3Com®

OfficeConnect
NETBuilder Routers

Extending the corporate intranet to remote branch offices

OfficeConnect NETBuilder enterprise routers provide a full range of WAN services and protocols. The platform is optimized for bandwidth management, security, and network reliability providing the lowest cost of ownership with the highest WAN value.

As companies conduct more and more business over intranets, there is a growing need for branch office routers to provide mission-critical connectivity. OfficeConnect® NETBuilder® routers provide the platform to extend your corporate intranet to remote branch offices with advanced multiprotocol routing capabilities over Frame Relay, X.25, PPP, SMDS, and ISDN. Because the routers support all major WAN protocols, including SNA and legacy, you can cost-effectively integrate all your remote branch offices, no matter how diverse.

The OfficeConnect NETBuilder router provides comprehensive protocol support, including TCP/IP, Novell NetWare, AppleTalk, DECnet, OSI, and Banyan VINES. In addition, the OfficeConnect

NETBuilder routers provide Network Address Translation (NAT), intelligent bandwidth management, and firewall security at every interface to ensure reliable, cost-effective remote connectivity. Powerful application reservation and data prioritization features give you complete control over WAN traffic flow, allowing you to preserve and prioritize valuable WAN bandwidth. You can differentiate between applications in order to give the most important WAN traffic the highest bandwidth priority, as well as provide bandwidth on demand for time-critical applications. Additionally, the ability to control traffic flowing over the WAN link allows you to effectively manage wide-area service costs, so you get the most from your WAN investment.

Key Benefits:

■ **Extensive security.** OfficeConnect NETBuilder routers provide NCSA-certified IP firewall security, ensuring a secure network at every remote office. Network Address Translation (NAT) ensures internal address security to futher secure the network.

■ **Easy installation.** With 3Com's unique Boundary Routing® system architecture, you get simple plug-and-play installation, as well as lower cost of deployment, since no routing expertise is required at the remote site.

■ **Lower WAN costs.** Application reservation offers control over the types of traffic traveling over WAN links, allowing managers to give priority to time-critical applications. In addition, bandwidth aggregation extends Multilink PPP to any leased or dial PPP link.

■ **High performance.** Powerful OfficeConnect NETBuilder routers provide routing of all packet sizes at maximum wire speed up to T1/E1.

■ **Interoperability.** OfficeConnect products are designed to work together as an integrated system.

OFFICE CONNECT®

A Complete Small-Office Networking System

The OfficeConnect integrated networking system is designed to take the worry out of building and running a branch office network.

Easy to install, configure, and use, the OfficeConnect product line includes 4-, 8-, and 16-port hubs; a 10BASE-T/100BASE-T switch; remote access servers, remote access routers, and enterprise routers; a high-speed Internet gateway; and network print, fax, and CD-ROM servers supplied by Castelle. The OfficeConnect products clip together in a space-saving stack of up to four units, working together in an integrated system that combines simplicity, advanced functionality, and performance—all at a great price.

Extending the Corporate Intranet

The affordable OfficeConnect NETBuilder routers extend the corporate intranet to remote branch offices, providing the functionality to:

■ Optimize larger and more permanent WAN links to branch offices

■ Differentiate between applications running across the WAN to enable prioritization

■ Provide network security at remote sites with firewall security at every WAN interface

■ Ensure network reliability through auto-dial backup and disaster recovery

■ Obtain secure Internet connectivity utilizing NAT

Bandwidth Grooming

Cost-saving NETBuilder Bandwidth Grooming provides the tools to prioritize and utilize limited bandwidth on a WAN link to transport LAN-to-LAN traffic. Bandwidth Grooming gives network managers solutions for meeting the challenge of speed mismatch between LAN and WAN. The NETBuilder Bandwidth Grooming features include:

■ High-performance facilities to reduce WAN bandwidth utilization and packet transmission time

■ Data prioritization to organize traffic into high-medium-low transmission priority queues

■ Bandwidth aggregation for bundling of available links into one flexible pipe; dial links (including ISDN) in the bundle are controlled according to bandwidth required on a dynamic basis

■ Protocol reservation to assign a fixed percentage of the available bandwidth to a particular protocol or traffic type

IP Firewall

OfficeConnect NETBuilder routers ship with a built-in NCSA-certified firewall to ensure network security. The firewall includes easy-to-use pre-defined filters to guard against a number of known types of attacks. Customers can also define their own filters and use the on-board traffic simulator to send test packets through the firewall to confirm the configuration's security.

