3Com[®] Router 5000 Family



DATA SHEET

Economical, modular routers fully equipped to handle converged WAN traffic at regional and branch enterprise sites

OVERVIEW

The economical 3Com[®] Router 5000 Family provides full-featured, secure WAN access for regional, branch and remote office locations.

These four routers models offer high-speed processors, a complete complement of industry-standard routing technologies, advanced security and control features and robust management in a flexible, modular package. Each router comes with all the processing power, memory and software required for enterprise-level deployments—no need for expensive upgrades or complicated onsite configuration.

Multifunction Interface Modules (MIMs) and Smart Interface Cards (SICs) may be added to accommodate growth and handle increased demand on the network. Advanced quality of service (QoS) and other traffic management capabilities provide built-in support for converged voice, data and video traffic, while resilience and redundancy features ensure continuous operation for business-critical applications.

KEY BENEFITS

FLEXIBLE, DEPLOYMENT-READY ROUTING

The 3Com Router 5000 Family consists of four models:

- > Router 5682: eight slots for optional MIMs
- > Router 5642: four MIM slots
- > Router 5232: three MIM slots, two 10/100 Ethernet ports
- > Router 5012: one MIM slot, two slots for optional Smart Interface Cards, one 10/100 Ethernet port, one serial (sync/async) port

All four models come with an AUX serial port and a management console port.

For maximum flexibility, more than 20 MIMs are offered for the 3Com Router 5000 Family. They provide a broad array of WAN interfaces (ISDN, T1, E1, T3, E3, FXS, FXO), voice support, additional LAN ports (including Gigabit Ethernet links) and other interfaces. Smart Interface Cards provide cost-effective interfaces for the compact Router 5012 model, supplementing the single MIM slot on that device.



from top: 3Com Router 5012, Router 5032, Router 5642, Router 5682

KEY BENEFITS (CONTINUED)

FULLY FEATURED ROUTING PLATFORM

To eliminate the need for costly and inconvenient upgrades, the routers come equipped with all the required operating memory, a complete routing and security suite and a robust applications set. The routers include a full complement of memory and flash memory to support dual software images. Standard routing capabilities include: IP and IPX routing, OSPF, RIP V1/2, integrated IS–IS, multicast routing, QoS, IEEE 802.1Q VLAN and IGMP v1, 2 and 3 and more.

MULTIVENDOR INTEROPERABILITY ACROSS THE WAN

To accommodate today's multivendor networking environments, 3Com routers are designed to interoperate with standards-based equipment from other vendors. The 3Com Router 5000 Family has been "Tolly Verified for Interoperability with Cisco," reducing implementation and testing time for enterprises with core Cisco routers.

ADVANCED SECURITY AND CONTROL FEATURES

The Router 6000 Family helps secure and safeguard sensitive information against unauthorized access. Security and control features include: AAA, RADIUS authentication, a stateful packet inspection firewall, denial-of-service (DoS) blocking and Access Control Lists (ACLs). L2TP and IPSec VPNs with 3DES and AES encryption provide additional security over the WAN.

The embedded firewall includes support for ACLs, plus generic routing encapsulation (GRE), network address translation (NAT), NAT traversal and application layer gateways. Business applications are able to pass easily through the firewall and across the VPN.

VOICE, DATA AND VIDEO INTEGRATION

The 3Com Router 5000 Family delivers advanced QoS, including DiffServ support, for effective traffic management on networks that run converged voice, data and video applications. Utilizing IP differentiated services for applications and ATM QoS for traffic and physical layer prioritization, the routers are equipped to handle the most demanding multimedia networking. This helps assure the level of service required for delay-sensitive traffic and continuous business operation, even during heavy network use. The routers support both IEEE 802.1p prioritization and IEEE 802.Q VLANs.

Voice MIMs support both analog and digital voice communications. They enable enterprises, service providers and managed service providers to connect the public switched telephone network (PSTN) and traditional telephony equipment (including PBXs, key systems, analog phones and fax machines) directly to the routers without additional equipment.

RESILIENCE AND REDUNDANCY FOR MAXIMUM UPTIME

The routers are designed for high resiliency to meet stringent enterprise uptime standards. To ensure continuous operation, they support redundant links and provide extra bandwidth to minimize downtime and ensure resilience in case of service disruptions. Reliability features include configuration rollback, multilinks, Virtual Router Redundancy Protocol (VRRP), Backup Control Center (Configuration/Port) and Dial Control Center.

