

## Nortel Networks

# Contivity 1700 Series

## Secure IP Services Gateways

### Delivering security for the Internet

The rise of the Internet provides enterprises with a unique opportunity to realize cost savings in their corporate communications. But the Internet is not secure. Enterprises with mission-critical Internet applications must protect the data they transmit, as well as guard their internal networks from outside intrusion. Legacy routers—the traditional means of Internet connection—lack the ability to meet these security needs without expensive add-ons and performance overhead. The Contivity\* 1700 Secure IP Services Gateways are high-performance, scalable solutions that deliver the IP security enterprises need today with the flexibility to easily upgrade to new services in the future

The Contivity 1700 series of Secure IP Services Gateways are next-generation platforms offering secure, high-performance connectivity to the Internet or managed IP networks. Designed for enterprise sites, the Contivity 1700 series provides IP routing, Virtual Private Networking (VPN), stateful firewall, encryption, authentication, directory and policy services, Quality of Service (QoS), and bandwidth management in a single integrated platform.

Consisting of Contivity 1700 and 1740 models, the Contivity 1700 series flexibly addresses medium and large site needs for secure Internet connectivity, including VPN communications, stateful firewalling, and IP routing. With a comprehensive set of secure IP services, along with hardware-based encryption acceleration, the Contivity 1700 allows enterprises to deploy needed services today with the flexibility and power to add new ones in the future.

As a highly modular solution, the Contivity 1700 series offers high-speed LAN (10/100 Mbps) and comprehensive WAN options—T1, V.35/X.21, ISDN, V.90, and HSSI—as well as Frame Relay support. A Contivity 1700 device can act as the all-in-one "IP edge" solution for secure connection to the Internet or IP network.



*Contivity 1700*



*Contivity 1740*

## Modular platforms for flexible expansion

The Contivity 1700 series comprises two hardware platforms—the Contivity 1700 and Contivity 1740—addressing different expansion needs. The Contivity 1700, with a single expansion slot, addresses sites with limited need for optional LAN, WAN, or hardware acceleration. The Contivity 1740, with up to four expansion slots, can integrate a wide range of hardware options, including multiple Ethernet LAN, V.35, T1, ISDN, and V.90 modem cards for fan-out and back-up purposes. This enables maximum flexibility at an attractive entry price.

## Low total cost of ownership

With its high-performance design, integrated LAN and WAN interfaces, and wide variety of secure IP services, the Contivity 1700 series is a cost-effective solution for mid-range and large enterprise sites, including remote branch and/or headquarters environments. A single Contivity 1700 offers a range of services (e.g., router, VPN gateway, stateful firewall) that would otherwise require multiple discrete devices to deliver. Furthermore, new IP services can be easily added. The Contivity 1700 series can be deployed as a VPN gateway, router, or firewall and new IP services can be later added via a software license key—simplifying the upgrade process.

## Security by design

The Contivity 1700 series incorporates the same Secure Routing Technology (SRT) framework available across the Contivity product line. SRT tightly integrates security and IP services within a single Contivity device and enables a consistent security structure across those services. This provides scalability and high performance even when running multiple IP services in the same device. SRT further delivers key features—such as dynamic routing over IPSec-based VPN tunnels, common security policies across VPN, routing, and firewall services, and a flexible

### Key benefits:

- Modular platforms
- Low total cost of ownership
- Security by design
- Flexible, secure IP services
- Comprehensive management

licensing scheme that enables new IP services to be turned up on demand.

As a market leader in IP Virtual Private Networking (IP-VPN), Contivity has been delivering on the promise of secure end-to-end VPNs for years. The Contivity 1700 series delivers these market-leading VPN capabilities, whether for remote VPN client access or in support of branch or remote site VPNs to other Contivity gateways.

## Flexible IP services

As a standards-based solution, the Contivity 1700 series can interoperate with existing routing, authentication, directory, and security systems and can bridge the transition to new IP services. It can be deployed as an Internet access

device, secure VPN gateway, or firewall solution and be easily upgraded with additional services. Advanced routing software (e.g., OSPF, RIP) enables Contivity to interoperate with existing routing infrastructure. And support for LDAP, RADIUS, and X.509 digital certificates enables Contivity to interoperate with existing authentication and/or directory systems.

## Comprehensive management services

The Contivity 1700 offers comprehensive management services common across the Contivity line. These include the Contivity Configuration Manager (CCM), a centralized provisioning solution for up to 2,500 Contivity devices which can store and automatically update remote Contivity devices. Device management also includes Web-based and command-line configuration utilities, SNMP monitoring and alerts, as well as a rich set of security and system logging tools that let administrators track all transactions and events.

