WiMAX FORUM®

NEWSLETTER
November 2011

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INTRODUCTION

Dear WiMAX Forum Members,

This November the WiMAX Forum hosted two important events. The final WiMAX Forum Member Conference of 2011 took place at the Hyatt Regency in Miami, Florida from October 31st – November 4th. The following week on November 8th, the WiMAX Forum hosted its first African event, WiMAX South Africa 2011, in conjunction with Informa Telecom & Media's 14th annual AfricaCom tradeshow.

WiMAX South Africa, the fifth and final WiMAX Forum Operator Summit event for 2001, was a major success. The event drew more than 85 attendees to discuss the opportunity for WiMAX in Africa. Attendees were treated to a full program including speakers from WiMAX operators, equipment and solutions vendors, members of the African investment community and WiMAX Forum staff.

The WiMAX Forum would like to extend a special thank you to WiMAX Forum member GreenPacket for hosting the well-attended post-event cocktail reception. The WiMAX Forum would also like to extend a thank you to the following member companies that contributed speakers to the program:

Airspan Networks	GreenPacket
Alepo Networks	ITRI
Alvarion	Nokia Siemens Networks
Aptilo Networks	Samsung Electronics
AvGemtek	Wateen Telecom

The WiMAX Forum staff is currently working on putting together a very full schedule of events for 2012, so be on the lookout for more information on the 2012 WiMAX Forum Operator Summit Series and other WiMAX Forum events in next month's newsletter!

As a reminder the WiMAX Forum is currently in the middle of its renewal season. Many of our 200+ members renew their annual membership at the end of the year, and our membership and finance teams have been working together to make certain that the next few months go smoothly for everyone.

Many of your companies should be hearing shortly from our membership team, and they will be happy to answer any questions that you have. If you have questions regarding your membership status, please send a message to **membership@wimaxforum.org**, and we will respond as quickly as possible.

We look forward to continuing to work with you in 2012.

Best Regards,

The WiMAX Forum

WORKING GROUP UPDATE

The WiMAX Forum Working Groups are the key to the development of WiMAX technology. In this monthly column the WiMAX Forum Member Newsletter will feature a Working Group through an interview with one of its representatives. This month the **Technical Working Group** will be the subject. The questions and answers in the interview will consolidate a variety of important information to keep members updated on special projects, activities and developments of each specific group. The WiMAX Forum team welcomes your feedback; please share your comments, suggestions, news and ideas by writing to alessandra.rocha@wimaxforum.org

Technical Working Group (TWG)

Technical Working Group (TWG) provides conformance and testing specifications for the air interface primarily for the purpose of interoperability and certification of mobile stations, subscriber stations and base stations conforming to the IEEE 802.16 standards. The WiMAX Forum asked TWG Chair Wonil Roh from **Samsung** for more details.

WiMAX Forum: What are the advantages of TWG connections?

Roh: Participation in the TWG provides vendors and operators with access to development and maintenance of WiMAX air interface conformance and test specifications. Participants can interact with WiMAX technologists from other vendors and operator companies, share knowledge and gain a deeper understanding of the technology and specifications. Recently the TWG extended their coverage beyond cellular operator networks to address "vertical" applications like AeroMACS.

WiMAX Forum: What is the TWG focused on at the moment?

Roh: The TWG has recently initiated a new Study Item for Heterogeneous Networks (HetNets) and is also focused on the following projects:

- **WiMAX-Advanced, 16m based development of the following specifications:**
- Conformance specifications (PICS)
- Radio Specifications
- Test specifications (MIOT)

- **Mobile WiMAX:**
- TWG is assisting CWG in arrangement of the certification process for Release B
- Feature selection to Release C (Open Retail 1c)
- AeroMACS (airport ground communication) conformance specifications
- Coordinate with RTCA/EuroCAE

WiMAX Forum: Please share with us a recent accomplishment of the TWG?

Roh: For WiMAX-Advanced the TWG has completed System Profile development. For Mobile WiMAX, the TWG has completed feature selection and test specifications for Release B (Open Retail 1b). TWG also assisted 802.16 Work Group with

identification of missing or incomplete standard specifications for support of Release B features. For "vertical" applications, TWG has started AeroMACS project for airport ground communication.

WiMAX Forum: What are the future plans for the NWG?

Roh: The TWG will continue development and maintenance of conformance and test specifications for WiMAX-Advanced and for consequent releases of Mobile WiMAX (Release B, C). The TWG will assist CWG in establishment of certification process for WiMAX Advanced and Release B. Activity of HetNets Study Group presumably will result in launch of a new project.

