

Point-to-Point Wireless Bridge

Mission Critical Wireless Connectivity

SECURE WIRELESS FOR BOOTS ON THE GROUND

Whatever the phrase –Last mile connectivity, Local loop, Last Reach, or Broadband Wireless Access – it's all defined the same: The ability to connect anywhere, anytime, anyhow. LTI DataComm understands that the increasing desire for secure high-speed connectivity at any given moment is continually growing and is not only a demand but it is becoming a flat out necessity.

Global Information, Inc. estimates with the accelerating demand for broadband access around the world and lack of infrastructure, there remains a formidable barrier to addressing customer needs, and broadband wireless networks will increasingly provide the solution.

LTI DataComm has teamed with the best in breed vendors to provide the right solution for the right environment. Whether it's backhauling data over 160km, necessitating 300Mbps of bandwidth, requiring a mobile on the fly bridge kit, or trying to connect two sites with near on non-line of site, LTI DataComm can not only provide the solution, but will exceed any and all expectations.

Our wireless engineers have researched and tested numerous platforms and have selected the most prominent and leading partners available today on the market. Our portfolio consists of best of breed solutions from leading industry manufacturers coupled with our extensive past performance and mission requirement resolutions.

NON-LICENSED GOVERNMENT BAND PTP RADIO

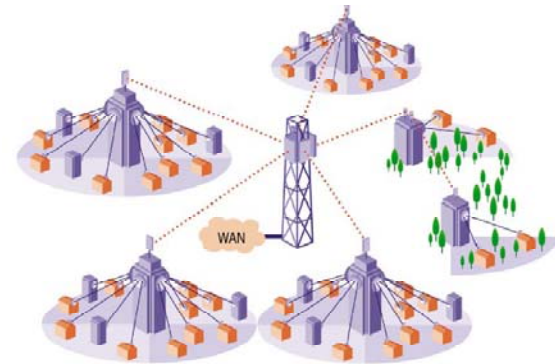
With the ability to operate in the unlicensed bands of 5.4Ghz, 5.8Ghz, and extending functionality into the 4.4Ghz, Public Safety 4.9Ghz, and the recently opened specialized military 2.5Ghz band, these radios with performance and reliability in mind. LTI offers bridges that can deliver up to 99.999% availability in non-line-of-sight environments, across long-distance line-of-sight paths, over water and open terrain, even in extreme weather conditions, due to the unique combination of technologies included in every system:

Multiple-Input-Multiple-Output (MIMO) -- transmits multiple signals which are de-correlated temporarily and spatially. Being de-correlated, each path fades at different times, and the receiver is able to select the best signal at any time, resulting in better performance and link availability.

Intelligent Orthogonal Frequency Division Multiplexing (i-OFDM) -- *i*-OFDM helps the radios re-correlate the interfering signals, improving the chance of receiving the signal through reflective behavior.

Adaptive Modulation – Ensures maximum throughput optimized for the radio path, even as path characteristics change. The transmitter and receiver negotiate the highest mutually sustainable data rate – then dynamically “upshift” and “downshift” the rate as radio frequency (RF) conditions change.

Solution Overview



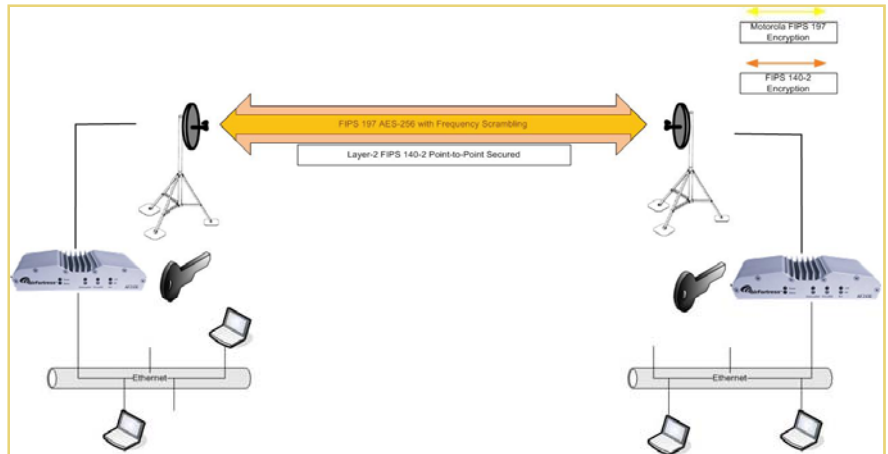
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Dual Polarized Antennas – Two transmitters and two receivers are used to establish a link, enabling four different transmitter/receiver combinations. By creating four distinct transmission beams, the chances that data will get through increase significantly.