In addition, the routers include 32 MB of flash memory to hold multiple configuration files and operating system images for recovery purposes. If the router cannot boot from a recently updated software image or configuration file, it can boot from a specified backup file or image residing in this memory.

KEY BENEFITS (CONTINUED)

NEXT-GENERATION NETWORK EFFICIENCY WITH MPLS

Using the Multiprotocol Label Switching (MPLS) capability in the routers, larger enterprises can simplify the routing configuration of an existing network infrastructure and provide scalable Layer 2 or Layer 3 VPNs throughout the network. This increases network efficiency in services that support MPLS technology.

SIMPLIFIED REMOTE-SITE INSTALLATION AND UPGRADES

New router deployments and upgrades can be costly and time-consuming for IT organizations, particularly for those organizations with a large number of regional or branch offices at some distance from central sites. The 3Com Router 5000 Family provides an auto-configuration feature that lets staff configure the devices from a central location. With no need for local configuration or pre-configuration prior to deployment, enterprises can easily and cost-effectively deploy the routers in locations where IT expertise is limited.

SOPHISTICATED MANAGEMENT CAPABILITIES

3Com Router 5000 devices can be managed using the optional 3Com Management Suite, or using 3Com Router Manager, which is included with the optional 3Com Network Director software. These graphical applications provide sophisticated remote diagnostic and management capabilities, including bulk updating of remote router code and configuration backup, auto-trap setup and monitoring, router system status and historical reporting. An intuitive, easy-to-use Call Level Interface (CLI) function can be accessed directly, or remotely via Telnet, Secure Shell, or Rlogin. Other standards-based management applications may also be used. The Info Center diagnostic tool, available through the CLI interface, helps spot problems and reports them for quick remedial action.

WORLD-CLASS SERVICE, SUPPORT AND TRAINING

The 3Com Router 5000 Family is backed by 3Com and its authorized partners. These professional customer service organizations offer assessment, installation, management and maintenance support for a range of network infrastructures and applications. Skilled personnel with experience in a variety of network environments can assist 3Com customers through all phases of network planning, implementation, troubleshooting and product training.

AN END-TO-END 3COM SOLUTION

The 3Com Router 5000 Family is an integral part of 3Com's broad portfolio of secure converged network solutions for enterprises and small businesses: 3Com TippingPoint[™] Intrusion Detection Systems; 3Com Router 3000 and Router 6000 families; 3Com Switch 8800, Switch 7700, Switch 5500 and Switch 4500 families; the 3Com Convergence Application Suite and the 3Com VCX[™] and NBX[®] IP telephony platforms; and 3Com OfficeConnect[®] routers, switches and firewalls for small offices.

FEATURE HIGHLIGHTS Comes with all the processing power, memory and software needed for enterprise-level routing from the core to the edge of the network

Features a versatile modular design that economically supports a wide array of WAN and LAN interfaces using Multifunction Interface Modules and Smart Interface Cards

Supports a full complement of routing protocols and technologies for integration with a broad range of public and private networks

Provides QoS and other traffic management to protect the performance of converged applications such as voice over IP and video over IP $\,$

Provides MPLS support to simplify configurations and improve network efficiency

Ensures security and control with embedded authentication, stateful packet inspection firewall, VPN capability and other features

Interoperates with Cisco and other standards-based routers

Supports dual software images to assist in recovery and provide rollback capabilities

