



# Laying the Groundwork for LTE

How IBW Launched 4G Services while Looking Ahead to LTE  
An Alepo Case Study

When IBW saw an opportunity to evolve into wireless 4G technology, the leading Latin American service provider called on Alepo to provide a robust and flexible 4G Online Charging System that would enable the immediate delivery of prepaid and postpaid services over WiMAX and facilitate a seamless transition to LTE in the future.

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## AN OPPORTUNITY IN 4G

### AT A GLANCE

- 3GPP-Compliant Online Charging System
- LTE-Ready Core Network
- Multiple Protocol Support (Diameter & RADIUS)
- Supports Multiple End User Activation Flows
- Automatic Subscriber Provisioning
- Integrated, Vendor-Neutral Environment
- Preconfigured to Support Voice over IP

IBW understands the need to stay ahead of the competition. Over the years, the service provider has assembled a truly diverse portfolio of services across several Latin American markets. With a business model that merges traditionally vertical markets, IBW makes a habit of innovation. And they have to. IBW operates in highly competitive conditions, with operators racing to grab market share. So when IBW saw an opportunity to lead the market into wireless 4G technology, they seized it.

At the time, TD-LTE technology was still in its infancy without a proven, commercial launch. Yet, IBW knew that if they hesitated, they would risk falling behind their competitors, forfeiting revenue and market share. However, IBW also understood the risk of investing hastily in an infrastructure that could become obsolete if the technology faltered.

In order to achieve short-term and long-term goals while protecting their investment, IBW sought a best-of-breeds solution that would enable the immediate delivery of prepaid and postpaid services over WiMAX and facilitate a seamless transition to LTE in the future. This would afford IBW a rapid ROI of market-ready WiMAX services, and allow them to readily introduce LTE services as they became available.

IBW undertook an aggressive plan to concurrently launch 4G networks across three separate Latin American markets, helping to solidify their commercial offerings while also expanding their residential services. The strategic move would further differentiate IBW's business from other companies operating in the same space.

## MARKET CHALLENGES

In order to successfully meet the demands of both commercial and residential customers, IBW wished to offer a diverse selection of both prepaid and postpaid plans. **Therefore, IBW required a truly convergent charging and billing solution.**

IBW needed a solution that would prevent their investment in 4G technology from potentially becoming obsolete in a few short years. **To protect the investment in network infrastructure, IBW needed a core network solution that could evolve alongside evolving technologies.**

For this project, IBW wanted to build a best-of-breeds network instead of using the hardware vendor's charging platform. Vendor neutrality would grant IBW the freedom to replace individual components as needed. To achieve this, IBW needed a vendor with standards-based products and the proven experience to integrate with third-party systems in a complex, multi-vendor environment. What's more, IBW needed a vendor who could do it concurrently in three separate locations. **Complex network integration was critical in order to realize the full functionality of IBW's customer-focused business model.**

*“It was crucial to implement a solution that can readily adapt to changes in technology, market conditions and regulations. The flexibility of Alepo's OCS reassures us of our investment, even as technologies evolve and our subscriber base grows.”*

*– Paul Ives Choiseul, IBW CTO.*

## A VERSATILE CORE NETWORK SOLUTION

IBW selected Alepo to implement a flexible LTE-ready solution that enables the core network to readily evolve as 4G technologies do. The solution reinforces IBW's position as a market leader, protects their investment in 4G technology, and allows for the rapid introduction of new services without major changes to the core network.

Alepo deployed the following components as part of an inclusive Alepo Service Enabler solution:

### Alepo Online Charging System

At the heart of Alepo SE, Alepo's 3GPP-compliant Online Charging System (OCS / OFCS) functions as a holistic revenue management system, encompassing real-time (online) and batch (offline) rating, charging and billing, balance management, mediation, interconnect, roaming and more. The open solution merges all next generation services and technologies onto a single platform and readily bridges the prepaid / postpaid divide, allowing service providers like IBW to realize truly convergent and innovative business plans while maintaining an overall low total cost of ownership (TCO).

*With simultaneous deployments in multiple markets, IBW has proven to be an ambitious and forward-thinking market player. Alepo was able to meet IBW's aggressive timetable and deliver a market-ready core solution that offers an immediate and continuous ROI."*

*– Jonathan Garini, Alepo Vice President of Products*

It included a Diameter Protocol Stack to facilitate translations between RADIUS and Diameter, creating a future-proof system that supports the convergence of 4G access technologies.

