



KEY BENEFITS

- Carrier class system
- Supports differentiated services such as voice, video and data
- Extended range and capacity
- Optimized for restricted EIRP geographies
- Fully compliant with IEEE 802.11
- No changes required on the client side
- Interference mitigation
- Quality of service
- Lower TCO, faster ROI

GO Networks' Metro Broadband Wireless System

Introducing Carrier Class Performance and Reliability to WLANs

The GO Networks Metro Broadband Wireless (MBW) system is the industry's first standards-based wireless LAN (WLAN) solution that enables service providers to reliably deliver profitable, differentiated services such as voice, video and data. Combining patent-pending Advanced Array Technology® (AAT) with sophisticated algorithms for spectrum optimization, GO's MBW is the most cost effective carrier class WLAN solution available today.

Carriers' WLAN Deployment Challenges

WLANs are predominantly designed for enterprise deployment – not for the large-scale, high-capacity, indoor and outdoor deployments required by service providers in order to distribute high-value voice, data and entertainment to their growing customer base. Restricted EIRP (Effective Isotropic Radiated Power) in certain geographies and RF (Radio Frequency) interference have put limits on range, capacity and quality. The result is a number of obstacles – high cost of ownership, impaired quality of service (QoS), and increased vulnerability to interference from nearby equipment. This combination of technological deficiencies, resulting in inconsistent network behavior, is crippling carriers and service providers from deploying Wi-Fi networks that will offer the very services their customers demand.

FINALLY, A WLAN SOLUTION DESIGNED FOR CARRIERS

Intended for Harsh Environments

The GO MBW was specifically designed to meet the stringent requirements of carriers, offering software and hardware redundancy, as well as benchmark settings for availability, reliability and manageability. It is the only solution specifically intended for large-scale, high-interference environments, and the first solution that can provide high bandwidth as well as support for delay-sensitive applications in harsh outdoor deployments.

Unmatched Coverage, Range, Quality and Performance

The GO MBW combines AAT smart antenna techniques with patent-pending algorithms to extend the reach of the WLAN (3-4x range) and ensure higher capacity per user (5-6x) at every given distance when compared to other WLAN systems.

Using GO's AAT and real-time analysis of the RF spectrum, the GO MBW detects interference in the network's coverage area and mitigates its effects.

This ensures superior SNR (signal-to-noise ratio) and improves system capacity.

The GO MBW provides real-time, over-the-air QoS per user (or user profile) through traffic and user classification. It leverages MBW's multiple channel operation, enhancing the provisioning of differentiated services such as voice, video and data in both indoor and outdoor environments.

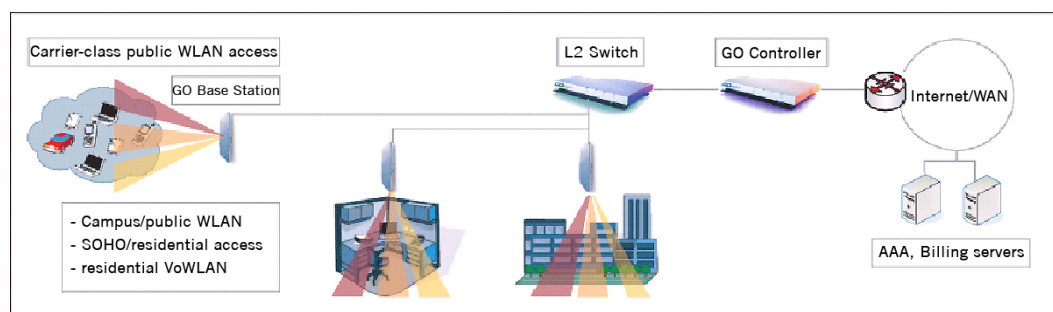
Superior Economics

Since the GO MBW is fully standards compliant and does not require any changes on the client side, this robust carrier class WLAN system offers a higher return on investment and lower total cost of ownership for carriers looking to capitalize on the proliferation of Wi-Fi technology.

SYSTEMS COMPONENTS

WLAN Sector Base-Station: The MBW WLAN Sector Base Station (WLS) is a high-performance WLAN access solution that supports the simultaneous, non-synchronous use of three non-overlapping 802.11b/g channels within a single base station. Utilizing GO Networks' unique Advanced Array Technology and interconnected to the Wireless Network Controller (WNC) for inter-base station optimization, it provides 3-4x the range and capacity, as well as support for 5-6x the number of users and simultaneous sessions of existing WLAN equipment.

Wireless Network Controller: The Wireless Network Controller is a high-performance H/W solution that provides functionality such as inter-base station optimization, low-latency roaming between base stations, access controller functionality (including user authentication), QoS provisioning per user or user profile, as well as centralized interface to management and billing systems.