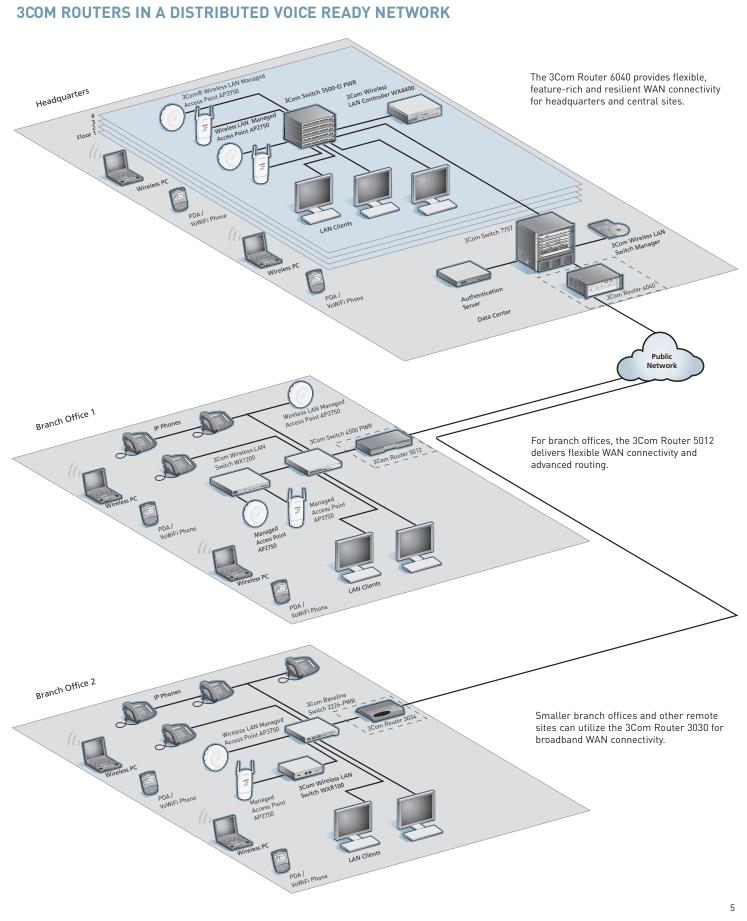
Can be managed centrally with a full set of diagnostic tools and control features

Offers voice cards for direct connection to digital and legacy analog telephony systems and devices

Backed by top-flight service, support and training from 3Com and 3Com authorized partners



The "Tolly Verified" certification, supported by intensive testing by The Tolly Group, provides the opportunity for enterprise network buyers to evaluate products on an objective basis and gain the confidence that products support industry-accepted protocols and features and deliver interoperability.



5

All information in this section is relevant to the 3Com Router 5012, 5232, 5642 and 5682, unless stated otherwise

PORTS

Router 5012: One 10/100BASE-T port One serial port (Sync/Async) One MIM and two SIC slots

Router 5232: Two 10/100BASE-T ports Three MIM slots

Router 5642: Four MIM slots

Router 5682: Eight MIM slots All models: One console port One AUX serial port

MEMORY

Boot ROM: 512 KB SDRAM: Router 5012: 128 MB Router 5232, 5642, 5682: 256 MB Flash: 32 MB

AVAILABLE LAN CONNECTIONS 10/100 and 10/100/1000 Ethernet

AVAILABLE WAN ROUTING

ISDN PRI, frame relay, X.25, X.21, T1, E1, T3, E3, V.35, HDLC/SDLC, leased line, sync/async, ATM, ADSL, ADSL2/2+, IP, IPX, OSPF, PPP, RIP v1 and v2, BGP-4, MPLS, integrated IS-IS, static routing, multicast routing

SECURITY

Stateful packet inspection firewall VPN: L2TP, GRE, IPSec MPLS VPN: L2 and L3 ACLs, NAT, X.509, AAA, RADIUS, PAP/CHAP, TACACS+

VOICE AND DATA SUPPORT

IP QoS: CAR, LAR, GTS, FIFO, PQ, CQ, WFQ, WRED, LLQ; IEEE 802.1p Multicast routing protocols: IGMP, PIM-SM, PIM-DM IEEE 802.1Q VLAN and inter-VLAN routing H.323 and SIP Gatekeeper support, G.729/G.711/G.723 compression Telephony interface signaling support

SECURITY

Stateful packet inspection firewall VPN: L2TP, GRE, IPSec MPLS VPN: L2 and L3 ACLs, NAT, X.509, AAA, RADIUS, PAP/CHAP, TACACS+

VOICE AND DATA SUPPORT

IP QoS: CAR, LAR, GTS, FIFO, PQ, CQ, WFQ, WRED, LLQ; IEEE 802.1p Multicast routing protocols: IGMP, PIM-SM, PIM-DM IEEE 802.1Q VLAN and inter-VLAN routing

