

## Cisco Small and Medium Business Class Solutions

Deploying advanced applications can help small and medium-sized businesses (SMBs) like yours to increase innovative services, productivity, customer satisfaction, profitability, and other bottom-line benefits. Cisco® SMB Class Solutions are tailored, integrated network solutions and services that help SMBs to create an intelligent, empowered environment. With an environment based on Cisco SMB Class Solutions, you can achieve transparent, secure access to important resources—while at the workplace, at home or a remote or branch office, or while on the road.

Cisco SMB Class Solutions include intelligent application-enabling network services, innovative end-user applications, a solid network infrastructure, and responsive customer service and support. Cisco SMB Class Solutions can help your business implement advanced applications without draining budgets, bandwidth, or staff.

Cisco SMB Class Solutions are delivered with and through Cisco Systems® partners. They are designed specifically to meet the needs of SMBs:

- Cisco offers the industry's FIRST portfolio engineered for secure, wirespeed delivery of concurrent data, voice, and video services.
- The Cisco integrated systems approach to embedded services.
- Founded on more than 20 years of innovation and leadership—FIRST to embed security and voice services into a single routing system.
- Integrated Services Routers provide customers with leading services performance and investment protection.
- Intelligent, application-enabling services (connectivity, voice, mobility, security, and business resilience), delivered over the industry's most widely recognized routers and switches, provide “rightsized” and proven solutions for your business.
- You can enjoy high performance, rich features, scalability, investment protection, and adaptability while reducing total cost of ownership.
- You can enable wireless access to your company network with CiscoAironet® access points.

Cisco also provides the easy-to-use blueprints for extending network capability to support advanced applications in businesses from fewer than 20 users up to 1000 users. These blueprints are based on the Cisco extensive experience in creating networks for successful SMBs.

## Cisco Network Security

SMBs can achieve greater success by using the power of the Internet as long as they fortify their networks against the security threats that can come with a greater online presence. A successful security solution requires integrated safeguards through the entire network infrastructure. Cisco Systems integrated security solutions protect against internal and external security threats, unplanned outages, and service degradation.

Cisco security products include VPN concentrators and clients, switches, routers, firewall appliances, host- and network-based intrusion detection systems (IDSs), identity services, and secure management and policy. Some of the key Cisco security solutions value propositions are:

- Cisco is a leading supplier of network security solutions.
- Cisco is the first vendor to offer fully integrated Virtual Private Network (VPN) platform to include onboard VPN, Cisco IOS® Firewall and Intrusion Detection System (IDS).
- Cisco platforms deliver Firewall and Intrusion Detection Systems (FW/IDS) as well as Intrusion Protection Systems (IPS) for concurrent applications with embedded routing, security, and voice functionality.
- Cisco platforms deliver secure voice with voice over IP (VoIP), secure real-time transport protocol (SRTP) and voice, video, and data VPNs (V<sup>3</sup>PNs).
- Cisco solutions are modular so that you can accommodate growth with integrated solutions or dedicated devices as business needs dictate.
- Cisco can help you to deploy security everywhere in the network, from PCs and servers to LANs and WANs and remote offices. This provides the defense-in-depth necessary to protect all of your organization's most vital processes from both internal and external security threats.
- Cisco security solutions provide increased business resiliency by guarding against the security threats that can cause business disruptions and downtime.
- Integrated Cisco security solutions are manageable, easier to support (one point of contact for overall network, security, and VPNs) and can cost less to own than non-integrated solutions.
- The vast network of qualified Cisco resellers and partners provides a variety of management options and expertise.
- Cisco security solutions are backed by the company's award-winning technical support services, which ensure ease of installation, maintenance, and support of your network.

Cisco security blueprints for SMBs are formulated according to size:

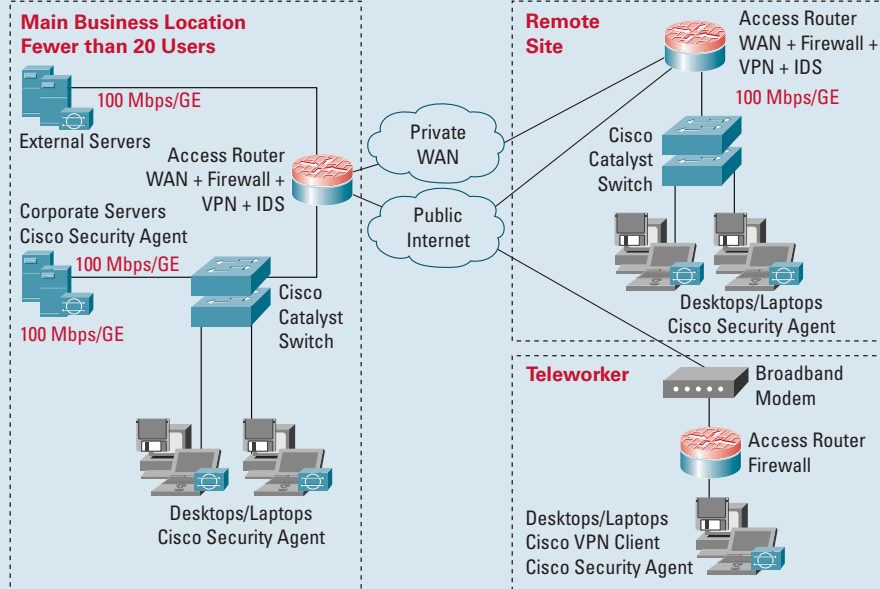
- Security Blueprint: fewer than 20 user ports per site
- Security Blueprint: 20 to 50 user ports per site
- Security Blueprint: 50 to 100 user ports per site
- Security Blueprint: 100 to 250 user ports per site
- Security Blueprint: 250 to 500 user ports per site
- Security Blueprint: 500 to 1000 user ports per site

## Introduction

This reference blueprint provides a network diagram and product table for your main office, remote office, and teleworkers. This is only a suggested blueprint.

**Figure 1: Security Blueprint for SMBs with Fewer Than 20 User Ports per Site**

### Reference Security Blueprint



Note: See footnote to Figure 6.

## Product Table

This product table briefly describes Cisco solutions for SMBs with fewer than 20 user ports per site, is intended to be a starting point in choosing Cisco products for your main business location, remote offices, and teleworker connectivity.

**Table 1: Solution Features for Main Business Location**

	Fewer Than 20 Users (SMB Complete)	Fewer Than 20 Users (SMB Enhanced)
<b>Router</b>	<p><b>Cisco 1841 Integrated Services Router</b></p> <p>This entry-level rack-mount router, powered by Cisco IOS Software, supports multiservice data. It features VLAN and VPN support, multiple WAN access options, and more.</p> <p>The Cisco 1841 Integrated Services Router is an economical and highly flexible solution for a small business looking for secure Internet and intranet access for its main business location.</p>	<p><b>Cisco 1841 Integrated Services Router</b></p> <p>The Cisco 1800 Series brings big-company capabilities to small businesses with its award-winning combination of multiservice integration (data, voice, video, and fax), flexible LAN and WAN configurations, security options, high-performance processors, router-integrated content-delivery systems (requires optional module), and investment protection in a compact solution.</p> <p>With its extensive and modular features, the Cisco1800 Series can be installed at the main business location of any small, dynamic organization to support current and future needs.</p>
<b>WAN services</b>	Yes	Yes
<b>Integrated LAN switch</b>	Yes	Yes
<b>Integrated security</b>	<p>The Cisco 1841 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128, 192, 265 bit format</li> <li>Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3 DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> </ul>	<p>The Cisco 1841 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128, 192, 265 bit format</li> <li>Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3 DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> </ul>

