3Com® Wireless LAN Controller WX4400 and 3Com Wireless LAN Switch WX1200

Key Benefits

Centralized Visibility, Management, and Control of the Wireless Environment
The 3Com® Wireless LAN Mobility system consists of a 3Com Wireless LAN Controller (WX4400), 3Com Wireless LAN Switch (WX1200), and 3Com Wireless LAN Switch Manager software. The Wireless LAN system centrally manages and controls 3Com or third party wireless LAN Managed Access Points (MAPs). It is ideal for demanding, complex deployments with multiple offices or with highly secure LAN requirements.

Comprehensive Control of MAPs for RF Optimization and Enhanced Security
Control MAP configuration and optimize radio-frequency (RF) coverage and performance using 3Com wireless controllers and switches, which are all managed from the 3Com Wireless Switch Manager, and can be accessed anywhere on the network. With a few keystrokes, parameters can be changed for multiple MAPs, eliminating the time-consuming task of individually configuring each device, and providing simple setup. The result simplifies initial deployment as well as easing long-term management.

Enhanced Control for Seamless Security and Mobility
Because wireless clients are mobile, 3Com uses innovative Identity-Based Networking to deliver network services. This approach is based on user identity instead of ports or devices. Multiple controllers and switches, grouped into a Mobility Domain share user databases to support mobility and security across the entire network infrastructure, including remote offices.

Strong Wireless Security Implementations and Management
The wireless switching solution builds on 3Com's already strong wireless security features to fortify network protection. 3Com's existing foundation of wireless security includes AES, TKIP, and WEP encryption combined with WPA and 802.1X authentication.

Through this WLAN-wide information exchange, the 3Com Wireless LAN Mobility System enforces consistent network-wide access and security policies as users roam the network. No longer connection-dependent, user location, security and access details are quickly transferred between switches and/or controllers. This enables fast roaming with seamless security and session integrity without the need for re-authentication or IT intervention. Fast roaming with session integrity also enables interoperability with voice-over-Wi-Fi phones.

• Connect users securely to wireless LANs, enabling users to roam the network
• Provides comprehensive MAP control for airspace optimization and enhanced security
• Delivers enhanced management, seamless security, and planning ease to wireless networks of all sizes
• Strengthens wireless security implementations and management, from network to user
### Key Benefits, continued

**Contains Equipment Expense and Management Complexity, Adds Cost-Effective Scalability**

3Com’s versatile solution 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 L2/L3 devices, and can operate as an integrated infrastructure, making it easy to scale or change as business needs dictate.

The WX1200 supports up to 12 MAPs while the WX4400 comes configured to support 24 MAPs and is expandable in increments of 24 MAPs to support up to 96 MAPs per controller for “pay-as-you-grow” flexibility. WX4400s and WX1200s can be mixed and matched together within a Mobility Domain to manage and control thousands of MAPs for unparalleled scalability. 3Com wireless controllers and switches already support future wireless LAN capabilities, such as wireless IP Telephony (VoIP), today, and downloadable firmware upgrades will keep your network current with developing standards releases.

### Features

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<th>Description</th>
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<tr>
<td><strong>Mobility Domains</strong> Groups of 3Com wireless controllers and/or switches that share user information and authorizations as users roam to support mobility and enforce security across the entire wireless network.</td>
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<td><strong>Topology independence</strong> 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.</td>
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<td><strong>Fast roaming</strong> Quick handoff of user information and authorizations within the Mobility Domain enables seamless roaming with session integrity and mobility robust enough to support voice traffic.</td>
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<td><strong>Multiple per-user queues</strong> 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.</td>
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<td><strong>Pay-as you-go scalability</strong> Upgrade licenses in 24-MAP increments for the WX4400 increase support to a total of 96 MAPs per controller for flexible expansion.</td>
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<td><strong>PoE support</strong> The WX1200 supplies both data and power to MAPs over Ethernet cabling for installation flexibility.</td>
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<td><strong>Multiple encryption schemes</strong> Advanced Encryption Standard (AES), Temporal Key Interchange Protocol (TKIP), and Wired Equivalent Privacy (WEP) encryption performed at the MAP help protect all communications.</td>
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<td><strong>Per-user encryption assignment</strong> Enforces different security policies on a per-user or per-group basis for flexible, in-depth security control and management.</td>
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<td><strong>Local or RADIUS server 802.1X authentication</strong> Helps ensure that only authorized users access the network. Centralizes authentication control and management of all network users.</td>
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<td><strong>Virtual Private Group™ support</strong> Enables IT staff to assign policies that control per-user or per-group network access throughout the WLAN for secure seamless roaming, and keeps user traffic separate and secure.</td>
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<td><strong>Mobility Profile™</strong> Specifies which MAP or LAN authentication ports a user or group can use, allowing IT staff to dynamically apply access permissions based on attributes returned by the AAA server.</td>
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<td><strong>AAA integration and RADIUS offloading</strong> Wireless controllers and switches can shoulder backend 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.</td>
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<td><strong>User, MAC, and VLAN “globbing”</strong> Allows IT staff to assign AAA policies to user, subnet, or device groups for convenient, efficient, cost-effective WLAN administration.</td>
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<td><strong>Bonded authentication</strong> Makes sure only trusted users and client devices access the network, by bonding 802.1X machine authentication with 802.1X user authentication.</td>
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<td><strong>Time-of-day/Day-of-week access</strong> Lets IT staff control and restrict network resource access at predetermined times on an hourly, daily, or weekly basis.</td>
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<td><strong>Location policy enforcement</strong> Allows IT staff to assign to add or override AAA-defined access permissions based on user location, providing a choice of centralized and location-specific policy implementation.</td>
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### RF SECURITY & CONTROL

