Enterprise-class wireless mobility system offering secure roaming with centralized device management, RF management and rogue detection

OVERVIEW

Ideal for demanding, complex deployments with multiple offices or with highly secure LAN requirements, the 3Com® Wireless LAN Mobility system centrally manages and controls 3Com or third-party wireless LAN Managed Access Points (MAPs). The system features the 3Com Wireless LAN Controller WX4400, 3Com Wireless LAN Controller WX2200, 3Com Wireless LAN Switch WX1200, 3Com Remote Office Wireless LAN Switch WXR100 and 3Com Wireless LAN Switch Manager software.

KEY BENEFITS

DELIVERS CONTROL: A REQUIREMENT FOR SEAMLESS SECURITY AND MOBILITY

Because wireless clients are mobile, 3Com uses innovative Identity-Based Networking to deliver their network services. Multiple controllers and switches are grouped into a Network and Mobility Domain for securely sharing user databases across a network infrastructure, including remote offices.

Through this information exchange, the Mobility System is able to enforce consistent network-wide access and security policies as users roam the network. Users are free from dependency on port or device connections. A user's location and security access details are quickly transferred between switches and/or controllers. Users gain seamless security and session integrity and interoperability with voice-over-Wi-Fi (VoWiFi) phones, without the need for re-authentication or IT intervention. Guest Access application allows non-IT staff, such as front desk personnel, to easily provide temporary secured-wireless access to guest visitors.

CENTRALIZES MANAGEMENT

The 3Com Wireless Switch Manager eliminates the time-consuming task of individually configuring each device. Simple and centralized setup makes initial deployment and long term management easier. Accessed from anywhere on the network, the Wireless Switch Manager software lets administrators change parameters of hundreds of managed access points or dozens of wireless switches with just a few keystrokes.

(from top: 3Com Wireless LAN Controller WX4400, Wireless LAN Controller WX2200, Wireless LAN Switch WX1200, WXR100 Remote Office Wireless LAN Switch)

KEY BENEFITS
(CONTINUED)

ENHANCES STANDARDS-BASED SECURITY

The centralized security management of the 3Com Wireless LAN Mobility System can significantly enhance protection. The exchange of user-based information within the Network and Mobility Domain adds an additional level of control—beyond the existing 3Com foundation of IEEE 802.11i Wi-Fi Protected Access 2 (WPA2), Advanced Encryption Standard (AES), Temporal Key Interchange Protocol (TKIP), Wired Equivalent Privacy (WEP) encryption and IEEE 802.1X authentication—for user and group access to network resources. Sharing user-specific security policies between WLAN controllers and switches enables consistent enforcement of user and group attributes as the user roams across the WLAN.

PROVIDES ENTERPRISE-WIDE FLEXIBILITY

The 3Com Mobility System can be deployed on any existing Layer 2 or Layer 3 LAN topology with no backbone or hardware reconfiguration required. Wireless controllers or switches and associated MAPs can reside anywhere in the network, separated by Layer 2/Layer 3 devices. The system can operate as an integrated infrastructure, making it easy to scale or change as business needs dictate.

The WX4400 and WX2200 controllers come configured to support 24 MAPs and are expandable in increments of 24 MAPs with support of up to 120 MAPs per controller. The WX1200 switch supports up to 12 MAPs and the WXR100 switch supports up to three MAPs. All four devices can be mixed and matched together within a scalable network domain to enable management and control of over 32,768 switches and controllers with almost 4 million access points distributed over large geographic territories.

3Com wireless controllers and switches already support future wireless LAN capabilities such as wireless IP telephony (VoWiFi) and can be kept current with developing standard releases by downloadable firmware upgrades.

FEATURES

MOBILITY ARCHITECTURE

Network and Mobility Domains> Groups of 3Com wireless controllers and/or switches share user information and authorizations as users roam, supporting uninterrupted mobility and enforcing security across the entire wireless network.