MEMBERSHIP SERVICES UPDATE

There are currently 211 members of the WiMAX Forum in good standing. WiMAX Forum would like to extend a special welcome to the newest members of our organization:

- **Fujitsu Toshiba Mobile Communications Limited**
- **ETSA Utilities**

There has never been a better time to be a WiMAX Forum Member. We are committed to delivering the value necessary for our members to get the most of their association with the WiMAX Forum and we are always happy to engage with individual members to discuss how WiMAX Forum can better serve its membership. If you have questions regarding your membership, please contact Mike Wolleben at **mike.wolleben@wimaxforum.org** - 512-722-6138.

The WiMAX Forum is the best place for our members to access, leverage and influence the growth and development of the WiMAX industry. So be a leader in WiMAX and step up to get involved today!

EVENTS UPDATE

In October and November, we have been very busy planning and participating in several events. On October 31-November 4, we welcomed 90 members to the WiMAX Forum Member Conference in Miami, FL. WiMAX Forum Director of Marketing Declan Byrne attended 4G World in Chicago and Smart Energy International in San Francisco – both held in October.

The WiMAX Forum upcoming endorsed industry events include:

- **Broadband Russia Forum 2011**
- **Android DevCon II in San Francisco**
- **WiGrid-Interop – Phoenix, AZ**

The WiMAX Forum 2012 Events Draft Schedule has been released. Please **CLICK HERE** for the latest version of the document.

If you have any questions regarding our upcoming events, please contact the WiMAX Forum Event Manager Julia Rueb at **Julia.Rueb@wimaxforum.org**.

GLOBAL DEPLOYMENT UPDATE

This section describes the current state of WiMAX deployments across the world. The data for this tool is delivered to us courtesy of **Informa Telecoms & Media**, and can be viewed online in more detail at www.wimaxmaps.org. Please note that the numbers below do not necessarily represent total WiMAX networks in existence, but rather the total deployments that we currently track. Every month we find more data on new or existing deployments and add them to the database. If you are an operator, please check WiMAX Maps to make sure that your organization's information is accurate. *If it is either not there or is inaccurate, please email* **deploymentdata@wimaxforum.org**, *and we will update our information immediately.*

TOTAL DEPLOYMENTS*

"Deployments" in this case refers to WiMAX networks that are either in service or planned/in deployment (i.e. base stations are being deployed, but there are few/no subscribers yet).

Total Deployments Tracked	584
Total Countries** with WiMAX Deployments	150

**Note: "Countries" in this case is representative of distinct telecommunications markets, and therefore this number may equal more than the total number of sovereign nations recognized by the UN. For example, Hong Kong and China have different regulatory structures, and are therefore treated as different markets.

DEPLOYMENTS BY REGION

REGION	DEPLOYMENTS	COUNTRIES
Africa	121	44
CALA	118	32
Asia-Pacific	99	24
Eastern Europe	83	21
Western Europe	77	18
North America (USA/Canada)	56	2
Middle East	30	9

DEPLOYMENTS BY FREQUENCY

2.3 GHz Deployments***	48
2.5 GHz Deployments***	113
3.3 GHz Deployments***	10
3.5 GHz Deployments***	309
5+ GHz Deployments***	21

*****Note: In above table total deployment by Frequency may not add up to total deployments tracked. The missing deployments' statuses are unknown, and will be confirmed and updated.*

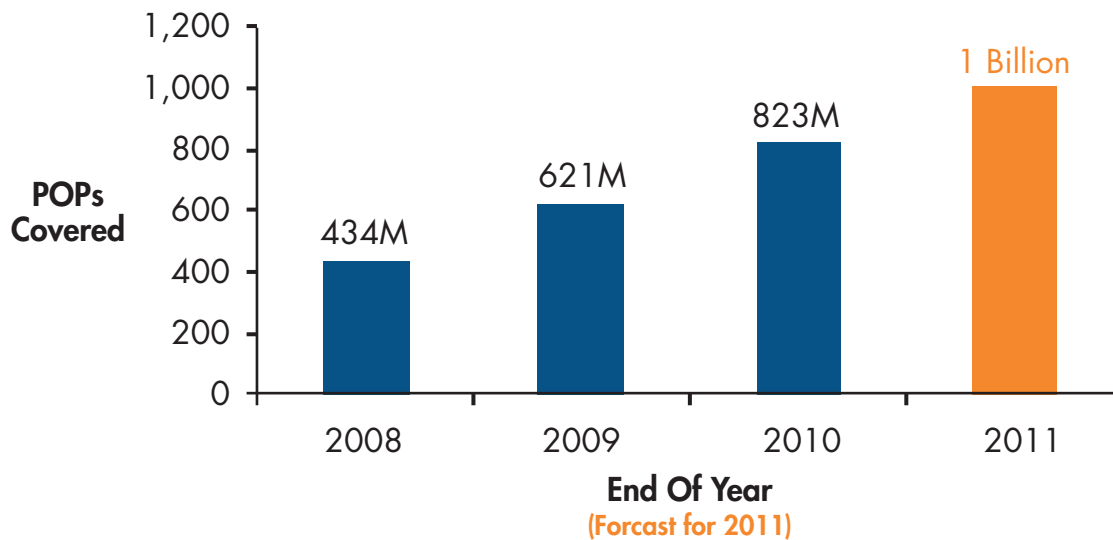For more information please visit **www.wimaxmaps.org**