<table>
<thead>
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<tbody>
<tr>
<td>SentrySweep™ rogue AP detection</td>
<td>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.</td>
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<td>Dual band RF scans</td>
<td>A single AP radio can sweep both 802.11a and 802.11b/g frequency bands and associated channels while the WLAN stays up and running.</td>
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<tr>
<td>Real-time RF monitoring and control</td>
<td>RF scans measure signal strength and usage; software tools dynamically adjust traffic loads, power, RF footprint, or channel assignments to maximize coverage with capacity.</td>
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<tr>
<td>Managed access point control</td>
<td>Centrally maintains and distributes MAP settings, eliminating the need to individually configure each device.</td>
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### 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. |
| 3Com Wireless Switch Manager                                               | Wireless network management suite enables IT staff to successfully and cost-effectively plan, deploy, monitor, and manage WLANs from a central point. Separately purchased required product. |
| Remote Management                                                          | Use the 3Com’s Wireless Switch Manager to securely manage from anywhere. Use the built-in Web browser via SSL or HTTPS, or command line interface via SSHv2 or Telnet. 3Com’s Wireless Switch Manager is interoperable with enterprise management tools such as 3Com Network Director (3ND) and HP OpenView. |

### NETWORK RESILIENCY

| Enterprise-grade resiliency features                                       | Location-independent self-healing topology, Per-VLAN Spanning Tree (PVST+), and redundant MAP configurations add network resiliency for demanding networks. |
| RADIUS server load-sharing                                                 | Distributing user authentication processing across multiple AAA servers increases network resiliency; servers can be set up to track specified user session and accounting information for chargeback purposes. |
| Hot-swappable power supply (3Com Wireless LAN Controller WX4400)          | A second, optional power supply can be installed for hot-swappable redundancy. |
| Four dual-purpose Gigabit ports (3Com Wireless LAN Controller WX4400)     | Support 1000 Mbps copper, or fiber with GBIC modules, for flexible Gigabit Ethernet backbone and server connections. |
Key Applications

Decentralized Application

3Com Wireless LAN controller WX4400 devices are deployed at the edge of the enterprise network, in the wiring closet on each floor.

Centralized Application

The 3Com Wireless LAN Controller WX4400 is deployed at or near the core of the enterprise network, in the data center.
Key Applications

Remote/Branch Office Application

The 3Com Wireless LAN Switch WX1200 is deployed in the remote office, connected to corporate office datacenter resources.

Specifications

HARDWARE

Total Ports

3Com Wireless LAN Controller WX4400
Four dual-purpose 1000BASE-T ports will accommodate 1000BASE-SX and 1000BASE-LX GBICs (sold separately, see Ordering Information)

3Com Wireless LAN Controller WX1200
Six 10BASE-T/100BASE-TX integrated PoE ports, two 10BASE-T/100BASE-TX ports; auto-negotiation on all ports

Serial console port

3Com Wireless LAN Controller WX4400
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; three 24-MAP licenses support a total of 96 MAPs per WX4400 (see Ordering Information)

3Com Wireless LAN Controller WX1200
Ships with support for up to 12 MAPs per switch, depending on the capacity and coverage requirements of the wireless installation

Aggregate Switching Capacity

3Com Wireless LAN Controller WX4400
Up to 3.6 Gbps

3Com Wireless LAN Controller WX1200
Up to 200 Mbps

MAC Address Support

3Com Wireless LAN Controller WX4400
1024 addresses

3Com Wireless LAN Controller WX1200
128 addresses

Power

3Com Wireless LAN Controller WX4400
350W max. power supply
Operating voltage: 90-250VAC, 47-63 Hz
Amperage draw maximum: 8 Amax at 120 Vesta; 3.5 Amax at 230 Vmax
Spare hot-swappable 350W power supply available (see Ordering Information)

