Claro Deploys SMS-Based Location-Based Service in Central America

Dialogic® DSI Signaling Server Becomes Part of Solution with Potential Revenue of US$291 Million per Year

CASE SUMMARY

Challenge

When confronted with declining voice revenues, Claro, a leading wireless operator in Guatemala, needed to drive revenue from alternative sources. The company decided to invest in Location-Based Services (LBS), specifically targeting consumer markets in order to drive mass adoption of the proposed new services. This required an SMS-based solution, which could be used without modification to consumer wireless handsets, eliminating the need for maps or complex user interfaces to display location information. Claro's network also lacked a key element that would allow exposure of location information to the service node called the Gateway Mobile Location Center (GMLC), which can interrogate resources in wireless networks to obtain an approximate position of wireless devices.

Solution

Claro selected Creativity Software's FamilyWise solution for its new *Servicio de Localizacion de Claro*. The solution is based entirely on SMS, with opt-in contact list management. To resolve network interface issues, Creativity Software selected the Dialogic® DSI Signaling Interface Unit to compensate for the lack of a GMLC. The LBS service was launched in October 2008 and is exceeding expectations, both for quality and customer interest. Claro has achieved sign-up rates greater than 5% using simple, SMS-based marketing techniques to reach subscribers. If this success can be replicated in other Claro networks in South America, potential revenue could reach or exceed US$291 million per year.

Challenge

Wireless operators are confronted with the challenge of declining revenue from traditional voice services, which is having a dramatic impact on overall Average Revenue Per User (ARPU) levels. One option pursued by wireless operators has been to invest in value-added services in a bid to arrest overall decline and increase ARPU levels from these new services. However, adoption of data services has often been disappointing, particularly in mass-market consumer segments, and can be problematic, with users limited by handset device and functionality. This situation presents a clear challenge: how can wireless operators launch new services that are suitable for true mass market deployment? Claro, the second largest wireless operator in Guatemala – and part of the América Movil Group, the fifth largest wireless operator in the world in terms of subscribers – wished to confront this challenge head-on.

Claro analyzed barriers to adoption and sought to overcome these by delivering a service that could be easily understood by users and was suitable for mass market deployment. Crucially, Claro recognized that the service must not require any modification to handsets so that it could be accessible to a large pool of potential users, regardless of the mobile devices they are using.

With this in mind, Claro decided to invest in LBS as part of a strategy to increase overall ARPU levels. To be successful, any LBS service must overcome two issues: low penetration of wireless broadband, and a lack of handsets enabled with Global Positioning Service (GPS) in consumer markets. Moreover, some LBS services require the availability of complex mapping data in the user interface. Together, these issues raise significant challenges for LBS services targeted at consumer markets.

The planned service also presented technical problems at a network level. Techniques are available that interrogate resources in wireless networks to provide an approximation of the position of a wireless device. This data is usually available to LBS from a device known as a Gateway Mobile Location Center (GMLC), which is often deployed in wireless networks. However, no GMLC was available in the Claro network.

Finally, in a highly competitive market, Claro needed to be able to reduce time-to-market for the new service in order to enjoy a rapid Return On Investment (ROI), while ensuring that the solution chosen to deliver the service would have the flexibility to incorporate new features and to add new services.

Solution

Claro decided to launch *Servicio de Localizacion de Claro*, which is a simple LBS service that enables friends and family to locate one another via SMS (Short Message Service) requests. SMS provides a ubiquitous, familiar, and simple interface for accessing services. It meets the requirement that the service should be accessible to all without handset modifications, as SMS is available on all wireless handsets and requires no user provisioning.

LBS often relies on the use of maps as part of the user interface to display the location of a person, place, or object. This could have interfered with Claro's plans, as it would require a complex user interface to display information, but the SMS-based deployment of the LBS allowed Claro to overcome this problem. Location information would be provided in the form of a simple text message, returned to the user in response to a request, also generated by SMS. For example, the solution might return a message stating that "Manuel is in the vicinity of X" in response to a location request. This eliminates the need to display maps to pinpoint the location of targets, and does not require the use of GPS as a means of providing location information.

To deliver the solution, Claro selected Creativity Software's FamilyWise product. Claro also selected a local Internet Service Provider (ISP) and Sysems Integrator (SI), OSI de Guatemala, to host the application and perform integration services. Acting as the outsourced services provider, OSI managed, deployed, and securely hosted the application on behalf of Claro.

LBS Service Based on FamilyWise Ensures Privacy

Servicio de Localizacion de Claro uses an opt-in method to ensure privacy. Users (the "locators") provide a list of their contacts (the "locatees"), who are then sent registration requests via SMS, allowing them to decide whether to be listed or not. Users can then send a request to the system to find out the location of a registered contact, also via SMS. Claro charges for the request, but not for the contact registration process. The FamilyWise platform interrogates the wireless network to determine the approximate position of individuals, based on the location of their wireless handsets. This data is then correlated with a geographical database of locations in Guatemala, which includes a listing of all streets and major landmarks. The FamilyWise application then sends an SMS to the user (locator) that contains the address of the contact (locatee). Creativity Software was also able to customize the FamilyWise platform to meet Claro's specific needs.