POPS COVERAGE

In February, 2011, WiMAX Forum announced that as of the end of 2010, WiMAX service providers cover more than **823 Million** people. This estimate surpasses last year's forecast of 800M people, and signifies that WiMAX is still on target to reach the forecast that **by 2011 there will be over 1 Billion people across the world within WiMAX coverage**. This POPs update is a yearly project, and will be updated again at the beginning of 2012. Below is a regional breakout of the estimate:

Region	POPs Covered
Africa	87,347,832
Asia-Pacific	322,666,970
CALA	117,846,830
Eastern Europe	102,503,669
Middle East	33,509,544
North America	127,000,000
Western Europe	32,526,407
TOTAL	**823,401,252**

These numbers represent an estimate conducted by WiMAX Forum via primary and secondary research of operator POPs coverage on an operator-by-operator basis. Where the operator could not or would not respond to direct inquiry, estimates were made based on public operator statements, number of base stations, government-mandated buildout requirements, and other available information. Proprietary networks (pre-WiMAX/non-WiMAX) were not included, and geographic overlap of operator coverage areas **was** *taken into account.*

Global Population Coverage has Doubled in Past 2 Years - Forcast 1B POPs by 2011

POPs Covered

2008: 434M
2009: 621M
2010: 823M
2011: 1 Billion

End Of Year
(Forcast for 2011)

WiMAX FORUM NEWS

WiMAX Forum, in partnership with Multiview, has launched its weekly WiMAX Newsbrief. This weekly summary of news from around the WiMAX ecosystem is intended as a benefit to our members. If you do not yet receive the Newsbrief and wish to do so, please sign up here:

http://www.wimaxforum.org/wimax-forum-weekly-newsbriefs

Below is a summary of the month of November:

- PECO to implement WiMAX solution
- Delta Wave introduces the new StratosMax II Nomadic along with their unprecedented GoMax Wifi Cafe Service
- Alvarion WiMAX fine and dandy for Dandemutande
- Clients upbeat on Wibro services
- WiMAX inaugurated in Meghalaya, India
- Utande joins the 4G race. Alepo and Dimension Data working on the platform
- Vividwireless doubles data in time for Christmas
- P1 promoting right usage with right device
- Greenpacket sees momentum with WiMAX
- Lepida, Aria to bring WiMAX to region of northern Italy
- RuggedCom to play important part in Philadelphia implementation project
- Utande joins the 4G race — Alepo and Dimension Data working on the platform
- Alvarion acquires carrier-grade Wi-Fi player
- UK MPs tell mobile operators to stop delaying 4G auction
- Greenpacket signs 2 European WiMAX contracts
- State of Jalisco deploys Alvarion® BreezeMAX® for Mexico's 1st statewide educational network
- RuggedCom's WiMAX solution selected for Philadelphia implementation
- Greenpacket reports WiMAX deployments in Italy, Bulgaria
- Research: 4G technologies to reach nearly 700 million mobile users by 2015
- The operator's dilemma — 3G, 4G, 5G: What to deploy and when?
- Stratos introduces StratosMAX II Nomadic
- LocaLoop and Runcom unlock affordable 4G broadband Internet for rural markets
- Pakistan's 'gamer generation' to get WiMAX nationwide from Wateen Telecom
- NT to take broadband internet to all VDC offices
- Alvarion unveils BreezeCell indoor capacity system
- Sprint launches WiMAX supporting HTC EVO Design 4G smartphone
- Belgium confirms 5 potential bidders for 4G spectrum auction
- Airspan Networks positioned for TV White Space spectrum offering 4G solutions for specialized bands