

Nortel Networks

Contivity 1000 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 internal and external communications. But the Internet was not designed with security in mind. Enterprises with mission-critical Internet applications must secure the data they transmit, as well as protect their internal networks from outside intrusion. Legacy routers—the traditional means of Internet connection—do not scale to meet enterprise security needs without expensive add-ons and performance overhead. The Contivity 1000 series is a cost-effective solution delivering secure, comprehensive IP services either in standalone mode or in conjunction with an existing router or Internet access device.

The Contivity 1000 series of Secure IP Services Gateways is the answer to enterprises requiring low-cost connectivity across the Internet or managed IP networks. Designed for small sites, the Contivity 1000 portfolio provides IP routing, Virtual Private Networking (VPN), stateful firewall, encryption, authentication, directory and policy services, Quality of Service (QoS), and bandwidth management services in a single integrated platform.

Consisting of three separate models, the Contivity 1000 series provides options for small sites seeking Internet connectivity, either for secure VPN communications or for basic IP/Internet access. With options that include integrated WAN port and 4-port Ethernet switch capability, the Contivity 1000 series is a cost-effective, all-in-one solution for small office/home office environments. Its advanced routing options and built-in VPN capabilities make it ideal either for site-to-site or remote access VPN applications, or for simple Internet connectivity.

Serving the price-sensitive, small-user segment of the secure IP services market, the Contivity 1000 series can be installed



Contivity 1010



Contivity 1050



Contivity 1100

in a variety of scenarios. Medium to large businesses can deploy the Contivity 1000 series as a small branch solution connecting back to their headquarters-based data center. Alternatively, the Contivity 1000 can form the basis of a site-to-site solution within an enterprise or across enterprises in either a hub-and-spoke or small mesh configuration. In addition, the Contivity 1000 can serve as an affordable headquarters solution for a small business needing Internet access and/or secure IP services.

Low total cost of ownership

With its low-cost and integrated design, the Contivity 1000 is an affordable solution for enterprises. A single multi-service device can address what used to require multiple discrete devices (e.g., router, VPN gateway, firewall) to solve. Further, new IP services can be added without costly hardware upgrades. A flexible software licensing scheme allows Contivity to be initially installed as a secure IP access device and later add more VPN tunnel capacity, advanced routing, or firewall services via a software license—all while avoiding on-site visits from a service technician.

Security by design

Built on the same Secure Routing Technology (SRT) framework found in the rest of the Contivity product line, the Contivity 1000 series is designed with security inherent to its operation. SRT integrates the major functional components of Contivity—such as management, access, routing, and policies—weaving a consistent security structure across these services. This provides scalability and high performance even when running multiple IP services in the same device. SRT also enables key features, such as dynamic routing (RIP/OSPF) over secure IPSec tunnels, common user security policies across VPN, firewall and routing services, and the ability to turn up new IP services on demand without impacting overall performance.

Key benefits:

- Low total cost of ownership
- Security by design
- Flexible, secure IP services
- Easy installation and management

Further, 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. IP VPN capabilities are embedded into every Contivity 1000 unit.

Flexible IP services

As a standards-based solution, the Contivity 1000 can interoperate with existing routing, authentication, directory, and security systems and can bridge the transition of new IP services. It can be deployed as an Internet access device, secure VPN gateway, or firewall solution and can easily be upgraded with additional services. Advanced routing software enables Contivity to interoperate with any existing router infrastructure. And

support for LDAP, RADIUS, and X.509 digital certificates enables Contivity to interoperate with existing authentication and/or directory systems.

Easy installation and management

Each Contivity 1000 unit has a built-in wizard allowing plug-and-play installation. The wizard automatically connects the Contivity 1000 unit to a predefined location for remote configuration and set-up, avoiding costly technician calls to each site.

With the same software and management as higher-end Contivity devices, the Contivity 1000 series offers a comprehensive management suite. This includes Web-based and command-line based configuration interfaces, SNMP, and accounting capabilities via a powerful set of security and system logging tools. The Contivity Configuration Manager (CCM) further provides centralized configuration solutions for up to 2,500 Contivity devices.

