3COM® WIRELESS LAN MOBILITY SYSTEM

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

from top: 3Com WXR100 Remote Office Wireless LAN Switch, Wireless LAN Switch WX1200 and Wireless LAN Controllers WX2200

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 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.

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.

INTELLIGENT SWITCHING

An integral component of the 3Com Wireless LAN Mobility System, the 3Com AP 3850 and AP 3950 with intelligent

3COM

KEY BENEFITS (CONTINUED)

switching offers both centralized and distributed data forwarding. It automatically determines the best alternative based on the requirements of the underlying application, allowing it to support the most demanding wireless applications indoors and outdoors, including VoWiFi and video distribution.

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 WX2200 controller comes configured to support 24 MAPs and is expandable in increments of 24 MAPs with support of up to 192 active and 768 configured MAPs per controller. The WX1200 switch supports up to 12 active and 48 configured MAPs and the WXR100 switch supports up to three active and 16 configured MAPs. All three 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.

FLEXIBLE EXTENDED WIRELESS NETWORK

In addition to traditional access point functionality, the AP 3850 and AP 3950 can also serve as an IEEE 802.11s mesh AP, mesh point, mesh portal, or WDS bridge to other AP 3850/ 3950s, extending the reach of enterprise WLANs. The MAP supports this in either point-to-point or point-to-multipoint topologies, allowing maximum flexibility within a mesh or bridged environment.

The AP 3850/3950 can be configured with one radio for client services and the other for mesh service. The AP can also be used in a dedicated bridging mode, to provide seamless connectivity between buildings without the expense of laying new cable.

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.

Distributed Forwarding
Optimize traffic flow, reducing latency and improving performance.

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 192 MAPs per controller for flexible expansion (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.

CLUSTERING

Maximize Connectivity and Environmental Flexibility
Part of the 3Com Wireless LAN Mobility System, the system provides "always-on" reliability, through controller clustering. If any 3Com wireless controller fails in the cluster, failover to another controller is seamless and client connections are maintained. Data flow continues without any service disruptions to voice and real-time video applications.

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 AND 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. The AP 3950 can also scan the 2.4GHz and 5GHz 802.11n bands.

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. The MAPs also enables granular bandwidth management on a per user or SSID basis and load balancing features that vastly improve network performance and end user experience.