Topology independence> By providing a Layer 2 path for Layer 3 traffic, 3Com wireless controllers, switches and MAPs operate as an integrated infrastructure separated by L2/L3 devices even in distributed remote networks, making it easy to expand or modify the WLAN as needed.

Fast roaming> Quick handoff of user information and authorizations within the Network and Mobility Domain enables seamless roaming with session integrity and mobility robust enough to support voice traffic.

Multiple per-user queues> Class-based traffic queuing at the MAP helps ensure that voice and other real-time applications receive the class of service and quality of service they need over the WLAN.

Pay-as you-grow scalability> Upgrade licenses in 24-MAP increments increase support to a total of 120 MAPs per controller for flexible expansion (WX4400 and WX2200 only).

PoE support> The WX1200 switch supplies six ports of power to MAPs over Ethernet cabling for installation flexibility; the WXR100 switch provides one uplink port and one port for PoE data and power to a MAP.

FEATURES
(CONTINUED)

ENCRYPTION

Enterprise-class encryption> WPA2, AES, TKIP and WEP encryption performed at the MAP help protect and secure all communications.

Per-user encryption assignment> Different security policies are enforced on a per-user or per-group basis for flexible, in-depth security control and management.

AAA SECURITY

Local or RADIUS server IEEE 802.1X authentication> Centralized authentication control and management of all network users helps ensure that only authorized users access the network.

Virtual Private Group support> IT staff can assign policies that control per-user or per-group network access throughout the WLAN for secure seamless roaming and to keep user traffic separate and secure.

Mobility Profile> IT staff can dynamically apply access permissions based on attributes returned by the AAA server indicating which MAP or LAN authentication ports a user or group can use.

AAA integration and RADIUS offloading> Wireless controllers and switches can shoulder back-end encryption key generation and authentication tasks, reducing the processing load and increasing the scale and efficiency of central AAA RADIUS servers while reducing AAA traffic over the WLAN.

User, MAC and VLAN "globbing"> IT staff can assign AAA policies to user, subnet, or device groups for convenient, efficient, cost-effective WLAN administration.

Bonded authentication> By bonding IEEE 802.1X machine authentication with 802.1X user authentication, only trusted users and client devices are allowed access to the network.

Time-of-day/day-of-week/location access> IT staff are able to control and restrict network resource access based on building location and/or on an hourly, daily, or weekly basis.

Location policy enforcement> IT staff can add or override AAA-defined access permissions based on user location, providing a choice of centralized or location-specific policy implementation.

RF SECURITY & CONTROL

SentrySweep rogue AP detection> Scheduled or on-demand RF scans identify unauthorized APs and ad-hoc networks and alert the central IT staff; dedicated APs can continually sweep the airspace for 24x7 protection in environments that require higher security.

Dual-band RF scans> A single AP radio can sweep both IEEE 802.11a and 802.11b/g frequency bands and associated channels while the WLAN stays up and running.

Real-time RF monitoring and control> RF scans measure signal strength and usage; software tools dynamically adjust traffic loads, power, RF footprint, or channel assignments to maximize coverage with capacity.

Managed access point control> Centrally maintained and distributed MAP settings eliminate the need to individually configure each device.

CENTRAL CONTROL AND MANAGEMENT

Identity-based networking> Provides all services based on user identity so things like virtual private group membership, Access Control Lists (ACLs), authentication, roaming policies and history, location tracking, bandwidth usage and other authorizations all stay with users as they roam; also tells the IT manager who's connected, where they are, where they've been, what services they're using and what services they've used.

