

Full Service Branch

Cisco® Full Service Branch framework is based on an adaptable architecture, including a continually expanding suite of intelligent, application-enabling services “blueprints.” These can be quickly and cost-effectively deployed to deliver business-critical applications to boost productivity and customer satisfaction, while lowering operating and capital expenses. Full Service Branch Solutions enable people to automatically and securely interact with important resources to solve a problem, complete a task, or conduct a transaction, regardless of their location or the time of day.

As Enterprises roll out advanced business applications, they are redefining the requirements for the network. The goal is to provide the same level of performance in the remote branch office as exists in the headquarters location. To achieve this, the branch solution can have many components. For example, an enterprise customer might need secure, high-availability, and latency-sensitive applications like voice and video, while supporting traditional (non-IP) applications. Another customer may need to detect misuse, abuse, and unauthorized access across all network boundaries and protect intranet and extranet connections and branch offices connecting to the corporate WAN or Internet. Some customers may need to manage their organization’s Internet use or authorize Internet access.

Today, Cisco’s expanding suite of intelligent application-enabling network services, including voice and video, security, Web application acceleration, mobile Internet and connectivity services are not only making mission-critical applications more accessible to users in branch office environments, but they are inspiring a whole new category of horizontal business-critical applications. These applications will have more significant business impact in improving employee responsiveness, deepening customer involvement in the business while lowering operational expenses.

In the past, enabling the same services and applications above required the deployment of several different devices in the branch offices, with the increased rise in cost and management complexity. Cisco Full Service Branch routers provide all this capability in a cost-effective and manageable manner for branch offices of all sizes.



Full Service Branch—What It Can Do for You

Technology is not deployed for its own sake; it is a means to an end. Whether the aim is to reduce costs, increase productivity, or protect the network and corporate assets, the ultimate goal is to improve the business. The applications enabled with Full Service Branch solutions help people to automatically and securely interact with important resources to solve a problem, complete a task, or conduct a transaction, regardless of their location or the time of day. Specific benefits include:

Lower costs:

- Reduced WAN costs
- Reduced business travel
- Lower ongoing maintenance and network operations costs
- Lower real estate costs

Increased productivity:

- Deliver “HQ-Class” functions to branch employees
- Deliver instant, “live” communications from headquarters
- Increase and improve employee training and education
- Enhance customer care deliver new point-of-sale services

Increased security:

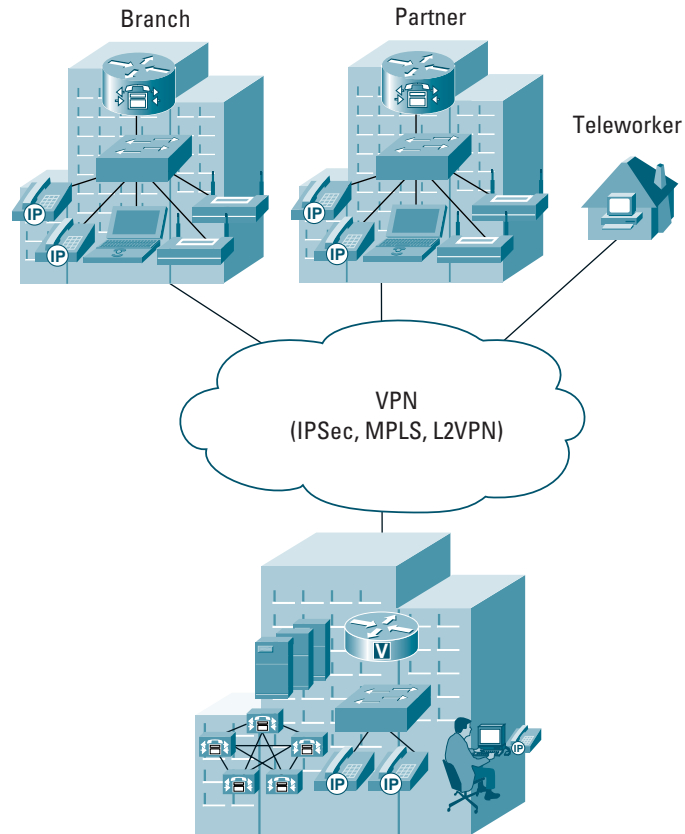
- Protect confidential information assets and network access points
- Avoid user disruption and downtime
- Comply with industry regulations
- Close “back door” security vulnerabilities

