ORiNOCO® AP-4000M

For Metropolitan Wi-Fi and Enterprise Applications

APPLICATIONS

- **Fixed Edge Access**
  Provides non-line of site Wi-Fi coverage by automatically routing traffic through the mesh backbone.
- **Mobile Edge Access**
  Enables Wi-Fi coverage in automobiles, busses, and trains.
- **Enterprise**
  Lowers infrastructure costs by not requiring Ethernet cabling to every access point.

Highest Capacity Meshing AP-4000M Delivers Flexible, Scalable, and Reliable Voice and Data for Large Metropolitan and Enterprise Wi-Fi Deployments

The dual-radio ORiNOCO AP-4000M delivers voice and data over Wi-Fi to the edge of a network over a flexible, auto-forming, self-healing, non-line of site mesh backbone. The dual-radio architecture separates the mesh backbone traffic from the edge access traffic, doubling the capacity compared to single-radio mesh architectures. The small form factor allows additional scalability beyond two radios by placing multiple AP-4000Ms in a single outdoor enclosure. Purpose-built for the metropolitan Wi-Fi market, the AP-4000M is built on the same reliable software used in ORiNOCO enterprise networks to ensure carrier-quality availability.

- The ORiNOCO Mesh Creation Protocol (OMCP) enables mesh backhaul and Wi-Fi coverage on the same radio, while the second radio is used exclusively for Wi-Fi coverage.
- Twice the memory of competing APs, ensuring software upgrade capacity
- Industry-leading throughput with 802.11g and 802.11a simultaneous operation
- Super Mode allows Super Mode-capable clients to get double the data rate as standard clients while simultaneously allowing standard Wi-Fi clients to communicate with the access points
- Robust RADIUS accounting and authorization interface enables detailed subscriber usage tracking
- WMM/802.11e quality of service support for data, voice and video

Proactive Security Measures to Protect Your Network

ORiNOCO access points support the latest security standards, including IEEE 802.11i and AES encryption, and add proactive security measures to prevent attacks.

- Intra-cell blocking and traffic redirection to prevent subscriber-to-subscriber attacks.
- Broadcast bandwidth throttling prevents broadcast attacks.
- Spanning tree protocol prevents network loops caused by subscribers connecting two or more CPE devices together.
- IEEE 802.1x mutual authentication
- Dynamic per-user, per-session rotating keys
- Rogue access point detection and notification
- Secure management interfaces: SNMPv3, SSL and SSH

Self Forming/Self-Healing Mesh Is Easy to Deploy

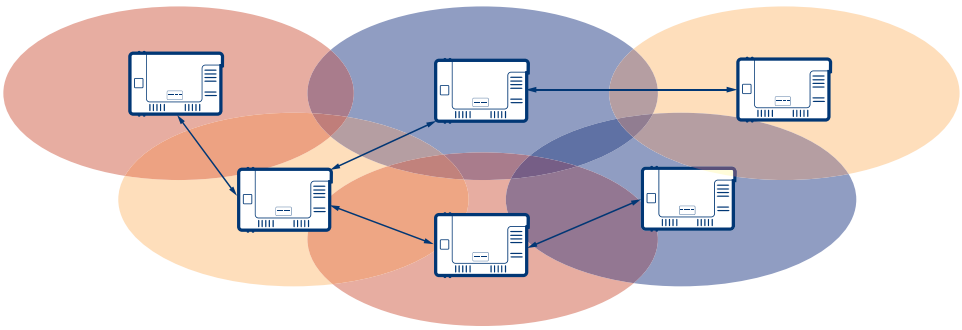
Ease of deployment and integration with the wired network are critical factors in a successful, profitable wireless LAN rollout. ORiNOCO access points excel with key capabilities that simplify WLAN deployment.

- Self-forming and self-healing ORiNOCO Mesh Creation Protocol automatically routes traffic through the best path as AP-4000Ms are added or removed from the network
- Tools to speed installation and optimization: automatic channel selection, adjustable transmit power, external antenna connectors

Reliable by Design

With over 25 years of experience in the design and manufacture of wireless LANs, Proxim understands that service providers and enterprises require the same uptime and reliability in a wireless network as in a wired network. ORiNOCO access points offer:

- Robust features for metropolitan Wi-Fi and enterprise applications
- Automatic reconfiguration of security policy in the event of power loss
- Dual firmware image support – for rollback in the event of software or configuration change problems
- IEEE 802.3af Power-over-Ethernet, plenum rating, built-in Kensington lock and external antenna connectors**



The ORiNOCO Mesh Creation Protocol uses one radio for simultaneous mesh backhaul and Wi-Fi coverage and the other radio for Wi-Fi coverage.

**Not available on all models

About Proxim Wireless

Proxim Wireless is a global leader in networking equipment for Wi-Fi and broadband wireless networks. Proxim provides solutions for enterprise applications, last mile access, municipal broadband networks, and cellular backhaul. Product families include ORiNOCO and TeraStar Wi-Fi products; Tsunami, TeraBridge, Gigalink, and TeraOptic Ethernet bridges, and Lynx point-to-point digital radios.

