Cisco Network as a Service: Pay-As-You-Go LANs and WAN Optimization

Get the LAN equipment and management you need at each site. At the same time, reduce your WAN bandwidth usage and accelerate the performance of your WAN applications. All for a per-site monthly fee.

Overview

Use Cisco® Network as a Service (NaaS) to offload your LAN CapEx and operations at all your sites while procuring WAN optimization and bandwidth management capabilities in a cloud model. We take over the routine work and technology updates so you can use your staff and resources to help your company frame new initiatives and meet its goals.

BENEFITS

- Choose standardized reference architectures designed for specific site profiles.
- Hand off design and management.
- Boost application performance over the WAN.
- Reduce WAN bandwidth usage.
- Consume only what you need - pay per site per month.
- Replace initial and capital costs with pay-as-you-grow model.
- Reduce overall operational costs and increase efficiency.

There are two components to NaaS: LAN as a Service (LANaaS) and IWAN as a service (IWANaaS):

- **LANaaS** delivers wired and wireless LAN equipment, design, and management services to any of your sites, customized to their size and local function requirements. Your LAN and wireless LAN equipment is packaged as a service and includes ongoing technical support and onsite installation services.

  Cisco retains ownership of the customer premises equipment (CPE), replacing your cost of initial capital investments with a pay-as-you-grow billing model. You avoid costs associated with purchasing, installing, and upgrading switches, security appliances, routers, and other equipment. And you pay only for the capacity and functions you need in the form of a per-site monthly fee, based in part on the size of the site (figure 1). We tailor the infrastructure to each site; for example: stringent security in the contact center; high bandwidth at headquarters; and unified server, switch, and VPN in branch offices.

Figure 1.   LANaaS Site Profiles

IWANaaS brings Cisco Intelligent WAN (IWAN) technology to the cloud, which we then deploy across your WAN infrastructure (figure 2). IWAN is a suite of compression, caching, app acceleration, performance routing, and bandwidth management features that help you improve users' application response times and conserve your WAN usage and associated costs. You get intelligent path control, class of service, and security features that allow you to emulate an expensive business-class MPLS VPN over the public Internet or use any other transport network type you choose. Fees are based on usage, so, like the LAN service, they're predictable and you can budget for them.

Figure 2.   IWANaaS Core Service

Use NaaS services to address concerns such as:

- High CapEx costs
- High circuit costs
- The need for different services at different sites
- Increasing virtualization, with automated provisioning of VLANs, Ethernet ports, load balancing, and other network services
- The need to move applications and services to the cloud securely and with high availability

New Technology, Aging Infrastructure

The Internet of Things and the trend toward full-service communications in branch offices are creating a demand for bandwidth everywhere. And that's straining enterprise networks. Many enterprises need to extend connectivity and greater capacity to more sites. Among the challenges with doing so:

- High CapEx associated with rolling out, upgrading, and refreshing new sites
- High OpEx and lack of skills in managing moves, adds, and changes
- Limited WAN budgets
- Increased BYOD and associated security concerns as more people work outside the corporate firewall
- Increase in the number of devices accessing the network through Wi-Fi, which can degrade user experiences if the WLAN isn't managed properly

To address these challenges, networks need constant attention and updates. But continually making network changes in-house is often costly and error-prone. And current infrastructure models that rely on manual configurations and aging technology are unsustainable. Procuring LAN and WAN management services using a cloud-based, consumption billing model works far better with today's IT budgets by keeping technology upgraded and refreshed as part of your monthly fee.

An End-to-End Solution with Many Options

The NaaS solution covers the lifecycle requirements of your network with four primary components:

- **Create and control**: Architecture, design, provisioning, and activation of LAN and IWAN service components
- **Infrastructure**: Hardware (servers, switches, and routers) and software (service catalog, management, and measurement applications)
- **Services and support operations**: 24-hour remote monitoring and management from Cisco network operations centers (NOCs)
- **Reporting and billing**: Usage and other reports and service-level management

LANaaS: Designs Tailored to Each Site

We will design LAN architectures for any or all of your sites and, if you want, also deploy Cisco IWAN technology across the WAN links connecting them, as shown in figure 3.

Figure 3.   Design and Management of Your Network End to End
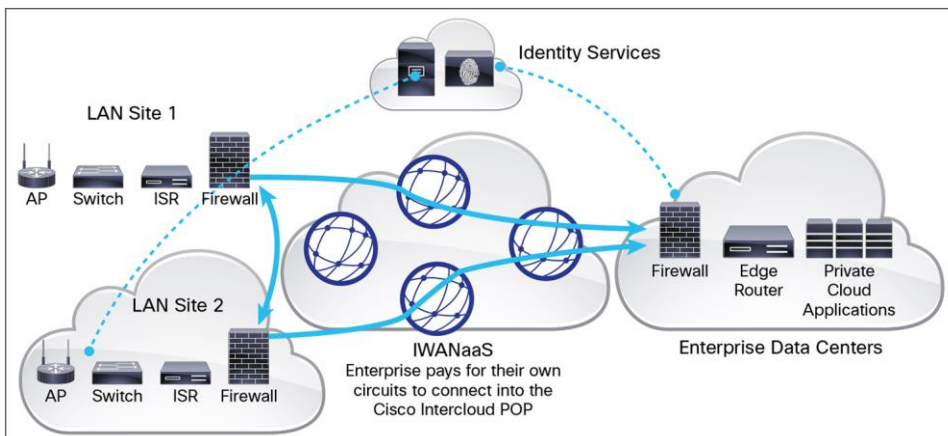
Site categories include remote, small, medium, medium multisite, large, and extra-large offices. We use a palette of services and equipment, shown in Figure 4, to fulfill the needs you define for each category or individual office in these areas:

- Switching
- Routing
- Security
- Identity services
- Wireless connectivity
- WAN aggregation
- High availability

For example, for a particular office you can specify a combination of switching, security, and wireless LAN equipment and services. For a headquarters office, you might add policy management, additional security, application optimization, and high availability.