H.323 and SIP Gatekeeper support, G.729/G.711/G.723 compression

RESILIENCE

Configuration rollback, auto-configuration VRRP, Backup Center (Configuration/Port), Dial Control Center, multilinks

DIMENSIONS

Router 5012: Height: 43.0 mm (1.7 in) Width: 440.0 mm (1.7 in) Depth: 315.0 mm (12.4 in) Weight: 6.0 kg (13.2 lb) Router 5232 and 5642: Height: 43.0 mm (17.3 in) Depth: 400.0 mm (17.7 in) Weight: 8.0 kg (17.6 lb) Router 5682: Height: 86.0 mm (3.4 in) Width: 440.0 mm (17.3 in) Depth: 400.0 mm (15.7 in) Weight: 14.0 kg (30.9 lb)

POWER SUPPLY

Router 5012: 100 to 240 VAC, 50/60 Hz; 60W Router 5232 and 5642: 100 to 240 VAC, 50/60 Hz; 80W Router 5682: 100 to 240 VAC, 50/60 Hz; 120W

ENVIRONMENTAL REQUIREMENTS

Operating temperature: 0° to 40°C (32° to 104°F) Operating humidity: 5% to 85% non-condensing

MTBF

Router 5012: 39 years (342,000 hours) Router 5232: 36 years (316,000 hours) Router 5642: 40 years (350,000 hours) Router 5682: 40 years (350,000 hours)

SICs and MIMs:

3C13712: 3,459 years (30,301,000 hours) 3C13715: 605 years (5,303,000 hours) 3C13716: 929 years (8,138,000 hours) 3C13718: 548 years (4,800,000 hours) 3C13719: 248 years (2,175,000 hours) 3C13720A: 431 years (3,776,000 hours) 3C13722: 292 years (2,558,000 hours) 3C13724: 493 years (4,322,000 hours) 3C13725: 546 years (4,786,000 hours) 3C13726: 400 years (3,506,000 hours) 3C13727: 496 years (4,348,000 hours) 3C13728: 344 years (3,016,000 hours) 3C13761: 808 years (7,083,000 hours) 3C13762: 333 years (2,917,000 hours) 3C13764: 182 years (1,594,000 hours) 3C13765: 542 years (4,751,000 hours) 3C13766: 124 years (1,087,000 hours) 3C13767: 582 years (5,102,000 hours) 3C13769: 234 years (2,051,000 hours) 3C13770: 213 years (1,867,000 hours) 3C13772: 163 years (1,428,000 hours) 3C13774: 342 years (2,996,000 hours) 3C13775: 240 years (2,104,000 hours) 3C13777: 230 years (2,016,000 hours)

3C13780: 474 years (4,155,000 hours) 3C13781: 311 years (2,726,000 hours) 3C13783: 351 years (3,077,000 hours) 3C13784: 211 years (1,850,000 hours) 3C13785: 274 years (2,402,000 hours) 3C13786: 168 years (1,473,000 hours) 3C13787: 218 years (1,911,000 hours) 3C13788: 206 years (1,806,000 hours) 3CR13771-75: 394 years (3,454,000 hours) 3CR13773-75: 758 years (6,644,000 hours)

REGULATORY COMPLIANCE

CE Mark for European Union, Council Directive 99/5/EC

MANAGEMENT

3Com Enterprise Management Suite 3Com Network Director 3Com Router Manager[†] CLI SNMP v1, 2 and 3; Telnet, SSH; Rlogin and Info Center (diagnostic tool) support

EMISSIONS/AGENCY APPROVALS

CISPR 22 Class A EN 55022 Class A FCC Part 15, CFR 47 Class A ICES-003 Class A AS/NZS CISPR22 Class A VCCI V-3 Class A

IMMUNITY

CISPR 24 EN 55024 EN 61000-3-2, 61000-3-3, 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-8 and 61000-4-11

SAFETY AGENCY CERTIFICATIONS

UL 60950 3rd Edition CAN/CSA-C22.2 #60950 EN 60825-1, 60825-2, 60950 IEC 60950 AS/NZS60950: 2000

WARRANTY AND OTHER SERVICES

One-year Limited Hardware Warranty Limited Software Warranty for 90 days 90 days of telephone technical support Refer to www.3com.com/warranty for details.