ORiNOCO AP-4000M Specifications

ADDITIONAL FEATURES

ORiNOCO Mesh Creation Protocol	Self-forming/self-healing dual-radio wireless mesh backhaul for industry leading throughput and availability
Tri-mode 802.11b, 802.11g and 802.11a support	Pre-configured, simultaneous 802.11b, 802.11g and 802.11a support
Field upgradeable	Software upgradeable to support new standards
IEEE 802.11i and AES encryption	Highest authentication and encryption methods including mutual authentication, message integrity check (MIC), per-packet keys initialization vector hashing and broadcast key rotation
Rogue AP and Client Detection	Detects, alerts and stops unauthorized rogue Access Points and clients in both the 2.4 and 5 GHz bands[1]
Secure Management Interfaces	SNMPv3 and SSL protect against unauthorized AP changes via the management interface
Multiple VLAN Support with different security settings	Up to 16 separate VLANs per radio each able to support a different security setting
Auto configuration via DHCP	Ensures new APs automatically receive correct configuration and prevents security vulnerabilities with deliberate resets
Assured Software Upgrades	Guarantees new AP configuration file is valid before deleting current image - dual image support
Quality of Service	Draft IEEE 802.11e along with 802.1p and 802.1q improve performance of video and voice applications
High Output Power	+20 dBm for 802.11b, +18 dBm for 802.11g and 802.11a
Transmit Power Control	Supports settable transmit power levels to adjust coverage cell size
Automatic Channel Selection	Simplifies installation by choosing best possible channel upon installation
RADIUS Support	Extensive RADIUS Accounting support, intra-cell blocking to prevent client-to-client snooping, multiple VLAN support with different security modes
Super Mode	Delivers greater than 30 Mbps throughput for ORiNOCO and Atheros-based clients while simultaneously compatible with non-Atheros clients
Advanced Filtering Capabilities	IEEE 802.1d bridging with static MAC address filtering, network protocol filtering, Proxy ARP, multicast/broadcast storm threshold filtering,TCP/UDP port filtering, intra-cell traffic filtering, and Spanning Tree support
IEEE 802.3af and AC Power	Decreases installation costs up to $1000 per AP when Power over Ethernet is available
Integrated diversity 2.4 and 5 GHz antennas with horizontal and vertical polarization	Delivers optimum coverage in any mounting position and excellent performance in high multipath environments
External antenna connectors for 802.11b/g and 802.11a	Allows use of shaped and higher gain antennas to design for most efficient AP placement
Plenum rated	Meets safety and insurance requirements when installed in air spaces

INTERFACE

Wired Ethernet	10/100 base-T Ethernet (RJ-45)
Wireless Ethernet	1 integrated 802.11b/g radio and 1 integrated 802.11a radio
RS-232	Unit configuration

HARDWARE SPECIFICATION

Memory	32 MB SDRAM; 8 MB Flash

PHYSICAL SPECIFICATIONS

Dimensions	11.375 x 9.25 x 2.75 in (29 x 23.5 x 7 cm)
Weight	2.05 lbs (0.93 kg)

ENVIRONMENTAL SPECIFICATIONS

Temperature	Operating	0°C to 55°C
	Storage	-10°C to 70°C
Humidity	Operating	95% (non-condensing)
	Storage	95% (non-condensing)

POWER SUPPLY

Types	Integrated module Autosensing 100/240 VAC; 50/60 Hz IEEE 802.3af Active Ethernet for power over Ethernet

LEDS

Type:	Power, Ethernet LAN Activity Wireless 802.11b/g Activity Wireless 802.11a Activity

MANAGEMENT

- SNMPv1, SNMPv2c and secure SNMPv3 management
- Standard & ORiNOCO traps
- ORiNOCO MIB, Etherlike MIB, 802.11 MIB, Bridge MIB, MIB-II
- TFTP support
- Telnet CLI, Serial Port CLI (no proxy required)
- HTTPS (SSL) server for secure web-based management
- Proxim WaveLink Mobile Manager for group management (not included)
- Syslog
- DHCP Server and Client

WARRANTY

1 year (on parts and labor)

PACKAGE CONTENTS

- AP-4000M tri-mode access point with built-in 802.11b/g and 802.11a radios
- Power supply and support for Active Ethernet and IEEE 802.3af
- Software and documentation
- Cable cover and mounting bracket

RELATED PRODUCTS

Proxim Wireless CommUNITY is designed for metropolitan networks:

- Tsunami MP.11 for backhaul between groups of AP-4000s connected to each other through the ORiNOCO Mesh Creation Protocol
- Ekahau Site Survey to predict Wi-Fi coverage before installation and to verify the coverage area after installation

[1] In conjunction with Proxim Wavelink Mobile Manager

Proxim Wireless Corporation
2115 O'Nel Drive
San Jose, CA 95131

tel: 800.229.1630
tel: 408.731.2700
fax: 408.731.3675

www.proxim.com

OD41-0805