

Loea



As hospitals and medical groups embrace technology that enables instant access to digital X-ray images, medical records and other care-related patient files, new bandwidth challenges beyond T1/E1 leased lines emerge.

Applications

- High-bandwidth wireless links between hospitals and remote patient or physician facilities
- PACS, digital imaging, X-Ray and other applications requiring high bandwidth connectivity for access
- Secure medical records transmission
- Temporary or redundant wireless links

Benefits

- High bandwidth up to and exceeding 1Gbps
- Rapid installation and deployment
- Reduced leased line costs
- New patient service offerings
- Improved patient care

Application Brief

The Problem

The need for improved patient care is driving a change in today's healthcare environments. Technology improvements have opened the door for secure, near-instantaneous access to critical patient information, but the majority of medical environments are still using antiquated transmission systems based on T1 or E1 leased lines.

This is especially prominent in healthcare campus environments where patient information often resides in remote building locations.

Costly leased lines are traditionally used to connect physically-dispersed medical groups, emergency rooms, intensive care units, operating rooms and radiology facilities.

Although some hospitals have made the investment in fiber networks, the high cost, lengthy installation timeframes and potential service disruptions due to construction, is not an option for the majority of medical institutions.

But, as hospitals and medical groups embrace technology that enables instant access to digital X-ray images, medical records and other care-related patient files, new bandwidth challenges emerge beyond what leased lines can provide.

Transmitting high-resolution MRI images or X-rays, for example, over slow T1 connections, can take several minutes – a time delay unacceptable when dealing with urgent patient diagnosis and treatment.

And with HIPAA-compliance, the need for privacy and security in the network and corresponding transmission must not be overlooked.

The need for a high-bandwidth, high-availability, highly-secure yet highly-cost effective network communications solution becomes apparent.

Healthcare Solutions

The Loea Solution

Loea's millimeter wave radio products are the ideal solution for hospitals and medical groups needing real-time access to medical imaging and patient records.

Instead of using traditional leased lines, medical campuses can now be linked with a high-capacity wireless point-to-point solution.

With data throughput of 1.25Gbps, Loea's solutions are more than capable of handling bandwidth-intensive patient information such as X-Rays and digital images. Files that would typically take several minutes to transmit can now be transferred in a couple of seconds.

Based on proven millimeter wave technology used by the military, Loea's products are also highly secure and unaffected by most weather occurrences such as fog.

Transmission is at the upper radio frequencies (70/80GHz) – bands recently approved for commercial use. A simple, web-based licensing process reduces the potential for interference and spectrum saturation issues facing lower, unlicensed frequencies. And, a very narrow beamwidth (0.4 degrees) ensures that data transmission cannot be easily intercepted.

From a cost savings standpoint, Loea's solutions are one of the most cost-effective wireless solutions today. Installation can take place in the matter of a few hours – a significant reduction compared to fiber trenching. Costly monthly leased lines (approaching several thousands of dollars per month depending on location) are virtually eliminated. And since the technology is wireless, networks can be easily redeployed to new locations.

Loea is helping the healthcare community improve patient care and increase patient services with millimeter wave wireless solutions.

Loea App Brief

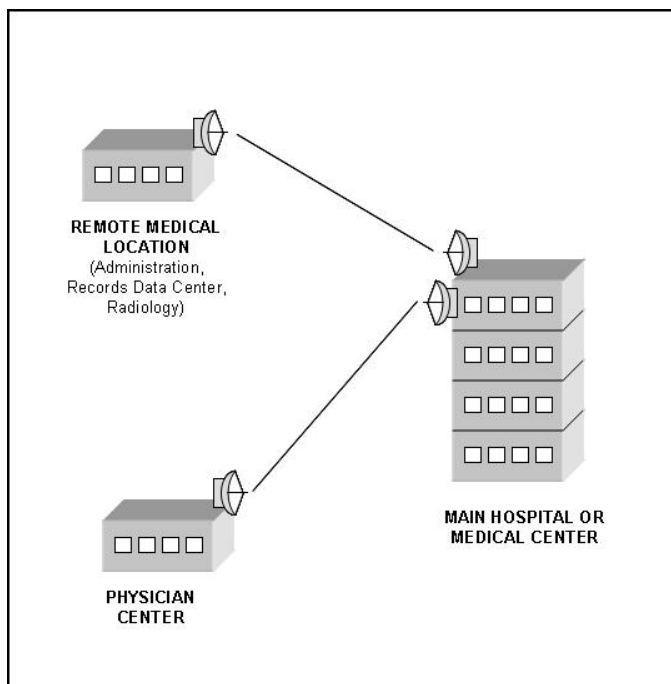
Healthcare
Solutions

Benefits

Loea's millimeter wave wireless solutions improve patient care by providing medical professionals access to critical patient information. Benefits include:

- Improved Data Access – critical patient information can be received in minutes from remote locations.
- Rapid Installation – can be installed in hours.
- Reduced Costs – avoids monthly leased line fees and replaces need for expensive fiber trenching.
- Expanded Reach – easy deployment to locations where environmental or geographical obstacles make fiber runs or leased lines unavailable.
- Redundancy – acts as back-up or failover to ensure network availability.
- Improved Network Performance – removes throughput constraints and interference issues facing licensed microwave and unlicensed RF.
- Minimal Weather Impact – works in environments where FSO technology is impacted (fog).
- Enhanced Bandwidth – increases network capacity with Gigabit speeds.
- Greater Control – eliminates dependency on leased lines for connectivity.

Configuration Example



Loea Products

Loea products have been used as a vital communication link for some of the world's leading Enterprise, Carrier and Government customers.

Based on 70/80GHz millimeter wave technology (also referred to as E-Band), Loea offers the highest-performing, highest-availability wireless solutions available on the market today.

And by leading the successful petitioning of the FCC for commercial use of these frequencies and spectral bandwidth, Loea products will be able to reach up to 10Gbps throughput in the very near future.

Loea solutions are ideal for point-to-point connectivity between buildings, campuses and remote locations – eliminating the need for time-consuming and cumbersome fiber runs.

Unlike other wireless technologies that have performance limitations due to bandwidth, weather and distance, Loea's products provide full-duplex 1.25 Gigabit throughput with 99.999% availability at link distances exceeding 1km. And Loea's use of upper radio frequencies coupled with its narrow beam width (0.4 degrees) make it one of the most secure forms of wireless transmission today. No other wireless technology can make such a claim.

All Loea millimeter wave solutions include:

- 2 Radios
- 2 Antennas (2-foot diameter for maximum range)
- 2 Radio Mounts and Steering Mechanisms
- Installation and rooftop hardware are not included

About Loea

Loea Corporation is the pioneer of the 70/80 GHz wireless domain and the product, quality and technology leader.

Loea was the first company to release and deploy successful product in the 71-76 and 81-86 GHz bands and has been on the leading edge of technology creation in this space for over 10 years. Loea successfully petitioned the FCC to gain access to this spectrum for commercial use in 2001 and was first to receive commercial FCC approval in July 2005.

Loea is headquartered in Honolulu, Hawaii. R&D and manufacturing locations are located in Kahului, Maui, Hawaii and West Hatfield, Massachusetts.



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