**Table 1: Solution Features for Main Business Location (Continued)**

	Fewer Than 20 Users (SMB Complete)	Fewer Than 20 Users (SMB Enhanced)
Integrated security (continued)	<ul style="list-style-type: none"> <li>• Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>• Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>• Dynamic Inline Intrusion Detection System (IDS) Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> </ul>	<ul style="list-style-type: none"> <li>• Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>• Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>• Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>• Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> <li>• SSL Server Support: Secure Sockets Layer support for remote VPN users</li> <li>• Real Time Clock: Mechanism to keep Private Key Infrastructure (PKI) VPN certificates up to date in the case of router downtime or reboot</li> <li>• Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>• Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> </ul>
Integrated content engine	No	No

**Table 1: Solution Features for Main Business Location (Continued)**

	Fewer Than 20 Users (SMB Complete)	Fewer Than 20 Users (SMB Enhanced)
External switch	<p><b>Cisco Catalyst® 2950 Series</b> or <b>Cisco Catalyst 3560 Series</b> <b>Cisco Catalyst 3560 24 PWR Switch</b></p> <p>The Cisco Catalyst 2950 Series is a line of fixed-configuration, stackable, and standalone switches for Fast Ethernet and Gigabit Ethernet connectivity. This product line offers great versatility in software features and configurations to allow SMBs to select the combinations that best suit their budget and business needs.</p> <p>The Cisco Catalyst 3560 Series is a line of stackable, multilayer switches that provide high availability, quality of service (QoS), and security to enhance network operations. For the first time, customers can deploy high-performance IP routing, advanced QoS, detailed rate limiting, enhanced network security, and multicast management network-wide, while maintaining the simplicity of traditional LAN switching.</p> <p>The Cisco Catalyst 3560 24 PWR switch has all of the advanced Layer 2-4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and WLAN deployments.</p>	<p><b>Cisco Catalyst 2950 Series</b> or <b>Cisco Catalyst 3560 Series</b> <b>Cisco Catalyst 3560 24 PWR Switch</b></p> <p>The Cisco Catalyst 2950 and 3560 series come with Standard Image software features and offer Cisco IOS Software functions for basic data, voice, and video services at the edge of the network. For networks that require additional security, advanced QoS, and high availability, Enhanced Image software delivers intelligent services such as rate limiting and security filtering.</p> <p>With several Fast Ethernet and Gigabit Ethernet configurations, Cisco Catalyst 3560 switches can serve as both a powerful access layer switch for wiring closets and as a backbone switch for midsize networks.</p> <p>The Cisco Catalyst 3560 24 PWR switch has all of the advanced Layer 2-4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and WLAN deployments.</p>

## Solution Features for Remote Sites

	Fewer Than 10 Users	Fewer Than 20 Users
Router	<p><b>Cisco 1800 Series Integrated Services Routers (SMB Complete)</b> These fixed-configuration broadband security routers offer support for ADSLoPOTS, ADSLoISDN, or G.SHDSL; two Fast Ethernet WAN ports; an integrated 8-port 10/100BASE-T switch; built-in WAN backup; ISDN/V.90 support; high security performance; integrated wireless access point SKUs; support for 802.11a/g; removable antennas, an internal power supply, and optional inline power.</p>	<p><b>Cisco 1800 Series Integrated Services Routers (SMB Enhanced)</b> These fixed-configuration broadband security routers offer support for ADSLoPOTS, ADSLoISDN, or G.SHDSL; two Fast Ethernet WAN ports; an integrated 8-port 10/100BASE-T switch; built-in WAN backup; ISDN/V.90 support; high security performance; integrated wireless access point SKUs; support for 802.11a/g; removable antennas, an internal power supply, and optional inline power.</p>
WAN services	Yes	Yes
Integrated LAN switch	Yes	Yes
Integrated security	<p>The Cisco 1841 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>• On-Board Encryption Accelerator Process: With support for IPsec DES, 3DES &amp; AES 128,192,265 bit format</li> <li>• Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPsec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> <li>• Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>• Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPsec + GRE VPNs in an easy and scalable manner</li> <li>• Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> </ul>	<p>The Cisco routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>• On-Board Encryption Accelerator Process: With support for IPsec DES, 3DES &amp; AES 128,192,265 bit format</li> <li>• Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPsec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> <li>• Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>• Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPsec + GRE VPNs in an easy and scalable manner</li> <li>• Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> </ul>
Integrated content	No	No

## Solution Features for Remote Sites (Continued)

	Fewer Than 10 Users	Fewer Than 20 Users
External switch	<p><b>Cisco Catalyst 2950 Series switches (See above for general product information)</b> Cisco Cluster Management Suite (CMS) software, embedded in all Cisco Catalyst 2950 Series switches, allows customers to simultaneously configure and troubleshoot multiple Cisco Catalyst desktop switches, including switches at remote locations, using a standard Web browser.</p>	<p><b>Cisco Catalyst 2950 Series switches or Cisco Catalyst 3560 24 PWR Switch (See above for general product information)</b> With several Fast Ethernet and Gigabit Ethernet configurations, Cisco Catalyst 3560 Series switches can serve as both powerful access layer switches for wiring closets and as backbone switches for midsize networks.</p>

## Solution Features for Teleworker Site

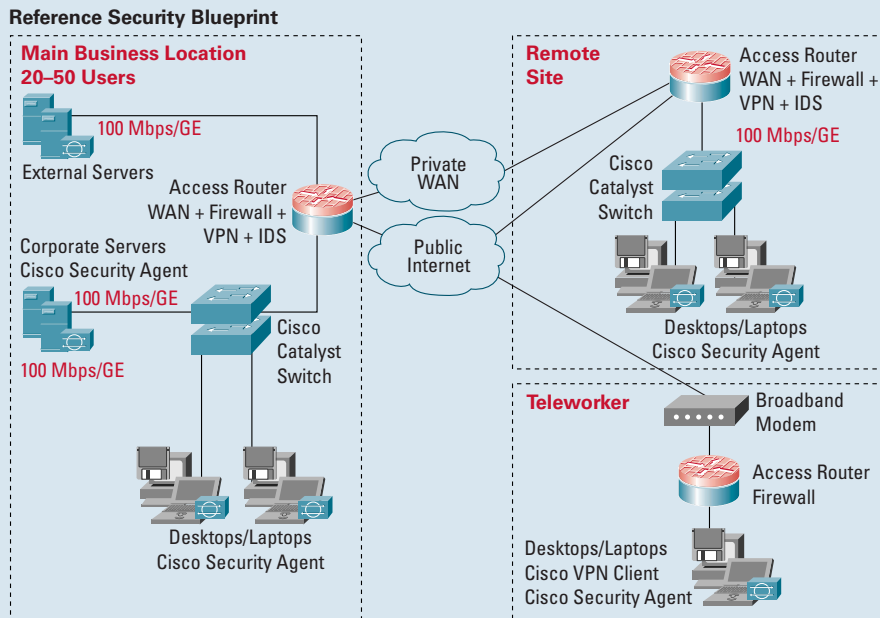
	Fewer Than 10 Users	Fewer Than 20 Users
Broadband router	<p><b>New Cisco 800 Series (SMB Complete)</b> The new Cisco 800 Series provides affordable, secure, multiuser access for small-office and home-office customers while reducing deployment and operational costs for SMBs.  Cisco 800 Series routers allow up to five teleworkers in a small office to share a secure broadband connection with an integrated stateful inspection firewall. Corporate teleworkers or small-office users can also take advantage of the Routers for VPN connections to the corporate network.</p>	<p><b>New Cisco 800 Series Secure Routers (SMB Enhanced)</b> Cisco 800 Series routers provide secure Internet and corporate network connectivity to teleworkers. This router series offers a wide range of integrated security services, QoS for high-quality data, voice, and video applications and easy deployment and management. They deliver the industry's lowest total cost of ownership for connecting teleworkers to the corporate network.  The Cisco 800 Series empowers teleworkers and day extenders with a secure data, voice, and video connection offering the same level of access to the network as they enjoy in the corporate office.</p>

# SECURITY BLUEPRINT: 20 TO 50 USER PORTS PER SITE

## Introduction

This reference blueprint provides a network diagram and product table for your main office, remote office, and teleworkers. This is only a suggested blueprint.