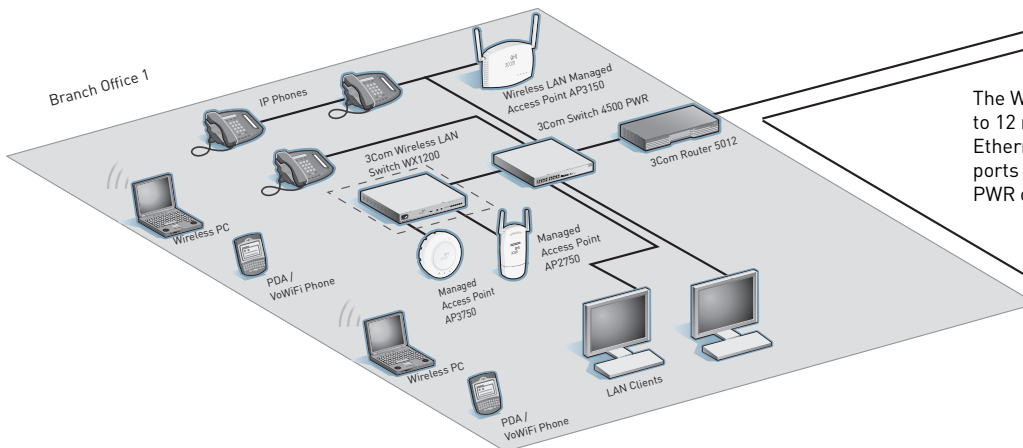## CENTRAL CONTROL AND MANAGEMENT

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.
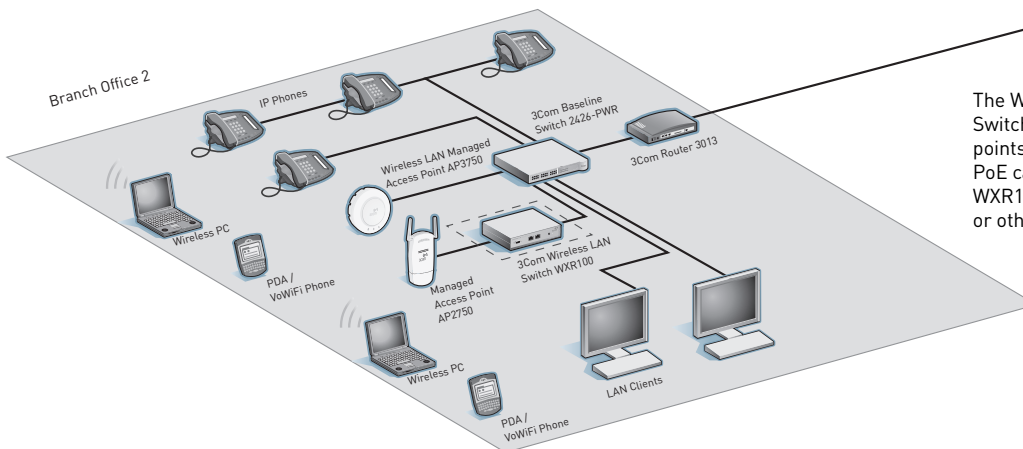
DECENTRALIZED DEPLOYMENT
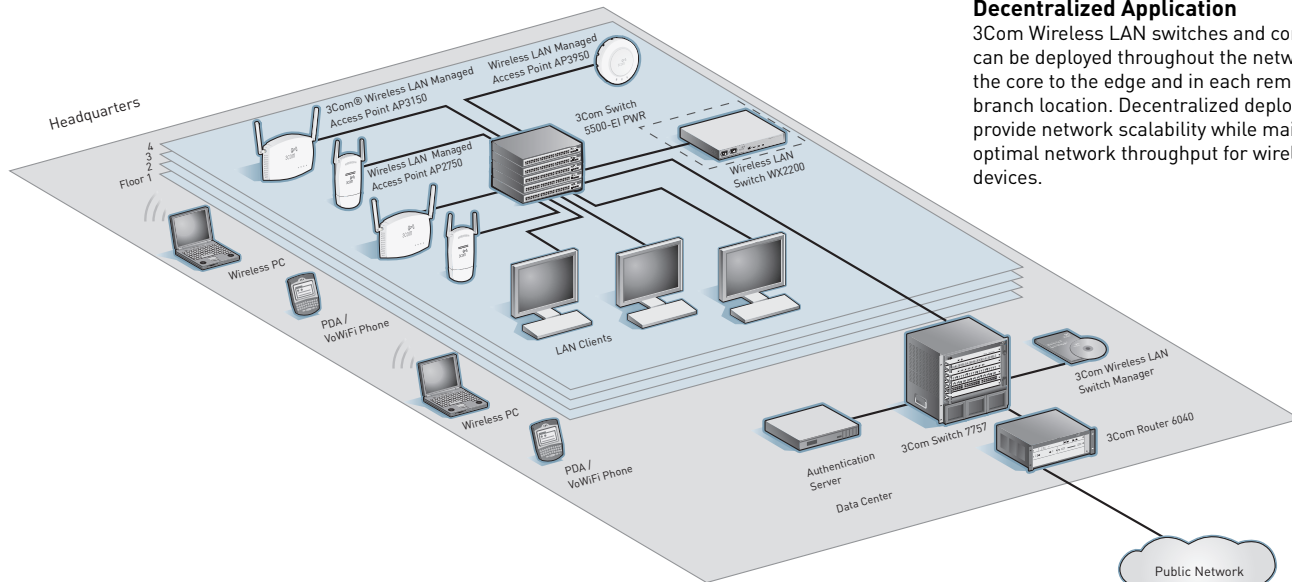
Decentralized Application
3Com Wireless LAN switches and controllers can be deployed throughout the network, from the core to the edge and in each remote branch location. Decentralized deployments provide network scalability while maintaining optimal network throughput for wireless devices.

Headquarters
Floor 1
4 3 2

Wireless LAN Managed Access Point AP3950
3Com® Wireless LAN Managed Access Point AP3150
Wireless LAN Managed Access Point AP2750
3Com Switch 5500-EI PWR
Wireless LAN Switch WX2200
Wireless PC
PDA / VoWiFi Phone
LAN Clients
Wireless PC
PDA / VoWiFi Phone
3Com Wireless LAN Switch Manager
Authentication Server
3Com Switch 7757
3Com Router 6040
Data Center
Public Network

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.

