

Mobile WiMAX powers up

Ed Agis, Senior Chair of the WiMAX Forum Certification Working Group and a member of the WiMAX Technical and Marketing Working Groups talks to Intercomms about the significance of the WiMAX Forum's Congress Asia 2008 in Singapore



Mr. Ed Agis is a Market Development Manager for the Mobility Wireless Standards and Technology Division of Intel. He is the Senior Chair of the WiMAX Forum Certification Working Group and a member of the WiMAX Technical and Marketing Working Groups. He is actively involved in the IEEE 802.16 standards body and responsible for the development of the certification testing infrastructure of the WiMAX Forum. Mr. Agis is also the WiMAX Forum Liaison to the European Telecommunications Standards Institute (ETSI).

Prior to joining the Wireless Standards and Technology Group, Ed was assigned to the Wireless Product Division (WPD) responsible for marketing programs strategy and development for the Intel wireless networking planning strategy.

Mr. Agis joined Intel in January of 2001. Prior to his current position, Mr. Agis was the Director of Marketing and Business Unit Manager for Access Products at Xircom leading the launch of numerous mobile access products. Before joining Intel, Mr. Agis also worked for Texas Instruments as the WW Product Marketing Manager for Advance Systems Solutions and PCI Bus Products. During his tenure at Texas

Instruments, Mr. Agis led the launch and market development of TI's PC Card Controller, PCI Bridge Chips and Low Voltage Logic Chips

Mr. Agis holds a Bachelors of Science Degree from the Air Force Academy, graduating Magna cum Laude in 1976 as well as a Masters of Business Administration in Management and another in Operations/Product Marketing from USC/Amber University.

Q: At Singapore you announced the first eight certified Mobile WiMAX products. What is the significance of this development?

A: We have come a long way because now we have developed the first certified devices that are being deployed in the Korea Telecom network, enabling true mobility and providing Internet connectivity with that mobile solution. What you will see over time, even with these initial solutions is the delivery of lot of Internet content via Mobile WiMAX technology, beginning with enhanced sets for subscriber stations but eventually gaming toys, cameras, PDAs and other small form factors including the use of WiMAX in notebooks.

The other thing that is really significant in this particular announcement is that we successfully completed interoperability testing with four chip sets. That is above and beyond what the initial requirement is for certification testing. That means that these vendors have successfully developed their products and implement them in accordance with the standards and tested for I protocol conformance testing, RF testing and interoperability testing. The reason that this is so important is because we are the only consortium for mobile technology that tests not just the terminals, but also the base stations. We are providing complete or pair solutions as being certified, not just one component.

Q: What else was noteworthy at Singapore?

A: What was interesting in Singapore was that we got to see a lot of the many vendors that are also working on

Mobile WiMAX devices. In the Forum we have different 'profiles'. A profile is basically an RF band, a channel band and a duplex mode. What we announced in Singapore was the first of several profiles that we will be bringing to market in the near future at 2.3MHz. The next will be 2.5GHz. The momentum is rolling. The vendors are building products to begin certification testing and you are going to see the introduction of WiMAX products over time in multiple different form factors. Based on market research, we are expecting to see over 1000 devices certified by 2012.

Q: Singapore was described as the Forum's inaugural exposition. How does it differ from previous meetings you have held?

A: This is the first Trade Show that the Forum has come out with that it is strictly WiMAX. We are not showing any other mobile technologies, just WiMAX. This has been in development for a while and our plans are to have three shows a year; one in the Asia, one in Europe and one in Latin America. Previously, we have been involved in other wireless broadband venues which touch upon WiMAX. This however is strictly WiMAX only. The show in Singapore is really our coming out party. The WiMAX Forum Asia Congress 2008 isn't put on by someone else, it's owned by the WiMAX Forum. The introduction of the first certified devices was an important event for the development of this venue. Also, the 500 members of the WiMAX forum community are who are really the ones who are behind the show, in terms of its momentum and the participation that you see coming to these shows.

Q: How is the certification process developing?

A: We have two phases to get through the certification - validation and certification. In each one of those there are lessons that are passed on to the next stage. That is done, because over time, just as you see in other technologies, we continue to add test case coverage in term of case studies that we didn't have before. The work that we went through in the validation process, where we

▶ are debugging boxes, scripts and test equipment, improves our efficiency as we get further into developing additional testing and test case coverage. It also helps us because, from time to time you may come across some ambiguity in the standard and through the validation phase we are able to identify those and get them clarified. That makes it that much easier for other vendors who are already mid-flow, in terms of implementing a solution. All that is in accordance with the standard and yet those areas that are ambiguous, have now have been clarified.