Integrated, Intelligent Network Services in the Full Service Branch

VPN on the Router

Businesses benefit tremendously from high-speed connections to important resources and VPNs that cost-effectively connect employees, partners, and customers. This includes everything from workgroups, to branch offices, to virtual contact centers worldwide. The Cisco Full Service Branch VPN solutions provide the foundation for secure and reliable application performance and delivery over the WAN, protecting and extending existing infrastructure investments.

- VPNs offer an enhanced feature set over private WANs, providing a solid return on investment (ROI) and paving the way to future features, services, and convergence.
- VPNs provide superior cost and bandwidth structure in nearly all cases.
- Site-to-site VPNs allow easily configured extranets and teleworker solutions
- VPNs provide the foundation for branch services, security, and productivity enhancing applications.
- VPNs support high-performance encryption and security



In addition, with Cisco Powered Network program service provider partners offering service-level agreements you can be sure that your WAN connection is secure, reliable, and available whether you manage the connection yourself, or contract your service provider to manage it for you.

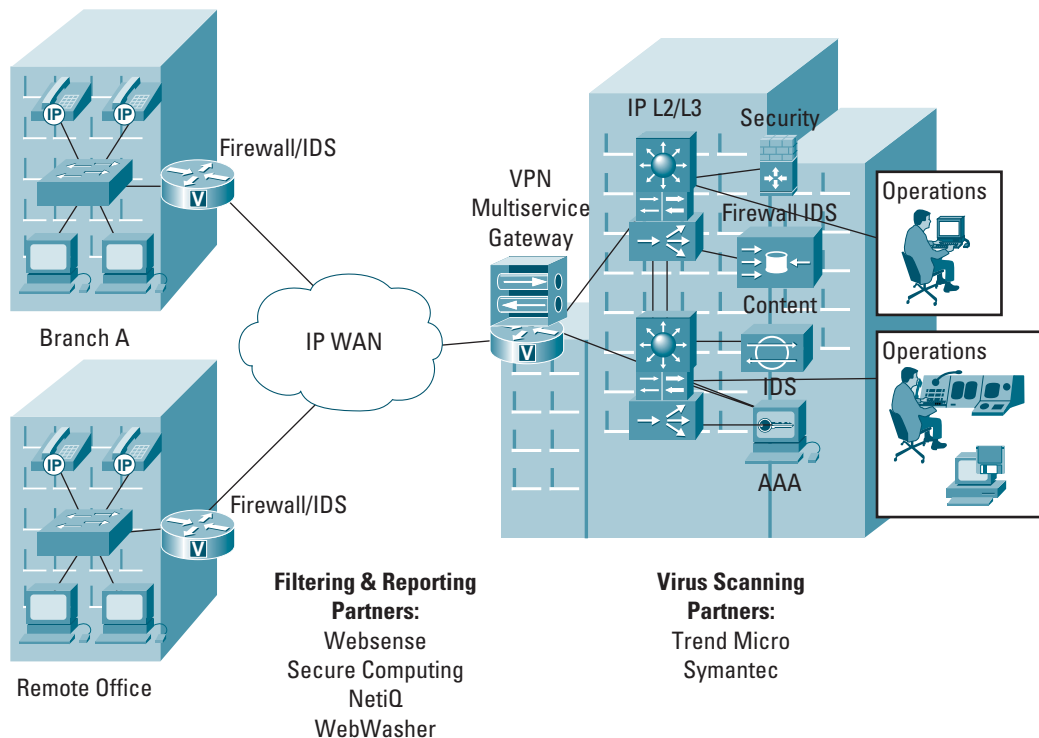
Cisco Integrated Security

Businesses must provide a protected workplace for conducting business, for distributed information assets, for remote facilities, and for both wired and wireless user access points. This fortified environment must consist of multiple layers of security to withstand security breaches, while continuously protecting user productivity and customer responsiveness. Security is a critical component of the Full Service Branch. It is integrated completely with all other functions, which allows organizations of all sizes to increase their productivity by letting them take advantage of networking technology in a safe and secure manner. Cisco is the only company that takes an integrated approach to security for all aspects of the network and endpoints. This approach provides the three critical requirements for securing an organization's productivity:

1. Collaboration between security services and network services. Security is enhanced when network services such as quality of service (QoS) work transparently with IP services. The Cisco integrated approach to security allows for tight collaboration between network technologies and security technologies.