DECENTRALIZED WIRELESS CONTROLLER AND SWITCH DEPLOYMENT

Headquarters

4
3
2
Floor 1

3Com® Wireless LAN Managed Access Point AP3750

Wireless LAN Managed Access Point AP2750

3Com Switch 5500-EI PWR

3Com Wireless LAN Controller WX4400

Wireless PC

PDA / VoWiFi Phone

Wireless PC

PDA / VoWiFi Phone

LAN Clients

Authentication Server

Data Center

3Com Switch 7757

3Com Wireless LAN Switch Manager

3Com Router 6040

Public Network

Branch Office 1

IP Phones

Wireless LAN Managed Access Point AP3750

3Com Switch 4500 PWR

3Com Router 5012

3Com Wireless LAN Switch WX1200

Managed Access Point AP3750

Wireless PC

PDA / VoWiFi Phone

Managed Access Point AP2750

Wireless PC

PDA / VoWiFi Phone

LAN Clients

Branch Office 2

IP Phones

3Com Baseline Switch 2226-PWR

3Com Router 3013

Wireless LAN Managed Access Point AP3750

3Com Wireless LAN Switch WXR100

Wireless PC

PDA / VoWiFi Phone

Managed Access Point AP2750

Wireless PC

PDA / VoWiFi Phone

LAN Clients
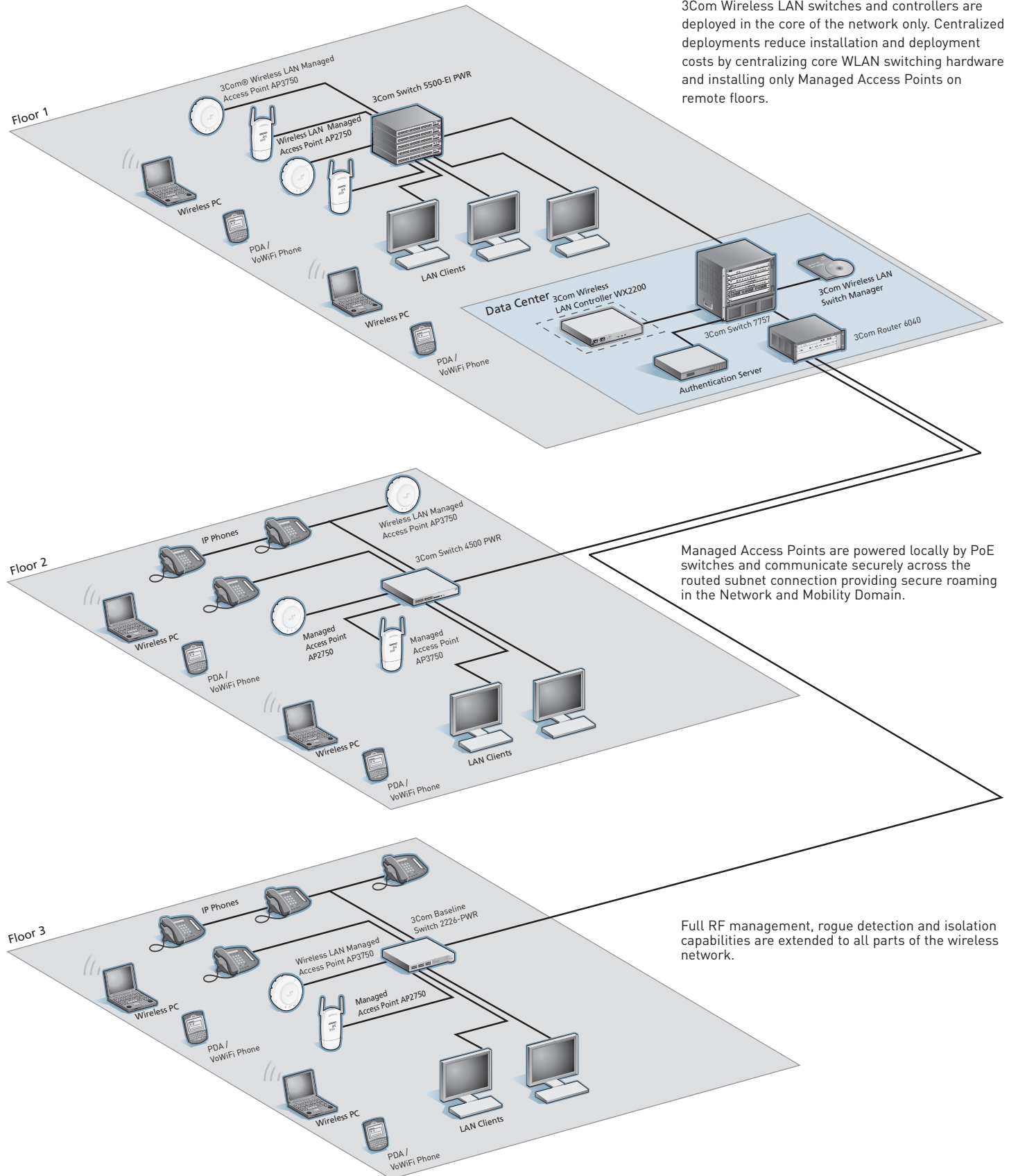
DECENTRALIZED APPLICATION

3Com Wireless LAN switches and controllers can be deployed throughout the network, from the core to the edge and in each remote branch location. Decentralized deployments provide network scalability while maintaining optimal network throughput for wireless devices.
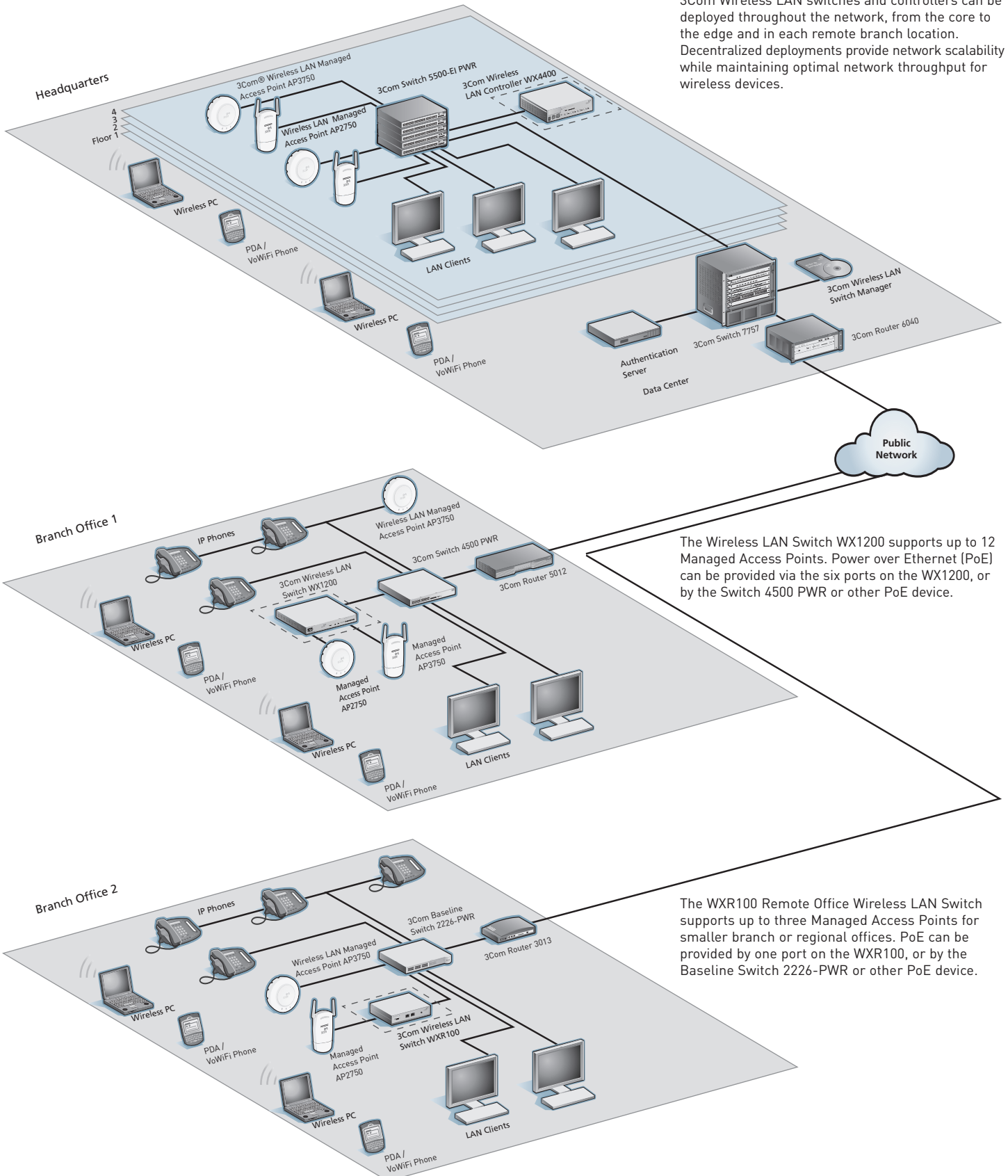
The Wireless LAN Switch WX1200 supports up to 12 Managed Access Points. Power over Ethernet (PoE) can be provided via the six ports on the WX1200, or by the Switch 4500 PWR or other PoE device.

