Nube

Nube Improves LP Gas Consumer Experience and Gas Tank Refilling Efficiency - A Sierra Wireless® Smart Metering Application



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A Sierra Wireless® Smart Metering Application

CUSTOMER CRITICAL CHALLENGE

- Due to the lack of access to the liquid petrolelum (LP) gas tank reading, the gas consumers in Mexico take the constant risk of running out of gas.
- The gas companies, on the other hand, run refilling operations that are inefficient and costly.
- The whole LP gas delivery ecosystem operates on guesswork and fear.

SOLUTION

- Nube delivers a complete end-to-end solution that comprises of a Telemetry AsA Service (TaaS), seamlessly integrated with Sierra Wireless’s Device-to-Cloudsolution. In addition, they provide a cloud Gas Admin Portal

for the gas companiesand a mobile app for the consumers. Gas companies can use the admin portal tomonitor the demand (orders) of their customers and integrate the information toplan, schedule and develop delivery schedules in advance. This in turn enables gascompanies to optimize their procurement and inventory management.

BENEFITS

- The consumers can set alerts in advance, eliminating the risk of running out of gas
- The gas company can optimize scheduling and delivery operations giving way to significant cost savings and superior customer services.

When Chris Gnanakone bought a house in scenic Cabo San Lucas, on the Mexicancoast, he didn’t have plans to start a company. But when he learned how liquid LP gaswould be delivered to the house, it got him thinking.

In Mexico, as in most of Central and Latin America, LP gas used by commercial,industrial businesses and residences is almost unanimously stored on the roof top ofbuildings. Roof mountings free up space on the ground, take advantage of an area thatmight otherwise go unused, and give buildings a more attractive appearance – butmake tanks hard to access. It can be difficult, even dangerous, to reach a tank and get a meter reading.

Without meter readings, it is almost impossible to know when tanks need a refill.Some gas companies schedule top-ups based on average consumption rates, or waitfor customers to place an order, while others have trucks roam neighborhoods and dorefills on demand. It’s something of a guessing game, and during spikes in usage, if theweather turns cold or there’s a holiday, customers can find themselves without fuel.

Gnanakone had an idea. With cloud-based remote monitoring, gas companies couldknow exactly who needed a refill, and when. The setup would increase efficiency anddeliver significant benefits to everyone involved – and was simply too compelling toresist. He started a company, called it Nube (the Spanish word for cloud, pronounced Noo-bay), and began looking for development partners.

Sierra Wireless Device-to-Cloud Solution

After evaluating several options for the hardware and software required for an Internetof Things (IoT) deployment, Gnanakone chose Sierra Wireless. He found they hadthe strongest portfolio, from a technology standpoint, for the telemetry aspects ofthe Nube service, and was certain that the IoT Acceleration Platform would simplify development and speed time-to-market.

Nube now offers a complete, fully turnkey IoT solution that includes tank monitoring,wireless transmission of tank data to a cloud-based repository, a portal that gascompanies use to view status and schedule deliveries, and a mobile app that the gascompanies’ residential and commercial customers use to set alerts, order gas, make payments, and manage their accounts.

Sierra Wireless supports the gathering and transmission of tank data, and providesthe necessary links that connect the back-end data repository with the portal and the mobile app.

- **Sierra Wireless HL Series 3G Modules**

  The Sierra Wireless HL Series 3G module, a small and cost-effective module thatis interchangeable with 2G and 4G alternatives, is part of the Nube monitoringdevice, which connects to the tank’s analog meter, logs readings, and sends datato the cloud-based repository. The device intelligently collects gas levels whilecorrecting for ambient temperature changes and transmits the gas level, alongwith the battery’s current capacity, the signal strength (RSSI), and any leakage data,to the cloud. Tank readings are sent daily for commercial accounts, and weekly forresidential accounts. Because the WP module minimizes the amount of power usedfor transmissions, the monitoring device can send daily readings for between fiveand seven years before needing a battery change.