Figure 2: Security Blueprint for SMBs with 20–50 User Ports per Site



Note: See footnote to Figure 6.

## Product Table

This product table briefly describes Cisco solutions for SMBs with 20 to 50 user ports per site, is intended to be a starting point in choosing Cisco products for your main business location, remote offices, and teleworker connectivity.

Table 2: Solution Features for Main Business Location and Remote Sites

	20–50 Users (SMB Complete)	20–50 Users (SMB Enhanced)
<b>Router</b>	<p><b>Cisco 2801 Series Integrated Services Routers</b> Cisco 2800 Series Integrated Services routers bring big-company capabilities to small businesses with an award-winning combination of multiservice integration (data, voice, video, and fax), flexible LAN and WAN configurations, security options, high-performance processors, a router-integrated content delivery system (requires optional module), and investment protection in a compact solution.</p> <p>The modularity of the Cisco 2800 Series enables small businesses to update their networks as budget and business application needs dictate.</p>	<p><b>Cisco 2811 Modular Access Router (SMB Enhanced)</b> The Cisco 2800 Series of modular access routers brings big-company capabilities to small businesses with its award-winning combination of multiservice integration (data/voice/video/fax), flexible LAN and WAN configurations, security options, range of high-performance processors, router-integrated content-delivery system (requires optional module), and investment protection in a compact solution.</p> <p>The modularity of the Cisco 2800 Series enables small businesses to update their network as budget and business application needs dictate.</p> <p>Purpose-built for Integrated Services</p> <p><b>Security</b> On-board encryption, NAC, Inline IPS, Dynamically-loaded signatures More VPN tunnels, high performance firewalls</p> <p><b>Voice</b> Designed for medium density; IP Telephony; Voice Mail, Auto Attendant &amp; Conferencing needs</p> <p><b>Comprehensive L2 &amp; L3 services</b> FE/GE Switch Ports, VLANs, Application Optimization, POE Wire-speed concurrent services &amp; headroom to grow</p>

**Table 2: Solution Features for Main Business Location and Remote Sites (Continued)**

	20–50 Users (SMB Complete)	20–50 Users (SMB Enhanced)
<b>Router (continued)</b>		<p><b>Modularity and Investment Protection</b> More slots for advanced services via NM, NME, NME-X, NME-XD support with PVDN and AIM modules; works with previous 1700, 2600 and 3700 interfaces, adds new services</p> <p><b>Scalability, Density, and Resiliency</b> Inline IP phone power, online insertion and scalable services and interface options for growth</p>
WAN services	Yes	Yes
Integrated switch	Yes	Yes
Integrated security	<p>The Cisco 2801 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>• On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128, 192, 265 bit format</li> <li>• Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> <li>• Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>• Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>• Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>• Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> </ul>	<p>The Cisco 2811 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>• On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128, 192, 265 bit format</li> <li>• Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> <li>• Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>• Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>• Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>• Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> </ul>

**Table 2: Solution Features for Main Business Location and Remote Sites (Continued)**

	20–50 Users (SMB Complete)	20–50 Users (SMB Enhanced)
Integrated security (continued)	<ul style="list-style-type: none"> <li>• SSL Server Support: Secure Sockets Layer support for remote VPN users</li> <li>• Real Time Clock: Mechanism to keep PKI VPN certificates up to date in the case of router downtime or reboot</li> <li>• Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>• Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> </ul>	<ul style="list-style-type: none"> <li>• SSL Server Support: Secure Sockets Layer support for remote VPN users</li> <li>• Real Time Clock: Mechanism to keep PKI VPN certificates up to date in the case of router downtime or reboot</li> <li>• Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>• Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> </ul>
Content	Yes	Yes

**Table 2: Solution Features for Main Business Location and Remote Sites (Continued)**

	20–50 Users (SMB Complete)	20–50 Users (SMB Enhanced)
External switch	<p><b>Cisco Catalyst 2950 Series or Cisco Catalyst 3560 Series</b>  <b>Cisco Catalyst 3560 24 PWR Switch</b>                      The Cisco Catalyst 2950 Series is a line of fixed-configuration, stackable, and standalone switches for Fast Ethernet and Gigabit Ethernet connectivity. This product line offers great versatility in software features and configurations to allow SMBs to select the combinations best suited to their budget and business needs.</p> <p>The Cisco Catalyst 3560 Series is a line of stackable, multilayer switches that provide high availability, QoS, and security to enhance network operations. For the first time, customers can deploy high-performance IP routing, advanced QoS, detailed rate limiting, enhanced network security, and multicast management network-wide while maintaining the simplicity of traditional LAN switching.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and wireless LAN (WLAN) deployments.</p>	<p><b>Cisco Catalyst 3560 24 PWR Switch</b>                      The Cisco Catalyst 3560 Series comes with Standard Image software features and offers Cisco IOS Software functions for basic data, voice, and video services at the edge of the network. For networks that require additional security, advanced QoS, and high availability, Enhanced Image software delivers intelligent services such as rate limiting and security filtering.</p> <p>With several Fast Ethernet and Gigabit Ethernet configurations, Cisco Catalyst 3560 Series switches can serve as powerful access layer switches for wiring closets and as backbone switches for midsize networks.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and wireless LAN deployments.</p>

**Solution Features for Teleworker Sites**

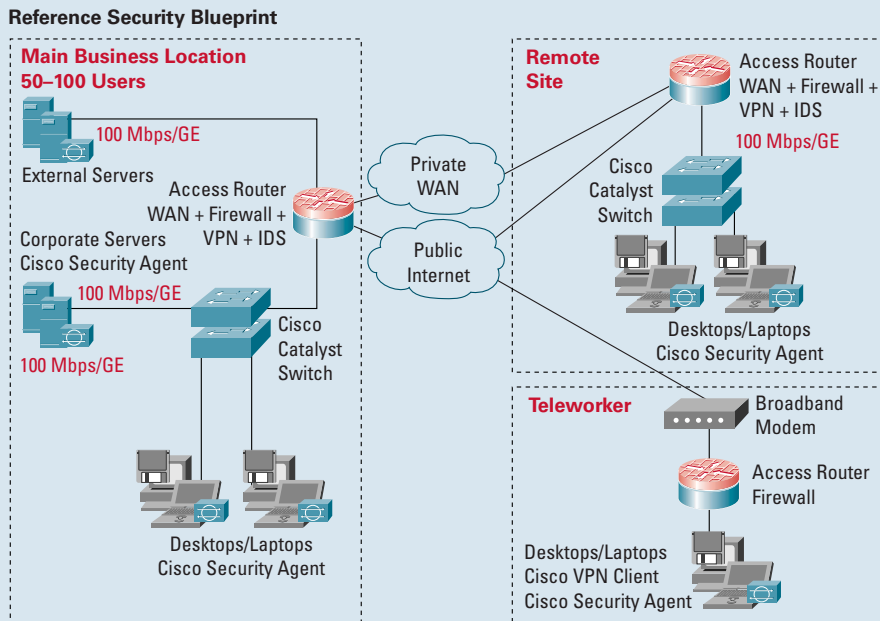
	20–50 Users (SMB Complete)	20–50 Users (SMB Enhanced)
Broadband router	<p><b>New Cisco 800 Series (SMB Complete)</b>                      The new Cisco 800 Series provides affordable, secure, multiuser access for small-office and home-office customers while reducing deployment and operational costs for SMBs.</p> <p>Cisco 800 Series routers allow up to five teleworkers in a small office to share a secure broadband connection with an integrated stateful inspection firewall. Corporate teleworkers or small office users can also use the routers for VPN connections to the corporate network.</p>	<p><b>New Cisco 800 Series Secure Routers (SMB Enhanced)</b>                      Cisco 800 Series routers provide secure Internet and corporate network connectivity to teleworkers. This router series offers integrated security services; QoS for high-quality data, voice, and video applications; and easy deployment and management. The routers deliver the industry's lowest total cost of ownership for connecting teleworkers to the corporate network.</p> <p>The Cisco 800 Series empowers teleworkers and day extenders with a secure data, voice, and video connection offering the same level of access to the network as they enjoy in the corporate office.interface card support</p> <p><b>Broadband</b>                      Offers options based on G.SHDSL 4-wire</p> <p><b>Manageability</b>                      Variety of needs based management Options such as CiscoWorks &amp; SDM</p> <p>Cisco IOS features—extensive debugging, syslog features and Out-of-Band management</p> <p>Scalability Config Express, IE2100, Easy VPN</p>

# SECURITY BLUEPRINT: 50 TO 100 USER PORTS PER SITE

## Introduction

This reference blueprint provides a network diagram and product table for your main office, remote office, and teleworkers. This is only a suggested blueprint.