Network Address Translation

NAT allows private TCP/IP networks to obtain Internet connectivity without reconfiguring end stations with publicly registered IP addresses. In addition to the security advantages of concealing the internal network address structure from public view, NAT greatly alleviates the administrative burden involved in granting selective Internet access to a large body of end users.

Installation Ease

3Com Boundary Routing system architecture reduces management and deployment costs by offering plug-and-play routing for remote site installations. For instance, AutoStartup in Boundary Routing environments allows OfficeConnect NETBuilder platforms to automatically initialize and acquire configuration parameters. The SPID Wizard for the OfficeConnect family offers automatic configuration for ISDN lines from North American telco providers. These and other TranscendWare™ control features empower network administrators to spend more time managing information, not infrastructure.

Full Feature Set

All OfficeConnect NETBuilder routers support:

■ WAN services: ISDN, Frame Relay, X.25, SMDS, leased, dial (sync and async)

■ IP firewall

■ Network Address Translation (NAT)

■ SPX spoofing

■ Multilink PPP

■ Auto-dial backup/disaster recovery

■ Data and header compression

■ SNMP management

■ RMON (Events and Alarms)

■ Boundary Routing architecture

■ SPID Wizard

OfficeConnect NETBuilder Platforms

OfficeConnect NETBuilder 11x Series

Hardware Platform Features
1 Ethernet LAN port
1 FlexWAN serial port

Software Loads
111	Boundary router*	**3C8811**
112	IP/IPX router	**3C8812**
113	IBM/SNA boundary router	**3C8813**
116	APPN router	**3C8816**
117	Full protocol router (IP, IPX, AppleTalk, DECnet, VINES, OSI, SDLC, DLSw)	

OfficeConnect NETBuilder 12x K Series

Hardware Platform Features
1 Ethernet LAN port
1 FlexWAN serial port
1 WAN port with integrated 56/64 Kbps CSU/DSU

Software Loads
120 KF	FRAD load (IBM legacy protocols: no LAN)	**3C8820**
121 K	Boundary router*	**3C8821**
122 K	IP/IPX router	**3C8822**
123 K	IBM/SNA boundary router	**3C8823**
126 K	APPN router	**3C8826**
127 K	Full protocol router (IP, IPX, AppleTalk, DECnet, VINES, OSI, SDLC, DLSw)	**3C8827**

OfficeConnect NETBuilder 13x Series (Dual FlexWAN)

Hardware Platform Features
1 Ethernet LAN port
2 FlexWAN serial ports

Software Loads
131	Boundary router*	**3C8831**
132	IP/IPX router	**3C8832**
137	Full protocol router (IP, IPX, AppleTalk, DECnet, VINES, OSI, SDLC, DLSw)	**3C8837**

OfficeConnect NETBuilder 14x U Series

Hardware Platform Features
1 Ethernet LAN port
1 FlexWAN serial port
1 ISDN BRI port with integrated NT/1

Software Loads
141 U	Boundary router*	**3C8851**
142 U	IP/IPX router	**3C8852**
143 U	IBM/SNA boundary router	**3C8853**
146 U	APPN router	**3C8856**
147 U	Full protocol router (IP, IPX, AppleTalk, DECnet, VINES, OSI, SDLC, DLSw)	**3C8857**

OfficeConnect NETBuilder 14x S/T Series

Hardware Platform Features
1 Ethernet LAN port
1 FlexWAN serial port
1 ISDN BRI port with S/T interface

Software Loads
141 S/T	Boundary router*	**3C8841**
142 S/T	IP/IPX router	**3C8842**
143 S/T	IBM/SNA boundary router	**3C8843**
146 S/T	APPN router	**3C8846**
147 S/T	Full protocol router (IP, IPX, AppleTalk, DECnet, VINES, OSI, SDLC, DLSw)	**3C8847**

Boundary router requires either a NETBuilder II,® SuperStack® II NETBuilder, or OfficeConnect NETBuilder router at the central site.

Each OfficeConnect NETBuilder platform ships with a FlexWAN serial port that supports leased line, dial, Frame Relay, X.25, and SMDS. The FlexWAN port supports DTE and DCE connections. FlexWAN cables for the FlexWAN serial port are sold separately.