The WXR100 Remote Office Wireless LAN Switch supports up to three Managed Access Points for smaller branch or regional offices. PoE can be provided by one port on the WXR100, or by the Baseline Switch 2226-PWR or other PoE device.

CENTRALIZED WIRELESS CONTROLLER DEPLOYMENT

CENTRALIZED APPLICATION

3Com Wireless LAN switches and controllers are deployed in the core of the network only. Centralized deployments reduce installation and deployment costs by centralizing core WLAN switching hardware and installing only Managed Access Points on remote floors.

Floor 1

3Com® Wireless LAN Managed Access Point AP3750

3Com Switch 5500-EI PWR

Wireless LAN Managed Access Point AP2750

Wireless PC

PDA / VoWiFi Phone

LAN Clients

Wireless PC

PDA / VoWiFi Phone

Data Center

3Com Wireless LAN Controller WX2200

3Com Wireless LAN Switch Manager

3Com Switch 7757

3Com Router 6040

Authentication Server

Managed Access Points are powered locally by PoE switches and communicate securely across the routed subnet connection providing secure roaming in the Network and Mobility Domain.

Floor 2

IP Phones

Wireless LAN Managed Access Point AP3750

3Com Switch 4500 PWR

Wireless PC

PDA / VoWiFi Phone

Managed Access Point AP2750

Managed Access Point AP3750

Wireless PC

PDA / VoWiFi Phone

LAN Clients

Full RF management, rogue detection and isolation capabilities are extended to all parts of the wireless network.

Floor 3

IP Phones

3Com Baseline Switch 2226-PWR

Wireless LAN Managed Access Point AP3750

Managed Access Point AP2750

Wireless PC

PDA / VoWiFi Phone

Wireless PC

LAN Clients

PDA / VoWiFi Phone

SPECIFICATIONS

TOTAL PORTS

3Com Wireless LAN Controller WX4400:
Four dual-purpose 1000BASE-T ports will accommodate 1000BASE-SX and 1000BASE-LX GBICs; serial console port

3Com Wireless LAN Controller WX2200:
Two SFP ports will accommodate 1000 Mbps SFPs; 10/100 management and serial console ports

3Com Wireless LAN Switch WX1200:
Six 10BASE-T/100BASE-TX integrated PoE ports, two 10BASE-T/100BASE-TX ports, auto-negotiation on all ports; serial console port

