

Loea



Today's mobile networks must have the bandwidth to support emerging voice and data applications. And carriers must act quickly to gain a subscriber base. Only those who can rapidly and reliably provide voice and data services will survive.

Applications

- Mobile Wireless backhaul between cell sites
- Network aggregation between Mobile Switching Centers and Core Network
- Temporary or redundant wireless links during network build-out or fiber repair

Benefits

- High bandwidth up to and exceeding 1Gbps
- Rapid installation and re-deployment to quickly provide new service offerings or reach new subscriber areas
- Lower cost compared to fiber runs

Application Brief

The Problem

The Mobile Wireless world is changing rapidly. Voice is no longer the only form of mobile communication. Data services – email, short messaging service (SMS), graphics, ring tones, music downloads, video clips and high-speed Internet access – are becoming a major part of today's mobile provider portfolio.

And with the rise of competition in the mobile wireless space, time-to-market becomes critical. Whether overhauling an existing voice infrastructure or rapidly deploying a next-generation wireless network, today's mobile provider must act quickly to gain a subscriber base.

Wireless point-to-point bridges – in the form of microwave, Free Space Optics (FSO) or unlicensed RF – are often used as a connectivity option in mobile infrastructure. Wireless eases installation by replacing fiber runs (allowing quick build-outs) and eliminates the need for costly leased lines (reducing operating expenses).

Two areas of the mobile infrastructure using point-to-point wireless include:

- Backhaul – connecting cell sites or towers (primarily microwave)
- Network Aggregation – where traffic from multiple cell sites is transmitted between switching centers and the core network (typically FSO due to its fiber-like bandwidth and quality)

But, the wireless technologies used today also have drawbacks. Both microwave and RF have bandwidth constraints – limiting the capacity required in data-intensive environments. Plus, the possibility of interference or spectrum saturation in dense urban environments becomes a concern. And weather impact on FSO technology is a known issue.

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

Mobile Wireless Solutions

The Loea Solution

Mobile Carriers worldwide are turning their attention to high-speed, high-availability millimeter wave solutions from Loea.

The point-to-point wireless solutions are deployed in these environments two-fold:

- In base station-to-base station configurations replacing low bandwidth single T1/E1 leased lines and microwave RF solutions that require lengthy licensing and regulatory processes.
- And, for aggregation links typically between Mobile Switching Centers and the Core Network in which the fiber-like quality and high-speed throughput provided by Loea solutions is ideal.

Loea solutions provide Mobile Carriers with greater control and flexibility of networks, without the recurring costs of leased T1/E1 lines from a Telco intermediary.

And, in Greenfield environments and new build-outs, entire networks can be deployed in the matter of days thereby allowing Mobile Carriers to quickly provide services to new subscribers.

Many new carriers, for example, can temporarily use wireless connectivity to start up operations and gain a subscriber base while fiber is being deployed.

These links can either be relocated to new build-out locations or can continue to be used in a redundant network configuration that takes advantage of both fiber and wireless.

From a radio interference perspective, Loea's use of 70/80GHz radio frequencies combined with narrow beam transmission make it practically immune to spectrum issues facing microwaves and RF in dense metro environments and to weather outages facing FSO.

Loea App Brief

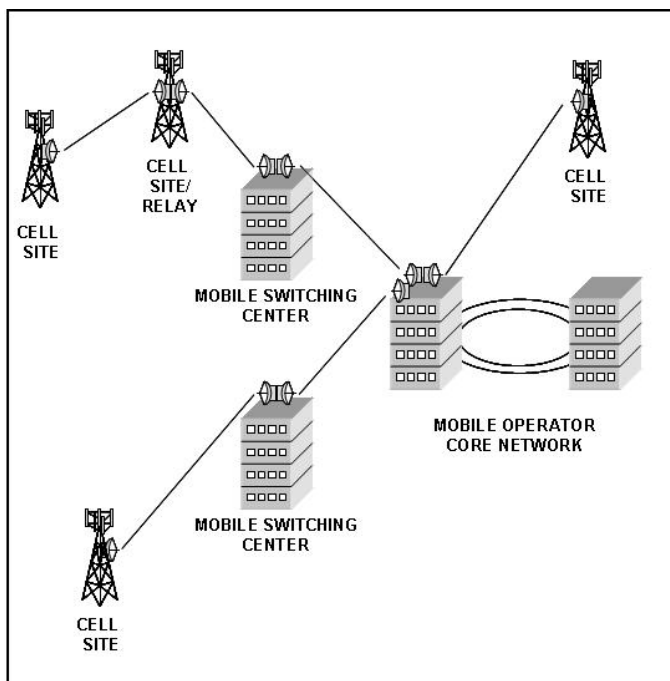
Mobile
Wireless
Solutions

Benefits

Loea's millimeter wave wireless solutions can provide high-bandwidth, high-availability alternatives for Mobile Wireless backhaul and aggregation applications. Benefits include:

- Rapid Installation – can be installed in hours resulting in more immediate service offerings.
- Reduced Costs – avoids monthly T1/E1 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.
- Enhanced Bandwidth – increases network capacity with Gigabit speeds.
- 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).
- 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 1.25Gbps 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.



Loea Corporation
Pacific Guardian Center
733 Bishop Street, Suite 1717
Honolulu, HI 96813

More info:
www.loecom.com
(858) 646-5543 or (808) 521-4908
loeainfo@loecom.com