

# Tropos 4310/4329 Mobile Mesh Router



The 4310/4329 Mobile Mesh Router interoperates seamlessly with Tropos fixed routers to deliver a robust, high-performance wireless connectivity solution for mobile workers. At vehicular speeds, the Mobile Router supports voice, video, and data connectivity and extends the Tropos fixed network to provide access for handhelds, laptops, and other endpoint devices.

## FEATURES AND BENEFITS

### Software

- ❖ Routing algorithms optimized for mobility provide connectivity at vehicular speeds
- ❖ Maximizes performance to automatically find optimum end-to-end paths across the network
- ❖ Graceful handoffs prevent service disruptions to latency-sensitive voice, video, and VPN connections
- ❖ Sub-second handoffs across multiple available wireless channels
- ❖ Creation of standalone mobile networks in areas where coverage is unavailable

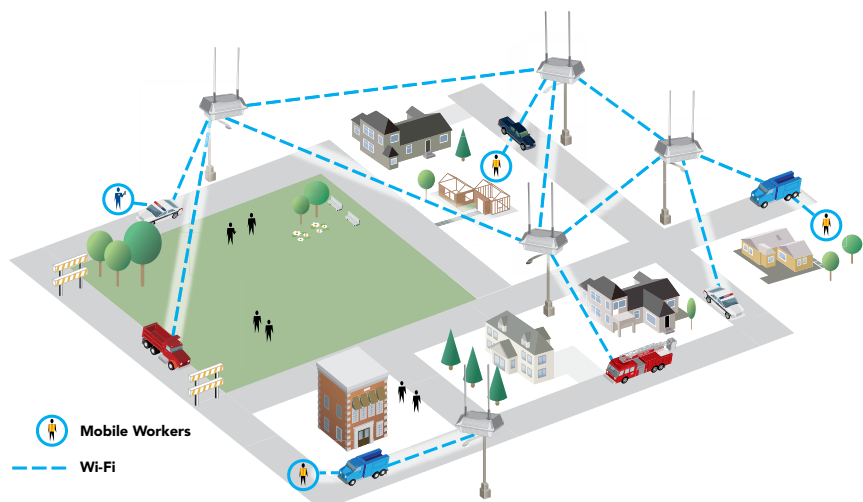
### Platform

- ❖ Intelligent mobile node supports 802.11b/g mesh and client connectivity
- ❖ Best-in-class link budget for superior RF propagation
- ❖ Vehicle-mounted with integrated high-power radio
- ❖ FIPS 140-2 compliant

An easily-deployed solution for increasing the productivity of mobile workforces, the Tropos 4310/4329 Mobile Mesh Router enables any vehicle to become a mobile node. Typical applications include extending coverage within cities and across regions to support mobile field workers. This includes utility crews, first responders, building inspectors and animal control – all of whom benefit by having high-speed access to information and being able to file reports from the field. When deployed in military vehicles or industrial environments such as ports or mining operations, the mobile router improves operational efficiencies and enhances communications..

Tropos Mobile Routers also support the creation of tactical mesh zones, an empowering solution for emergency response teams or military tactical teams. Multiple vehicles equipped with mobile routers can mesh with one another to create a standalone peer-to-peer network capable of increasing tactical effectiveness through enhanced communication. Even if the response team is operating in a rural region that does not have access to the fixed Tropos network, the team member vehicles still benefit from enhanced communication capabilities to coordinate their efforts.

When stationary, the mobile-node equipped vehicle uses its high-power and high-sensitivity 2.4 GHz radio (or 4.9 GHz with Tropos 4329) to provide connectivity to authorized handheld and laptop users within a three-mile radius (depending on the environment).



## PWRP

The cornerstone of the Tropos Mesh OS is the patented Predictive Wireless Routing Protocol (PWRP™), which continually analyzes the quality of active and inactive mesh links to dynamically configure the ideal combination of paths to optimize network performance. Upon deployment, the routers automatically discover one another, and quickly determine the optimal route to the gateways that inject capacity into the network. Optimal links are chosen on the basis of throughput, packet success, signal-to-noise ratios, and other key criteria.

PWRP performs a range of key tasks across the wireless network:

- ❖ Streamlines deployments and preserves performance by dynamically configuring and optimizing mesh connections
- ❖ Improves overall throughput by selecting optimal routing paths
- ❖ Enhances network resiliency by providing graceful rerouting of traffic in the event of RF interference, backhaul failures, or other disruptions in the wireless mesh
- ❖ Supports client mobility without the need for special client hardware, software, or network reconfigurations
- ❖ Enables the network to be scaled to thousands of nodes covering the largest geographical areas in the industry

## Tropos Mesh OS

The Tropos Mesh OS is the cornerstone of the decentralized Tropos System Architecture. A common software platform that runs on each router across the network, the Tropos Mesh OS leverages the router's on-board intelligence to monitor and maximize performance. Unlike controller-based architectures that suffer bandwidth losses as control traffic is passed back and forth between network nodes and the central site, the distributed Tropos MetroMesh System Architecture uses efficient on-board processing at the device level 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.

## Advanced Network Management Platform Delivers Optimized Edge-to-Edge Visibility

Tropos Control is a standards-based network management system designed to achieve peak performance and reliability. Designed around an intuitive Web-based interface, the software facilitates the remote management of Tropos Mesh networks, and is ideal for dynamically deploying and configuring networks ranging in size from tens to thousands of Tropos Mesh routers. Tropos Control minimizes planning, deployment, and operating costs, and increases the efficiency of management personnel by performing complex tasks such as global provisioning and software updates across the network in a single session.

- ❖ Streamlines tasks such as monitoring network health, statistical network performance analysis, and performance optimization
- ❖ Provides macro-level visibility as well as granular real-time and historical detail on usage, link quality, capacity, and network reliability
- ❖ Network Health dashboard provides at-a-glance views of network traffic, performance, and alarms with links to instantly drill down to relevant statistical information
- ❖ Wireless-aware provisioning for guaranteed configuration changes and software updates over dynamically changing links
- ❖ Detailed historical database of RF environmental data, network performance, and client connectivity enables fast root-cause diagnosis
- ❖ Assists network managers to plan future expansions and optimization strategies based on analysis of network trends and detailed historical information

## Resilient, High-Performance Networks From Tropos – the Wireless IP Broadband Market Leader

As the leader in wireless IP broadband mesh networking solutions, Tropos is the right choice for organizations interested in deploying a robust infrastructure capable of withstanding the harshest outdoor environments. Designed to contain costs and enhance productivity, Tropos technology provides the backbone for top-performing outdoor wireless IP networks across the globe. As the industry continues to evolve, Tropos is poised to extend its market leadership through the introduction of innovative products, and functionality. For further information, visit us on the web at [www.tropos.com](http://www.tropos.com).



tel 408.331.6800 • fax 408.331.6801 • [www.tropos.com](http://www.tropos.com) • [sales@tropos.com](mailto:sales@tropos.com)