**Figure 3: Security Blueprint for SMBs with 100–250 User Ports per Site**



Note: See footnote to Figure 6.

## Product Table

This product table briefly describes Cisco solutions for SMBs with 50 to 100 user ports per site, is intended to be a starting point in choosing Cisco products for your main business location, remote offices, and teleworker connectivity.

**Table 3: Solution Features for Main Business Location Site and Remote Sites**

	50–100 Users (SMB Complete)	50–100 Users (SMB Enhanced)
<b>Router</b>	<p><b>Cisco 2811 Modular Access Router</b> The Cisco 2800 Series of modular access routers brings big-company capabilities to small businesses with its award-winning combination of multiservice integration (data/voice/video/fax), flexible LAN and WAN configurations, security options, range of high-performance processors, router-integrated content-delivery system (requires optional module), and investment protection in a compact solution.</p> <p>The modularity of the Cisco 2800 Series enables small businesses to update their network as budget and business application needs dictate.</p>	<p><b>Cisco 2851 Multiservice Access Router</b> The Cisco 2800 Series of modular access routers brings big-company capabilities to small businesses with its award-winning combination of multiservice integration (data/voice/video/fax), flexible LAN and WAN configurations, security options, range of high-performance processors, router-integrated content-delivery system (requires optional module), and investment protection in a compact solution.</p> <p>The modularity of the Cisco 2800 Series enables small businesses to update their network as budget and business application needs dictate.</p> <p><b>Security</b> On-board encryption, NAC, Inline IPS, Dynamically-loaded signatures More VPN tunnels, high performance firewalls</p> <p><b>Voice</b> Designed for medium density; IP Telephony; Voice Mail, Auto Attendant &amp; Conferencing needs</p> <p><b>Comprehensive L2 &amp; L3 services</b> FE/GE Switch Ports, VLANs, Application Optimization, POE</p> <p>Wire-speed concurrent services &amp; headroom to grow</p>

**Table 3: Solution Features for Main Business Location Site and Remote Sites (Continued)**

	50–100 Users (SMB Complete)	50–100 Users (SMB Enhanced)
<b>Router (continued)</b>		<p><b>Modularity and Investment Protection</b> More slots for advanced services via NM, NME, NME-X, NME-XD support with PVDM and AIM modules; works with previous 1700, 2600 and 3700 interfaces, adds new services</p> <p><b>Scalability, Density, and Resiliency</b> Inline IP phone power, online insertion and scalable services and interface options for growth</p>
WAN services	Yes	Yes
Integrated switch/Ethernet module ports	Yes	Yes
Integrated security	<p>The Cisco 2811 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128,192,265 bit format</li> <li>Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> <li>Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> </ul>	<p>The Cisco 2851 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> <li>Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> <li>SSL Server Support: Secure Sockets Layer support for remote VPN users</li> </ul>

**Table 3: Solution Features for Main Business Location Site and Remote Sites (Continued)**

	50–100 Users (SMB Complete)	50–100 Users (SMB Enhanced)
Integrated security	<ul style="list-style-type: none"> <li>SSL Server Support: Secure Sockets Layer support for remote VPN users</li> <li>Real Time Clock: Mechanism to keep PKI VPN certificates up to date in the case of router downtime or reboot</li> <li>Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> <li>URL Filtering Support: To manage employees Internet access</li> </ul>	<ul style="list-style-type: none"> <li>Real Time Clock: Mechanism to keep PKI VPN certificates up to date in the case of router downtime or reboot</li> <li>Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> <li>URL Filtering Support: To manage employees Internet access</li> </ul>
Integrated content	Yes/Network module	Yes/Network module

**Table 3: Solution Features for Main Business Location Site and Remote Sites (Continued)**

	50–100 Users (SMB Complete)	50–100 Users (SMB Enhanced)
External switch	<p><b>Cisco Catalyst 2950 Series or Cisco Catalyst 3560 Series</b>  <b>Cisco Catalyst 3560 24 PWR Switch</b>                      The Cisco Catalyst 2950 Series is a line of fixed-configuration, stackable, and standalone switches for Fast Ethernet and Gigabit Ethernet connectivity. This product line offers great versatility in software features and configurations to allow SMBs to select the right combination to suit their budget and business needs.</p> <p>The Cisco Catalyst 3560 Series is a line of stackable, multilayer switches that provide high availability, QoS, and security to enhance network operations. For the first time, customers can deploy high-performance IP routing, advanced QoS, detailed rate limiting, enhanced network security, and multicast management network-wide while maintaining the simplicity of traditional LAN switching.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and wireless LAN (WLAN) deployments.</p>	<p><b>Cisco Catalyst 3560 24 PWR Switch or Cisco Catalyst 4503</b>                      The Cisco Catalyst 4503 with Supervisor Engine II-Plus-TS is optimized for user access for SMBs. The Supervisor Engine II-Plus-TS provides 12 ports of 10/100/1000 with Power over Ethernet (PoE) and eight Small Form-Factor Pluggable (SFP) ports for uplinks or server aggregation. This solution delivers up to 116 ports of any combination of 10/100 or 10/100/1000 data access, as well as 10/100 and 10/100/1000 PoE access.</p> <p>The Supervisor Engine II-Plus-TS offers highly flexible configurations for user and server connectivity for midsize business networks.</p> <p>The Cisco Catalyst Series comes with Standard Image software features and offers Cisco IOS Software functions for basic data, voice, and video services at the edge of the network. For networks that require additional security, advanced QoS, and high availability, Enhanced Image software delivers intelligent services such as rate limiting and security filtering.</p> <p>With several Fast Ethernet and Gigabit Ethernet configurations, Cisco Catalyst 3560 Series switches can serve as powerful access layer switches for wiring closets and as backbone switches for midsize networks.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and WLAN deployments.</p>

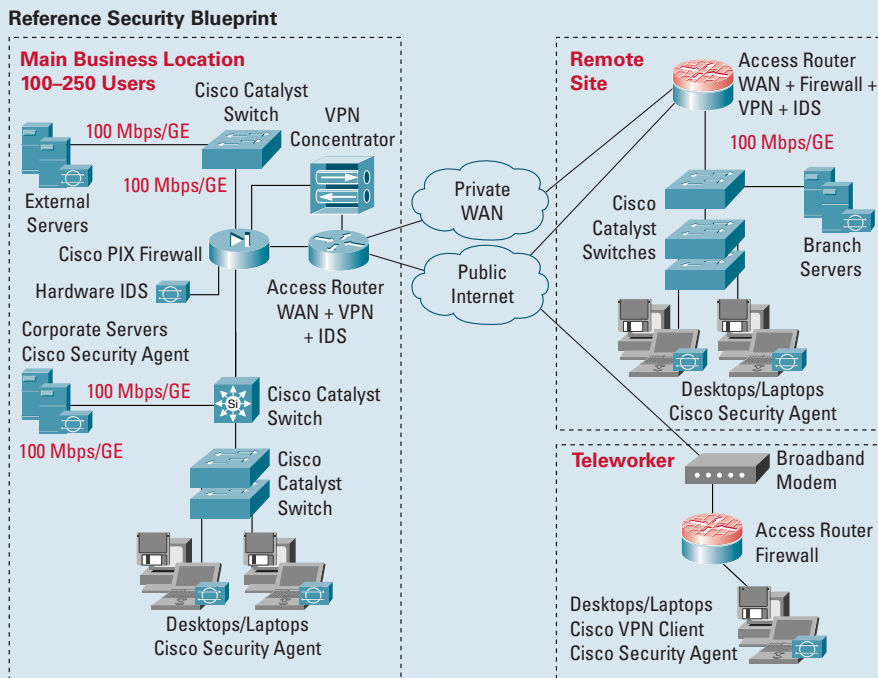
**Solution Features for Teleworker Sites**