Key Contivity 1000 series—

Features	Benefits
Installation Wizard	Plug-and-play installation out of the box for simple small branch set-up. No technician or “truck roll” is needed.
Modular WAN I/O	Can act as primary WAN router either as a replacement of existing solution or as new routing/VPN deployment.
Dial back-up support	Dial back-up if “primary” Internet (IP) connection goes away or more bandwidth is needed.
Advanced routing	OSPF, VRR, and bandwidth management services allow customers to design robust, high performance, and highly available VPN networks that can scale.
PPPoE Client, DHCP server, DNS proxy, and NAT support	Allows for seamless IP VPN deployment behind broadband services—such as DSL—with seamlessly inter-working with dynamic ISP Internet connectivity.
Extensive VPN and security capabilities	Broad support for both branch and remote access VPNs, flexible internal/external authentication options, full PKI support, wire-speed encryption (3DES), and stateful firewall, DoS protection.
4-port 10/100 Ethernet switch option	No need for an Ethernet switch or hub in small office/home office.
QoS and bandwidth management	Fine grain QoS insures mission-critical data traffic and/or delay-sensitive voice traffic gets the appropriate level of service for business communications.
Stateful Packet Firewall	Low-cost, high performance firewall license allows Contivity 1000 to provide firewall function rather than purchasing a separate standalone box.

Technical specifications—features and capabilities

Contivity VPN Services—1010, 1050, 1100

Routing and network addressing	<ul style="list-style-type: none">• RIPv1, v2, Open Shortest Path First (OSPF), Virtual Router Redundancy Protocol (VRRP)• PPP over Ethernet (PPPoE), DHCP Client and Server, Domain Name Services (DNS) with VPN, DNS Proxy
VPN tunneling protocols	<ul style="list-style-type: none">• IPSec, including authentication header (AH), encapsulating security protocol (ESP), and Internet key exchange (IKE)• Point-to-point tunneling protocol (PPTP), including compression and encryption• Layer 2 Tunneling Protocol (L2TP), including L2TP/IPSec• L2F• 5 VPN tunnels in all base configurations, with support for management control tunnel• Option to upgrade to 30 VPN tunnels with software license key activation
Encryption	<ul style="list-style-type: none">• IPSec-certified by the TruSecure (International Computer Security Association (ICSA)• DES, 3DES, AES, RC4• MD5 and SHA-1 authentication• 3DES uses 3 independent 56-bit keys; 168-bit key length (effective strength of 128 bits)
WAN protocols and services	<ul style="list-style-type: none">• Point-to-Point Protocol (PPP)• Frame relay• Dial back-up via integral V.90 modem or over management/console port with external modem/ISDN terminal adapter
Bandwidth management	<ul style="list-style-type: none">• Group and user-level configurable minimum bandwidth settings• Priority levels using random early detection (RED)• Four admission control levels; four forwarding priority levels• Eight Differentiated Services (DiffServ) queues; code point marking; quality of service (QoS)• Resource Reservation Protocol (RSVP)
Authentication services	<ul style="list-style-type: none">• User name and password and NT Domains Login• Internal or external lightweight directory access protocol (LDAP)• Remote authentication dial-in user services (RADIUS)• Hard and soft token support (SecureID and AXENT)• X.509 Digital Certificates and Smart Cards (support for all major vendors and MS-CAPI)
Data compression	<ul style="list-style-type: none">• Lemple-Ziv Standard (LZS) compression
Accounting	<ul style="list-style-type: none">• Internal and external RADIUS accounting• Event, system, security, and configuration accounting• Automatic archiving to external system
Management	<ul style="list-style-type: none">• Full Web-browser based HTML configuration• Nortel Networks Command Line Interface (NNCLI)• SNMP monitoring/alerts• Four levels of administrator access; role-based management to separate service provider and end-user management• Contivity Configuration Manager software provides multi-box configuration for up to 2,500 Contivity devices• Configuration wizard for simple plug-and-play installation on Contivity 1000 series
Stateful Firewall	<ul style="list-style-type: none">• Multi-layered stateful packet inspection at wire speed with over 100 application layer gateways (ALGs), including TCP, UDP, FTP, HTTP, H.323, RealAudio, Java, and Active X• Defense against major “hacker” attacks, including DOS, SYN flood, Smurf, Ping, Spoofing, Fraggle, ICMP unreachable• Proxy authentication, extensive NAT support• Extensive and customizable logging options
Contivity VPN Client	<ul style="list-style-type: none">• Microsoft Windows 95, 98, 2000, ME, NT, and XP based client (free/unlimited)• IBM-AIX, SUN-Solaris, HP-UX, Linux, Macintosh (via software licence)• Palm and Windows CE wireless devices also supported via third-party (MovianVPN) license