2. Flexible, customizable deployment of security with services incorporated into all devices. Cisco provides the option of deploying security technology within dedicated devices, routers, and switches. Furthermore, Cisco provides the broadest set of security technology available from any single vendor. This flexibility allows organizations to deploy their choice of security technologies.
3. Comprehensive coverage—Cisco allows organizations to deploy security everywhere on the network, from PCs and servers to LANs, WANs, and branch offices. This provides the defense in depth necessary to protect all of an organizations' most vital processes from threats, both internal and external.



Cisco IOS[®] Software protects the network against outages, service degradations, and security breaches by providing high availability, security, and quality of service features built in to the device. These three attributes collectively ensure that the network can respond to adversity. With integrated Cisco IOS Firewall, Intrusion Detection Systems (IDSs), time-based access control lists (ACLs), and one-touch lockout, the risk of a security breach or network misuse is significantly reduced. Additionally, these same security features provide adaptive intelligence so that you can rapidly respond to emerging and unforeseen threats.

Cisco integrated security is a comprehensive security solution consisting of the widest selection of security technologies, including VPN, firewall, threat protection, identity services, content filtering, behavior-based desktop and service protection. It provides for collaboration between networking and security technologies, flexible deployment, and end-to-end coverage, at the lowest total cost of ownership. Cisco is the only company taking an integrated approach to security throughout the network and endpoints that will allow companies to protect and defend their business processes from internal and external threats.

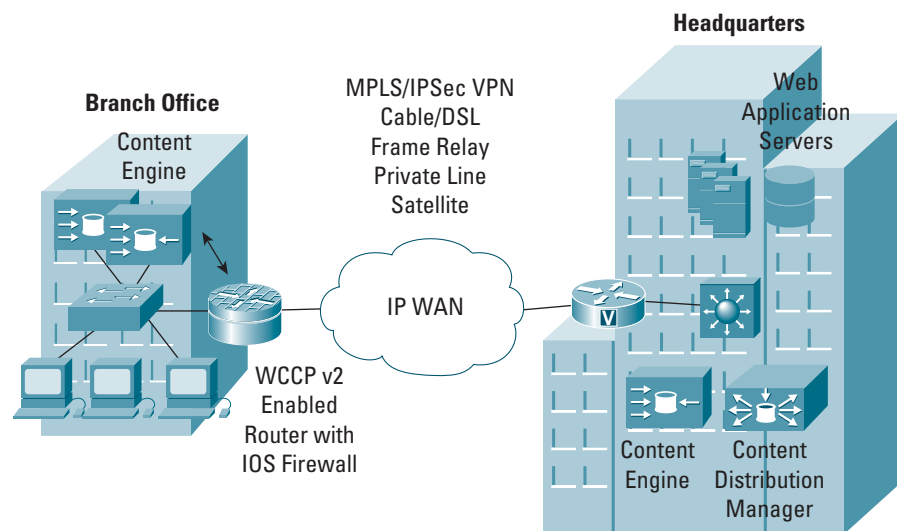


If customer needs grow beyond 100 users, a Cisco CallManager solution can be deployed on the existing infrastructure. Cisco IP phones, analog phones, fax machines, and Cisco Catalyst® switches can all be carried forward with the new solution and a simple configuration change.