## Key Contivity 1700 features and benefits

Features	Benefits
<b>Extensive VPN and security capabilities</b>	Broad support for both site-to-site and remote access VPNs, flexible internal/external authentication options, full PKI support, wire-speed encryption (3DES and AES), stateful firewall, DOS protection
<b>Modular WAN and LAN I/O</b>	Can connect directly to wide area network without requiring separate router or access device; additional I/O slots enable multiple WAN or LAN cards for back-up and/or expansion purposes
<b>Dial back-up support</b>	Can establish connection over a back-up link (e.g., via V.90 or ISDN) if primary Internet (IP) connection should fail
<b>QoS and bandwidth management</b>	Fine grain QoS ensures mission-critical data traffic and/or delay-sensitive voice traffic gets appropriate level of service for business communications
<b>Stateful packet firewall</b>	High-performance firewall license allows Contivity 1700 to provide network perimeter protection without requiring purchase of a separate standalone device
<b>Advanced routing</b>	OSPF, VRRP, and bandwidth management services allow design of robust, high-performance, and highly available IP-VPN networks that can scale
<b>Hardware encryption accelerator</b>	Improved VPN throughput with hardware acceleration

## Technical specifications—features and capabilities

### Contivity 1700 VPN Switches

<b>Routing and network addressing</b>	<ul style="list-style-type: none"><li>• RIPv1, v2, Open Shortest Path First (OSPF), Virtual Router Redundancy Protocol (VRRP)</li><li>• PPP over Ethernet (PPPoE), DHCP Client and Server, Domain Name Services (DNS with VPN, DNS Proxy)</li></ul>
<b>VPN tunneling protocols</b>	<ul style="list-style-type: none"><li>• IPSec, including authentication header (AH), encapsulating security protocol (ESP), 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>• L2F</li><li>• Supports up to 500 VPN tunnels</li></ul>
<b>Encryption</b>	<ul style="list-style-type: none"><li>• IPSec—certified by the TruSecure International Computer Security Association (ICSA)</li><li>• DES, 3DES, AES, RC4</li><li>• MD-5 and SHA-1 authentication</li><li>• 3DES uses 3 independent 56-bit keys; 168-bit key length (effective strength of 128 bits)</li></ul>
<b>WAN protocols and services</b>	<ul style="list-style-type: none"><li>• Point-to-Point protocol</li><li>• Frame Relay</li><li>• Dial back-up via integral ISDN, V.90 modem, or through management/console port with external modem/ISDN terminal adapter</li></ul>
<b>Bandwidth management</b>	<ul style="list-style-type: none"><li>• Group and user-level configurable minimum bandwidth settings</li><li>• Priority levels using random early detection (RED)</li><li>• Four admission control levels; four forwarding priority levels</li><li>• Eight Differentiated Services (DiffServ) queues; code point marking; Quality of Service (QoS)</li><li>• Resource Reservation Protocol (RSVP)</li></ul>
<b>Authentication services</b>	<ul style="list-style-type: none"><li>• User name and password and NT Domain logins</li><li>• Internal or external lightweight directory access protocol (LDAP)</li><li>• Remote authentication dial-in user services (RADIUS)</li><li>• Hard and soft token support (e.g., SecureID, Axent)</li><li>• X.509 Digital Certificates and Smart Cards (support for all major vendors and MS-CAPI)</li></ul>
<b>Data compression</b>	<ul style="list-style-type: none"><li>• Lemple-Ziv Standard (LZS) compression</li></ul>
<b>Accounting</b>	<ul style="list-style-type: none"><li>• Internal and external RADIUS accounting</li><li>• Event, system, security, and configuration accounting</li><li>• Automatic archiving to external system</li></ul>
<b>Management</b>	<ul style="list-style-type: none"><li>• Contivity Configuration Manager (CCM) software provides multi-device configuration for up to 2,500 Contivity gateways</li><li>• Nortel Networks Command Line Interface (NNCLI)</li><li>• Full Web-browser based HTML configuration</li><li>• SNMP monitoring/alerts</li><li>• Four levels of administrator access; role-based management to separate service provider and end-user access</li></ul>
<b>Stateful firewall</b>	<ul style="list-style-type: none"><li>• Multi-layers stateful inspection supporting over 100 network application protocols, including TCP, UDP, FTP, H.323, SIP, RealAudio, Java, and ActiveX</li><li>• Defense against major “hacker” attacks, including Denial of Service (DOS), SYN flood, Smurf, Ping, Spoofing, Fraggle, ICMP unreachable</li><li>• Proxy authentication, extensive NAT support</li><li>• End-user firewall authentication</li><li>• Extensive and customizable logging options</li></ul>
<b>Contivity VPN Client</b>	<ul style="list-style-type: none"><li>• Microsoft Windows 95, 98, 2000, ME, NT, and XP-based client (free/unlimited)</li><li>• IBM AIX, SUN Solaris, HP-UX, Linux, Macintosh (via software license)</li><li>• Windows CE and Palm wireless devices also supported via third-party clients (e.g., Certicom MovianVPN)</li></ul>