- **Sierra Wireless SIM and Connectivity**

  Each Nube device is equipped with a Sierra Wireless SIM card. The “Smart SIM”enables access to most operators in a given location, anywhere in the world, anduses a patented smart network steering technology to connect dynamically tothe best carrier network when a data-service failure is detected. What’s more, theSmart SIM’s electronic profile can be defined according to customer preference.With the Smart SIM, Nube uses just one SIM for every deployment, regardless ofoperating region, and that simplifies inventory management. Also, since Nube onlydeals with Sierra Wireless for connectivity, the company

doesn’t have to spend timenegotiating and managing multiple carrier agreements or integrating with multipleSIM management platforms.

- **Sierra Wireless IoT Acceleration Platform**

  The Sierra Wireless IoT Acceleration Platform offers an easy-to-use, tightlyintegrated approach to collecting machine data and transmitting information to thecloud. The Platform handles all the management activities required to keep Nube’sdevices online and communicating, with remote monitoring and updating, alongwith activation and monitoring of the Sierra Wireless SIM cards used for cellularconnectivity. The Platform also organizes and stores all the transmitted data comingfrom the tanks, and makes it available to other applications, including the portalused by gas companies to monitor status and schedule deliveries, as well as themobile app used by their customers to view and manage their accounts.

Benefits

As a startup company looking to attract investors and build a customer base, Nubewas focused on saving time while reducing risk. With Sierra Wireless at their side,Nube was able to design the system they wanted, meet development deadlines, andposition themselves to expand quickly.

NEW HORIZONS FOR GAS COMPANIES

Most gas companies don’t have the in-house knowledge, resources, or infrastructureto deploy sophisticated telemetry hardware, a management portal, and an mobileapp. The Nube service, driven by Sierra Wireless technology, gives gas companies aseamless way to enter the IoT age.

- **Nube takes care of everything**All the gas company has to do is hand over a list of customer names and addresses,and Nube does the rest – they install, deploy, and manage the metering devices,configure the portal for the gas company’s use, and prepare the mobile app forcustomer download.

- **Just-in-time deliveries and streamlined inventories**The Nube portal lets gas companies optimize their delivery schedules and makeinventory

management more efficient. The portal lets companies view tank levelsfor every customer all at once, and know in an instant who needs what. Serviceroutes become more efficient, with lower costs and a reduced carbon footprint,and can be linked to mapping applications that deliver turn-by-turn instructions todelivery personnel. Alerts, reporting, and monitoring ensure smooth operation, andbring other options, like predictive maintenance, within easy reach.

- **Differentiated services and increased loyalty**Since LP gas doesn’t really vary from supplier to supplier, choosing a gas company isoften less about the product and more about service and the customer experience.By signing up for Nube’s service, with its IoT-driven refill schedules and easy-to-usemobile app, gas companies have something new to offer their customers, and thathelps keep existing accounts and attract new ones.

A PLAN FOR THE FUTURE

Many of Nube’s customers operate in more than one region. By partnering with SierraWireless for connectivity, Nube has the flexibility to deploy wherever their customerswant, whether it’s across town or across the border. Also, since the IoT AccelerationPlatform is interoperable with any IP-based end-points and cloud services, Nube willbe able to develop new ideas quickly and efficiently, as part of their long-term goal toservice other vertical markets.

HAPPY CONSUMERS

Running out of gas becomes a thing of the past, and there’s no more having to check the meter or remember to schedule a delivery.The mobile app lets residential and commercial customers view their tank level, manage their account, andpay for service, so it’s easier to track usage, find opportunities for savings, and optimize cash flow.

CONFIDENT INVESTORS

Sierra Wireless hosts some of the largest IoT deployments in the world, and offers startups like Nube the proven, reliable technology theyneed to attract investment. The tight connection between Sierra Wireless hardware and the IoT Acceleration

Platform made it easier for Nube tomeet development deadlines, create a compelling customer portal and mobile app, and start growing their customer base.