Cisco CallManager Express and Cisco Unity Express are also a cost-effective IP Communications offering that can be added to a service provider's existing data and voice managed service, thereby opening new revenue opportunities for carriers worldwide.

Application and Content Networking Support

Businesses see the benefit in providing branch and remote users with access to mission-critical applications—extending productivity gains to all employees and moving customer relationship management closer to customers. Cisco offers comprehensive Application and Content Networking System (ACNS) Software that provides the scale and integration to optimize Web application performance across the WAN, optimize use of scarce bandwidth, and ultimately fuel an efficient workplace. This enables organizations to provide the best user experience based on the most efficient use of resources, which ultimately reduces the cost of network maintenance and troubleshooting.



Over the past few years, organizations of all sizes have begun using Web technologies to extend enterprise applications to more employees, partners, and customers. Already, HTTP and HTTPS traffic accounts for 30 to 50 percent of overall WAN traffic, and continues to grow as organizations enable their traditional applications for the Web and develop intranet Web portals to increase communications and improve operations. Further adding to WAN overhead is the fact that organizations are also beginning to adopt bandwidth-intensive services such as business video to improve productivity, reduce costs, and better align organizational resources.

Although VPNs typically offer greater bandwidth than private WAN solutions, there is more that can be done to ensure that the full benefits of applications are realized. The key to successfully enabling these new Web applications and extending them to remote users is the right infrastructure. Cisco has long enabled customers to accelerate Web traffic and safely deliver business video to central and remote sites through network-integrated appliances and



intelligent routing and switching technologies, including Cisco IOS services like Web Cache Communication Protocol, QoS, and multicast. Now customers can take advantage of these same applications and have them completely integrated into core branch infrastructure products.

By deploying Web application acceleration and business video services through router-integrated ACNS, customers can lay the foundation for a Full Service Business (FSB) architecture that does the following:

- Offers immediate ROI through cost avoidance, new operating efficiencies, and improved employee productivity
- Uses Cisco IOS Software to optimize WAN use and improve mission-critical applications, while delivering video services for training, business communications, and advanced applications such as e-learning and point-of-service Web kiosks.

Case Study

GST Corporation, part of the NYK Logistics and MegacARRIER family of companies, provides transportation and logistics solutions for a broad spectrum of customers—from small local carriers to international conglomerates such as Lennox, Procter & Gamble, and Toyota. For 25 years the company has expanded its business around intermodal truck-rail-truck logistics. Recently, however, GST began to diversify into other transportation services. Today, GST offers the full range of transportation and logistics solutions, from truckload and less-than-truckload (LTL) coordination, to managing customers' end-to-end supply chains.

Headquartered in Memphis, Tennessee, the company has 380 employees operating out of 30 remote offices and 34 satellite home offices across the United States. GST's remote employees are the lifelines of the business, providing the localized, on-the-ground expertise to manage and monitor shipments between thousands of customers, carriers, and suppliers each day.

In 2000, GST's executive team set an ambitious goal: To double revenue within five years. To achieve this, the

company would need to substantially diversify its operations—taking on new lines of business to supplement intermodal services, acquiring new transportation companies, and rapidly expanding from its 19 locations. Along the way, it was critical that GST continue to support its growing remote workforce by deploying a new infrastructure.

For several years, the company had supported its workers with an internal logistics application managed from the headquarters, and delivered to remote offices over a Frame Relay network. The Frame Relay network offered limited Internet capabilities. Internet connections for all nationwide employees had to be routed through the Memphis headquarters and back out to the remote offices, which resulted in frequent bandwidth and performance issues. Provisioning Internet service over the Frame Relay network was also costly: GST was spending US\$52,000 each month for data and Internet services alone.

