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Advancing the Enterprise with Adaptive Networking

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Advanced technologies like the Industrial Internet of Things (IIoT), private enterprise 5G, and Wi-Fi 6E demand a modernized network infrastructure to deliver exceptional service. Adaptive networking uses a collection of software-defined functions to deliver high performance, flexibility, and secure connectivity to enterprises and industrial complexes. To streamline processes and improve efficiency, businesses invest in third-party, agnostic service providers. Managed service providers are uniquely positioned to best advise and incorporate advanced enterprise solutions across a breadth of specialties, ensuring optimization and simplicity at the corporate level.



With adaptive networking, enterprises can assemble their own combination of technologies and techniques, using both established and modern technologies. When done correctly, adaptive networking and its technologies can have significant benefits for enterprises, supporting a company's digital transformation goals through agile solutions and robust connectivity. As cloud capabilities and remote monitoring continue to grow in relevance, adaptations and advancements are best managed by third-party service solutions. The goal of adaptive networks is increased efficiency and optimized connectivity throughout an organization, without the need for physical proximity and communication.

Managed SD-WAN

A software-defined wide-area network (SD-WAN) is a robust, virtualized connection that organizes all existing network connections into one automated platform, centralizing visibility and control. SD-WANs utilize intelligent routing to send data along secure lines according to business priorities and bandwidth needs. This process allows enterprises to control all network

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traffic while providing a better application experience for users, regardless of the end user's associated responsibilities.

Implementing an SD-WAN will increase business speed, control, and convenience, in addition to improved network uptimes and threat response programs. Each SD-WAN is unique, positioned to accommodate business needs exclusive to each organization. After installation, SD-WAN implementation can result in simplified network upgrades and a significant increase in application performance, specifically when utilized across all branches of a business. Furthermore, SD-WAN infrastructure adapts and improves as the enterprise system utilizes each component. Through machine learning and artificial intelligence, SD-WAN reduces human error and streamlines otherwise complicated processes and systems.

Companies using SD-WAN are more efficient with lower costs due to simplified network management. SD-WAN supports private and public networks with different port speeds and different performance levels, permitting each business to utilize the systems that work best with its unique programming. Regarding security, automated proactive monitoring and sophisticated alert systems allow technical teams to best manage activity across all applications. In addition to increased visibility, SD-WAN connects users and internal security teams through professional, secure transactions.

SD-WAN systems require a specific level of expertise to set up and manage. For security purposes, most enterprises are required to incorporate their home office, branch locations, and a data center all under one SD-WAN architecture. Because of the complexity of the installation and continued management, enterprises regularly turn to a managed services provider that specializes in setting up and managing SD-WAN architecture. To best utilize all components and benefits of SD-WAN systems, many enterprises and industrial communities rely on external professionals to design, develop, train, and maintain the security of each program branch. Well-managed SD-WANs result in improved uptime, faster recovery from outages, and easier network upgrades, creating a network infrastructure for intelligent, optimized service delivery.

Hybrid networking

Most legacy infrastructures are too inflexible and expensive for the cloud, leading companies to turn to hybrid networking. Hybrid networking is the combination of two or more communications standards that work together to form one network design. Enterprises can mix their MPLS and public Internet services to leverage the best benefits of each connectivity solution.

Hybrid networking helps keep enterprises' infrastructure agile while optimizing cloud deployment and innovative services. It also provides the reliability and security of a private network with the scalability and cost-effectiveness of the public Internet. Businesses can specify which applications teams can access the public network, particularly emphasizing the usefulness of password-secured, public cloud-based platforms that reduce security risks typically associated with public networks. Public cloud-based applications and platforms improve connectivity by sending traffic directly to the Internet instead of moving through centralized private networks. The ability to seamlessly transition between public and private networks is a significant feature of hybrid, adaptive networking.

Network virtualization

Network virtualization is the process of abstracting network resources that were traditionally delivered in hardware to software. Network virtualization can combine multiple physical networks into one virtual, software-based network, or it can divide one physical network into separate, independent virtual networks. Managed service providers are essential to optimizing network virtualization to accommodate each business' unique operations.

Network virtualization is a versatile tool for enterprises to unlock the value of adaptive networking. It can also add network endpoints in locations where physical boxes cannot go, further extending network capabilities and dynamic control. Network virtualization is a cost-saving upgrade as businesses no longer need to operate out of physical, home offices. As remote businesses continue to grow in relevance, more enterprises will move into completely virtual infrastructures, saving on traditional operating costs.

There are many proven benefits to network virtualization, especially for swapping out services and sites efficiently and with minimized downtime. Network virtualization improves uptime by lowering network latency and associated costs. Security can be managed conveniently on one site rather than across a multitude of network design components. Because network virtualization is administered centrally, service and security issues can be resolved much faster, saving management the time, energy and financial resources typically associated with physical repairs and associated downtime.

Flexible bandwidth

Cloud consumption models have forced enterprises to shift the way they view their infrastructure. Dynamic bandwidth allows companies to scale their traffic to their cloud and data centers to accommodate changing business needs and updates.

Flexible bandwidth allows enterprises to control how much service they need in real time, paying only for the amount they use. This means enterprises can add network services when they need them without overpaying for bandwidth. Managed service providers optimize Internet performance to enhance connectivity across unique industry needs and requirements.

Flexible bandwidth gives companies the ability to react to unplanned changes like network congestion, outages, or traffic surges. Combined with other adaptive networking practices, flexible bandwidth gives enterprises control over how many resources their data centers, clouds, and endpoints need as network traffic patterns continue to develop over time.

Advancing the future

Adaptive networks improve enterprise technology systems by advancing connectivity and streamlining operations. To manage the breadth of effective solutions, businesses invest in managed service providers that excel in data consolidation and remote management. These

partnerships ensure peak performance capabilities for businesses operating across multiple platforms and physical locations.

By future-proofing operations, corporations are streamlining solutions to provide superior results to stakeholders and the greater world economy. Successfully managed enterprise technology systems can have drastic effects on efficiency and network optimization. Properly managed enterprise technology can additionally assist in domestic or international expansion and operation, globalizing communication and connectivity.