



Cisco Intelligent WAN

USE CISCO IWAN TO:

- Deliver premium-grade network experiences using low-cost Internet bandwidth
- Simplify branch operations with a single multiservice networking platform
- Avoid backhauling branch traffic to the data center
- Protect all branch-office endpoints from threats with proven security
- Scale to thousands of sites without an equipment change

Adding video, cloud services, guest Wi-Fi, or other new applications to your branch office? You can get inexpensive network bandwidth to accommodate them without trading off performance, security, or reliability. Just activate the Cisco Intelligent WAN solution on your Cisco routers.

Deliver secure, high-performance experiences over any type of wide-area network connection with Cisco® Intelligent WAN (IWAN). IWAN is a comprehensive set of network traffic-control and security software features for Cisco routers.

IWAN-enabled routers dynamically choose network paths for your traffic based on application, endpoint, and network conditions. So your users consistently get exceptional performance with their applications. The network service savings you'll get from using IWAN pay for any necessary infrastructure upgrades in just a few months.

Let's say you already have a Multiprotocol Label Switching (MPLS) VPN service, for example. You find yourself needing to add more bandwidth while facing budget constraints. Run IWAN's traffic control, quality of service (QoS), security, and WAN acceleration capabilities over less expensive Internet, cellular, or other access connection types to get the same business-grade functions as your MPLS VPN. You could save 50 percent or more on your monthly WAN services bill, according to TeleGeography (see sidebar, "How Much Can You Save on WAN Services?").

Cisco IWAN is available for:

- Cisco 4000, 3900, 2900, 1900, and 890 Series [Integrated Services Routers \(ISR\)](#)
- [Cisco Integrated Services Virtual Router \(ISRv\)](#)
- [Cisco ASR 1000 Series Aggregation Services Routers \(ASR\)](#)
- [Cisco Cloud Services Router \(CSR\) 1000V Series](#)

Growing Your WAN Inexpensively

In most organizations, the Internet edge is extending to branch offices as the use of cloud services rises. That puts IT under pressure to meet new bandwidth demands created by cloud connectivity plus growing volumes of mobile and video traffic. Not keeping up with bandwidth requirements as new application traffic joins the network could result in:

- WAN congestion
- Poor user experiences
- Slow responses to business needs
- Potential security risks and compliance failures

Yet 60 percent of WAN budgets are flat or down, according to Nemertes Research.¹ So how do you do more while spending less? One way is to use the public Internet to add primary or backup links to your MPLS VPN. That's exactly what IWAN makes possible. With the intelligent software services in IWAN, you still get 99.999 percent ("five-nines") reliability, without a trade-off in performance or security levels. But your WAN circuits can be half the cost of premium VPN services – or even less.

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Getting the Best of Both Worlds

It's becoming common for businesses to migrate their WANs to the Internet. Why? As bandwidth demands have increased, the Internet has become a much more stable platform, and the price-to-performance gains are very attractive. Many businesses are primarily deploying “Internet as WAN” in their smaller sites or as a secondary, backup path to a primary MPLS VPN connection. But now you can take advantage of this cost-effective opportunity at all your branch offices with Cisco IWAN.

You get a proven solution that scales to all branch-office sizes over any transport. With rich application and security services on a single platform, you can expand to thousands of sites. Also, you maintain granular control, from the branch office to the data center and out to the public cloud. Now you can confidently roll out critical business services such as guest Wi-Fi, software as a service (SaaS), and video without overwhelming the WAN.

How Much Can You Save on WAN Services?

Estimates from TeleGeography indicate that you can save about half, on average, by using Internet links instead of new MPLS VPN services across 100 branch sites, depending on geography. That translates into possible annual savings ranging between \$500,000 (in San Francisco, for example) to nearly \$3.5 million (in Beijing). TeleGeography's estimates assume an MPLS class-of-service level 2 (CoS2) VPN service providing real-time data and middle priority.

¹ “WAN Key Trends,” by John Burke, Nemertes Research, 2015.

You can also provide branch sites with direct Internet access (DIA), which is far more efficient than backhauling all branch traffic to the data center and then forwarding it back out over the corporate Internet connection. To protect your DIA links from man-in-the-middle attacks and malware, use Cisco Cloud Web Security (CWS), an IWAN component. You can configure CWS to maintain and adhere to your centralized information security policy management rules.

Table 1 describes the primary software components of Cisco IWAN and the advantages they can deliver.

Table 1. IWAN Solution Business Outcomes and Components

Business Outcome	IWAN Component(s)	Description
<ul style="list-style-type: none"> Potential WAN service savings of 50 percent or more as you grow bandwidth 	<ul style="list-style-type: none"> Transport independence 	<ul style="list-style-type: none"> Works across a wide variety of access link types
<ul style="list-style-type: none"> Bandwidth optimization that delays new investments and avoids oversubscription of lines 	<ul style="list-style-type: none"> Intelligent path control Advanced data compression and de-duplication 	<ul style="list-style-type: none"> Dynamically routes traffic over the best-performing path and in accordance with your policies Minimizes traffic volumes sent over the WAN
<ul style="list-style-type: none"> Excellent, consistent user experiences 	<ul style="list-style-type: none"> Application-level visibility and control QoS Local content caching* 	<ul style="list-style-type: none"> Lets you supply different priorities and bandwidths to traffic flows based on application type and requirements Keeps content local for faster access
<ul style="list-style-type: none"> Secure Internet connectivity; direct Internet access in the branch 	<ul style="list-style-type: none"> Cisco Dynamic Multipoint VPN (DMVPN) Integrated firewall Cisco CWS 	<ul style="list-style-type: none"> Applies “secure VPN” (IPsec authentication and encryption) over Internet links Protects access links from man-in-the-middle and malware attacks Avoids traffic backhauling to the data center to apply security policies and filter traffic

