US46144720, March 2020)
- *IDC Predictions 2020: Worldwide Enterprise Communications Infrastructure* (IDC #US45944320, January 2020)
- *Worldwide SD-WAN Infrastructure Market Shares, 1H19: As Deployments Scale, Incumbent and Start-Up Networking Vendors Compete in a Fast-Growing Market* (IDC #US45621019, November 2019)
- *IDC FutureScape: Worldwide Enterprise Network Infrastructure 2020 Predictions* (IDC #US45587119, October 2019)
- *5G and Wi-Fi 6: Wireless Friends or Foes?* (IDC #US45266619, June 2019)
- *IDC TechScape: Worldwide IT Infrastructure at the Edge, 2019* (IDC #US45165219, June 2019)

Synopsis

This IDC Market Perspective provides insights into five key trends impacting the enterprise networking and communications market in 2020 and beyond.

"Enterprise networks are in a state of transition: The business demands on these networks have never been greater, with more diverse applications, users, and devices requiring higher-bandwidth connections at faster speeds. In response, organizations around the globe are looking to transform their networks to increase the data-driven programmability and intelligent automation of their networks," explains Rohit Mehra, vice president, Network Infrastructure at IDC. "This presents a significant opportunity for enterprise networking vendors to modernize their platforms to meet these trends. By doing so, they will help organizations transform their networks to thrive in this era of the digital business."

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Global Headquarters

5 Speen Street
Framingham, MA 01701
USA
508.872.8200
Twitter: @IDC
idc-community.com
www.idc.com