

# First WiMAX network in Indonesia making broadband Internet accessible to more people

## Case Study



### Facts

**Customer:** PT. Citra Sari Makmur ("CSM")

**Industry:** Service Provider WiMAX

**Solution:** Aptilo WiMAX CSN System™

**Spectrum:** Mobile WiMAX 16e - 2,5 GHz

**Objective:** To make broadband Internet accessible to more people by building a large-scale Mobile WiMAX 16e network beginning with Indonesia's capital city Jakarta along with Bogor, Depok, Tangerang and Bekasi. From 2010 adding coverage in Bandung, Surabaya and other major Indonesian cities, with scalability to grow the network to cover the larger part of Indonesia. CSM anticipates one million subscribers by 2012.

**Approach:** Deploy Motorola's wi4 WiMAX radio network together with Aptilo's integrated WiMAX CSN System.

**The Bottom Line:** Rapid time-to-market thanks to Aptilo's pre-integrated solution.

**Third party equipment:** Motorola DAP WAP400 access points, Motorola wi4 ASN gateways and billing system from Trabas.

**Statistics:**

- Indonesia population 234 million
- Only 194,000 broadband Internet connections (Dec 2007) i.e. 0.08%

PT. Citra Sari Makmur ("CSM") is a telecommunication services provider focusing on data communication networks that was founded in 1987 by Subagio Wirjoatmodjo.

It is currently a joint venture between PT *Tigatra Media*, *Media Trio (L) Inc*, Malaysia and *PT. Telekomunikasi Indonesia Tbk*.

The networks operated by CSM include both satellite and terrestrial media based on IP and Multiplatform switches. CSM's satellite communication network consists of various types of VSAT (Very Small Aperture Terminal) systems, while the terrestrial network consists of technologies such as Frame Relay, MPLS and Broadband Wireless



CSM rooftop Base Station 10, around Monas Tower in Jakarta

Access (WiMAX), Microwave and Optical backbone.

CSM has deployed Aptilo's Mobile WiMAX CSN System™ to enable services over CSM's Indonesian WiMAX 16e 2,5 GHz network, the first such network in commercial use in the nation. The WiMAX network, which will blanket Indonesia with broadband Internet access, utilizes Aptilo's pre-integrated service management platform for prepaid billing, access and policy control just to mention a few functions. Aptilo's system is integrated with the ASN gateway and radio equipment from Motorola and billing system from Trabas.

### Making Internet accessible to more people

The WiMAX deployments have rolled out beginning with Indonesia's capital city Jakarta, along with Bogor, Depok, Tangerang and Bekasi. Coverage in the Bandung, Surabaya, and other larger Indonesian areas will be added starting in 2010.

Indonesia's underdeveloped IT infrastructure has had a significant negative impact on broadband penetration. In December 2007, there were only 194,400<sup>1</sup> broadband Internet connections for a total population of 234 million<sup>2</sup> (0.08%).

CSM will drastically change the broadband penetration in Indonesia for the better continuing to grow their WiMAX network to cover the larger part of Indonesia. CSM anticipates one million subscribers by the year 2012.

"Providing a wireless framework such as WiMAX will make the Internet more accessible to more people," said Agus Buntaran, General Manager, Business and Network Development, CSM.

<sup>1</sup> InternetWorldStats.com

<sup>2</sup> US Census Bureau, International Database



### Flexible service bundles made possible by the Aptilo solution

Initially CSM offers residential subscribers prepaid and post-paid Internet access at speeds up to 14 Mbit/s.

The Aptilo WiMAX CSN System provides end-to-end payment functionality for prepaid subscribers. The flexibility in the system allows CSM to offer services bundles based on time or data volume as well as controlling QoS to provide different bandwidth options.

The *Aptilo Dynamic Bandwidth Throttling* feature is used to provide a service with different bandwidth depending on the accumulated download of data in the current month in relation to the monthly allowance. The bandwidth is automatically throttled down as the allowed "bucket" of data is consumed, following a scheme set by CSM through the *Aptilo Service Profiles*.

CSM also offers post-paid accounts based on data volume or unlimited data. The Aptilo system creates CDRs for the post-paid billing system from Trabas.

"CSM's WiMAX service will offer users a tiered pricing structure based on data use or minutes. Aptilo's policy management and QoS functionality will offer all users a high-speed data transfer rate suitable for Voice-over-IP (VoIP) use," commented Buntaran.

### Integrated solution for fast deployment

CSM appreciated Aptilo's integrated approach - ready to deploy - in order to achieve faster time-to-market. The fact that Aptilo already had several WiMAX field deployments, including those with Wind Telecom in the Dominican Republic and w-tribe in Jordan, confirmed to CSM that their decision was the right one.

"Aptilo's experience in large-scale WiMAX deployments, along with their integrated solution, made Aptilo the ideal choice for CSM," continued Buntaran. "This project will grow to encompass all of Indonesia, providing the entire region with WiMAX access. Aptilo's scalability and their ability to ramp up quickly as needed were also very

important to CSM in choosing a service management and access control solution."

"This is a proof that integrated solutions are attractive for service providers. Significant time and money can be saved in procurement, installation and maintenance when choosing an integrated solution, as the number of vendors with different subsystems will be reduced," said Jan Sjönell, Managing Director Asia/Middle East, Aptilo Networks. "Our customers rely on our proven track record for successful deployments, and our ability to support their growth with stable platforms that can grow quickly as needed. We are proud to be working with CSM on this important deployment."



### Seamless wireless access to the Internet

CSM wants to make the Internet experience easy and seamless for their subscribers wherever they are. Roaming with other foreign WiMAX operators will be implemented in the near future.

CSM also plans to integrate their Wi-Fi service - 3Gnet - into the Aptilo platform to enable a single sign-on for both the Wi-Fi and WiMAX service. The users should not need to care about what access network they are connected to, just login as usual.

"The Aptilo platform with its field proven interoperability and multi access (Wi-Fi & WiMAX) architecture makes it easy for us to deliver a seamless user experience to our subscribers," said Yohan Suryanto, Product Development Manager, CSM.

#### About Aptilo Networks

Aptilo Networks is the global leader in integrated management solutions for control of billing, user services and access in WiMAX™ and Wi-Fi networks. Selected by premier business partners such as Nortel, Cisco and HP, Aptilo has become the provider of choice for service providers, enterprises and municipalities in need of a rapidly deployable, scalable multi-service solution to easily manage data and voice services over these networks.

Aptilo's cost-effective solutions boast extensive pre-integrated functionality for fast and reliable time-to-market, yet are also available with unique modularity for seamless integration to external additional systems of choice. Customers can enjoy the option of a hosted delivery using Aptilo's managed service (Software-as-a-Service) from one of our many regional data centers located worldwide, or utilize a software license model. From smaller installations to large carrier networks, Aptilo's solutions have been deployed in more than 40 countries.

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