

## Wireless Backhaul Solution for Major Mexico Carrier **IUSACELL**

### CUSTOMER INTRODUCTION

In Mexico's highly competitive Wireless telecommunications industry, Iusacell is one of the country's top 3 service providers, delivering cellular services to more than 5.4 million subscribers. The company also offers local and long-distance telephony, messaging services, mobile television and wireless broadband services over the first 4G nation-wide network in Mexico. Iusacell is known in the Mexican market for its competitive pricing, pre-paid services, and high speed data capacity. As the company has rolled out its 4G network over the last three years, Iusacell needed to find a way to retain its competitive pricing advantage by looking at alternatives to the traditional and costly backhaul solutions of Copper, Fiber, and Microwave.

### *Critical Backhaul Decision Points:*

- HIGH CAPACITY at LOW COST
- HIGH RELIABILITY
- RAPID DEPLOYMENT
- NO SPECTRUM

### THE BUSINESS CHALLENGE

Over 80% of Mexico City's population of 22 million has some type of mobile device, and yet the existing fiber backbone infrastructure in the region can service only a small fraction of the corresponding cell sites. Faced with rising network infrastructure costs in a highly competitive market, Iusacell's Chief Technology Officer Alejandro Delgado saw an

opportunity to differentiate his growing wireless network by taking an innovative approach to backhaul. He described the situation: "We were looking for a fresh approach to the problem – Aerial fiber continued to have issues with installations being blown-down or torn-down, Microwave constantly had issues with interference and rain, and leasing copper backhaul from incumbents was never going to get us the cost advantage we were looking for."

To meet the needs of their growing wireless network, Iusacell needed a powerful, reliable and cost effective gigabit broadband solution to ease the crush of backhaul traffic from their cell towers. SkyFiber's Optical Wireless Broadband technology was the key to meeting that need. Backhaul is often the critical determining factor for the cost of network deployment. Delgado went on to say, "The reality is that a viable Backhaul Solution



Figure 1: Active Skyfiber Link  
in Downtown Mexico City



has to deliver the optimal combination of **three critical elements: low cost-per-bit, high reliability, and rapid speed of deployment.** SkyFiber's OWB technology delivers these in a combination that is unmatched by its competitors."

lusacell knew that to be competitive, they had to find an innovative and disruptive technology that would be a game-changer. As Jose Luis Rodriguez , the Core-Network CTO put it, "The hard truth is that Backhaul ends up being the largest piece of the network deployment costs. When you are looking to deploy a network with a significant cost advantage, you absolutely must have economical, easy-to-deploy backhaul."



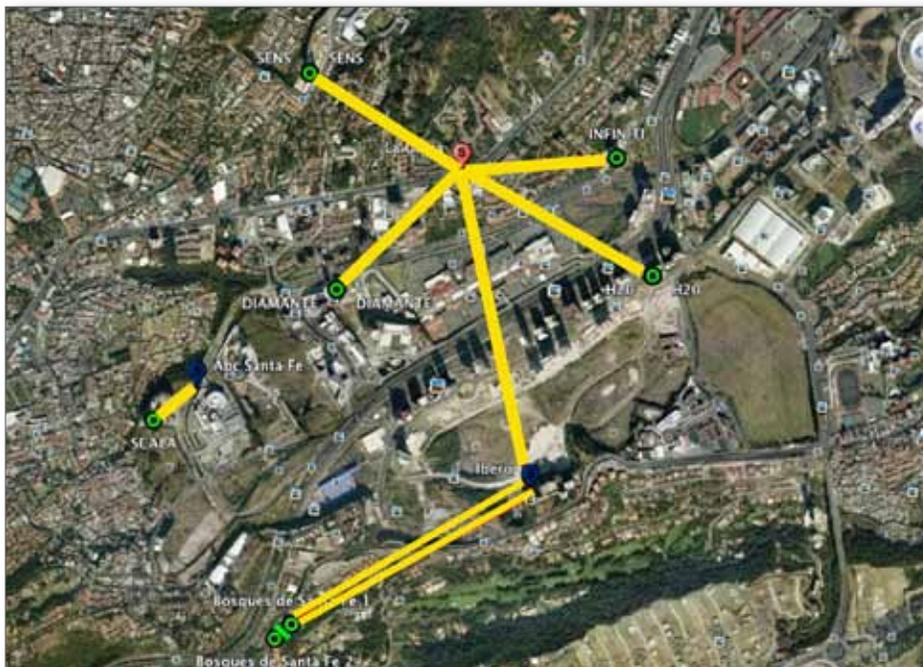
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### THE SOLUTION

Using SkyFiber's SkyLINK™ 1 Gbps product, lusacell has created a network covering 26 transmission sites, with 50 more planned over the next year. Going wireless allowed lusacell to rapidly build a much larger network than would have been economically non-viable with copper or Fiber.