### Contivity 1700—up to 500 VPN tunnels

#### Components

- Memory:  
*Standard*—128MB  
*Maximum*—256MB
- 850 MHz processor
- One PCI expansion slot
- LAN/WAN interfaces:  
*Standard*
  - 2 10/100BaseT Ethernet ports
  - Management/console port (DB-9)*Optional*
  - Additional 10/100BaseT Ethernet
  - Single-port V.35/X.21
  - Single-port T1 with integrated CSU/DSU
  - ISDN BRI (S and T interface)
  - V.90 modem
  - High Speed Serial Interface (HSSI)
- Encryption accelerator card (option)

- Software:  
*VPN Bundle (max tunnels)*
  - Contivity VPN O/S with 500 VPN tunnels and IP routing (RIPv2)
  - Contivity VPN client software for MS-Windows with unlimited distribution license
  - CD and on-line HTML documentation*Secure Router Bundle*
  - Contivity VPN O/S with 5 VPN tunnels and IP (RIPv2) routing
  - Contivity VPN Client software for MS-Windows with unlimited distribution license
  - CD and on-line HTML documentation*Optional licenses*
  - Contivity Stateful Firewall
  - Contivity Advanced Routing (OSPF, VRRP, bandwidth management)
  - Contivity Multi-OS VPN Client for MAC and UNIX

#### Physical

Length: 21 in. (53.3 cm)  
Width: 17.25 in. (43.8 cm)  
Height: 3.5 in. (8.9 cm)  
Weight: 10.0 lb (4.5 kg)

#### Operating environment

Electrical: 90-264 VAC, 2.0 @ 90 VAC, 47-63 Hz  
Temperature: 32-104° F (0-40° C)  
Relative humidity: 10-90% non-condensing

### Contivity 1740—up to 500 VPN tunnels

#### Components

- Memory:  
*Standard*—128MB  
*Maximum*—256MB
- 850 MHz processor
- 4 PCI expansion slots (Secure Router bundle)/  
3 PCI expansion slots (VPN bundle)
- LAN/WAN interfaces:  
*Standard*
  - 2 x 10/100 Mbps Ethernet port (Max VPN tunnel version)
  - 1 x 10/100 Mbps Ethernet port (Secure Router version)
  - Management/console port (DB-9)*Optional*
  - Additional 10/100Base-T Ethernet
  - Single-port V.35/X.21
  - Single-port T1 with integrated CSU/DSU
  - ISDN BRI (S and T interface)
  - V.90 modem
  - High Speed Serial Interface (HSSI)

- Encryption accelerator card (option)
- Software:  
*VPN Bundle (max tunnels)*
  - Contivity VPN O/S with 500 VPN tunnels and IP routing (RIPv2)
  - Contivity VPN client software for MS-Windows with unlimited distribution license
  - CD and on-line HTML documentation*Secure Router Bundle*
  - Contivity VPN O/S with 5 VPN tunnels and IP routing (RIPv2)
  - Contivity VPN client software for MS-Windows with unlimited distribution license
  - CD and on-line HTML documentation*Optional licenses*
  - Contivity Stateful Firewall
  - Contivity Advanced Routing (OSPF, VRRP, Bandwidth management)
  - Contivity Multi-OS VPN Client for MAC and UNIX

#### Physical

Length: 21.0 in. (53.3 cm)  
Width: 17.25 in. (43.8 cm)  
Height: 5.25 in. (13.3 cm)  
Weight: 28.0 lb (12.7 kg)

#### Operating environment

Electrical: 90-264 VAC, 2.0 @ 90 VAC, 47-63 Hz  
Temperature: 32-104 degree F (0-40 degree C)  
Relative humidity: 10-90% noncondensing

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*Nortel Networks is an industry leader and innovator focused on transforming how the world communicates and exchanges information. The company is supplying its service provider and enterprise customers with communications technology and infrastructure to enable value-added IP data, voice and multimedia services spanning Wireless Networks, Wireline Networks, Enterprise Networks, and Optical Networks. As a global company, Nortel Networks does business in more than 150 countries. More information about Nortel Networks can be found on the Web at:*

**[www.nortelnetworks.com](http://www.nortelnetworks.com)**

For more information, contact your Nortel Networks representative, or call 1-800-4 NORTEL or 1-800-466-7835 from anywhere in North America.

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