3Com WXR100 Remote Office Wireless LAN Switch:
Two 10BASE-T/100BASE-TX integrated ports (one PoE/one uplink), auto-negotiation on both ports; serial console port, reset port

MAP SUPPORT

Wireless LAN Controllers WX4400 and WX2200:
Ships with support for up to 24 MAPs per controller depending on the capacity and coverage requirements of the wireless installation. MAP support can be increased by purchasing individual 24-MAP upgrade licenses; four 24-MAP licenses support a total of 120 MAPs per controller

Wireless LAN Switch WX1200:
Ships with support for up to 12 MAPs per switch

WXR100 Remote Office Wireless LAN Switch:
Ships with support for up to 3 MAPs per switch

AGGREGATE SWITCHING CAPACITY

Wireless LAN Controller WX4400:
3.6 Gbps max.

Wireless LAN Controller WX2200:
2.0 Gbps max.

Wireless LAN Switch WX1200:
200 Mbps max.

WXR100 Remote Office Wireless LAN Switch:
45 Mbps max.

MAP ADDRESS SUPPORT

Wireless LAN Controller WX4400:
1,024 addresses

Wireless LAN Controller WX2200:
1,024 addresses

Wireless LAN Switch WX1200:
128 addresses

WXR100 Remote Office Wireless LAN Switch:
64 addresses

POWER

Wireless LAN Controller WX4400:
Power supply: 350 W max.
Operating voltage: 90-250 VAC, 47-63 Hz
Amperage draw: 8.0 A at 120 V; 3.5 A at 230 V; max.
Power option: spare hot-swappable 350 W power supply available

Wireless LAN Controlller WX2200:
Power supply: 50 W max. (x2 power supplies)
Operating voltage: 100-240 VAC, 50-60 Hz
Amperage draw: 1.0 A at 120 V; 0.5 A at 230 V; max.

Wireless LAN Switch WX1200:
Power supply: 200 W max.
Operating voltage: 90-132/180-264 VAC, 47-63 Hz
Amperage draw: 4.0 A at 120 V; 2.0 A at 230 V; max.
Power over Ethernet voltage output: 48 VDC, 15.4 W per port

WXR100 Remote Office Wireless LAN Switch:
Power supply: 40 W max.
Operating voltage: 100-240 VAC, 47-63 Hz
Amperage draw: 0.8 A at 115 V, 0.4 A at 230 V; max.
Power over Ethernet voltage output: 48 VDC, 15.3 W per port

LEDS

Wireless LAN Controller WX4400:
Port status and traffic (Ethernet and GBIC), management, power

Wireless LAN Controlller WX2200:
Port status and traffic, management, power

Wireless LAN Switch WX1200:
Link status (10 Mbps and 100 Mbps), MAP/ PoE, power

WXR100 Remote Office Wireless LAN Switch:
Link status (10 Mbps and 100 Mbps), MAP/ PoE, power

DIMENSIONS AND WEIGHT

Wireless LAN Controller WX4400:
Height: 8.8 cm (3.4 in), or 2U
Width: 44.1 cm (17.4 in)
Depth: 25.6 cm (10.8 in)
Weight: 3.6 kg (8.0 lbs) one power supply; 4.1 kg (9.0 lbs) two power supplies

Wireless LAN Controlller WX2200:
Height: 4.4 cm (1.7 in), or 1U
Width: 44.1 cm (17.4 in)
Depth: 30.74 cm (12.1 in)
Weight: 5.0 kg (11.0 lbs)

Wireless LAN Switch WX1200:
Height: 4.4 cm (1.7 in), or 1U
Width: 44.1 cm (17.4 in)
Depth: 25.6 cm (10.8 in)
Weight: 3.8 kg (8.4 lbs)

WXR100 Remote Office Wireless LAN Switch:
Height: 3.2 cm (1.26 in)
Width: 19.0 cm (7.5 in)
Depth: 14.6 cm (5.75 in)
Weight: 0.7 kg (24.7 ounces)