Reliability was a critical factor for lusacell's decision, and SKYFIBER has shown that OWB delivers carrier-class performance. According to lusacell CTO Alejandro Delgado, "Even with Mexico City's tropical climate and hard rains, SKYFIBER's links have consistently performed with carrier-class reliability. Particularly in areas where the cost of running fiber is prohibitive, the option to use Optical Wireless Broadband is extremely valuable to our business."

But rain wasn't the only severe weather that tested the deployment's resiliency - in the time since the SkyFiber links were installed, Mexico City experienced a period of six weeks of major earthquake activity in early 2012, with multiple quakes



ranging from 4.2 to 7.4 in magnitude on the Richter scale. During this time, only 1 of the installed links experienced downtime, and this occurred only when the mount on which it was standing literally shook off of its base. Because of SkyFiber's proprietary Auto-Tracking capabilities, all of the other units were able to correct for the earthquakes movement without service interruption.

Delgado also noted, "SkyLINK's Auto-Tracking and Forward Error Correction features offer a level of weather reliability that is unique among their FSO and Millimeter Wave competitors."

Figure 2: Network Layout in Santa Fe Financial District

***lucacell deployed the SkyFiber portions of the network in a fraction the time it would have taken to deploy fiber, and reduced their over all deployment costs by 30%.***

## **KEY BENEFITS TO IUSACELL**

All of the critical requirements for success that CTO Alejandro Delgado had initially identified: Cost, Capacity, Reliability, and Speed of Deployment, were achieved with great success in the lusacell-SkyFiber Installation.

- **Maximum Bandwidth at Minimum Cost:** No other technology could provide lusacell with full-duplex Gigabit throughput for the sub \$10k price that SkyFiber offers. Additionally, SkyFiber's product roadmap takes the technology to 2.5 Gbps and 10 Gbps, capacities that are technologically out of reach for single-unit Microwave.
- **Time to Revenue / Rapid Deployment:** SKYFIBER's ease of deployment puts it in a class by itself. Microwave RF can take months to acquire permits, purchase licenses, and install equipment; deploying Fiber Optic systems takes even longer. In contrast, SKYFIBER's OWB system can be deployed in a matter of hours, with no need to hassle with buying frequency licenses, or time-consuming and expensive trenching for fiber.
- **High Reliability:** SkyFiber is the only Wireless Gigabit Bridge on the market that has built-in Auto Tracking and Auto-Alignment capabilities, and is far superior to Millimeter Wave technologies in heavy rain. The current SkyLINK handles up to 1-degree of twist and sway, and the new SkyTOWER product will accommodate 3-degrees.
- **Low Environmental Impact:** SKYFIBER's solutions require minimal to zero footprint, have low power consumption, and do not cause RF pollution like Microwave, Millimeter-Wave, and other wireless radio delivery systems. And unlike Fiber Optics, SKYFIBER does not require environmentally invasive trenches to be dug that generate noise, pollution and excessive carbon footprints.

lucacell deployed the SkyFiber portions of their network in a fraction the time it would have taken to deploy fiber, and reduced their over all deployment costs by 30%. Additionally, since no RF spectrum is needed to run the network, there are no ongoing costs of retaining ownership of licensed spectrum, and no ongoing risk of losing their investment altogether when a competitor deploys RF in the same area, which is the constant gamble with using unlicensed spectrum.



Figure 3: Multiple SkyLINK Units cause no interference, unlike RF

## **SUCCESSES & KEY BENEFITS:**

- 30% Lower Deployment Costs
- Deployment 4 times faster than Fiber
- High Reliability, even in severe weather
- Completely Upgradable & Future-proofed
- Survived multiple earthquakes up to 7.7 magnitude
- Completely unaffected by heavy rains that exceeded 50 mm of rainfall per hour
- Increased backhaul capacity by 40%

***“We are particularly looking forward to the release of the new SkyTOWER product, as this will allow us the option to use SkyFiber in over 80% of our installations.”***

## **CUSTOMER'S SUCCESS**

The result was a quick and painless broadband backhaul solution that allowed lusacell to rapidly grow their wireless network.

lusacell has grown its subscriber base by 30% over the last 3 years. Due to the success of the initial Mexico City installation, lusacell is currently working with SkyFiber to continue expansion of their coverage area. They are also anticipating future SkyFiber products to further their success, such as SkyTOWER, which can be deployed on towers and monopoles with up to 3-degrees of twist and sway, the highest in the industry. CTO Alejandro Delgado added, “We are particularly looking forward to the release of the new SkyTOWER product, as this will allow us the option to use SkyFiber in over 80% of our installations.”



To meet the needs of today's exponentially growing wireless networks, Service Providers need a powerful, flexible, reliable and cost effective gigabit broadband solution to give them an edge in the competitive carrier marketplace. SkyFiber's Optical Wireless Broadband is that solution, offering a cost, capacity, and speed of deployment that is unmatched in the industry. Find out *today* what SkyFiber can do to make *your* wireless network more successful.

## **CONTACT US TODAY**

Let SKYFIBER solve your network's Mobility Backhaul capacity needs.  
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