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Dialogic® DSI Signaling Server Solves Positioning Problem

In order to obtain positioning information, the FamilyWise application would normally connect to a GMLC node in the wireless network. In this case, however, the node was absent, requiring Creativity Software to create its own version. This was a critical part of the solution; if the application is unable to communicate with the wireless network, it is unable to deliver the required location information. To address this part of the solution, Creativity Software chose the Dialogic® DSI Signaling Interface Unit (DSI SIU) based on one of several models of the Dialogic® DSI Signaling Server.

The GMLC has to interrogate the Home Location Register (HLR) in wireless networks in order to discover real-time information regarding the location of a particular wireless device; that is, the actual cell in which a phone is situated. This process requires interaction at the level of SS7 signaling. Substituting for the GMLC, the DSI SIU allows developers to control and access the relevant signaling information. It supports the necessary signaling layers (MTP, SCCP, TCAP, MAP/ANSI-41), as well as multiple signaling channels for resilience. Signaling information is abstracted from the raw SS7 layers via an Application Programming Interface (API) that allows communication with applications.

Creativity Software created middleware that interfaced with the API for the DSI SIU and performed interrogation of the HLRs, using the "Anytime" function. This methodology requests an update of a wireless location from the network, providing real-time data that can be used by the FamilyWise application.

Advantages of Using the Dialogic® DSI Signaling Interface Unit

Using the DSI SIU provided Creativity Software with several key advantages. First, Creativity Software was able to leverage its long experience with Dialogic® SS7 products and APIs to rapidly create the required solution: Creativity Software felt confident that the solution would perform exactly as specified. Secondly, the DSI SIU has been deployed in hundreds of networks and sites around the world, demonstrating proven capabilities. Thirdly, the DSI SIU is robust and can be deployed in a redundant configuration, allowing Creativity Software to meet the stability and resilience demands of Claro. Finally, the DSI SIU is highly scalable, allowing Claro to plan for network growth with the expected success of the service.

Results

Since its launch in late October 2008, *Servicio de Localizacion de Claro* has processed many thousands of registrations and location requests. In addition, Claro has leveraged SMS to promote the service, offering it via SMS-based marketing messages sent to its subscribers. So far, Claro has achieved sign-up rates greater than 5%, and if availability is extended to all 3.5 million subscribers, Claro anticipates at least 175,000 additional subscribers for the new service.

"We are delighted with the launch of the Mobile Location Service in Guatemala. Location-Based Services are proving to be what consumers want, as this type of service brings real value to their day-to-day lives. We thank OSI and Creativity Software for their outstanding work. This has helped us to bring a quality service to market, while reducing our time-to-market," says Marvin Par, General Manager of Claro for Central America.

Saul Olivares, Market Development Director for Creativity Software in the UK, comments: "We are very pleased to be part of this success story" while Ernesto Rossbach, President of OSI, adds, "This is a clear example of how the customization of a service is critical to address the needs and expectations of a target market. We will continue to support the platform, enabling Claro to launch more innovative and valuable location-based services for their customers."

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A Service with a Potential Revenue of US$291 Million Per Year

Servicio de Localizacion de Claro has many applications, from meeting friends to seeking reassurance about a child's location. In addition, the service has considerable scope for future extension, as it is based on an existing solution that can be branded by Claro and used for other new service offerings targeted at different markets, such as enterprises. The Creativity Software solution allows rapid customization of new services, helping Claro to reach product development and time-to-market goals quickly.

After the early success of LBS in Guatemala, it is likely that additional services will be added to address more markets and segments. For example, a web interface could be offered, allowing enterprises to provision user groups and manage location information. New location services targeted at additional partners could also be deployed. These can help to create new business relationships for Claro, as they offer LBS capabilities to businesses seeking to appeal to new customers.

The success of the solution has also attracted interest from peer operators within the América Movil group, and some additional capacity will be reserved for launching similar services targeted at neighboring countries in Central America. The América Movil Group has more than 170 million subscribers in Central and South America. If the success of Servicio de Localizacion de Claro can be replicated across the group, it could potentially generate revenue of US$291 million each year, adding considerably to América Movil's revenue.

About Claro

Claro is the América Movil Group's mobile service in Guatemala and other Central and South American countries. In Guatemala, Claro provides a variety of value added services such as SMS, in addition to fixed lines, video calling, 3G services, and much more.

For more information, visit www.claro.com.gt.

About Creativity Software

Creativity Software Ltd. is a company specializing in Location-Based Services. With offices in the UK and China, and distributors in Latin America, the Middle East, and India, the company supplies mobile network operators, mobile device manufacturers, service providers, and large enterprises from around the world with a variety of white-label LBS solutions, including Family & Friend Finder, Vehicle & Asset Tracking, Lone Worker Protection System & Field Staff Management, Mobile Travel, and Social Networking applications.

For more information, visit www.creativitysoftware.net.

About OSI de Guatemala

With over 25 years of market experience, OSI has become the leading Internet Service Provider in Guatemala. OSI supplies residential and enterprise customers with a variety of services such as dial-up and broadband internet, internet security, and hosting.

For more information, visit www.osi.net.

About Dialogic Corporation

Dialogic Corporation is a leading provider of world-class technologies based on open standards that enable innovative mobile, video, IP, and TDM solutions for Network Service Providers and Enterprise Communication Networks. Dialogic's customers and partners rely on its leading-edge, flexible components to rapidly deploy value-added solutions around the world.

For more Information, visit www.dialogic.com.

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