* Requires [Cisco IWAN with Akamai Connect](#)

No More Truck Rolls: Automating Site and Network Function Configuration

Automating the configuration of each IWAN feature is easy. You can use the Cisco IWAN Application that runs on [Cisco's Application Policy Infrastructure Controller Enterprise Module \(APIC-EM\)](#), a software-based controller for managing and operating software-defined WANs (SD-WANs).

Another APIC-EM application, Enterprise Service Automation (ESA), allows you to take advantage of [Cisco Enterprise Network Functions Virtualization \(Enterprise NFV\)](#). Cisco Enterprise NFV virtualizes network infrastructure functions – such as routing, firewall, WAN acceleration, WLAN controller capabilities, and others. With it, you can simply turn them on in new sites or add them to existing sites in minutes without truck rolls or new equipment. ESA centrally orchestrates and manages these network services regardless of platform, giving you the freedom to choose between your trusted Cisco ISR and ISRv routers or x86-based servers.

Why Cisco?

Only Cisco can deliver an “intelligent WAN” to help you navigate today’s challenges involving cloud, mobility, and video. We offer a comprehensive solution at a cost-effective price with validated designs to help ensure your success. And with the incorporation of Cisco ONE™ Software, IWAN provides access to ongoing innovation and new technology while protecting your software purchases through license portability.

Table 2 summarizes the unique value you get from Cisco.

Table 2. Cisco IWAN Differentiators

Differentiator	Cisco Is the Only Vendor That Offers	Benefit
Operational simplicity	<ul style="list-style-type: none"> A single integration platform. In one platform (physical or virtual), you get advanced routing, dynamic WAN path selection, application visibility and control, WAN acceleration, firewall, and an IPsec VPN gateway 	<ul style="list-style-type: none"> Savings of up to 72 percent in capital and operational expenses, according to Cisco estimates Ease of management
Pervasive services	<ul style="list-style-type: none"> Consistent services and granular control across all segments of your network 	<ul style="list-style-type: none"> You require fewer specialized management resources You can set service expectations with internal customers
Security at scale	<ul style="list-style-type: none"> Encryption across a fully meshed network Comprehensive threat defense services that protect branch-office resources without requiring client agents on endpoints 	<ul style="list-style-type: none"> Support for thousands of secure sites Simpler security management
Context-based routing	<ul style="list-style-type: none"> Application-, endpoint-, and network-aware routing. For example, the router understands that a smartphone is on a web conference, and if there is network congestion, it can reroute to maintain business continuity and a high-quality experience 	<ul style="list-style-type: none"> Improved user application experiences. These are delivered through dynamic treatment of business traffic according to traffic type, resources needed, and sensitivity to latency, packet loss, and jitter

Services

Professional and Technical Support Services

Use Cisco Smart Services to collect network diagnostics data that is analyzed and compared to the Cisco knowledge base, leading to actionable insight that takes the form of assessment reports on the state of the network and devices.

Software Buying Is Simple with Cisco ONE Software

Cisco ONE Software is a simple and flexible way to buy Cisco software for your network. Instead of choosing from hundreds of separately priced software features, you purchase a single Cisco ONE Software product. And rather than a single perpetual license tied to the lifetime of your hardware, we offer flexibility with a choice of licensing options. Your Cisco ONE Software investment can grow in value through ongoing innovation, updates, and upgrades. And you have the freedom to deploy your licenses on physical or virtual machines.

Auction Company Makes Network Access Safer, Faster

Challenge: Worldwide Ritchie Bros. Auctioneers wanted to protect sensitive information while providing a great user experience and reducing the workload for a small IT team. Backhauling web traffic from its 40 sites to a central location for applying security policies and filtering traffic for malware was slowing down critical business applications.

Solution: A hybrid WAN consisting of an MPLS VPN link for corporate traffic and an IWAN-controlled Internet link for web traffic. A single Cisco ISR connects each branch to Cisco CWS, the Internet, and the company's MPLS network and provides firewall services.

Results: Improved WAN performance by moving web traffic to the Internet. Web requests from every auction site no longer travel over the MPLS network, so they don't slow down business applications.

Cisco Capital

Financing to Help You Achieve Your Objectives

Cisco Capital[®] can help you acquire the technology you need to achieve your objectives and stay competitive. We can help you reduce CapEx. Accelerate your growth. Optimize your investment dollars and ROI. Cisco Capital financing gives you flexibility in acquiring hardware, software, services, and complementary third-party equipment. And there's just one predictable payment. Cisco Capital is available in more than 100 countries. [Learn more.](#)

Next Steps

Now more than ever, your business needs an intelligent WAN to grow and compete. Get more from your WAN with Cisco IWAN. To learn more, visit <http://www.cisco.com/go/iwan>.



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