	50–100 Users (SMB Complete)	50–100 Users (SMB Enhanced)
Broadband router	<p><b>New Cisco 800 Series (SMB Complete)</b>                      The new Cisco 800 Series provides affordable, secure, multiuser access for small-office and home-office customers while reducing deployment and operational costs for SMBs.</p> <p>Cisco 800 Series routers allow up to five teleworkers in a small office to share a secure broadband connection with an integrated stateful inspection firewall. Corporate teleworkers or small office users can also use the routers for VPN connections to the corporate network.</p>	<p><b>New Cisco 800 Series Secure Routers (SMB Enhanced)</b>                      Cisco 800 Series routers provide secure Internet and corporate network connectivity to teleworkers. This router series offers integrated security services; QoS for high-quality voice, video, and data applications; and easy deployment and management, delivering the industry's lowest total cost of ownership for connecting teleworkers to the corporate network.</p> <p>The Cisco 800 Series empowers teleworkers and day extenders with a secure data, voice, and video connection offering the same level of access to the network as they enjoy in the corporate office.</p>

## Introduction

This reference blueprint provides a network diagram and product table for your main office, remote office, and teleworkers. This is only a suggested blueprint.

**Figure 4: Security Blueprint for SMBs with 100–250 User Ports per Site**



Note: See footnote to Figure 6.

## Product Table

This product table briefly describes Cisco solutions for SMBs with 100 to 250 user ports per site, is intended to be a starting point in choosing Cisco products for your main business location, remote offices, and teleworker connectivity.

Cisco offers a choice of integrated, all-in-one products and dedicated appliances. This gives you the flexibility to create a “right-sized” infrastructure that meets your specific business and budget needs.

**Table 4: Solution Features for Main Business Location and Remote Location**

Main Location	100–250 Users (SMB Complete) (Integrated)	100–250 Users (SMB Enhanced) (External Firewall, VPN, and Voice Recommended)
<b>Router</b>	<p><b>Cisco 3845 Multiservice Access Router</b></p> <p>The Cisco 3800 Series routers provide high-performance routing, low-density switching, security, voice, IP telephony, voice mail, video, and content networking in a single, integrated solution. This design enables small and medium-sized businesses to adapt incrementally to evolving business needs.</p> <p>The Cisco 3845 Multiservice Access Router introduces a new, double-wide form factor that supports the high-density service modules (HDSMs) as well as three WAN interface card slots, and two advanced integration module slots. The Cisco 3845 router can accept two HDSMs. By taking advantage of its HDSM capability, the router can support growth and change in the main office by integrating higher port density and new high-performance services.</p> <p>The expandability and versatility of the Cisco 3845 router lets you “integrate as you go,” adding advanced services such as hardware-assisted data compression and router-integrated content delivery.</p>	<p><b>Cisco 3845 Modular Access Router</b></p> <p>The Cisco 3800 Series of modular access routers brings big-company capabilities to small businesses with its award-winning combination of multiservice integration (data/voice/video/fax), flexible LAN and WAN configurations, security options, range of high-performance processors, router-integrated content-delivery system (requires optional module), and investment protection in a compact solution.</p> <p>The modularity of the Cisco 3800 Series enables small businesses to update their network as budget and business application needs dictate.</p> <p><b>Security</b> On-board encryption, NAC, Inline IPS, Dynamically-loaded signatures More VPN tunnels, high performance firewalls</p> <p><b>Voice</b> Designed for medium density; IP Telephony; Voice Mail, Auto Attendant &amp; Conferencing needs</p> <p><b>Comprehensive L2 &amp; L3 services</b> FE/GE Switch Ports, VLANs, Application Optimization, POE</p> <p>Wire-speed concurrent services &amp; headroom to grow</p>

**Table 4: Solution Features for Main Business Location and Remote Location (Continued)**

Main Location	100–250 Users (SMB Complete) (Integrated)	100–250 Users (SMB Enhanced) (External Firewall, VPN, and Voice Recommended)
Router (continued)	<p>Purpose-built for Integrated Service Security</p> <p>On-board encryption, NAC, Inline IP, Dynamically-loaded signatures</p> <p>More VPN tunnels, high performance firewalls</p> <p><b>Voice</b></p> <p>Optimized for large enterprise branch IP Telephony, Voice Mail, Auto Attendant &amp; Conferencing needs</p> <p>Featuring highest density levels for analog/digital voice, legacy/dial aggregation</p> <p><b>Comprehensive L2 &amp; L3 services</b></p> <p>FE/GE) Switch Ports, VLANs, Wireless, Application Optimization, POE</p> <p>Wire-speed for up to T3/E3 throughput</p> <p><b>Maximum Modularity and Investment Protection</b></p> <p>Flexible AIM, Network Module Enhanced (NME) and NME-X form factors</p> <p>Works with 1700, 2600, 3700 NMs, VICs, WICs</p> <p><b>Scalability, Density, and Resiliency</b></p> <p>Highest levels of resiliency built-in redundant system</p> <p>Inline power &amp; hot-swappable cards</p> <p>Scalable services and interfaces for future requirements</p>	<p><b>Modularity and Investment Protection</b></p> <p>More slots for advanced services via NM, NME, NME-X, NME-XD support with PVDM and AIM modules; works with previous 1700, 2600 and 3700 interfaces, adds new services</p> <p><b>Scalability, Density, and Resiliency</b></p> <p>Inline IP phone power, online insertion and scalable services and interface options for growth</p>
WAN services	Yes	Yes
Security	<p>The Cisco 3845 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128, 192, 265 bit format</li> <li>Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> </ul>	<p>The Cisco 3845 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128, 192, 265 bit format</li> <li>Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> </ul>

**Table 4: Solution Features for Main Business Location and Remote Location (Continued)**

Main Location	100–250 Users (SMB Complete) (Integrated)	100–250 Users (SMB Enhanced) (External Firewall, VPN, and Voice Recommended)
Security (continued)	<ul style="list-style-type: none"> <li>Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> <li>SSL Server Support: Secure Sockets Layer support for remote VPN users</li> <li>Real Time Clock: Mechanism to keep PKI VPN certificates up to date in the case of router downtime or reboot</li> <li>Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> <li>Network Analysis Module (NAM) support: Integrated traffic monitoring helps enable application level visibility into network for remote troubleshooting and traffic analysis</li> </ul>	<ul style="list-style-type: none"> <li>Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> <li>Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> <li>SSL Server Support: Secure Sockets Layer support for remote VPN users</li> <li>Real Time Clock: Mechanism to keep PKI VPN certificates up to date in the case of router downtime or reboot</li> <li>Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> <li>NAM support: Integrated traffic monitoring helps enable application level visibility into network for remote troubleshooting and traffic analysis</li> </ul>
Content	Yes/Network module	Yes/Network module

