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## Product Brief

### VPN Router at a glance...

#### VPN Router 200 Series

The VPN Router 200 Series (formerly known as Contivity 200 Series VPN Switches) provides low cost secure connectivity to the Internet or managed IP networks, designed for telecommuters and small offices/ home offices.

- Applications include VPN, stateful firewall, URL/content filtering and optional integrated ADSL in a compact, easy to manage platform
- Full inspection firewall with up to 50 rules, denial of service protection, logging, and email alerts to prevent unwanted network intrusions
- Integrated 4-port 10/100 Ethernet Switch allows direct connection of user PCs and LAN devices
- Has PPPoE, DHCP, DNS, and NAT support to simplify internet deployment and broadband DSL connections
- Hard Client mode allows VPN Router 200 to simulate a VPN Client, simplifying management set-up and aiding larger scale deployments

#### VPN Router 600

The VPN Router 600 (formerly known as Contivity 600 Secure IP Services Gateway) supports centralized management via a secure, encrypted Internet tunnel, which can extend secure VPN remote access to locations needing up to 50 tunnels.

- Can serve as a hub or spoke in small VPNs, or as a basis for mesh extranets
- Offers complete site-to-multi-site VPN features in a compact, low cost desktop package
- Functionalities include: IP routing, IPSec tunneling, stateful firewall protection, authentication and encryption

#### VPN Router 1000 Series (Includes VPN Router 1010/1050 and VPN Router 1100)

The VPN Router (formerly known as Contivity 1000 Series Secure IP Services Gateways) is ideally suited to the small, home or branch office. The inbuilt IP access router, VPN switch and firewall

functionalities ensure it can assume different roles in enterprise and carrier networks.

- Supports up to 30 tunnels, which makes it ideal for bringing all branch offices and partner locations into one secure network
- Offers high-end software and administration in a small low-cost package
- Supports centralized management via a secure, encrypted Internet tunnel
- Functionality evolution is flexible by licensing

#### VPN Router 1750

The VPN Router 1750 is the cost effective, all-in-one solution for medium and large enterprise branch office sites, supporting up to several hundred users.

- Can adapt to different roles in enterprise and carrier IP networks: IP access router, VPN switch, firewall, encryption, Quality of Service and bandwidth management services
- Supports up to VPN 500 tunnels
- Embedded Secure Routing Technology provides scalability and high performance even when running multiple IP services on the same device
- Easy installation and management
- Full SSL VPN functionality via installable module

#### VPN Router 2700

The VPN Router 2700 (formerly known as Contivity 2700 Secure IP Services Gateway) is today's router for today's medium to large businesses which can provide up to 2000 tunnels to securely connect workers from all locations.

- Can serve multiple roles: IP access router, VPN switch, firewall and more
- Supports centralized management
- Quality of Service and bandwidth manage-

ment insures mission-critical data traffic for business communications.

- Full SSL VPN functionality via installable module

#### VPN Router 5000

The VPN Router 5000 (formerly known as Contivity 5000 Secure IP Services Gateway) is the next generation platform providing up to 5000 VPN tunnels to securely connect branch offices and remote workers to headquarters.

- Adapts to different roles of VPN gateway, firewall, and IP access router
- Supports dynamic routing and load balancing for tunnelled and non-tunnelled traffic
- Provides full hardware redundancy – dual disks, processors, power supplies for high reliability
- Standard encryption accelerator hardware can support a second encryption accelerator to further boost VPN throughput
- Full SSL VPN functionality via installable module

#### Management

All VPN routers can be manager through the VPN Router Multi-Element Manager. This is a multi-element manager that addresses the network administrator's need to provision and maintain VPN Router devices within their network.

#### Features and Benefits

- Centralized provisioning of up to 2500 VPN Router devices
- Automated VPN Router device changes and updates
- Easy to use single view management
- Work-flow wizards simplify configuration
- Software image and license management
- Audit logging of all changes for security and archival purposes