### Alepo SE Business Management Modules

- Subscriber Management
- Invoicing & EBPP
- Inventory Management
- Payment Management
- Product Catalog
- Revenue Assurance
- Voucher Management
- Reporting

### Alepo SE Web Portals

The Alepo SE Web Portals bring to life the full functionality of Alepo SE by externalizing all modules and services to centralized management, customer service and subscriber interfaces. IBW took full advantage of the Alepo SE Web Portals, utilizing the following capabilities:

**Alepo SE Enterprise Portal** allows the service provider to efficiently manage all system users, sales agents and end customers. Via the interface, providers can easily configure business plans, manage IP pools, online sessions, revenue, reports and more.

**Alepo SE Agent Portal** grants sales and customer service agents a 360° view of subscriber accounts for efficient management, including registering new users and assisting subscribers with account refill and bill pay. For example, if a subscriber purchases a voucher in shop, the sales agent is able to search for the user's account and input the voucher PIN and password on behalf of the user.



*Alepo SE Agent Portal gives sales & customer service agents a full 360° view of subscribers.*

**Alepo SE Subscriber Portal** enables fast, intuitive registration and purchase processes as well as account self-management (known as *Alepo Web Self Care*). From this portal, customers can view invoices, pay bills, purchase new services and add-ons, manage account details and refill prepaid services. The portal includes support for multiple languages.

## SOLUTION HIGHLIGHTS

### An LTE-Ready Solution

The Alepo Online Charging System is built according to industry standards, including 3GPP, 3GPP2, and WiMAX Forum. It functions as an interoperable 3GPP OCS / OFCS, implementing standard Gy and Gz interfaces towards enforcement points. With a built-in dual RADIUS / DIAMETER stack, the platform also performs highly towards RADIUS-based network elements. In addition, the LTE-ready system supports advanced authentication functions, mobility management, roaming, and handover, allowing for interworking between access technologies, both 3GPP and non-3GPP.

Whether used for 4G WiMAX, LTE or both, IBW assured of a proven, interoperable revenue management system that will withstand the evolution of technologies and networks.

*"In such a rapidly evolving industry, service providers must look to future-proof their investments in core network systems with truly convergent and future-ready solution."*

*- Jonathan Garini, Alepo Vice President of Products*

### Expert Integration

For IBW, Alepo integrated the Online Charging System with Huawei's AAA server in order to realize seamless, zero-leakage prepaid charging, postpaid billing and subscriber provisioning. Alepo also integrated with payment gateways and an external accounting system.

### Customized Web Portals

While the portals are fully functional out of the box, Alepo is able to tailor the portals to fit a service provider's precise needs. IBW required two subscriber portals, one for their corporate brand, IBW, and one for their newly launched consumer brand, Japi. Alepo was able to provide these two distinct portals while maintaining centralized subscriber management of all users.

Alepo worked with IBW to customize the Alepo SE Subscriber Portal (Registration and Web Self Care) to provide an ideal experience for their users, whether business or consumer. Alepo styled the look and feel of the pages to mimic IBW's brand image while also optimizing navigation between pages. A user may edit his account details, view session and transaction history, upgrade his services and recharge his account, in Spanish or English, from the portal.



Multiple Alepo SE Subscriber Portals - IBW & Japi Brands

### Multiple Activation and Payment Methods

Alepo's solution provides subscribers a number of options for activating and maintaining their accounts. The solution's multiple touch points with external systems enable the voucher, inventory and payment management functions that are required to support automatic provisioning of user accounts.

Whether the user is registered by an agent at the point of sale or at home through web self care, the user has multiple methods for refilling his virtual wallet. If the user does not wish to go to a PoS location, he may pay for services through a more convenient mobile money platform or online with either a credit card or a prepaid voucher. With Alepo's solution, the many different activation and payment methods are all enabled by a single convergent system.

## ABOUT IBW



IBW, an emerging service provider across Central America, is positioning itself to provide high-quality commercial and residential services, including voice, data and video, over a licensed 802.16e WiMAX network. Today, the company has a presence in Nicaragua, Guatemala, Costa Rica and El Salvador.

[www.ibw.com](http://www.ibw.com)  
[www.soyjapi.com](http://www.soyjapi.com)

## ABOUT ALEPO



Alepo provides enabling infrastructure for telecommunications service providers. Alepo provides control plane & business management solutions for telecommunication companies, enabling them to compete efficiently and realize next generation services' opportunities.

[www.alepo.com](http://www.alepo.com)