[†] 3Com Router Manager included in 3Com Network Director

SERVICE AND SUPPORT	3Com Global Services offers the resources and talents of a major corporation plus more than two decades of experience in resolving network challenges and delivering business benefits to enterprises around the world.
	Global support with a personalized, local focus in the local language helps drive productivity and minimize expenses. Because 3Com understands both the technology and the business, we're the partner you need to remain strong and competitive.

Suggested Service, Support and Training Offerings

Network Health Check	An activity-auditing service focused on improving network performance and productivity
	Includes traffic monitoring, utilization analysis, problem identification, and asset deployment recommendations
	Extensive report provides blueprint for action
Network Installation and Implementation Services	Experts set up and configure equipment and integrate technologies to maximize functionality and minimize business disruption
	For large and complex sites, implementation services include personalized configuration, project management, extended testing and coaching on network administration
Project Management	Provides extra focus and resources that special projects demand
	3Com engineers manage entire process from initial specifications to post-project review
	Using structured methodology, requirements are identified, projects planned and progress of implementation activities tracked
3Com Guardian sM Maintenance Service	This service provides comprehensive on-site support and includes advance hardware replacement, telephone technical support and software upgrades
3Com Express [™] Maintenance Service	This service provides speedy access to 3Com shipment of advance hardware replacements, software upgrades and telephone support
3Com University	Self-paced and instructor-led technology and product courses, plus certification programs

For additional information, please visit www.3com.com/services

ORDERING INFORMATION

PRODUCT DESCRIPTION	3COM SKU
3Com Router 5012	3C13701
3Com Router 5012 chassis, 1 x 10/100 port, 1 x serial port, 2 SIC slots, 1	MIM slot
3Com Router 5232	3C13751
3Com Router 5232 chassis, 2 x 10/100 ports, 3 MIM slots	
3Com Router 5642	3C13755
3Com Router 5642 chassis, 4 MIM slots	
3Com Router 5682	3C13759
3Com Router 5682 chassis, 8 MIM slots	
Smart Interface Card (SIC) Options for Router 5012 only:	
3Com Router 1-Port 10/100 SIC	3C13712
1-port 10/100BASE-T Fast Ethernet interface card	3013712
3Com Router 1-Port Enhanced Serial SIC	3C13715
1-port Sync/Async Serial interface card	0010710
3Com Router 2-Port ISDN S/T SIC	3C13716
2-port ISDN BRI S/T port interface card	0010710
3Com Router 2-Port ISDN U SIC	3C13718
2-port ISDN BRI U port interface card	0010710
3Com Router 1-Port ADSL/ADSL2+ SIC	3C13719
1-port ADSL/ADSL2+ interface card (ADSL/ADSL2+ over POTS)	
3Com Router 1-Port Fractional T1 SIC	3C13720A
1-port Fractional T1 interface card	
3Com Router 1-Port Fractional E1 SIC	3C13722
1-port Fractional E1 interface card	
3Com Router 1-Port Analog Modem SIC	3C13724A
1-port Analog modem interface card	
3Com Router 1-Port FXS SIC	3C13725
1-port FXS interface card	
3Com Router 2-Port FXS SIC	3C13726
2-port FXS interface card	
3Com Router 1-Port FXO SIC	3C13727
1-port FXO interface card	
3Com Router 2-Port FXO SIC	3C13728
2-port FXO interface card	
Multi-function Interface Module (MIM) Options	
for use with all Router 5000 models, except where noted:	
3Com Router NDEC Encryption Accelerator MIM	3CR13771-75
Accelerated encryption interface module	
3Com Router NDEC2 Encryption Accelerator MIM	3CR13773-75
Accelerated encryption interface module	
3Com Router 2-Port 10/100 MIM	3C13761
2-port 10/100BASE-T Fast Ethernet interface module	
3Com Router 2-Port Enhanced Serial MIM	3C13762
2-port Sync/Async serial interface module	
3Com Router 4-Port Enhanced Serial MIM	3C13764
4-port Sync/Async serial interface module	
3Com Router 2-Port E1/CE1/PRI MIM*	3C13765
2-port E1/CE1/PRI interface module	
3Com Router 4-Port E1/CE1/PRI MIM	3C13766A
4-port E1/CE1/PRI interface module	
3Com Router 4-Port ISDN S/T MIM*	3C13767
4-port ISDN BRI S/T interface module	
3Com Router 2-Port T1/CT1/PRI MIM	3C13769A
2-port T1/CT1/PRI interface module	
3Com Router 1-Port ADSL MIM	3C13770
1-port ADSL interface module (ADSL over POTS)	0040850
3Com Router 2-Port ADSL MIM	3C13772
2-port ADSL interface module (ADSL over POTS)	