GST needed a more flexible, efficient, and cost-effective way to extend data and Internet services across the company.

“When I initially proposed this to our CEO, I actually only told him that we could do it cost neutral. We could get a better phone system, better capabilities, easier management, and faster deployment, and we could do it without costing us any more money than we were currently paying. He was sold on that alone. The fact that GST is able to save [US]\$800,000 a year is just a bonus.”

—Donald Meewes, Chief Information Officer,
GST Corporation



The Solution

GST's executive team realized that to meet their expansion goals, they first needed to make their data and voice network much more powerful, more consistent, and streamlined. Although upgrading data and Internet service was the top priority in their expansion plan, GST also wanted to ensure that its network upgrade would lay a foundation for enhancing voice capabilities in the future.

Focusing first on data services, GST's IT and executive team determined that migrating the network from Frame Relay to IP would provide the flexibility and ease of implementation to support the company's rapid expansion goals. By connecting all remote workers to the company data center over the Internet through VPNs, GST could streamline its network architecture and easily scale and expand remote Internet access at the same time.

"GST needed the secure network that we had with Frame Relay, but we wanted the flexibility of the Internet," says Don Meewes, chief information officer for GST. "The Cisco IP VPN solution gave us both."

After exploring several options, the company chose Cisco strategic partner AT&T to deploy and support the companywide data solution. AT&T offered the national network footprint that GST required, and built the data infrastructure using end-to-end Cisco networking technology. By combining AT&T's voice expertise with Cisco industry-leading IP solutions, GST's leadership team believed that they could not only build a superior data architecture, but ensure built-in scalability to support voice as well.

Working with Cisco and AT&T, GST decided to adopt the Cisco Full Services solutions for branch and small offices to support all remote offices nationwide. Integrating support for data, voice, video, security, and remote connectivity into a single network device, these solutions offer a cost-effective platform for extending consistent, manageable network services to remote office workers.

The company began the network upgrade in 2000, and completed deployment at the headquarters and 19 remote sites within the year. Since then, GST has brought another 15 sites online. Now, thanks to the success and stability of the improved data infrastructure, the company is also beginning to roll out voice services over the network.

Results

Since beginning the upgrade in 2000, GST's Cisco and AT&T data network has allowed the company to double its network footprint and expand to 34 branch offices and 30 home-office sites. During that time, the company's revenue grew substantially, and GST is on course to meet its targets for 2005. GST's remote workers are now equipped with the same level of services as a worker at the company headquarters, and more closely connected and productive than ever before. The Internet has also become a core component of the company's business. Instead of using phone calls, faxes, or EDI, many customers now connect with GST through the company Website or, for larger customers, custom-designed portals. The solution gives customers unprecedented visibility into their orders.

"GST can easily document the core savings of the new Cisco voice solution, but the real benefit is going to be the improved productivity," says Meewes. "If we can help our workers become more productive and they can generate more business, that's where we'll see a real return on investment."

"Our customers can place orders through the Website, request pricing, review historical information, and view shipments currently in transit," says Meewes. "We have one customer that actually manages their entire supply chain from start to finish through our Website."



Meewes also expects administration of the new voice solution to be much easier than it was for the previous system. The company will no longer have to work with a patchwork of local PBX vendors to perform maintenance and troubleshoot issues. Instead, GST will manage all phone moves, adds, and changes on the network from the company headquarters. If there is ever a problem with voice service, the only vendor GST has to contact is AT&T.

Faster, Easier Expansion

Rolling out service to new offices will also be much easier with the converged voice and data solution. Instead of spending two months arranging data, voice, and PBX service with multiple carriers, GST can now get new offices operational as soon as they have a data connection.

When the company hires a new local transportation expert, that employee can be connected and begin to be productive almost immediately. GST simply ships an IP phone and VPN-enabled laptop, and newly hired employees can begin working over a broadband Internet connection from their homes.