Figure 4. LANaaS Components and Options

Once you've told us what size offices you have and how many, we create a site profile for each one that includes:

- Cisco products packaged into a site-based architecture
- Cisco Technical Services (Cisco SMARTnet® Service)
- Cisco Cloud Managed Services
- Site Survey and Installation services
- Ongoing Site Optimization services
- Ongoing technology refreshes and upgrades

The CPE resides in your various locations. The services and applications reside in the cloud for ready and secure access. Changes become easy to accomplish.

> "We take over the routine work so you can use your staff and resources to help your company frame new initiatives and meet its goals."

IWANaaS: WAN Bandwidth Savings and Performance Boosts

From the cloud, we'll deploy Cisco IWAN services across the WAN transport you choose - Internet, MPLS VPN, cellular, or a combination. Cisco IWAN provides four key capabilities:

- **Transport independence**: Through IP Security (IPsec) VPN technologies, you can transparently distribute branch-office traffic over multiple transport link types, including MPLS, cellular, and Internet WANs, and still maintain one routing domain for IT simplicity.
- **Intelligent path control:** Through intelligent path selection, applications are sent over the best performing paths based on policy and real-time path status. Growth can be easily load balanced across multiple lines.
- **Application optimization**: IWAN gives you full visibility and control at the application level through a suite of software service features bundled into Application Visibility and Control (AVC). AVC includes Cisco Network-Based Application Recognition (NBAR), NetFlow, quality of service (QoS), and more. AVC allows your IT department to determine what traffic is running across the network, tune the network for business-critical services, and quickly resolve network problems. IWAN also uses Cisco Wide Area Application Services (WAAS) to help applications perform better. And to allow businesses to deliver immersive digital experiences over bandwidth-constrained networks, Cisco IWAN with Akamai Connect significantly offloads the WAN with Akamai caching integrated into the router to provide instant access to web applications.
- **Secure connectivity:** IWAN can simplify VPN connections across all sites to deliver high performance with high security using Dynamic Multipoint VPN (DMVPN). It can also enable direct Internet access using Cloud Web Security (CWS) for better software-as-a-service (SaaS) application performance, while protecting all branch-office endpoints and maintaining centralized information security policy management.

We design, manage, and price IWAN in increments of 1-10 MB, 10-25 MB, 25-50 MB, 50-100 MB, 100 MB-1 GB, and 1-10 GB per site.

LANaaS Case Study: International Retailer

A large, international retailer has thousands of stores of different sizes, in varying locations, and with multiple points of sale.

The retailer worked with Cisco to deploy an end-to-end automated workflow with reporting, repeatable processes, and integrated functions to create a smooth networking experience. Cisco prepared each site from staging to configuration, delivery, and physical installation. And overnight installation means new networks are ready to go the next morning when the store opens its doors. So staff and customers experience a smooth migration.


IWANaaS Case Study: A Multinational Consumer Goods Manufacturer

A worldwide consumer goods company calculated the comparative costs of expanding its MPLS VPN using Internet transport with premises-based Cisco Intelligent WAN (IWAN) equipment and the cloud-based Cisco IWANaaS option:

- IWAN on-premises showed 15- to 20-percent annual savings.
- IWANaaS showed 25- to 30-percent annual savings.

Figure 5 presents calculations for the company's MPLS VPN baseline, projected results from conversion from on-premises IWAN to IWANaaS.

Figure 5. MPSL VPN Baseline Calculations
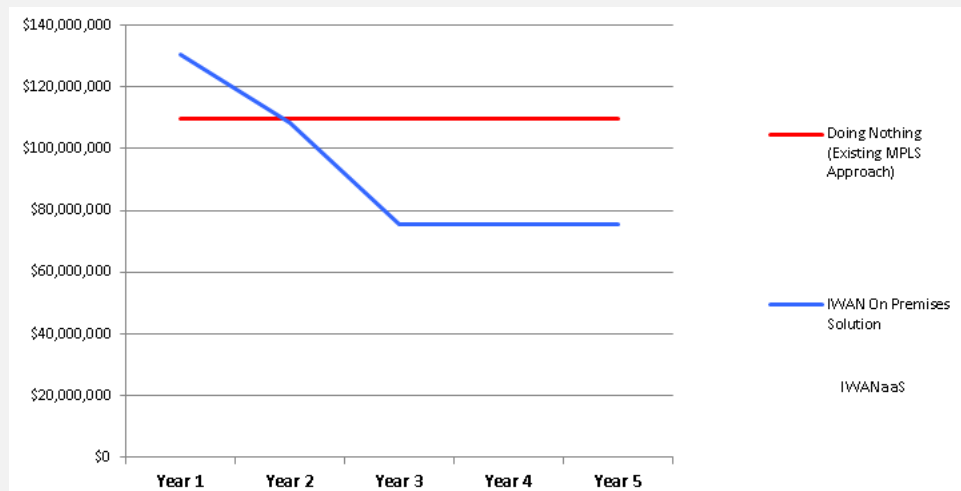
Infrastructure That Evolves with Your Business

Cisco NaaS provides services and hardware to keep up with changing LAN and WAN network technology. So capital you would have invested in changing technology can be spent optimizing your business instead. NaaS makes upgrading and refreshing your infrastructure simple.

Why Cisco?

You'll enjoy the experience of the world's leader in networking combined with innovative, network-based products and services. With a range of services to support each of your individual site requirements, Cisco NaaS is a scalable, affordable solution to enterprise networking.

Next Steps

For more information, ask your Cisco representative about Network as a Service.

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