

Loea



Network communications will play a vital role in defining the retailer of tomorrow. Interactive kiosks, video surveillance and Internet access require high capacity not found in many retail networks. Transmitting this data to centralized locations or remote sites becomes time consuming and costly.

Applications

- Remote Store/Building Connectivity
- Video Surveillance
- Transaction Processing
- Video/Broadcast Transmission
- Voice-over-IP Networks

Benefits

- High bandwidth up to and exceeding 1Gbps
- Rapid installation and deployment
- Enterprise-wide network and video access
- Safe, secure environments

Application Brief

The Problem

Today's retail environment is highly competitive. Retailers are continually seeking ways to differentiate themselves, gain and maintain a consumer base and reduce costs to survive in this hostile environment. Networking and communications will play a vital role in defining the retailer of tomorrow.

Although the majority of network traffic in today's retail environment is considered low-bandwidth – retail terminal transactions or credit card processing – newer applications requiring higher-bandwidth are emerging.

Real-time, interactive displays and kiosks often run bandwidth-intensive videos or graphics. Many stores offer high-speed Internet access. Voice-over-IP networks are often used. And video surveillance systems are being deployed to monitor store activity real-time. The transmission of this new data to centralized locations or remote sites becomes time consuming and costly.

A number of larger retailers, for example, with nearby remote buildings (gas stations, warehouses or nurseries) are experimenting with sending live video feeds and graphics-intensive advertisements from the central store location to the remote location. These images require high bandwidth connection between the two locations.

Instead of leased lines or fiber trenching, retailers today have looked to emerging wireless technologies as lower-cost, yet higher capacity, alternatives.

But, bandwidth constraints, the possibility of interference or spectrum saturation and weather impact are major concerns. Backhaul links between buildings – often carrying critical financial information – cannot be susceptible to these potential issues.

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

Retail Solutions

The Loea Solution

Loea's millimeter wave radio products are the ideal solution for retail environments.

Instead of using traditional leased lines or low-bandwidth radio frequency solutions to connect remote store locations, retailers can now link via 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 video feeds or data transactions. Files and information 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 App Brief

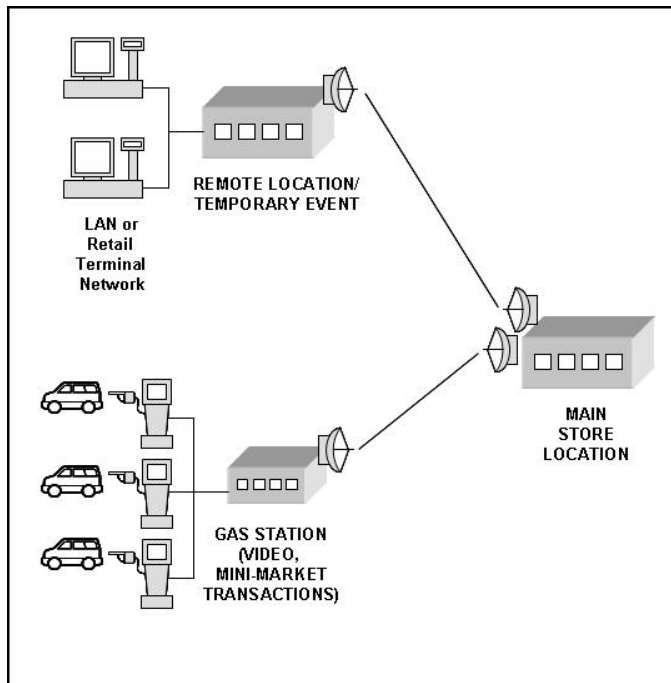
Retail
Solutions

Benefits

Loea's millimeter wave wireless solutions are helping retailers improve service offerings while reducing costs. Benefits include:

- 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.
- Greater Control – eliminates dependency on leased lines for connectivity.
- Enhanced Bandwidth – increases network capacity with Gigabit speeds.
- Minimal Weather Impact – works in environments where FSO technology is impacted (fog).

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 1.25Gbps 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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