IP Multimedia Subsystem (IMS) over WiMAX

Aperto and Veraz have joined forces to deliver the first of its kind 'IMS over WiMAX' demonstration lab.

IMS over WiMAX? ▪▪

...Done!!

Wireless to the MAX

Introduction

WiMAX is gaining traction in the carrier and service provider market for its ability to provide high bandwidth transport and broadband access across wide geographical area, thus freeing operators from the challenge of laying down wires any time a new area needs to be serviced.

WiMAX provides the perfect fit for rapidly growing emerging market where operators are constrained by limited or unavailable transmission capacity required to serve new regions. In addition, operators in developed countries are realizing the advantages of deploying WiMAX access infrastructure to distribute advanced services enabled by IMS solutions.

IMS provides a blueprint that enables operators to efficiently accelerate service delivery. It promises many benefits to operators; including lower capital and operating expenses, increased average revenue per user (ARPU), faster service implementation and reduced customer churn.

A key factor to the introduction of the IMS framework has been the migration of service providers from legacy TDM voice services to IP based next generation ones. IMS expands on many of the benefit sought in the move to Voice over IP (Vo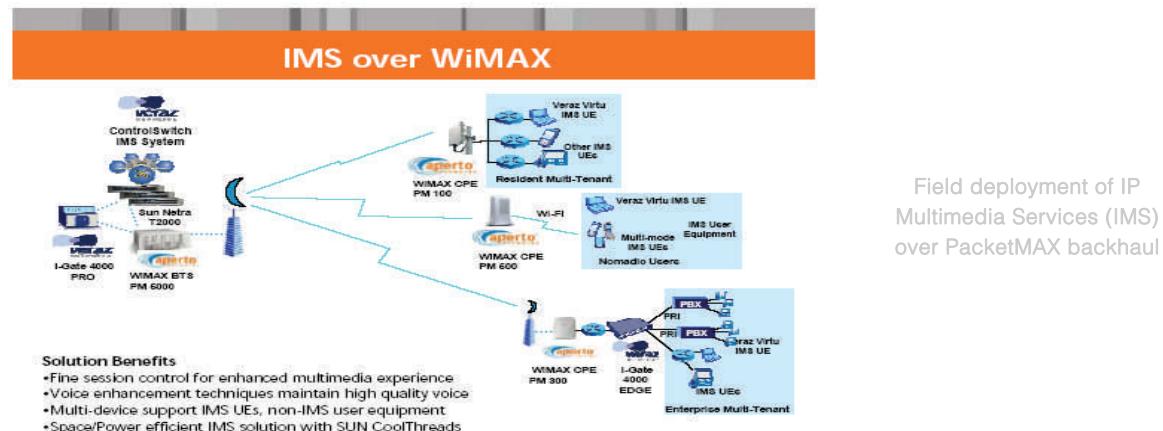IP) and soft-switch-based networks by considering services beyond voice. IMS provides an answer to the challenge of offering new value-added services with short time-to-market while addressing the convergence of wire-line and wireless networks. Consequently, operators gain added revenue streams and subscribers receive a richer service experience.

Due to the growing requirements imposed by the enhanced multimedia services on bandwidth availability and ubiquitous connectivity, access technology choice becomes a key part of each service provider's strategy. WiMAX, with its deployment ease and adaptive high bandwidth capacity, extends the reach of IMS and represents the fastest growing access technology in the market today.

Joint solution for IMS over WiMAX

Aperto's PacketMAX WiMAX platform and Veraz EdgeServices IMS switching architecture are jointly delivering an end-to-end solution to carriers desiring to offer an advanced multimedia experience to their end-users.

Aperto's PacketMAX platform enables service providers to easily deploy, scale and offer broadband wireless service via point-to-point and point-to-multipoint networks. Veraz's ControlSwitch allows the deployment of an advanced IMS

Field deployment of IP Multimedia Services (IMS) over PacketMAX backhaul

network capable of delivering rich, IP-based multimedia services to both fixed and mobile subscribers. The Veraz system is composed of approximately a dozen IMS compatible software modules that together operate on high performance SUN server and can be scaled based on the traffic. Aperto's PacketMAX platform has the most granular traffic classification in the industry and supports all WiMAX service classes. Aperto's patented QoS is tightly integrated with Veraz I-Gate 4000 Pro media gateway to provide toll-quality transmission of voice and fax traffic between the IP network and PSTN.