	OM SKU
3Com Router 1-Port 10/100/1000 MIM	3C13774
1-port 10/100/1000BASE-T interface module	
	3C13775A
1-port Channelized T3 interface module	
3Com Router 1-Port Channelized E3 MIM*	3C13777
1-port Channelized E3 interface module	
3Com Router 4-Port E1 IMA MIM	3C13778
4-Port E1 IMA interface module	
3Com Router 4-Port T1 IMA MIM	3C13779
4-Port T1 IMA interface module	
3Com Router 2-Port FXS MIM	3C13780
2-port FXS interface module	0010501
3Com Router 4-Port FXS MIM	3C13781
4-port FXS interface module	0040500
3Com Router 2-Port FXO MIM	3C13783
2-port FXO interface module	
3Com Router 4-Port FXO MIM	3C13784
4-port FXO interface module	0040505
3Com Router 2-Port E&M MIM	3C13785
2-port E&M interface module	
3Com Router 4-Port E&M MIM	3C13786
4-port E&M interface module	0040505
3Com Router Channelized E1 Voice MIM	3C13787
1-port Channelized E1 voice interface module	0040500
3Com Router Channelized T1 Voice MIM	3C13788
1-port Channelized T1 voice interface module	
Cables (3 meters in length, unless otherwise noted)	
for use with all Router 5000 models:	
3Com Router T1 Cable, RJ-45, 3m T1- RJ-45 to RJ-45	3C13674
3Com Router E1 Cable, BNC, 20m E1 - 75 ohm/2.55 mm-DB-15M to	3C13675
2 x BNC 75 ohm; 20 meters	
3Com Router E1 Cable, RJ-45, 20m E1 – 120 ohm/0.32 mm-DB-15M	3C13676
to RJ-45; 20 meters	
3Com Router E1 Cable, RJ-45, 3m G.703 - 120 ohm/0.32 mm-DB-15M	3C13677
to RJ-45	
3Com Router T3/E3 Cable E3/T3 Cable- 75 ohm, SMB to BNC- 15 meters	3C13687
for use with 3C13762 and 3C13764 MIMs only:	
3Com Router X.21 DTE Cable- Enhanced X.21 DTE Cable- DB-28M to X.21M	3013681
3Com Router X.21 DCE Cable- Enhanced X.21 DCE Cable- DB-28M to X.21F	
3Com Router V.24 DTE Cable- Enhanced V.24 DTE Cable- DB-28M to V.24M	
3Com Router V.24 DCE Cable- Enhanced V.24 DCE Cable- DB-28M to V.24F	
3Com Router V.35 DTE Cable- Enhanced V.35 DTE Cable- DB-28M to V.35M	3C13685
3Com Router V.35 DCE Cable- Enhanced V.35 DCE Cable- DB-28M to V.35F	3C13686
for use with Router 5012 embedded serial port and Router 1-Port Serial SIC	
3Com Router V.35 DTE Cable V.35 DTE Cable – DB-50M to V.35M	3C13670
3Com Router V.35 DCE Cable V.35 DCE Cable- DB-50M to V.35F	3C13671
3Com Router V.24 DTE Cable V.24 DTE Cable – DB-50M to V.24M	3C13672
3Com Router V.24 DCE Cable V.24 DCE Cable – DB-50M to V.24F	3C13673
3Com Router X.21 DTE Cable X.21 DTE Cable – DB-50M to X.21M	3C13678
3Com Router X.21 DCE Cable X.21 DCE Cable – DB-50M to X.21F	3C13679
3Com Router T1 Voice Cable T1 Voice Cable	3C13688
3Com Router 4-Port E1 IMA Cable 4-Port E1 IMA Cable	3C13689 3C13690
3Com Router 4-Port T1 IMA Cable 4-Port T1 IMA Cable	

* Not for use with Router 5012



Visit www.3com.com for more information about 3Com secure converged network solutions.

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