**Table 4: Solution Features for Main Business Location and Remote Location (Continued)**

Main Location	100–250 Users (SMB Complete) (Integrated)	100–250 Users (SMB Enhanced) (External Firewall, VPN, and Voice Recommended)
Switching	<p><b>Core + Distribution 3560 and Access 3560 PWR</b> or <b>Core + Distribution 3560 and Access 2950</b></p> <p>The Cisco Catalyst 2950 Series is a line of fixed-configuration, stackable, and standalone switches for Fast Ethernet and Gigabit Ethernet connectivity. This product line offers great versatility in software features and configurations to allow SMBs to select the combination that best suits their budget and business needs.</p> <p>The Cisco Catalyst 3560 Series is a line of stackable, multilayer switches that provide high availability, QoS, and security to enhance network operations. For the first time, customers can deploy high-performance IP routing, advanced QoS, detailed rate limiting, enhanced network security, and multicast management network-wide while maintaining the simplicity of traditional LAN switching.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and wireless LAN (WLAN) deployments.</p>	<p>Cisco Catalyst 3560 Series Cisco Catalyst 4500 Series Cisco Catalyst 3560 24 PWR Switch <b>Core + Distribution 4500 (Layer 3) and Access 4500 PWR</b> or <b>Core + Distribution 3560 (Layer 3) and Access 3560 PWR</b></p> <p>Cisco Catalyst 4500 Series switches are chassis-based high-density, high-performance switches offering wire-speed, multilayer 10/100/1000-Mbps switching with integrated resiliency, control, and intelligent services, including granular QoS, predictable performance, advanced security, and comprehensive management for converged network deployments.</p> <p>The Cisco Catalyst 3560 Series is a line of stackable, multilayer switches that provide high availability, QoS, and security to enhance network operations. For the first time, customers can deploy high-performance IP routing, advanced QoS, detailed rate limiting, enhanced network security, and multicast management network-wide while maintaining the simplicity of traditional LAN switching.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and WLAN deployments.</p>

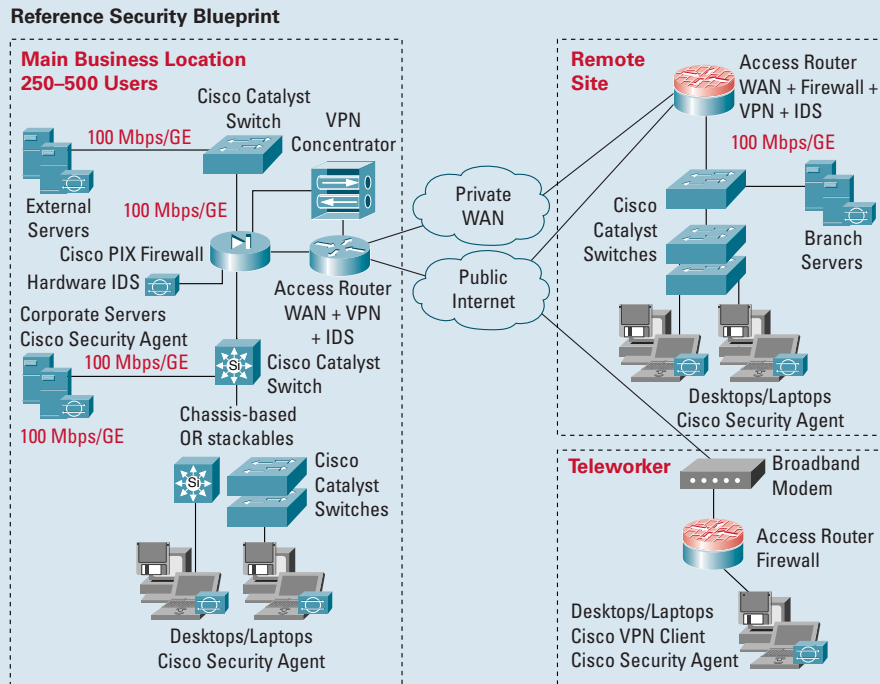
**Solution Features for Teleworker Sites**

Main Location	100–250 Users (SMB Complete) (Integrated)	100–250 Users (SMB Enhanced) (External Firewall, VPN, and Voice Recommended)
Broadband router	<p><b>New Cisco 800 Series (SMB Complete)</b></p> <p>The new Cisco 800 Series provides affordable, secure, multiuser access for small-office and home-office customers while reducing deployment and operational costs for SMBs.</p> <p>Cisco 800 Series routers allow up to five teleworkers in a small office to share a secure broadband connection with an integrated stateful inspection firewall. Corporate teleworkers or small office users can use these routers for VPN connections to the corporate network.</p>	<p><b>New Cisco 800 Series Secure Routers (SMB Enhanced)</b></p> <p>Cisco 800 Series routers provide secure Internet and corporate network connectivity to teleworkers. This router series offers integrated security services; QoS for high-quality data, voice, and video applications; and easy deployment and management, delivering the industry's lowest total cost of ownership for connecting teleworkers to the corporate network.</p> <p>The Cisco 800 Series empowers teleworkers and day extenders with secure data, voice, and video connections, offering the same level of access to the network as they enjoy in the corporate office.</p>

## Introduction

This reference blueprint provides a network diagram and product table for your main office, remote office, and teleworkers. This is only a suggested blueprint.

**Figure 5: Security Blueprint for SMBs with 250–500 User Ports per Site**



Note: See footnote to Figure 6.

## Product Table

This product table briefly describes Cisco solutions for SMBs with 250 to 500 user ports per site, is intended to be a starting point in choosing Cisco products for your main business location, remote offices, and teleworker connectivity.

**Table 5: Solution Features for Main Business Location and Remote Location**

Main Location	250–500 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	250–500 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
<b>Router</b>	<p><b>Cisco 3825 Series modular access routers</b></p> <p>The Cisco 3800 Series brings big-company capabilities to small businesses with its award-winning combination of multiservice integration (data/voice/video/fax), flexible LAN and WAN configurations, security options, range of high-performance processors, router-integrated content-delivery system (requires optional module), and investment protection in a compact solution.</p> <p>The modularity of the Cisco 3800 Series enables small businesses to update their network as budget and business application needs dictate.</p>	<p><b>Cisco 3845 Multiservice Access Router</b></p> <p>The Cisco 3800 Series routers provide high-performance routing, low-density switching, security, voice, IP telephony, voice mail, video, and content networking in a single, integrated solution. This design enables small and medium-sized businesses to adapt incrementally to evolving business needs.</p> <p>The Cisco 3845 Multiservice Access Router introduces a new, double-wide form factor that supports the high-density service modules (HDSMs) as well as three WAN interface card slots, and two advanced integration module slots. The Cisco 3845 router can accept two HDSMs. By taking advantage of its HDSM capability, the router can support growth and change in the main office by integrating higher port density and new high-performance services.</p> <p>The expandability and versatility of the Cisco 3845 router lets you “integrate as you go,” adding advanced services such as hardware-assisted data compression and router-integrated content delivery.</p> <p><b>Purpose-built for Integrated Service Security</b></p> <ul style="list-style-type: none"> <li>On-board encryption, NAC, Inline IP, Dynamically-loaded signatures</li> <li>More VPN tunnels, high performance firewalls</li> </ul>

**Table 5: Solution Features for Main Business Location and Remote Location (Continued)**

Main Location	250–500 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	250–500 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
Router (continued)		<p><b>Voice</b> Optimized for large enterprise branch IP Telephony, Voice Mail, Auto Attendant &amp; Conferencing needs</p> <p>Featuring highest density levels for analog/digital voice, legacy/dial aggregation</p> <p><b>Comprehensive L2 &amp; L3 services</b> FE/GE Switch Ports, VLANs, Wireless, Application Optimization, POE</p> <p>Wire-speed for up to T3/E3 throughput</p> <p><b>Maximum Modularity and Investment Protection</b> Flexible AIM, Network Module Enhanced (NME) and NME-X form factors</p> <p>Works with 1700, 2600, 3700 NMs, VICs, WICs</p> <p><b>Scalability, Density, and Resiliency</b> Highest levels of resiliency built-in redundant system</p> <p>Inline power &amp; hot-swappable cards</p> <p>Scalable services and interfaces for future requirements</p>
WAN services	Yes	Yes
Security	<p>The Cisco 3825 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128, 192, 265 bit format</li> <li>Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> <li>Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> </ul>	<p>The Cisco 3845 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128, 192, 265 bit format</li> <li>Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> <li>Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPV6 Firewall, VoIP and AAA support</li> </ul>