Branch Office 1
IP Phones
Wireless LAN Managed Access Point AP3150
3Com Switch 4500 PWR
3Com Router 5012
3Com Wireless LAN Switch WX1200
Wireless PC
PDA / VoWiFi Phone
Managed Access Point AP3750
Managed Access Point AP2750
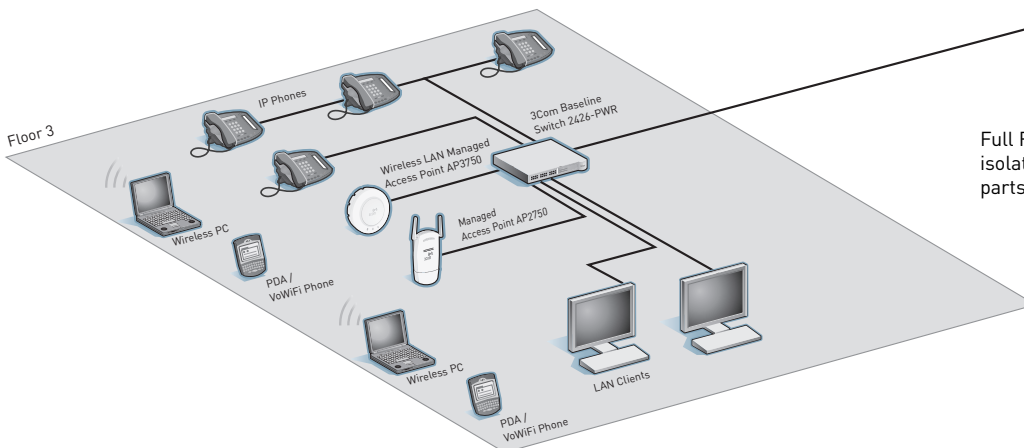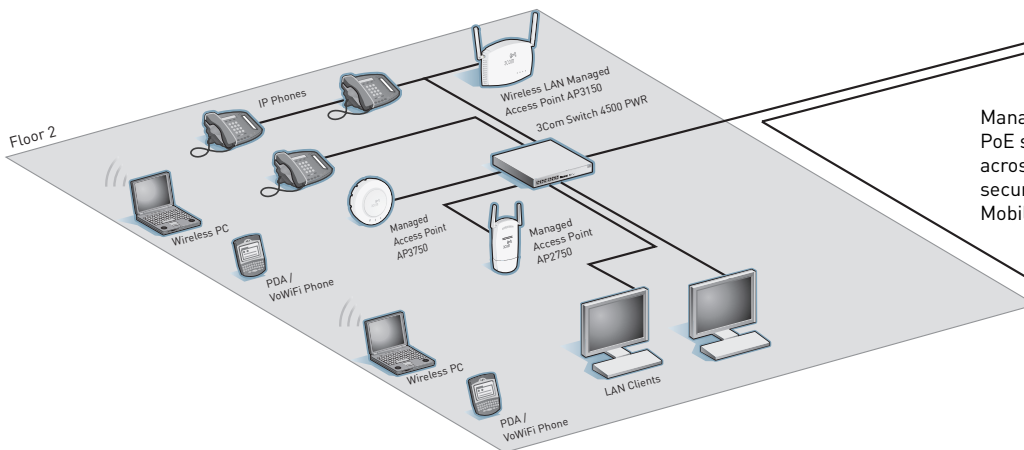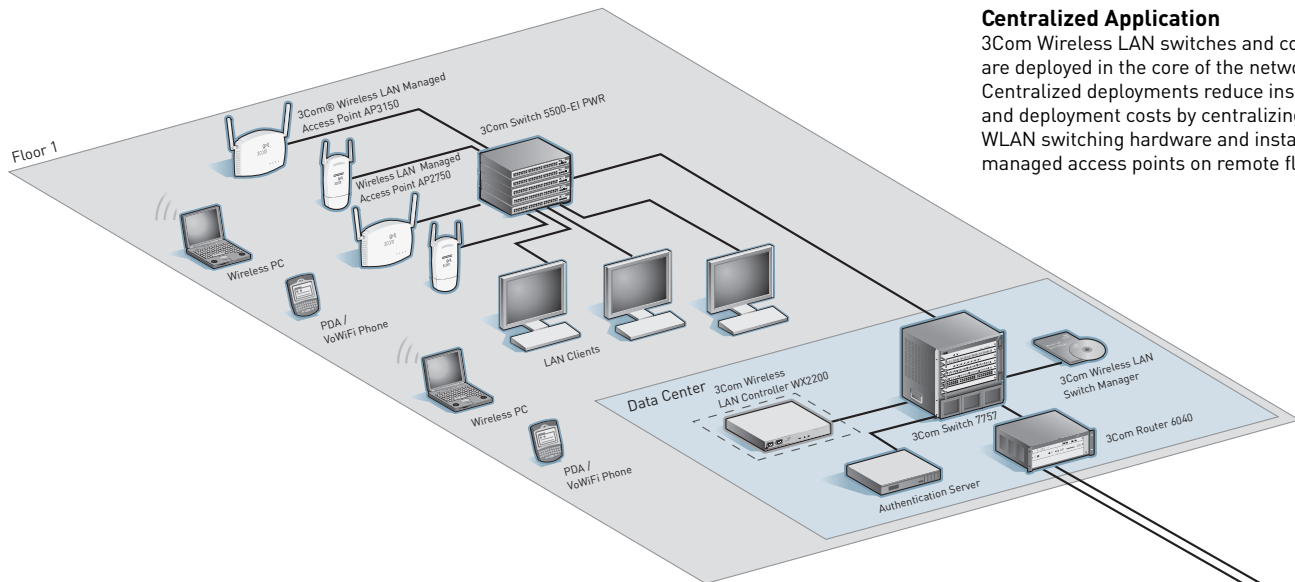Wireless PC
PDA / VoWiFi Phone
LAN Clients

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 2426-PWR or other PoE device.