Smart Processing

Smart **Processing** is 3Com's commitment to providing the lowest total cost of network ownership by offering robust yet simple LAN-to-WAN solutions. *Smart* **Processing** transforms today's complex WAN access into secure, scalable, integrated IP-based solutions that deliver:

**Security** Seamless access to public or private networks while preserving network integrity

Control Powerful Web-based applications for simplified network management

Scalability Simple remote office connectivity with predictable network performance and future growth capabilities

Availability Embedded reliability to meet the service requirements of every business

Intranet Extension to Remote Branch Offices

The OfficeConnect NETBuilder 122 K router features an integrated CSU/DSU for direct connectivity into Frame Relay (or leased line) networks. The second FlexWAN port can then be used for an ISDN dial-backup link to ensure availability of the WAN link. IP firewall and Network Address Translation (NAT) ensure security at every remote site.
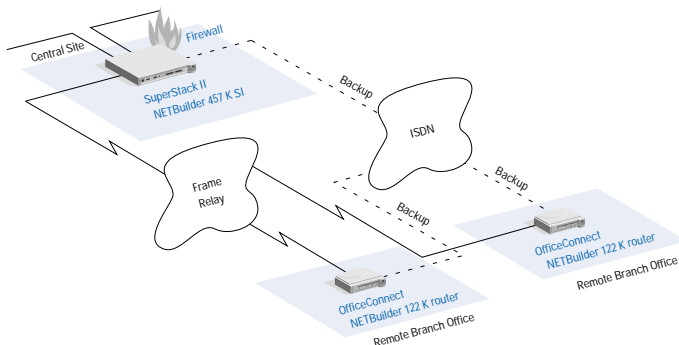
Specifications

OfficeConnect NETBuilder Routers

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India: 91 11 644 3974
Indonesia: 62 21 572 2088
Osaka, Japan: 81 6 536 3303
Tokyo, Japan: 81 3 3345 7251
Korea: 82 2 3455 6300
Malaysia: 60 3 732 7910
New Zealand: 64 9 366 9138
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Venezuela: 58 2 953 8122

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Finland: 358 0 435 420 67
Norway: 47 22 58 47 00
Sweden: 46 8 632 56 00

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41 31 996 14 14

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Connections

11x series:
1 Ethernet LAN port
(10BASE-T and BNC connections)
1 FlexWAN serial port

12x K series:
1 Ethernet LAN port
(10BASE-T and BNC connections)
1 FlexWAN serial port
1 WAN port with integrated
56/64 Kbps CSU/DSU

13x series:
1 Ethernet LAN port
(10BASE-T and BNC connections)
2 FlexWAN serial ports

14x U series:
1 Ethernet LAN port
(10BASE-T and BNC connections)
1 FlexWAN serial port
1 ISDN BRI port with integrated NT/1

14x S/T series:
1 Ethernet LAN port
(10BASE-T and BNC connections)
1 FlexWAN serial port
1 ISDN BRI port with S/T interface

Dimensions

Width: 220 mm (8.7 in)
Height: 54.6 mm (2.15 in)
Depth: 185.4 mm (7.3 in)
Weight: 2000 g (4.4 lb)

Environmental

Operational Range:
-5 to 40°C

Power

90 to 132 VAC (U.S.)
180 to 264 VAC (Europe)

System Requirements

For Boundary Routing configurations,
a SuperStack II NETBuilder, a
NETBuilder II, or an OfficeConnect
NETBuilder router is required at
the central site.

MTBF:
116,000 hours, calculated Bellcore

ISDN Switch Support

EuroISDN
North American National ISDN-1
(NI-1)
AT&T and NorTel custom
Austel

Protocol Support

FRAD:
(No LAN) SDLC, HDLC,
polled-async, bisync, DLSw

APPN Router:
APPN, SDLC, HDLC, polled-async,
bisync, DLSw

Full Protocol Router:
IP, IPX, AT, DECnet, VINES, OSI,
DLSw, SDLC, ADLC, polled-async,
bisync, BGP, XNS

IP/IPX Router:
IP, IPX

Standards

Safety
UL

EMC
CE Mark
EN 55022 Class B
JATE
Austel

Warranty

1 Year Limited Warranty. 3Com
warrants each OfficeConnect
NETBuilder router for one year from
the date of purchase from 3Com or
its authorized reseller.

