

Broadband mesh product line overview

TropOS routers, MicroOS client nodes and SuprOS NMS



Broadband mesh products from ABB Wireless are used to construct private wireless IP broadband networks for oil and gas, smart grid, mining and industrial control system applications.

Description

Oil and gas, smart grid, mining and industrial control system applications require an industry standards-based wireless IP broadband network that creates a solid foundation upon which multiple demanding, mission-critical applications can be deployed. Broadband mesh products from ABB Wireless include core routers, edge nodes, client nodes and specialty routers. The patented Mesh OS built from the ground-up to meet the challenges of mission critical outdoor network deployments; and SuprOS a carrier-class centralized management and control system. Using these building blocks, ABB Wireless systems are used to construct the most resilient, scalable, high performance, and secure networks for oil and gas, utilities, mining and industrial process control applications.

Features and benefits

Software

- Decentralized architecture optimizes throughput in real-time and ensures scalability
- Dynamic selection of optimal end-to-end path delivers the highest performance
- Network performance and capacity maximized by automatic optimization of power and rate on per-connection and per-packet basis
- Comprehensive management system streamlines deployment, optimization, maintenance, and control of large, outdoor networks

Platform

- Ruggedized and weatherized to operate in hostile environments
- Open-standards-based 802.11a/b/g/n radios optimized for outdoor use
- Supports the industry's widest array of power input options
- Ideal for providing source PoE to collocated devices
- Mobile routers enable field workforce applications

Broadband mesh products from ABB

Broadband mesh product from ABB build highly resilient wireless networks with high capacity for aggregating multiple, mission-critical applications covering broad geographic areas.

All ABB broadband mesh products run Mesh OS. Mesh OS leverages each unit's on-board intelligence to minimize network congestion and adapt on a real-time, packet-by-packet scale. This distributed approach optimizes performance and throughput by minimizing control traffic, delivers a highly scalable solution, and helps provide a quality user experience for network clients.

Mesh OS is the key to delivering high throughput and scalability. It is the industry's only mesh routing software that dynamically selects end-to-end paths through the mesh based on maximizing client-server throughput and minimizing latency.

Broadband mesh products from ABB Wireless are divided into three categories: core routers, edge nodes and client nodes.

Core routers are dual-radio mesh routers that can operate as a gateway (provide an upstream wired Ethernet connection to the internet or corporate intranet) or a node (has a wireless upstream connection). Core routers provide both upstream and downstream routing and can connect both wireless and wired clients.

Edge nodes are single-radio or dual-radio mesh routers that operate as a node only (cannot offer a wired upstream connection). Edge nodes provide both upstream and downstream routing and can connect both wireless and wired clients.

Client nodes are single-radio devices that operate as a node only (cannot offer a wired upstream connection). Client nodes provide upstream routing only and connect wired clients only. Client nodes are used in place of wireless bridges. They offer more software functionality than standard bridge, provide easier configuration of the device and the network, and supply better management.

TropOS core routers

The TropOS 6420 and TropOS 6420-XA are ABB's core wireless routers. These high-performance routers support 802.11a/b/g/n and 2x2 MIMO in the 2.4 GHz and 5 GHz bands. The TropOS 6420 offers integrated antennas while the TropOS 6420-XA supports external antennas that can be mounted remotely.

The TropOS 6430-T is a hybrid router is available that combines a TropOS dual-radio broadband router with a TeleOS narrowband PTP/PTMP access point, increasing reliability and manageability while reducing installation time and cost. It is ideal to create long-range narrow-band links that connect to a TropOS mesh network.

TropOS edge nodes

TropOS 2000 series edge routers are DIN rail mountable and integrate a four-port Ethernet switch, improving reliability and reducing cost. They also support voltage monitoring, contact closure monitoring and integrated GPS receiver.

The TropOS 2420 supports 802.11a/b/g/n and 2x2 MIMO in the 2.4 GHz and 5 GHz bands. The TropOS 2410 operates in the 2.4 GHz band only, with 802.11b/g/n and 2x2 MIMO.

MicrOS client nodes

MicrOS client nodes provide broadband connections for wired Industrial Internet of Things (IIoT) clients to TropOS mesh networks. They enable cost-effective and highly secure IP communications for utility, oil and gas, mining and industrial applications that monitor and control field automation endpoints such as intelligent electrical devices, industrial process controllers and SCADA devices. Ethernet and serial interfaces supporting automation protocols such as DNP3, IEC 61850 and Modbus provide future-proof operation with new and legacy devices. An integrated firewall and IP sec VPN provide enterprise-class security that extends to the wired Ethernet and serial ports as well as to the wireless interface.

TropOS specialty routers

TropOS 4000 mobile mesh routers are single radio routers which uses 802.11b/g/n to create a mobile infrastructure to extend a TropOS fixed wireless mesh network and expand client coverage area. Integrated Ethernet port can be used to directly connect a client device.

TropOS 3000 indoor mesh routers are small, lightweight routers for seamlessly extending outdoor TropOS mesh networks indoors. Supports 802.11a/b/g/n and available in single or dual radio configurations.

TropOS 4.9 GHz family products employ the licensed 4.9 GHz band to deliver maximum performance, reliability and security for public safety and critical infrastructure applications.

TropOS XA family products deliver robust, reliable, high-performance and scalable wireless connectivity in extreme application environments.

SuprOS

Powerful control and analysis tools, allowing network administrators to perform a range of critical functions to configure, monitor and operate an ABB network. This includes over-the-air configuration and software updates real-time end-to-end network performance monitoring and statistical capture; data mining, trend analysis and client connectivity monitoring.

Click this link for more information about [ABB Wireless broadband mesh radios](http://www.abb.com/unwired) or go to www.abb.com/unwired.