ENVIRONMENTAL RANGES
Operating temperature: -10 to 50°C (14 to 122 °F)
Storage temperature: -20 to 70°C (-4 to 158 °F)
Humidity: 10 to 95% non-condensing

SPECIFICATIONS
(CONTINUED)

MTBF

Wireless LAN Controller WX4400:
24 years (206,000 hours)

Wireless LAN Controller WX2200:
24 years (206,000 hours)

Wireless LAN Switch WX1200:
35 years (314,000 hours)

WXR100 Remote Office Wireless LAN
Switch:
118 years (1,040,000 hours)

REGULATORY/AGENCY APPROVALS

Safety

UL 60950 2000 +ZB & ZC deviations

EN60950 1999 and all national deviations

CSA 22.2 No. #60950 3rd Edition, 1995

UL 60950 3rd edition

NOM-119 SCFI

AS/NZS 60950 2000

EMC/EMI

EN55024 1998

EN 61000 (4-2 to 4-6 and 4-11)

EN 61000-3-2 1195+A14

ICES-003 Class A

FCC Part 15 Class A

EN55022 1998 Class A

VCCI Class A

CISPR 22 Class A

Korean EMI Class A

MANAGEMENT

Web interface management of WX2200, WX1200 and WXR100 remotely over HTTPS secure connection

Command line interface access via local console or remotely via SSH v2 or Telnet on all models

Local Ethernet management (WX2200)

SNMP MIB II

3Com Wireless LAN Switch Manager (separately ordered recommended product); interoperates with 3Com Network Director and HP OpenView

SECURITY AND AAA

RFC 2246 Transport Layer Security (TLS)

RFC 2284 EAP

RFC 2315 PKCS #7: Cryptographic Message Syntax Version 1.5

RFC 2548 Microsoft RADIUS VSAs

RFC 2716 PPP EAP-TLS Authentication Protocol

RFC 2759 Microsoft PPP CHAP Extensions, Version 2

RFC 2865 RADIUS Authentication

RFC 2866 RADIUS Accounting

RFC 2869 RADIUS Extensions

RFC 2986 PKCS #10: Certification Request Syntax Specification Version 1.7

RFC 3580 IEEE 802.1X RADIUS Guidelines

SECURITY STANDARDS

IEEE 802.1X

IEEE 802.11d

IEEE 802.11h

IEEE 802.11i

ENCRYPTION

WPA and WPA 2

AES (CCMP): 128-bit (FIPS-197)

WEP 40/64 and 104/128-bit;
TKIP: RC4 40-bit

SSL and TLS: RC4 128-bit and RSA 1024-bit and 2048-bit

POWER OVER ETHERNET

IEEE 802.3af

GENERAL NETWORKING

RFC 1122 Host requirements

RFC 1393 Traceroute

RFC 1519 CIDR

RFC 1591 DNS (client)

RFC 1769 SNTP

RFC 768 UDP

RFC 783 TFTP

RFC 791 IP

RFC 792 ICMP

RFC 793 TCP

RFC 826 ARP

IEEE 802.1D (Spanning Tree)

IEEE 802.1Q (VLAN tagging)

IEEE 802.3ad (static config)

RFC 2131 DHCP

MANAGEMENT AND CONTROL

RFC 854 Telnet (server and client)

SSHv2 – Secure Shell v2

RFC 1157 SNMP v1/v2c

RFC 1213 MIB-II

RFC 1866 HTML

RFC 1907 SNMPv2

RFC 2068 HTTP

RFC 2660 HTTPS

RFC 3164 Syslog

IP MULTICAST

RFC 1112 IGMP v1

RFC 2236 IGMP v2

QUALITY OF SERVICE

RFC 2472 DiffServ Precedence

RFC 2597 DiffServ Assured Forwarding

RFC 2598 DiffServ Expedited Forwarding

WMM: WiFi Multimedia

PACKAGE CONTENTS

Wireless LAN Controller WX4400, Wireless LAN Controller WX2200, Wireless LAN Switch WX1200, or WXR100 Remote Office Wireless LAN Switch

Rack mounting kit (WX4400, WX2200 and WX1200 only)

DB-9 serial console cable

User guide and CD-ROM with user documentation

Warranty booklet

WARRANTY AND OTHER SERVICES

Limited Hardware Warranty for one year. Limited Software Warranty for 90 days. 90 days free telephone technical support.