Branch Office 2
IP Phones
3Com Baseline Switch 2426-PWR
Wireless LAN Managed Access Point AP3750
3Com Router 3013
Wireless PC
PDA / VoWiFi Phone
Managed Access Point AP2750
3Com Wireless LAN Switch WXR100
Wireless PC
PDA / VoWiFi Phone
LAN Clients

CENTRALIZED 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 AP3150

Wireless LAN Managed Access Point AP2750

3Com Switch 5500-EI PWR

Wireless PC

PDA / VoWiFi Phone

Wireless PC

PDA / VoWiFi Phone

LAN Clients

Data Center

3Com Wireless LAN Controller WX2200

3Com Switch 7757

Authentication Server

3Com Router 6040

3Com Wireless LAN Switch Manager

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 AP3150

3Com Switch 4500 PWR

Wireless PC

PDA / VoWiFi Phone

Managed Access Point AP3750

Managed Access Point AP2750

Wireless PC

LAN Clients

PDA / VoWiFi Phone

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

Floor 3

IP Phones

3Com Baseline Switch 2426-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 WX2200
Two SFP ports will accommodate 1000 Mbps SFPs
(purchased separately); RJ-45 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 Controller 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; seven 24-MAP licenses support a total of 192 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 WX2200
2.0 Gbps max.

Wireless LAN Switch WX1200
200 Mbps max.

WXR100 Remote Office Wireless LAN Switch
45 Mbps max.

POWER
Wireless LAN Controller 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 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 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

MTBF
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
EN 60950 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
EN 55024 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
EN 55022 1998 Class A
VCCI Class A
CISPR 22 Class A
Korean EMI Class A

SPECIFICATIONS (CONTINUED)

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 WPA2

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 SNMP v2

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

WiFi Multimedia (WMM®)

Package Contents
Wireless LAN Controller WX2200, Wireless LAN Switch WX1200, or WXR100 Remote Office Wireless LAN Switch

Rack mounting kit (WX2200 and WX1200 only)

DB-9 serial console cable

User guide and CD-ROM with user documentation

Warranty booklet

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.

ORDERING INFORMATION

PRODUCT DESCRIPTION	3COM SKU
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 WX2200

3Com Wireless LAN Controller 24 MAP License Upgrade[3]	3CWX4400L24A
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 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] (supports up to 10 3Com wireless LAN controllers and/or switches)	3CWXM10A
3Com Wireless LAN Switch Manager Upgrade[4]	3CWXMUPA

3Com Wireless LAN Managed Access Points

3Com Wireless LAN Managed Dual Radio 802.11n Access Point 3950[1,5]	3CRWX395075A
3Com Wireless LAN Managed Access Point 3850[1,5]	3CRWX385075A
3Com Wireless LAN Managed Access Point 3750[1,5]	3CRWX375075A
3Com Wireless LAN Managed Access Point 3150[1,5]	3CRWX315075A
3Com Wireless LAN Managed Access Point 2750[1,5]	3CRWX275075A

PRODUCT DESCRIPTION	3COM SKU

Options for Wireless LAN Controller WX4400[6]

3Com Wireless LAN Controller 24 MAP License Upgrade[7]	3CWX4400L24A
3Com Wireless LAN Controller WX4400 Spare Power Supply	3CWX4400RPSA
3Com 1000BASE-SX GBIC	3CGBIC91
3Com 1000BASE-LX GBIC	3CGBIC92

3Com Global Services

3Com Wireless LAN Site Survey, Network Health Check, Installation Services and Express℠ Maintenance	ww.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 seven additional 24-MAP licenses can be purchased per WX 2200 wireless controller, supporting a total of up to 192 MAPs per wireless controller.
4 Upgrades 3CWXM10A to support up to 1,000 wireless controller WXR100s or 128 WX2200s.
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.
6 The 3Com Wireless LAN Controller WX4400 is no longer being sold, but some options are still available, and the product is still supported via software upgrades.
7 Up to four additional 24-MAP licenses can be purchased per WX4400 wireless controller, supporting a total of up to 120 MAPs per wireless controller.

Visit www.3com.com for more information about 3Com solutions.

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