**Table 5: Solution Features for Main Business Location and Remote Location (Continued)**

Main Location	250–500 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	250–500 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
Security (continued)	<ul style="list-style-type: none"> <li>Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> <li>SSL Server Support: Secure Sockets Layer support for remote VPN users</li> <li>Real Time Clock: Mechanism to keep PKI VPN certificates up to date in the case of router downtime or reboot</li> <li>Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> <li>NAM support: Integrated traffic monitoring helps enable application level visibility into network for remote troubleshooting and traffic analysis</li> </ul>	<ul style="list-style-type: none"> <li>Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> <li>SSL Server Support: Secure Sockets Layer support for remote VPN users</li> <li>Real Time Clock: Mechanism to keep PKI VPN certificates up to date in the case of router downtime or reboot</li> <li>Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> <li>NAM support: Integrated traffic monitoring helps enable application level visibility into network for remote troubleshooting and traffic analysis</li> </ul>
Content	Yes/Network module	Yes/Network module

**Table 5: Solution Features for Main Business Location and Remote Location (Continued)**

Main Location	250–500 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	250–500 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
External switch	<p>Cisco Catalyst 2950 Series Cisco Catalyst 3560 Series Cisco Catalyst 3560 24 PWR Switch Cisco Catalyst 4500 Series <b>Core + Distribution 4500 (Layer 3) and Access 3560 PWR</b> or <b>Core + Distribution 3560 (Layer 3) and Access 2950</b> Cisco Catalyst 4500 Series switches are chassis-based high-density, high-performance switches offering wire-speed, multilayer 10/100/1000-Mbps switching with integrated resiliency, control, and intelligent services, including granular QoS, predictable performance, advanced security, and comprehensive management for converged network deployments.</p> <p>The Cisco Catalyst 3560 Series is a line of stackable, multilayer switches that provide high availability, QoS, and security to enhance network operations. For the first time, customers can deploy high-performance IP routing, advanced QoS, detailed rate limiting, enhanced network security, and multicast management network-wide while maintaining the simplicity of traditional LAN switching.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and wireless LAN (WLAN) deployments.</p> <p>The Cisco Catalyst 2950 Series is a line of fixed-configuration, stackable, and standalone switches for Fast Ethernet and Gigabit Ethernet connectivity. This product line offers great versatility in software features and configurations to allow SMBs to select the combination that best suits their budget and business needs.</p>	<p>Cisco Catalyst 3560 Series Cisco Catalyst 3560 24 PWR Switch Cisco Catalyst 4500 Series <b>Core + Distribution 4500 (Layer 3) and Access 4500 PWR</b> or <b>Core + Distribution 3560 (Layer 3) and Access 3560 PWR</b> Cisco Catalyst 4500 Series switches are chassis-based high-density, high-performance switches offering wire-speed, multilayer 10/100/1000-Mbps switching with integrated resiliency, control, and intelligent services, including granular QoS, predictable performance, advanced security, and comprehensive management for converged network deployments.</p> <p>The Cisco Catalyst 3560 Series is a line of stackable, multilayer switches that provide high availability, QoS, and security to enhance network operations. For the first time, customers can deploy high-performance IP routing, advanced QoS, detailed rate limiting, enhanced network security, and multicast management network-wide while maintaining the simplicity of traditional LAN switching.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and WLAN deployments.</p>

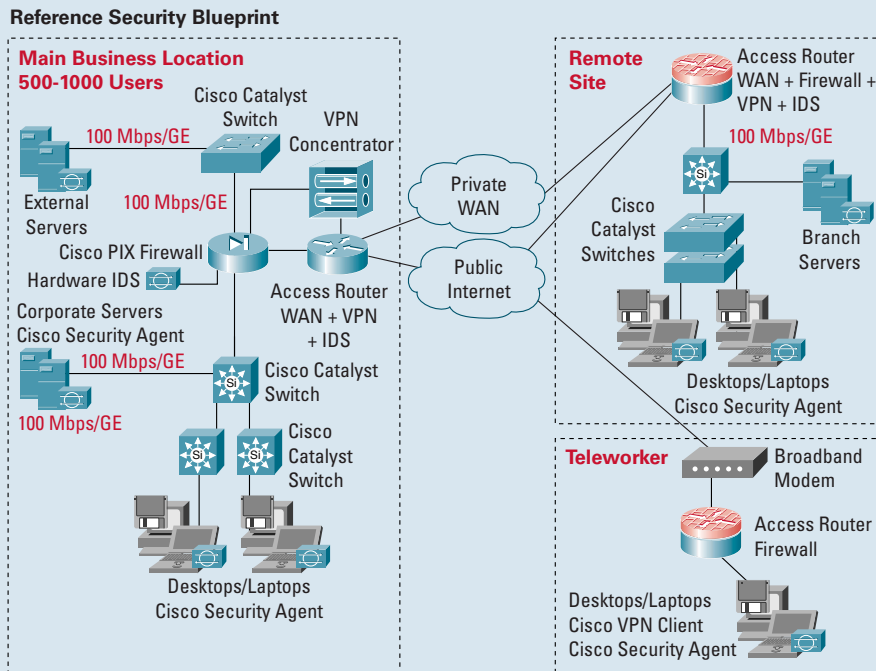
**Solution Features for Teleworker Sites**

Main Location	250–500 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	250–500 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
Broadband router	<p><b>New Cisco 800 Series (SMB Complete)</b> The new Cisco 800 Series provides affordable, secure, multiuser access for small-office and home-office customers while reducing deployment and operational costs for SMBs.</p> <p>Cisco 800 Series routers allow up to five teleworkers in a small office to share a secure broadband connection with an integrated stateful inspection firewall. Corporate teleworkers or small office users can use these routers for VPN connections to the corporate network.</p>	<p><b>New Cisco 800 Series Secure Routers (SMB Enhanced)</b> Cisco 800 Series routers provide secure Internet and corporate network connectivity to teleworkers. This router series offers integrated security services; QoS for high-quality data, voice, and video applications; and easy deployment and management, delivering the industry's lowest total cost of ownership for connecting teleworkers to the corporate network.</p> <p>The Cisco 800 Series empowers teleworkers and day extenders with secure data, voice, and video connections, offering the same level of access to the network as they enjoy in the corporate office.</p>

## Introduction

This reference blueprint provides a network diagram and product table for your main office, remote office, and teleworkers. This is only a suggested blueprint.

**Figure 6: Security Blueprint for SMBs with 500–1000 User Ports per Site**



<sup>1</sup> This network blueprint is intended to be an educational resource and a starting point in planning your network solution; it is not a final recommendation from Cisco. To determine the deployment at appropriate for your company we suggest you work with a Cisco representative, Cisco channel partner, or a solutions provider.

## Product Table

This product table briefly describes Cisco solutions for SMBs with 500 to 1000 user ports per site, is intended to be a starting point in choosing Cisco products for your main business location, remote offices, and teleworker connectivity.