“The faster we get that person up and in business, the faster we get a return on investment,” says Meewes.

Why Cisco

The power of the Full Service Branch framework is derived from the capability to integrate multiple solutions and services into a single platform, providing superior network capabilities.

Tightly Integrated End-to-End Solution—All the hardware, services, and software are part of a cohesive, tightly integrated, end-to-end solution based on open standards, which ensures the highest level of network performance.

“Turned on” and Tightly Coupled Features Results in New Capabilities—These intelligent application-enabling network services can be individually “turned on” in Cisco IOS Software and tightly coupled with other network services and features to deliver new capabilities. These new capabilities are based on combined routing, switching, telephony, video, mobile, and security services.

Cross-Functional Awareness Results in Network Predictability and Resource Control—These network services are intelligent in that they include smart protocols that enable them to be cross-functionally aware of each other. This awareness helps to optimize network traffic and to customize services according to an organization’s specific business, application, and user priorities. This ensures greater networkwide predictability and resource optimization.

Continuously Expanding Functionality—The Cisco suite of intelligent application-enabling network services is continuously expanding, along with service features that extend the overall capability of the network to support more advanced applications.

Adaptable, “How-to” Blueprints—Cisco also provides adaptable “how to” blueprints that provide a quick and cost-effective way to justify and deploy these application-enabling network services.

- *Highly specialized channel partners*—Cisco is collaborating with its channel partners to assist businesses in deploying Cisco Full Service solutions.
- *Flexible deployment*—The blueprints have been designed to use and extend customers’ existing investments.
- *Easily customized*—The blueprints can be “custom-fit” to meet individual business requirements.
- *Future-proofed roadmap*—All the components within the blueprints, including the required hardware, software, and services have feature-rich roadmaps designed to support constantly changing application requirements.
- *Scalable network infrastructure*—Cisco provides a broad range of routers, switches, gateways, and appliances that scale with the business.



The benefits of the Full Service Branch are targeted directly at your business goals.

Cisco Full Services Branch for branch and small offices reduce administrative, maintenance, troubleshooting, and training costs due to a tightly integrated, converged network.

- Lower operational costs (TCO)
- Increase productivity
- Decrease network security risks

Streamlines Business and IT Operations—Cisco Full Services for branch and small offices enable businesses to streamline costly operations based on the convergence of data, voice, and video on a single network made possible through high network availability with centrally integrated management.

Protects and Extends Current Infrastructure Investment—Cisco Full Services for branch and small offices provide a path to a highly adaptive network architecture that protects and extends customers’ investments, enabling them to more cost-effectively manage growth.

	SMB	Large Enterprise	Grow the Business	Reduce Costs	Increase Productivity	Protect Assets/Productivity
WAN Connectivity VPN (IPSEC or MPLS) Private WAN with VPN Backup Corporate Teleworker	✓	✓	✓	✓	✓	✓
Security Secure Branch Infrastructure Wireless Access Point Security IP Video Surveillance	✓ ✓	✓ ✓ ✓	✓	✓	✓	✓
Web Application Optimization Intranet Portal, Siebel, mySAP, Oracle 9iEBiz Suite		✓	✓		✓	
Business Video Live and On-Demand Business Video		✓	✓	✓	✓	✓
Voice IP Communications for Small Offices IP Communications for Enterprise Branches Toll Bypass Services (VoIP)	✓ ✓	✓ ✓ ✓	✓	✓	✓	

Get Started Today

Cisco has a diverse and specialized partner network that offers assistance and services to any size network. Services include:

- Business analysis and planning
- Technology planning services
- Project management
- Business process redesign

- Multivendor network support
- Deployment support
- Training

Cisco professionals and Cisco partners work to ensure that customers achieve a high-performance network that delivers the highest levels of quality of service, availability, and security.

Contact your Cisco representative to find out how you can optimize the full potential of your network.



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