Series	VPN Router 221	VPN Router 251	VPN Router 600	VPN Router 10X0 Series	VPN Router 1100	VPN Router 1750	VPN Router 2700	VPN Router 5000
Memory	16 MB RAM ; 4MB Flash	16 MB RAM; 4MB Flash	128 MB	128 MB RAM; 64 MB Flash	128 MB RAM; 64 MB Flash	Standard: 128 MB Maximum: 256 MB	Standard: 256 MB Maximum: 512 MB	Standard: 512 MB Maximum: 1.5 GB
Processor	100 MHz MIPS	166 MHz ARM	300 MHz Celeron	300 MHz Celeron	300 MHz Celeron	850 MHz Pentium III	1.33 GHz Pentium III	Dual 2.2 GHz Intel Xeon Processors
PCI Expansion Slots	No	No	1	No	2	4	3	5
Max 3DES throughput	9 Mbps	9 Mbps	15 Mbps	15 Mbps	15 Mbps	125 Mbps	150 Mbps	375 Mbps
AES throughput	12 Mbps	12 Mbps	30 Mbps	30 Mbps	30 Mbps	150 Mbps	200 Mbps	375 Mbps
<b>Standard Equipment</b>								
10/100 BaseT Ethernet Ports	No	No	2	2	2	2	2	1
10/100 Ethernet Switch	4-port	4-port	No	1050 - 4-ports 1010 - No	4-ports	No	No	No
Management Console Port (DB-9)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VPN Tunnels	Up to 5	Up to 5	Up to 50	Up to 30	Up to 30	Up to 500	Up to 2000	Up to 5000
Dual redundant, auto switching power supply system with dual line cards	No	No	No	No	No	No	No	Yes
Dual redundant storage system	No	No	No	No	No	No	No	Yes
<b>LAN/WAN options</b>								
Additional 10/100BaseT Ethernet	No	No	Yes – 1 port	No	Yes – 2 ports	Yes – 4 ports	Yes – 3 ports	Yes <sup>1</sup> - 5 ports
1000Base SX /T (GigE) Ethernet	No	No	No	No	No	Yes	Yes	Yes <sup>2</sup>
T1/E1 with CSU/DSU	No	No	Yes	No	Yes	Yes	Yes	Yes
V.90 Dial Modem	No	No	Yes	No	Yes	Yes	Yes	Yes
ISDN BRI (S/T and U Interfaces)	No	No	Yes	No	Yes	Yes	Yes	Yes
ADSL	No	Yes	Yes	No	Yes	Yes	Yes	Yes
V.35/X.21/RS-232 Serial	No	No	Yes	No	Yes	Yes	Yes	Yes
56/64K CSU/DSU	No	No	Yes	No	Yes	Yes	Yes	Yes
High Speed Serial Interface (HSSI)	No	No	No	No	Yes	Yes	Yes	Yes
SSL VPN Module	No	No	No	No	No	Yes	Yes	Yes
Encryption accelerator card	No	No	No	No	No	Yes	Yes	Yes <sup>3</sup>
<b>Competitor Products<sup>4</sup></b>								
Branch Office	Cisco 831	Cisco 837	Cisco 1700; 1800	Cisco 1800	Cisco 1800	Cisco 2600; 2800	Cisco 2800; 3600; 3800	Cisco 7000; 3800
Remote Access Solutions	Cisco 3005	Cisco 3005	Cisco 3030	Cisco 3030	Cisco 3030	Cisco 3600	Cisco 3700	Cisco 7200
Firewalls	Cisco 50X	Cisco 50X	Cisco 506E	Cisco 506E	Cisco 506E	Cisco 515	Cisco 525; 535	Cisco 535

<sup>1</sup> & <sup>2</sup> Both come as part of standard equipment, however, there is a choice between an additional 10/100BaseT Ethernet OR 1000Base SX/T (GigE) Ethernet

<sup>3</sup> There is already 1 encryption accelerator card integrated, however, there is the option to add another one

<sup>4</sup> Please use as a guideline

## Technical Specifications

Nortel VPN Routers – models 600, 1010, 1050, 1100, 1750, 2700 and 5000.