Technical specifications—physical and operational

	Contivity 1010 Up to 30 tunnels	Contivity 1050 Up to 30 tunnels	Contivity 1100 Up to 30 tunnels
Components	<ul style="list-style-type: none"> Memory: 128 MB RAM; 32MB Flash 300 MHz processor LAN/WAN interfaces: <ul style="list-style-type: none"> - 2 10/100BaseT Ethernet ports (RJ-45) - Management/console port (DB-9) Software: <ul style="list-style-type: none"> <i>Standard</i> <ul style="list-style-type: none"> - Contivity O/S with 5 tunnels and RIPv2 routing - Contivity VPN Client software for MS-Windows with unlimited distribution license <i>Optional licenses</i> <ul style="list-style-type: none"> - Contivity VPN upgrade to 30 VPN tunnels - Contivity Stateful Firewall - Contivity Advanced Routing (OSPF, VRRP, bandwidth management) - Contivity Multi-OS VPN Client for MAC and UNIX CD and on-line HTML documentation 	<ul style="list-style-type: none"> Memory: 128 MB RAM; 32MB Flash 300 MHz processor LAN/WAN interfaces: <ul style="list-style-type: none"> - 1 10/100BaseT Ethernet (RJ-45) - 4-port 10/100 Ethernet switch (RJ-45) - Management/console port (DB-9) Software: <ul style="list-style-type: none"> <i>Standard</i> <ul style="list-style-type: none"> - Contivity O/S with 5 tunnels and RIPv2 routing - Contivity VPN Client software for MS-Windows with unlimited distribution license <i>Optional licenses</i> <ul style="list-style-type: none"> - Contivity VPN upgrade to 30 VPN tunnels - Contivity Stateful Firewall - Contivity Advanced Routing (OSPF, VRRP, bandwidth management) - Contivity Multi-OS VPN Client for MAC and UNIX CD and on-line HTML documentation 	<ul style="list-style-type: none"> Memory: 128 MB RAM; 32MB Flash 300 MHz processor Two PCI expansion slots LAN/WAN interfaces: <ul style="list-style-type: none"> <i>Standard</i> <ul style="list-style-type: none"> - 1 10/100BaseT Ethernet (RJ-45) - 4-port 10/100 Ethernet switch (RJ-45) - Management/console port (DB-9) <i>Optional</i> <ul style="list-style-type: none"> - Additional 10/100BaseT Ethernet - Single-port V.35/X.21 - T1 with integrated CSU/DSU - V.90 dial modem Software: <ul style="list-style-type: none"> <i>Standard</i> <ul style="list-style-type: none"> - Contivity O/S with 5 tunnels and RIPv2 routing - Contivity VPN Client software for MS-Windows with unlimited distribution license <i>Optional licenses</i> <ul style="list-style-type: none"> - Contivity VPN upgrade to 30 VPN tunnels - Contivity Stateful Firewall - Contivity Advanced Routing (OSPF, VRRP, bandwidth management) - Contivity Multi-OS VPN Client for MAC and UNIX CD and on-line HTML documentation
Physical	Length: 8 in. (20.3 cm) Width: 8.5 in. (21.6 cm) Height: 1.75 in. (4.4 cm) Weight: 2.65 lb (1.2 kg)	Length: 8 in. (20.3 cm) Width: 8.5 in. (21.6 cm) Height: 1.75 in. (4.4 cm) Weight: 2.75 lb (1.25 kg)	Length: 10.5 in. (26.7 cm) Width: 8.5 in. (21.6 cm) Height: 1.75 in. (4.4 cm) Weight: 3.8 lb (1.7 kg)
Operating environment	Electrical: 10-240 VAC, 1.5A, 50-60 Hz Temperature: 32-122° Fahrenheit (0-50° Celsius) Relative humidity: 10%-90% non-condensing	Electrical: 10-240 VAC, 1.5A, 50-60 Hz Temperature: 32-122° Fahrenheit (0-50° Celsius) Relative humidity: 10%-90% non-condensing	Electrical: 10-240 VAC, 1.5A, 50-60 Hz Temperature: 32-122° Fahrenheit (0-50° Celsius) Relative humidity: 10%-90% non-condensing

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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 Metro and Enterprise Networks, Wireless Networks, and Optical Long Haul 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

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