3Com Wireless LAN Controller WX1200
200W max. power supply
Operating voltage: 90-132/180-264V, 47-63 Hz
Amperage draw maximum: 4 Amax at 120 Vesta; 2 Amax at 230 Vmax
Power over Ethernet: Voltage output: 48 VDC, 15.4W per port

LEDs

3Com Wireless LAN Controller WX4400
Port status and traffic (Ethernet and GBIC), Management, Power

3Com Wireless LAN Controller WX1200
Link status (10 Mbps and 100 Mbps), AP, PoE, Power

Dimensions and Weight

3Com Wireless LAN Controller WX4400
Height: 8.8 cm (2.4 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

3Com Wireless LAN Controller 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 (8.5 lbs)

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

Regulatory/Agency Approvals


Specifications, continued

SOFTWARE

Management
Web interface management via access via local console or remotely over SSL or HTTPS; command line interface access via local console or remotely via SSH v2 or Telnet; SNMP MIB II; 3Com® Wireless Switch Manager (separately ordered required product); interoperate with 3ND 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

IEEE Security Standards
IEEE Std 802.1X-2001 (port-based network access control)
IEEE Std 802.11i (enhanced security for 802.11)
IEEE Std 802.11h
IEEE Std 802.11d

Encryption
AES (CCMP): 128-bit (FIPS-197)
WEP and TKIP: RC4 40-bit and 104-bit
SSL and TLS: RC4 128-bit and RSA 1024-bit and 2048-bit

General Networking
RFC 1393 Traceroute
RFC 1519 CIDR
RFC 1591 DNS (client)
RFC 1769 SNMP
RFC 768 UDP
RFC 783 TFTP
RFC 791 IP
RFC 792 ICMP
RFC 826 ARP
IEEE 802.1D Spanning Tree
IEEE 802.1Q VLAN tagging
IEEE 802.3ad (static config)

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 1146 Syslog
CAPWAP (IETF pre-standard)

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

Package Contents
3Com Wireless LAN Controller WX4400 or 3Com Wireless LAN Switch 1200
Rack mounting kit
Four stick-on rubber feet
DB-9 serial console cable
User guide
CD-ROM with user documentation
Warranty booklet

Warranty
One year hardware warranty with 90 days free technical support. Refer to www.3com.com/warranty for details.

Ordering Information

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<th>PRODUCT DESCRIPTION</th>
<th>3COM SKU</th>
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<tr>
<td>3Com Wireless LAN Controller WX4400</td>
<td>3CRWX440009A</td>
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<tr>
<td>Options for the Wireless LAN Controller WX4400</td>
<td></td>
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<tr>
<td>3Com Wireless LAN Controller WX4400 24 MAP License Upgrade</td>
<td>3CWXX4400L24A</td>
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<tr>
<td>3Com Wireless LAN Controller WX4400 Spare Power Supply</td>
<td>3CWXX4400RPSA</td>
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<tr>
<td>3Com 1000BASE-SX GBIC</td>
<td>3CGBIC91</td>
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<tr>
<td>3Com 1000BASE-LX GBIC</td>
<td>3CGBIC92</td>
</tr>
<tr>
<td>3Com Wireless LAN Switch WX1200</td>
<td>3CRWX120695A</td>
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<td>3Com Wireless LAN Switch WX1200</td>
<td>3CRWX120695A</td>
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<tr>
<td>3Com Wireless LAN Switch Manager</td>
<td>3CWXM10A</td>
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<tr>
<td>Supports up to 10 3Com wireless LAN controllers and/or switches</td>
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<td>3Com Wireless LAN Switch Manager Unlimited Upgrade</td>
<td>3CWXMUPA</td>
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<tr>
<td>3Com Wireless LAN Managed Access Points</td>
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<tr>
<td>3Com Wireless LAN Managed Access Point AP2750</td>
<td>3CRWX275075A</td>
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<tr>
<td>Related 3Com Wireless LAN Mobility System Products</td>
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<tr>
<td>3Com SuperStack® 3 Switch 4400 PWR</td>
<td>3C17205</td>
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</tbody>
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Note 1: Not available in all countries – please check with your local reseller or 3Com office for local availability.
Note 2: Software upgrades are only available to customers with 3Com maintenance agreements.
Note 3: Up to three 24-MAP licenses can be purchased per WX4400 wireless controller, supporting a total of up to 96 MAPs per WX4400 wireless controller.
Note 4: Upgrades 3CWXM10A to support an unlimited number of wireless switches and/or controllers.
Note 5: Operates only with a 3Com Wireless LAN Switch WX1200 or 3Com Wireless LAN Controller WX4400.