The resulting complete solution makes possible the deployment of flexible subscriber services, lowering network investment and operating costs. The Veraz IMS compliant softswitch, service delivery platform and media gateway product family enable the coexistence of both Aperto PacketMAX WiMAX and traditional access technology for an IMS-compliant next generation network with ubiquitous coverage. The joint solution enables service providers to migrate from traditional voice networks to all-IP fixed-mobile and multi-media networks consistent with the emerging IMS standards.

Aperto's unique adaptive QoS mechanism delivers reliable transmission of multimedia sessions on the WiMAX link while Veraz's sophisticated call/session control function (CSCF) ensures high session completion through the operator managed network, and ultimately delivers toll quality user experience.

Ready for Fixed and Mobile Convergence

Service providers are increasingly looking at service bundles and Fixed-Mobile Convergence (FMC) strategies due to increased competition and high subscriber expectations. Subscribers demand mobility and control over their communications needs, as well as innovative, rich, multimedia service mixing voice, video, and data with dependable QoS. A unified service layer is necessary to efficiently deliver FMC and by extension, All Play (voice, broadband data, wireless, and video) services.

Veraz and Aperto Solution Benefits

- Fine session control and QoS for enhanced multimedia experience
- Voice enhancement techniques maintain high quality voice
- Multi-device support: IMS devices, non-IMS user equipment
- Space / Power efficient IMS solution leveraging SUN CoolThreads
- Up to tenfold increase in voice capacity for lower cost per user
- Nomadic and Mobile – multi-access with common control
- Advanced multimedia services delivery

This enables subscribers to access their services from a variety of networks and devices.

The flexibility of the Veraz IMS solution and the easy convergence that Aperto WiMAX technology enables between fixed and mobile access represents an investment-proof path for service providers seeking solutions that can be a part of an overall planned FMC rollout.

Multi-sector and single sector base stations include advanced multi-service functions

Aperto Network's PacketMAX series
WiMAX Base Stations Include
Advanced Multi-service Functions

WiMAX Backhaul Solution for Cellular Operators

In addition to the IMS over WiMAX applications described above, service providers can also use the combined Aperto-Veraz solution for application such as mobile operator backhaul and enterprise access. In these applications, Veraz media gateway can compress voice traffic and increase the available voice capacity of WiMAX network links by up to ten times while maintaining high voice quality. This bandwidth optimization allows service providers to improve the economics of IMS over WiMAX through efficient use of WiMAX link even during initial IMS subscriber deployments.

See it to Believe it

Veraz and Aperto have joined to deliver the first of its kind IMS over WiMAX demonstration lab. The unique lab link the two companies' corporate headquarters over WiMAX Forum Certified™ PacketMAX Base Station and Subscriber Units and leverages call control and bandwidth management functions from ControlSwitch and I-Gate 4000 media gateways.

The live demonstration network is designed to handle voice calling to/from phones within the

network to virtually any live phone on the PSTN mobile networks as well as multimedia services like streaming, gaming and Internet browsing.

Conclusion

As fixed and nomadic WiMAX services ramp up and the mobile WiMAX standard grows in notoriety, operators will pursue a variety of plans for introducing the new standard into their networks. Aperto's PacketMAX architecture offers solutions to suite all WiMAX service plans - ranging from all-fixed access to all-mobile and options in between. Aperto' heritage of offering carrier class, certified WiMAX products is unmatched in the industry. PacketMAX was the first product certified to operate the fixed WiMAX standard. PacketMAX architecture is now extended to include mobile WiMAX compliant base station and subscriber components as well as roaming and mobility functions required for seamless operation within heterogeneous networks.

About Veraz Networks

Veraz is a leading global provider of IP softswitches, media gateways and digital compression products that enable voice, video and other multimedia services. For more information, visit http://www.veraznetworks.com

About Aperto Networks

Aperto Networks, a founding board member of the WiMAX Forum, develops the world's most advanced, carrier class WiMAX base stations and subscriber units. They enable carriers to profitably offer broadband services through IP-rich point-to-point and point-to-multipoint wireless networks that are easy to deploy and provide unsurpassed subscriber density, QoS, and reliability. For more information, visit http://www.apertonet.com

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