Advanced Spectrum Management with Intelligent Dynamic Frequency Selection (i-DFS) – i-DFS automatically changes channels to avoid interference and combat link fading without user intervention. At power-up and throughout operation, the radio scans the band (500 times a second) and automatically switches to the clearest channel.



Sample PtP Architecture

The hardware can be deployed in clusters of up to six (60 degree) sectors to form high capacity, multi-sector cell deployments while its GPS time synchronization feature facilitates tight frequency reuse to make the most efficient use of available spectrum and channels, reducing interference when operating Time Division Duplexing (TDD) radios in close proximity. A perfect solution to meet all your WiMAX needs.

WiMax STANDARDS BASED PTP AND MESH

LTI DataComm routinely examines the status of new and upcoming standards, this includes WiMAX. WiMAX is a technology that provides high-speed, long-range broadband wireless distribution to metropolitan and rural markets, supporting data voice and video applications. WiMAX products promise to set a new standard in BWA performance which will extend the range of Wi-Fi networks from the local area to the metropolitan area and beyond. These products will be based upon the 802.16 standard and will support distances of up to 50 kilometers (30 miles). An 802.16-based network allows network providers to set up base stations that consist of one or more sectors which are linked to the edge and core networks using wireless or wireline connections. Unlike proprietary wireless access technologies, each base station can support hundreds of products from different vendors. This allows network planners to develop highly scalable networks.

LTI also offers a WiMAX Forum certified broadband wireless solution capable of delivering high quality voice, video and data services and applications. Designed to meet WiMAX Forum specifications, the hardware is completely interoperable with an emerging base of industry wide, WiMAX-compatible equipment. Easy and economical to deploy, the product line facilitates the rapid provisioning of new, high margin and differentiated service offerings. It's very low latency ensures reliable delivery of delay-sensitive services in particular, including circuit-switched voice traffic, voice-over-Internet Protocol (VoIP), video and prioritized data traffic.

Carrier-class, PMP (point-to-multipoint) base station provides the ideal, scalable solution for any WiMAX access network.



LONG-HAUL LICENSED MICROWAVE

Another superb tool in the LTI Datacomm wireless tool box is complete wireless network solutions supported by comprehensive network management software and world-class field services. Digital microwave radios are built to last, delivering exceptional reliability and guaranteed operation and meeting the most stringent requirements, regardless of climate or terrain.

LTI Datacomm understands that sometimes a unlicensed radio solution just will not be applicable to the environment and that's why we are certified in designing and architecting a secure licensed solution. LTI offers products that include point-to-point digital microwave radio systems for mobile

Solution Overview

system access/backhaul, trunking and license-exempt applications, supporting new network deployments, network expansion, and capacity upgrades. Frequencies range from 2 to 38 GHz, covering regulatory and application requirements in all regions of the world. Capacities range from single T1/E1 to multiple OC-3/-STM-1, enabling cost-efficient, reliable transport. Their digital microwave radios are built to last, delivering exceptional reliability and guaranteed operation and meeting the most stringent requirements, regardless of climate or terrain.

High-speed wireless data transport solutions support frequency bands from 5 to 38 GHz, 10/100 Base-T and Gigabit Ethernet interfaces, and advanced quality of service (QoS) features—including prioritization, VLAN support and comprehensive RMON performance monitoring. This solution offers a unique combination of breakthrough features to help you reduce costs on network acquisition and buildout, maintenance, upgrades and expansion:

- Advanced wireless network nodal solution
- Scalable Super-PDH capacity architecture
- Single platform for all PDH, SDH/SONET and data applications
- High-speed Liquid Bandwidth Ethernet transport
- Modular design for easy upgrade and maintenance
- Advanced software tools to enhance network control and intelligence
- 5 to 38 GHz frequency coverage, including all common (and many uncommon) ITU-R/CEPT channel arrangements
- Capacity-independent, providing payload transparent operation
- Software-configurable power output, with up to 30 dB of manual attenuation control, automatic transmitter power control (ATPC) and direct power measurement included as standard
- Accurate receive signal level (RSL) indication up to ± 2 dB
- One common mechanical design
- Direct antenna mount for all frequencies to eliminate waveguide connection losses
- Complete field-replaceable unit to speed maintenance and repair

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