Refer to www.3com.com/warranty for details.

ORDERING INFORMATION

PRODUCT DESCRIPTION	3COM SKU
3Com Wireless LAN Controller WX4400[1,2]	3CRWX440095A
3Com Wireless LAN Controller WX2200[1,2]	3CRWX220095A
3Com Wireless LAN Switch WX1200[1,2]	3CRWX120695A
3Com WXR100 Remote Office Wireless LAN Switch[1,2]	3CRWXR10095A

Options for Wireless LAN Controllers WX4400 and WX2200

3Com Wireless LAN Controller 24 MAP License Upgrade[3]	3CWX4400L24A
3Com Wireless LAN Controller WX4400 Spare Power Supply	3CWX4400RPSA
3Com 1000BASE-SX GBIC	3CGBIC91
3Com 1000BASE-LX GBIC	3CGBIC92
3Com 1000BASE-SX SFP	3CSFP91
3Com 1000BASE-LX SFP	3CSFP92
3Com 1000BASE-T SFP	3CSFP93
3Com 1000BASE-LH SFP	3CSFP97

Wireless LAN Controllers and MAP License Upgrade Bundles

3Com Wireless LAN Controller WX4400 with 48-MAP License[1,2]	3CRBWX440095A48
3Com Wireless LAN Controller WX4400 with 72-MAP License[1,2]	3CRBWX440095A72
3Com Wireless LAN Controller WX4400 with 96-MAP License[1,2]	3CRBWX440095A96
3Com Wireless LAN Controller WX4400 with 120-MAP License[1,2]	3CRBWX440095A120
3Com Wireless LAN Controller WX2200 with 48-MAP License[1,2]	3CRBWX220095A48
3Com Wireless LAN Controller WX2200 with 72-MAP License[1,2]	3CRBWX220095A72
3Com Wireless LAN Controller WX2200 with 96-MAP License[1,2]	3CRBWX220095A96
3Com Wireless LAN Controller WX2200 with 120-MAP License[1,2]	3CRBWX220095A120

3Com Wireless LAN Switch Manager

3Com Wireless LAN Switch Manager[2]	3CWXM10A
(supports up to 10 3Com wireless LAN controllers and/or switches)	
3Com Wireless LAN Switch Manager Unlimited Upgrade[4]	3CWXMUPA

3Com Wireless LAN Managed Access Points

3Com Wireless LAN Managed Access Point 3750[1,5]	3CRWX375075A
3Com Wireless LAN Managed Access Point 2750[1,5]	3CRWX275075A

3Com Global Services

3Com Wireless LAN Site Survey, Network Health Check, Installation Services and Express℠ Maintenance	www.3com.com/services_quote
3Com University Courses	www.3com.com/3comu

1 Not available in all countries; please check local reseller or 3Com office for local availability.
2 Software upgrades are only available to customers with 3Com maintenance agreements.
3 Up to four additional 24-MAP licenses can be purchased per wireless controller, supporting a total of up to 120 MAPs per wireless controller.
4 Upgrades 3CWXM10A to support an unlimited number of wireless switches and/or controllers.
5 Operates only with a 3Com Wireless LAN Controller WX4400, Wireless LAN Controller WX2200, Wireless LAN Switch WX1200 or WXR100 Remote Office Wireless LAN Switch.

For additional information, please visit **www.3com.com**

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

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