

BelAir I00T Wireless Mesh Node

The BelAir I00T Wireless Mesh Node is a cost-effective multi-radio platform offering a versatile architecture for multiple configurations of access and backhaul. Designed for municipal deployments, the BelAir I00T accommodates two full-slot radios, as well as one half-slot radio and provides support for a variety of networks including Wi-Fi, WiMAX, and 4.9 GHz Public Safety. Offering true standards-based seamless mobility, the BelAir I00T provides uninterrupted service to critical applications, like voice and video, as subscribers move throughout the wireless mesh network.

4.9 GHz Public Safety Support

The BelAir I00T extends BelAir Networks commitment to world-class wireless mesh products for Public Safety and First Responder Networks. The 4.9 GHz radio has the ability to operate in the 5.0 MHz, 10.0 MHz and 20.0 MHz channels to provide service for a variety of devices used by law enforcement and emergency response personnel. In addition, it delivers superior transmit (17 dBm) and receive (-93dBm) performance that provides better range, rivaling that of lower frequency systems.

Three-radio architecture

The three-radio BelAir I00T supports unlicensed 2.4 GHz and 5.25 to 5.85 GHz frequencies, as well as licensed 2.3 GHz, 2.5 GHz and 4.9 GHz frequencies. The access and backhaul radio modules support a broad range of frequencies, including Wi-Fi (IEEE 802.11a/b/g), WiMAX (IEEE 802.16d) and 4.9 Public Safety, making it a versatile solution for providing multi-service capabilities over a wireless mesh network.

The BelAir I00T leverages BelAir's patented ARM (Access Radio Module), BRM (Backhaul Radio Module) and WiMAX (WRM) radio modules in the full-slots. The half-slot provides support for a 2.4 GHz radio module or a 4.9 GHz PSM (Public Safety Radio Module). The BelAir I00T can be configured with an ARM and a BRM or WRM radio module for traditional wireless mesh, or with any combination of BRMs and WRMs for a more resilient backhaul-only deployment.



Features

- Modular three-radio architecture
- Supports Wi-Fi, WiMAX and 4.9 Public Safety
- Seamless mobility for uninterrupted service
- Network Management via CLI, WEB or BelView NMS
- 1-port 10/100BASE-TX

Radio module options

- Access Radio Module (ARM) IEEE 802.11a/b/g & 4.9 Public Safety
- Backhaul Radio Module (BRM) IEEE 802.11a pre-WiMAX & 4.9 Public Safety
- WiMAX Radio Module (WRM) IEEE 802.16d
- Radios available in multiple frequency bands
 - licensed: 2.3 GHz, 2.5 GHz and 4.9 GHz
 - unlicensed: 2.4 GHz and 5.25-5.85 GHz

Layer 2 Networking Capabilities

The BelAir I00T provides extensive QoS, VLAN, Network Security and Traffic Management capabilities that are necessary for transporting mission-critical, time-sensitive applications like voice and video.

Network Management

The BelAir I00T can be managed via a Command Line Interface (CLI), WEB GUI or with BelAir Networks BelView Network Management System (NMS). Both CLI and WEB GUI provide device level support, and BelView NMS provides complete network-wide support for Fault, Configuration and Performance Management. BelView NMS works on either Windows XP or SUN Solaris platforms and can also be integrated into other management systems like HP OpenView or IBM NetView.

BelAir Networks is the leading provider of mobile broadband mesh networking solutions. Cities around the world rely on BelAir to deliver industry-leading broadband performance and scalability, and carrier-class capacity and reliability. BelAir Networks teams with world-class global partners to deploy proven, cost-effective wireless broadband mesh networks.

Networking

- 1-port 10/100Base-TX
- IEEE 802.1D MAC Bridging
- IEEE 802.1Q VLANs
- IEEE 802.1p prioritization with 4 queues
- L2TP Tunneling for seamless mobility
- Rapid Spanning Tree Protocol (RSTP)
- 16 SSIDs per access radio. MBSSID support for 8 virtual APs per access radio
- Support for SNMP, ICMP, HTTP, ARP, TCP, UDP, Telnet, TFTP and IP traffic

Management

- Secure local and remote access
- Command line, HTTP and HTTPS Web GUI, SNMPv1/v2/v3 and SSHv2 management interfaces
- MIBs: MIB-II, SNMPv2, 802.11, Ethernet-like, Interface Group
- Multiple user privilege levels with RADIUS authentication
- Firmware upgrade through TFTP with support for automatic rollback
- RADIUS accounting

Security

- Authentication: 802.1x (RADIUS) and EAP methods
- Encryption: WEP 64 and 128 bit, TKIP / MIC per 802.11, 802.11i AES
- MAC address access control lists
- Rogue AP detection

Approvals

- Radio: FCC part 15 and part 27, part 90, EN 300 328, EN 300 440, EN 301 893 and Industry Canada RSS 210 Issue 5
- EMC: FCC 47 CFR part 15, subpart B Class B and EN 301 489-1/-17 Class B
- Safety: ANSI/UL std no.60950-1, CSA-C22.2 std no. 60950-1, CB-60950-1
- RF safety: FCC OET Bulletin 65, Health Canada Safety code 6
- Outdoor use: IP56/NEMA4/NEMA4X for wet and dusty conditions
- CE! mark

Physical and Electrical

- Size: 12 in. (30.5 cm) high x 7.25 in. (18 cm) wide x 6 in. (15.3 cm) deep
- Weight: 10 lbs (4.5 kg)
- Power supply: 100 to 240V ac, 47 to 63 Hz
- Available wall or pole mounting kits with theft deterrent anti-tamper screws
- Power, radio and Ethernet lamps

Protection circuits

- IEC 60000-4-5 level 4 surge
- GR1089 - 6 kV (3000 A) surge

Environmental

- Operating temperature: -40°C to +50°C
- Storage temperature: -40°C to +80°C
- Operating humidity: 5 to 95% non-condensing
- Shock and vibration: ETSI300-019-1-4



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