

## Wireless Mesh Networks for ISP's

### What is a MeshBox

The Meshbox is a wireless mesh router and access point combined into a single unit. Meshboxes are used to build large scale wireless broadband networks, and the coverage area of a mesh is typically measured in square miles. Each MeshBox communicates with other MeshBoxes within range; the internet service is passed from one box to the next, over the air, until it reaches the final destination, the customer device, such as a laptop, pc, or pda.



The Mesh Box comes with Dual Radio antenna and can be attached to external antenna to extend range or for backhaul. It can be used inside or outside and comes with POE connectors.

802.11 wireless networking uses relatively low power levels and makes connections on a 'line of sight' basis. This normally limits the range and usefulness in traditional operating environments. The MeshBox overcomes these limitations by passing the data from box to box in multiple low-power hops. The data can then travel further, around obstructions and interference, taking the best possible route to the final destination.

### What can it be used for?

Air-Net customers use the MeshBox to build wireless networks that deliver broadband internet and voice telephony services to users over a wide area. Some of these customers are communities providing service on a not-for-profit basis and others are commercial Wireless Internet Service Providers or 'WISPs'.

Anywhere that broadband internet needs to be provided, the MeshBox can provide an inexpensive solution. Put simply, extending coverage is as easy as plugging a MeshBox into a power supply and placing the antenna where it can hear another nearby box.

The system can be configured in many ways and for many different purposes. It is suitable for commercial and non-commercial uses, in public or private networking environments.

### What else is special about it?

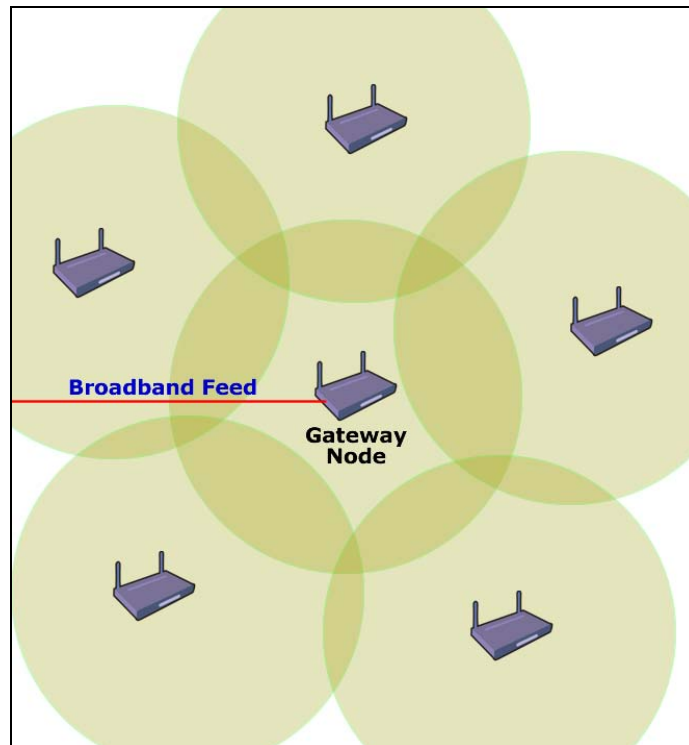
The Wireless Mesh system is low power and has no moving parts, this makes it reliable and cheap to run. The Meshbox is the most widely used wireless mesh system in the world, with operations in 53 countries.

Totally compatible with standard 802.11 WiFi networking. Works with Windows, Macs, Unix, PDA's. The system is designed to be interoperable. It can function on almost any wireless or wired networking platform. This future-proofs the design and creates a pain free upgrade path.

Sophisticated industry standard authentication systems facilitate use of the Air-Net User authentication and Billing servers. Full support for 'always on' connections, tickets, encrypted PPTP connections and VPN pass-through for IPSEC and PPTP.

The mesh encrypts all inter-mesh traffic point-to-point using a certificated address allocation and cryptographic validation system with certificated AES. Last hop traffic can be encrypted with a VPN connection to the local node.

### A Wireless Mesh Coverage patterns



Variable port usage restrictions and bandwidth control is based on a user's login group. Fixed levels of guaranteed and burstable bandwidth can be allocated to specific users, or groups of users can contend for a defined portion of the available upstream connection.

Remote web based configuration of the boxes and mesh management system gives control and diagnostics of an entire fleet of nodes from a single web page. Monitoring includes local loading and usage of each node as well as network topology and client mac address logging. Each meshbox scans for possible sources of interference and produces remote site survey statistics.

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