**Table 6: Solution Features for Main Business Location and Remote Sites**

Main Location	500–1000 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	500–1000 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
<b>Router</b>	<p><b>Cisco 3845 Multiservice Access Router</b></p> <p>The Cisco 3800 Series routers provide high-performance routing, low-density switching, security, voice, IP telephony, voice mail, video, and content networking in a single, integrated solution. This design enables small and medium-sized businesses to adapt incrementally to evolving business needs.</p> <p>The Cisco 3845 Multiservice Access Router introduces a new, double-wide form factor that supports the high-density service modules (HDSMs) as well as three WAN interface card slots, and two advanced integration module slots. The Cisco 3845 router can accept two HDSMs. By taking advantage of its HDSM capability, the router can support growth and change in the main office by integrating higher port density and new high-performance services.</p> <p>The expandability and versatility of the Cisco 3845 router lets you “integrate as you go,” adding advanced services such as hardware-assisted data compression and router-integrated content delivery.</p> <p>Purpose-built for Integrated Service Security</p> <p>On-board encryption, NAC, Inline IP, Dynamically-loaded signatures</p> <p>More VPN tunnels, high performance firewalls</p>	<p><b>Cisco 7200 Series routers</b></p> <p>Cisco 7200 Series routers support high-speed media and high-density configurations with up to 1 Mpps processing at competitive prices. By taking advantage of the modularity of the Cisco 7200 Series, customers can deploy scalable solutions to address a wide range of density, performance, and service requirements while ensuring investment protection for future network needs.</p> <p>An important strength of the Cisco 7200 Series is its modularity. With a choice of a 4- or 6-slot chassis, a selection of processors providing up to 1 million packets per second (Mpps) processing, an extensive range of LAN and WAN interfaces with up to 48 ports per chassis, and single or dual power supplies, companies can customize their systems to achieve the performance, connectivity, and capacity desired.</p>

**Table 6: Solution Features for Main Business Location and Remote Sites (Continued)**

Main Location	500–1000 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	500–1000 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
Router (continued)	<p><b>Voice</b> Optimized for large enterprise branch IP Telephony, Voice Mail, Auto Attendant &amp; Conferencing needs</p> <p>Featuring highest density levels for analog/digital voice, legacy/dial aggregation</p> <p><b>Comprehensive L2 &amp; L3 services</b> FE/GE) Switch Ports, VLANs, Wireless, Application Optimization, POE</p> <p>Wire-speed for up to T3/E3 throughput</p> <p><b>Maximum Modularity and Investment Protection</b> Flexible AIM, Network Module Enhanced (NME) and NME-X form factors</p> <p>Works with 1700, 2600, 3700 NMs, VICs, WICs</p> <p><b>Scalability, Density, and Resiliency</b> Highest levels of resiliency built-in redundant system</p> <p>Inline power &amp; hot-swappable cards</p> <p>Scalable services and interfaces for future requirements</p>	
WAN services	Yes	Yes
Security	<p>The Cisco 3845 routers support a wide range of Security features. Some of the key features are:</p> <ul style="list-style-type: none"> <li>On-Board Encryption Accelerator Process: With support for IPSec DES, 3DES &amp; AES 128, 192, 256 bit format</li> <li>Optional High Performance AIM-VPN: Dedicated Encryption Processor card supporting IPSec DES, 3DES, AES 128, 192, 256 and Hardware Compression with IPPCP</li> <li>Cisco IOS Software-Based Firewall Enhancement: Sophisticated security &amp; policy enforcement with Transparent Firewalling, IPv6 Firewall, VoIP and AAA support</li> </ul>	<p>Security in the Cisco 7200 Modular routers is achieved through the deployment of the multiple high end interface cards and Port Adapters. It comes equipped with many Network Processing Engines (NPE) to meet the security needs of high density users.</p>

**Table 6: Solution Features for Main Business Location and Remote Sites (Continued)**

Main Location	500–1000 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	500–1000 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
Security (continued)	<ul style="list-style-type: none"> <li>Dynamic Multipoint VPN Support: Cisco IOS-based solution for building IPSec + GRE VPNs in an easy and scalable manner</li> <li>Dynamic Inline IDS Support: Dynamically load the latest IDS signature files to any targeted router with Cisco VMS or ISC Software</li> <li>Easy VPN Server &amp; Client Support: The ability to receive/send IPSec configurations from server to clients for easy deployment of VPN networks</li> <li>SSL Server Support: Secure Sockets Layer support for remote VPN users</li> <li>Real Time Clock: Mechanism to keep PKI VPN certificates up to date in the case of router downtime or reboot</li> <li>Secure Real-Time Transport Protocol (SRTP) Support: Secure RTP to protect VoIP media, Voice Mail Media &amp; Signaling encryption to provide call privacy &amp; security for IP Communications deployments</li> <li>Optional USB secure Token Support: Optional USB for secure configurations distributions and off-platform storage of VPN credentials</li> <li>NAM support: Integrated traffic monitoring helps enable application level visibility into network for remote troubleshooting and traffic analysis</li> </ul>	
Content	Yes/Network module	Yes/Cisco 565A Content Engine

**Table 6: Solution Features for Main Business Location and Remote Sites (Continued)**

Main Location	500–1000 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	500–1000 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
External switch	<p>Cisco Catalyst 3560 Series Cisco Catalyst 3560 24 PWR Switch Cisco Catalyst 4500 Series <b>Core + Distribution 4500 (Layer 3) and Access 4550 PWR</b> or <b>Core + Distribution 4550 (Layer 3) and Access 3560 PWR</b></p> <p>Cisco Catalyst 4500 Series switches are chassis-based high-density, high-performance switches offering wire-speed, multilayer 10/100/1000-Mbps switching with integrated resiliency, control, and intelligent services, including granular QoS, predictable performance, advanced security, and comprehensive management for converged network deployments.</p> <p>The Cisco Catalyst 3560 Series is a line of stackable, multilayer switches that provide high availability, QoS, and security to enhance network operations. For the first time, customers can deploy high-performance IP routing, advanced QoS, detailed rate limiting, enhanced network security, and multicast management network-wide while maintaining the simplicity of traditional LAN switching.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and WLAN deployments.</p>	<p>Cisco Catalyst 3560 24 PWR Switch Cisco Catalyst 4500 Series Cisco Catalyst 6500 Series <b>Core + Distribution 6500 (Layer 3) and Access 4500 PWR</b> or <b>Core + Distribution 6500 (Layer 3) and Access 3560 PWR</b></p> <p>The Cisco Catalyst 6500 Series delivers secure, converged services from the wiring closet to the data center. Its scalable, intelligent, multilayer switching performance includes 48 to 576 10/100/1000-Mbps Ethernet ports and hundreds of million packets per second throughout supporting multiple gigabit and 10-Gbps trunks.</p> <p>Cisco Catalyst 4500 Series switches are chassis-based high-density, high-performance switches offering wire-speed, multilayer 10/100/1000-Mbps switching with integrated resiliency, control, and intelligent services, including granular QoS, predictable performance, advanced security, and comprehensive management for converged network deployments.</p> <p>Cisco Catalyst 3560 Series stackable, multilayer switches provide high availability, QoS, and security to enhance network operations. For the first time, customers can deploy high-performance IP routing, advanced QoS, detailed rate limiting, enhanced network security, and multicast management network-wide while maintaining the simplicity of traditional LAN switching.</p> <p>The Cisco Catalyst 3560 24 PWR Switch has all of the advanced Layer 2–4 intelligent services available in the Cisco Catalyst 3560 Series, plus integrated inline power that lowers the total cost of ownership by providing power on every 10/100-Mbps port for IP telephony and WsLAN deployments.</p>

**Solution Features for Teleworker Sites**

Main Location	500–1000 Users (SMB Complete) (External Hardware Firewall, VPN, and Voice Recommended)	500–1000 Users (SMB Enhanced) (External Hardware Firewall, VPN, and Voice Recommended)
Broadband router	<p><b>New Cisco 800 Series (SMB Complete)</b></p> <p>The new Cisco 800 Series of routers provides affordable, secure, multi-user access for small-office and home-office customers while reducing deployment and operational costs for SMBs.</p> <p>Cisco 800 Series routers allow up to five teleworkers in a small office to share a secure broadband connection with an integrated stateful inspection firewall. Corporate teleworkers or small office users can use these routers for VPN connections to the corporate network.</p>	<p><b>New Cisco 800 Series Secure Routers (SMB Enhanced)</b></p> <p>Cisco 800 Series routers provide secure Internet and corporate network connectivity to teleworkers. This router series offers a integrated security services; QoS for high-quality data, voice, and video applications; and easy deployment and management, delivering the industry's lowest total cost of ownership for connecting teleworkers to the corporate network.</p> <p>The Cisco 800 Series empowers teleworkers and day extenders with secure data, voice, and video connections offering the same level of access to the network as they enjoy in the corporate office.</p>



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