TECHNICAL SPECIFICATIONS

Wireless

- **Wireless Network Standards:** IEEE 802.11b, IEEE 802.11g
- **Number of Channels:** Three simultaneous, non-overlapping 802.11b/g channels (Rx and Tx)
- **Frequency band:** 2.412-2.483 GHz
- **Advanced Array Technology® (AAT)**
- **Antenna:**
 - Antenna type: Integrated sector directional antenna
 - Antenna azimuth coverage: 120°
 - Antenna gain: 14 dBi
- **Modulation:**
 - 802.11b – DSSS (Direct Sequence Spread Spectrum):
 - 1 Mbps: DBPSK (Differential Binary Phase Shift Keying)
 - 2 Mbps: DQPSK (Differential Quadrature Phase Shift Keying)
 - 5.5 & 11 Mbps: CCK (Complementary Code Keying)
 - 802.11g – OFDM (Orthogonal Frequency Divisional Multiplexing):
 - 6 & 9 Mbps: BPSK
 - 12 & 18 Mbps: QPSK
 - 24 & 36 Mbps: 16-QAM (Quadrature Amplitude Modulation)
 - 48 & 54 Mbps: 64-QAM
- **Media Access Protocol:** CSMA/CA (Carrier Sense Multiple Access/Collision Avoidance) with ACK
- **EIRP:**
 - ETSI: 20 dBm
 - FCC: 33 dBm
 - MII (China): 27 dBm
- **Rx Sensitivity:**
 - 802.11b: -97 dBm @ 1 Mbps, -94 dBm @ 2 Mbps, -93 dBm @ 5.5 Mbps, -88 dBm @ 11 Mbps
 - 802.11g: -88 dBm @ 6 Mbps, -87 dBm @ 9 Mbps, -85 dBm @ 12 Mbps, -83 dBm @ 18 Mbps, -80 dBm @ 24 Mbps, -76 dBm @ 36 Mbps, -72 dBm @ 48 Mbps, -71 dBm @ 54 Mbps
- **Spectrum management, load balancing algorithms**
- **Wireless backhaul provisioning**

Networking

- NAT support
- QoS, traffic classification
- IP Routing (static, RIP v2, OSPF)
- Layer 2 and Layer 3 support
- DHCP Client, Server and Relay
- Full standard RADIUS AAA server interface
- 1+1 Redundancy for Wireless Network Controller

Management

- SNMP V2
- GO private, standard MIBs
- Local CLI via serial port
- Remote access by SNMP (NMS) and Telnet/SSH (configuration, statistics and alarms)
- Remote Software Upgrade by FTP
- Remote Configuration Upload/Download
- DHCP client for remote initial IP configuration

Authentication and Security

- Web authentication support
- WPA-PSK, 40/128 bit WEP encryption
- Standard RADIUS server interface

Interfaces

- **WLAN Sector Base Station:**
 - Uplink: RJ-45: 10/100 Base T
 - Serial port for configuration
- **Wireless Network Controller:**
 - WLAN interface: RJ-45: 10/100/1000 Base T
 - Backbone interface: RJ-45: 10/100/1000 Base T
 - Out-Of-Band Management and Redundancy (high availability): 1 x RJ-45: 10/100/1000 Base T
 - RS-232 for hardware configuration

Hardware Specifications

- **WLAN Sector Base Station:**
 - Dimensions: 40 x 60 x 7 cm, 15.7 x 23.6 x 2.7 in (W x H x D)
 - Weight: 5 kg, 11 lbs
 - Installation:
 - Wall mount
 - Pole mount (optional)
 - Operating Temperature: -40° to 55°C, -40° to 131° F
 - Storage Temperature: -40° to 60°C, -40° to 140° F
 - Compliant with ETSI ETS-300-019-1-4, class 4.1
 - Operating relative humidity (non-condensing): 15% to 100%
 - Non-operating relative humidity (non-condensing): 5% to 95%
 - Optional Accessory:
 - Base Station power supply unit (AC to DC, -48 VDC, 48W)
 - Pole mount kit
- **Wireless Network Controller:**
 - Dimensions: 48.2 x 8.9 x 50 cm, 19 x 3.5 x 19.6 in (W x H x D)
 - Weight: 15 kg, 36 lbs
 - Power supply: 400W
 - Installation:
 - rack mount
 - shelf
 - Operating Temperature: 5° to 45°C, 41° to 113° F

Standards Compliance

- EMC Standards
 - FCC Part 15.107 and 15.109
 - ICES-003 (Canada)
 - EN 301.489-1 and -17 (Europe)
- EMI and Susceptibility (Class B)
 - FCC Part 15.107 and 15.109
 - ICES-003 (Canada)
 - EN 301.489-1 and -17 (Europe)
- Safety Standards
 - UL 1950
 - CSA 22.2 No. 950-95
 - IEC 60950
 - EN 60950
 - UL 2043

About GO Networks

GO Networks provides carrier class, cost-effective broadband wireless access solutions for large-scale, high-capacity indoor and outdoor deployments. GO Networks' products offer superior coverage, range and performance for Telcos and mobile carriers in fast-growth global markets. They are designed to provide a complete wireless networking solution for voice, video and data based on 802.11 (Wi-Fi) and 802.16 (WiMAX) standards. GO Networks' solutions offer a cost-effective alternative to expensive or non-existing infrastructure, delivering faster time-to-market, and a high-quality service that is reliable and scaleable to meet service providers' demands. GO Networks is headquartered in Mountain View, CA, U.S.A., with additional operations in Israel, China and Germany.

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