<b>IP routing and network addressing</b>	<ul style="list-style-type: none"> <li>• RIPv1, v2, Open Shortest Path First (OSPFv2), Border Gateway Protocol (BGP-4)</li> <li>• 802.1Q VLAN routing</li> <li>• Policy-based routing (next hop traffic filters)</li> <li>• Virtual Router Redundancy Protocol (VRRP)</li> <li>• Data Link Switching (DLSw); SNA encapsulation within IP</li> <li>• Dynamic Routing over IPSec (RFC 3884)</li> </ul>
<b>VPN tunneling protocols</b>	<ul style="list-style-type: none"> <li>• IPSec, including authentication header (AH), encapsulating security protocol (ES) and Internet key exchange (IKE)</li> <li>• Point-to-point tunneling protocol (PPTP), including compression and encryption</li> <li>• Layer 2 Tunneling Protocol (L2TP), including L2TP/IPSec</li> <li>• Secure Sockets Layer (SSL) v2.0, 3.0 and Transport Layer Security (TLS) with SSL VPN Module</li> </ul>
<b>Encryption</b>	<ul style="list-style-type: none"> <li>• Data Encryption Standard (DES)</li> <li>• Triple DES (3DES) using 3 independent 56-bit keys; 168-bit key length (effective strength of 128 bits)</li> <li>• Advanced Encryption Standard (AES); 128-bit and 256-bit versions</li> <li>• RC4</li> </ul>
<b>User authentication services</b>	<ul style="list-style-type: none"> <li>• X.509 Digital Certificates and Smart Cards (support for all major vendors and MS-CAPI)</li> <li>• Remote authentication dial-in user services (RADIUS)</li> <li>• Hard and soft token support (e.g., SecureID and AXENT)</li> <li>• User name and password and NT Domain Login</li> <li>• Internal or external lightweight directory access protocol (LDAP)</li> </ul>
<b>WAN protocols and services</b>	<ul style="list-style-type: none"> <li>• Point-to-Point Protocol (PPP); including PPP over Ethernet (PPPoE)</li> <li>• Frame Relay (including FRF.9 compression and FRF.12 fragmentation)</li> <li>• ADSL (G.DMT, G.Lite, ANSI T1.413) with support for PPP and PPPoE over ATM</li> <li>• Dial-on-demand and dial back-up services via integral V.90 modem or ISDN</li> </ul>
<b>Bandwidth management; QoS</b>	<ul style="list-style-type: none"> <li>• User and group-level configurable minimum bandwidth settings</li> <li>• Eight forwarding priority queues</li> <li>• DiffServ (Differentiated Services) with code point marking</li> <li>• 802.1p/DSCP (Differentiated Services Code Point) mapping</li> <li>• Multi-level Random Early Detection (MRED)</li> <li>• Resource Reservation Protocol (RSVP)</li> </ul>
<b>Data compression</b>	<ul style="list-style-type: none"> <li>• IPComp (RFC 3173) for encrypted and non-encrypted traffic</li> <li>• FRF.9 Frame Relay compression</li> </ul>
<b>Accounting</b>	<ul style="list-style-type: none"> <li>• Event, system, security and configuration logging</li> <li>• Internal and external RADIUS accounting</li> <li>• Automatic archiving to external system</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>• Nortel VPN Router Multi-Element Manager provides multi-box provisioning for up to 2,500 VPN Router devices</li> <li>• Full Web browser-based HTML configuration</li> <li>• Nortel Command Line Interface</li> <li>• Easy Install utility for simple remote VPN Router set-up</li> <li>• SNMP monitoring and alerts</li> <li>• Three levels of administrator access; role-based management to separate service provider and end-user</li> </ul>
<b>Stateful firewall</b>	<ul style="list-style-type: none"> <li>• Multi-layers stateful packet inspection supporting over 100 network application protocols, including TCP, UDP, FTP, HTTP, H.323, RealAudio, Java and ActiveX</li> <li>• Defense against major “hacker” attacks, including DOS, SYN flood, Smurf, Ping, Spoofing, Fraggle and ICMP unreachable</li> <li>• Extensive and customizable logging options</li> <li>• NAT, Proxy and end-user authentication</li> <li>• Unlimited firewall users and policies for tunneled and non-tunneled traffic</li> </ul>
<b>Nortel VPN Client</b>	<ul style="list-style-type: none"> <li>• IPSec (with DES, 3DES and AES encryption)</li> <li>• Microsoft Windows 95, 98, 2000, ME, NT and XP-based clients (free/unlimited)</li> <li>• Macintosh, IBM-AIX, SUN-Solaris, HP-UX, Linux and Windows Mobile (Pocket PC) via optional license</li> </ul>
<b>End-Point Security</b>	<ul style="list-style-type: none"> <li>• Tunnel Guard enforces corporate security policies on endpoint PCs by checking for anti-virus, personal firewall or any application software (e.g., patches) before allowing VPN connection</li> </ul>
<b>SSL VPN</b>	<ul style="list-style-type: none"> <li>• Support for up to 1000 secure Web browser sessions (with SSL VPN Module)</li> <li>• Access from Microsoft Internet Explorer, Netscape Navigator and Mozilla browsers</li> <li>• Universal Access Portal provides transparent IPSec or SSL single sign-on by end-users</li> <li>• Authentication via RADIUS, LDAP, X.509 certificates</li> <li>• Auto-logout and cache-cleaning of files and history</li> </ul>
<b>Certifications</b>	<ul style="list-style-type: none"> <li>• ICSA (International Computer Security Association) 1.0d certification (IPSec)</li> <li>• FIPS 140-2 (Federal Information Processing Standard for Security)</li> <li>• Virtual Private Network Consortium (VPNC) Basic Conformance Testing (IPSec)</li> </ul>



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