



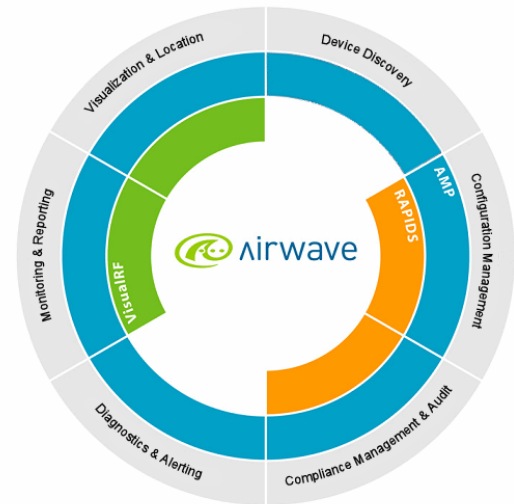
Solution Guide:

Using the AirWave Wireless Management Suite to
Manage a Tropos Metro Wi-Fi Mesh Network



Overview

Cities and municipalities around the world, both large and small, are installing metro area wireless networks to deliver broadband access. Tropos® Networks is a leading provider of reliable, cost-effective, easy-to-install metro Wi-Fi mesh network solutions, including intelligent routers and the carrier-grade tools to centrally configure and manage them. AirWave Wireless complements Tropos, delivering the network management software that makes it easy to deliver centralized support for multi-location and large-scale networks with thousands of end users



Escalating Support Requirements

In most cities installing metro wireless networks, one of the key goals is to provide affordable service to a diverse range of users -- from municipal employees to businesses and to underserved members of the community. Subscribers thus include the most tech savvy residents as well as community members who have limited technology experience or expertise. These subscribers use a broad array of Wi-Fi-enabled devices including state-of-the-art laptops, older desktops, phones, PDAs, video game systems, printers, cameras, and more.

This diversity is a clear sign that the metro network is meeting its goals -- and is also the source of user support headaches for the network operator. When any of these subscribers experiences a problem, they naturally call the support team in the operator's NOC for assistance. Operators simply cannot afford to dispatch a technician to investigate every problem -- and users will quickly become disillusioned with the service if they have to wait hours for their issue to be resolved. The key to providing effective metro service and support is to use a robust, reliable and field-proven solution from Tropos Networks in combination with a comprehensive centralized network management solution for end user support: the AirWave Wireless Management Suite™.

Solution: AirWave Wireless Management Suite

The AirWave Wireless Management Suite is network management software specifically designed to centrally operate, monitor, and control large-scale wireless networks and networks in multiple locations. The core components of the AirWave Wireless Management Suite include:

- **AirWave Management Platform™** wireless network management software for monitoring, reporting, alerting and controlling your wireless infrastructure.
- **VisualIRF™** visualization and location module for tracking the location of your users and devices, and for generating RF coverage maps.
- **RAPIDS™** rogue detection module for detecting other, unmanaged RF devices that might affect the security and performance of the metro network.
- **AirWave Master Console™** for the operational scalability to monitor even the largest metro networks in the world from a single console.



- **AirWave Failover™** server to support the high availability requirements of network operators.

Solution Benefits: AirWave & Tropos

Complete Visibility and Faster Troubleshooting

The AirWave Wireless Management Suite continuously monitors your Tropos network infrastructure, giving your NOC staff full visibility to every user and device on your network. With AirWave, when a subscriber calls with an issue, your NOC staff simply clicks on the web-based AirWave console to gather all the information they need to diagnose the problem.

Verifying Connection and Authentication

Using AirWave's search function, the NOC staff simply enters the subscriber's username to determine whether the user has successfully connected to the network – and whether the user is authenticated. If not, with a simple mouseclick, the NOC staff can check a detailed user log to determine whether the user has ever successfully connected with his particular device, allowing the NOC to differentiate between device and network problems.

Checking Tropos Wireless Router Status

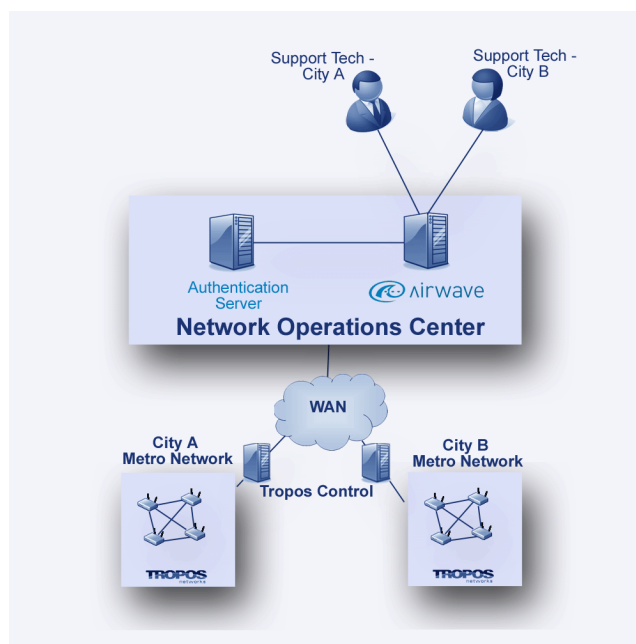
If the user is connected, the NOC cannot immediately determine which Tropos Metro Mesh™ wireless router he is using – and toggle over to real-time monitoring view of that wireless router to make sure it appears to be operational and functioning properly. The NOC staff can check usage levels to make sure the network is not overloaded with users or data, and can view the log for that wireless router to see if there have been recent errors or problems.

Assessing Real-time User information

If there does not appear to be a problem with the wireless router itself, the NOC staff can drill down to user-level monitoring screens to ensure that the user has a strong RF signal, check how much bandwidth he is using, call up a 2 year user session and roaming history – and even locate the user on a map. If the NOC staff suspects that problems may be related to unusual roaming patterns, they can even 'playback' the user's roaming patterns over the past 24 hours to determine whether his movements may be affecting performance.

Checking Other Components of the Network Infrastructure

If no problems are apparent with the wireless router or through user-specific data, the NOC staff can use AirWave's "Universal Device Support" feature to check the status of other components of the network





Additional Resources

AirWave:

AirWave Document Library (whitepapers, etc.): www.airwave.com/docs/doc_lib.html

Online Demo: www.airwave.com/airwave_demo/

Schedule Live Web Demo: www.airwave.com/demosignup.html

Tropos:

Tropos MetroMesh Solutions: www.tropos.com/products/

Tropos Customer Applications: www.tropos.com/applications/overview.html

Tropos Customer Stories: http://www.tropos.com/applications/resource_library.php?doctype=4

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