FlexWAN Serial Port

Data speeds up to T1/E1
(all packet sizes)
WAN services: Frame Relay,
X.25, PPP leased or dial, SMDS
Internal clocking for DCE
(IBM/legacy) connections
Auto-sensing of cable type: RS-232
(DTE or DCE), V.35 (DTE or DCE),
X.21 (DTE)

Ordering Information

Includes hardware platform, pre-loaded
software, required memory, and all
required cabling except for a
FlexWAN cable. FlexWAN cables
are sold separately.

*OfficeConnect NETBuilder
Routers*

OfficeConnect NETBuilder 111 Boundary Router	3C8811
OfficeConnect NETBuilder 112 IP/IPX Router	3C8812
OfficeConnect NETBuilder 113 SNA Boundary Router	3C8813
OfficeConnect NETBuilder 116 APPN Router	3C8816
OfficeConnect NETBuilder 117 Full Protocol Router: IP, IPX, AppleTalk, DECnet, DLSw, VINES, OSI, SDLC	3C8817
OfficeConnect NETBuilder 120 KF FRAD	3C8820
OfficeConnect NETBuilder 121 K Boundary Router	3C8821
OfficeConnect NETBuilder 122 K IP/IPX Router	3C8822
OfficeConnect NETBuilder 123 K SNA Boundary Router	3C8823
OfficeConnect NETBuilder 126 K APPN Router	3C8826
OfficeConnect NETBuilder 127 K Full Protocol Router: IP, IPX, AppleTalk, DECnet, DLSw, VINES, OSI, SDLC	3C8827
OfficeConnect NETBuilder 131 Boundary Router	3C8831
OfficeConnect NETBuilder 132 IP/IPX Router	3C8832
OfficeConnect NETBuilder 137 Full Protocol Router: IP, IPX, AppleTalk, DECnet, DLSw, VINES, OSI, SDLC	3C8837
OfficeConnect NETBuilder 141 U Boundary Router	3C8851
OfficeConnect NETBuilder 142 U IP/IPX Router	3C8852
OfficeConnect NETBuilder 143 U SNA Boundary Router	3C8853
OfficeConnect NETBuilder 146 U APPN Router	3C8856
OfficeConnect NETBuilder 147 U Full Protocol Router: IP, IPX, AppleTalk, DECnet, DLSw, VINES, OSI, SDLC	3C8857
OfficeConnect NETBuilder 141 S/T Boundary Router	3C8841
OfficeConnect NETBuilder 142 S/T IP/IPX Router	3C8842
OfficeConnect NETBuilder 143 S/T SNA Boundary Router	3C8843
OfficeConnect NETBuilder 146 S/T APPN Router	3C8846
OfficeConnect NETBuilder 147 S/T Full Protocol Router: IP, IPX, AppleTalk, DECnet, DLSw, VINES, OSI, SDLC	3C8847

*OfficeConnect NETBuilder
Modules*

OfficeConnect NETBuilder ISDN U Module	3C8801
OfficeConnect NETBuilder 56/64 Kbps CSU/DSU Module	3C8802

FlexWAN Cables

RS-232, DTE (10 ft)	3C89001
RS-232, DTE (4 ft)	3C89002
RS-232, DCE (10 ft)	3C89003
RS-232, DCE (4 ft)	3C89004
V.35, DTE (10 ft)	3C89005
V.35, DTE (4 ft)	3C89006
V.35, DCE (10 ft)	3C89007
V.35, DCE (4 ft)	3C89008
X.21, DTE (10 ft)	3C89009
X.21, DTE (4 ft)	3C89010
V.35 DTE Extended Shroud (10 ft)*	3C89019
V.35 DTE Extended Shroud (4 ft)*	3C89020
V.35 DCE Extended Shroud (10 ft)*	3C89021
V.35 DCE Extended Shroud (4 ft)*	3C89022

*Note: The extended shroud versions
of the V.35 cables are used with
selected IBM equipment. Most devices
do not require an extended shroud.

*The OfficeConnect Hanging Stack Kit
provides the option to attach one or
more OfficeConnect units to the under
side of a desk or counter for locations
where desk space is at a premium
(sold separately).*

OfficeConnect Hanging Stack Kit

OfficeConnect Hanging Stack Kit	3C8060

For More Information

For more information about 3Com
products, please call 1 800 NET 3Com
(1 800 638 3266) in Canada or the
U.S., or call your local sales office.

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