Q: Are further refinement to the certification process planned?

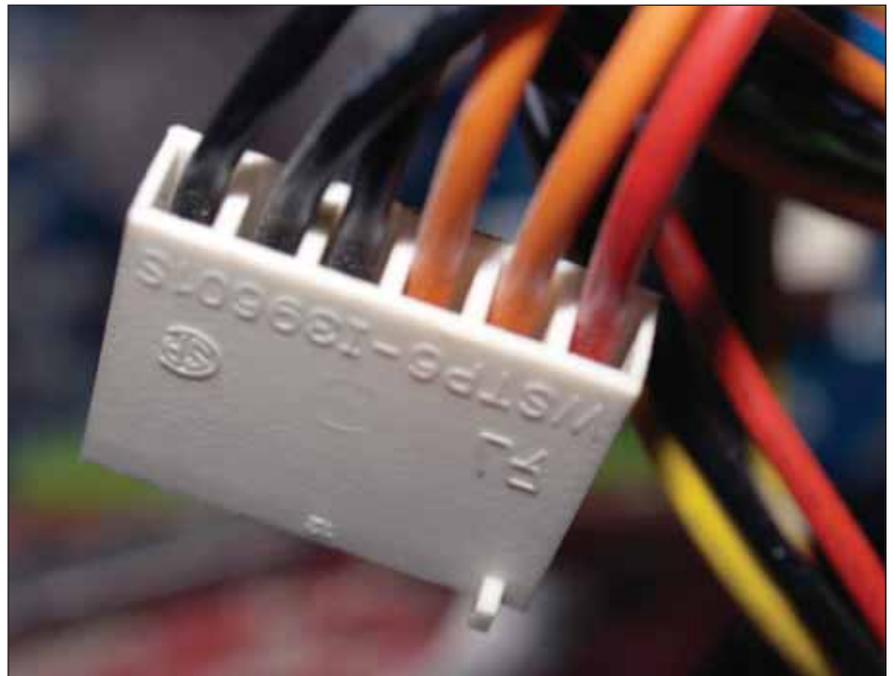
A: We expect to see greater efficiencies as we automate. Today testing is manually very intensive. Automation doesn't change the testing itself but it does improve the efficiency of the testing over time as we automate. That is pretty standard across different technologies. When they start the testing, they are really in the manual mode of testing and over time they have it fully automated and that speeds up the testing.

Q: The WiMAX Forum's current network of six labs will expand to eight by the end of 2008 with plans to open a certification lab in Brazil in 2009. Are you chasing demand or trying to anticipate it?

A: My plan is that we stay ahead of the game. I've done several analyses and our plans are really to always have the capacity ahead of the pipeline. We don't want to be in a reactive mode. We want to have the labs proactively engaged to support the vendor community as soon as they have products. We believe that demand will pick up because we are working on plans to streamline certification testing for those vendors that are going to be using pre-certified modules, so they don't have to repeat all the testing. That means you will see more products and additional traction in the use of certified modules in end products.

Q: How many products will be in the next batch of certified devices?

A: We have a queue on the next profile where we bring in a group to help us with the validation. On our next profile there are just under 20 products that we are working with. What you will see is that some equipment vendors



may also be making chipset modules. Once the chipset module is certified in that product, or if they have a reference design, the chipset module or the reference designs may be used by other OEMs to build additional WiMAX devices. This will allow you the number of WiMAX devices to be built up quicker.

Q: How is the organisation changing?

A: Back in 2003, I remember that we had six members - we now have over 500 members. Just about every day we are getting interest in the WiMAX Forum and requests to join. I don't anticipate that growth stopping, especially as we begin to introduce additional certification profiles. There will then be additional equipment providers and other equipment manufacturers who will want to develop WiMAX devices. Even in our plenary meetings, where all the work groups and all the members of the WiMAX Forum get together about three times a year, our attendance continues to climb. We had over 600 participants at the last venue that was held in Kona, Hawaii. The next will be held in Greece.

We are seeing more service providers and more operators join the Forum. Part of that is because they are interested in the technology. They want to know what the

technology can do for them, because there is definitely a cost benefit analysis when you deploy WiMAX into a network. WiMAX technology is much more cost effective and we believe that cost will continue to come down as we see additional products or we gain more traction into devices that are brought out to market. We are based on an open standard. It isn't proprietary. It is all based on an open standard in terms of the technology that is being developed and deployed into networks.

Q: What is WiMAX actually bringing to the public in terms of services?

A: Considerable capability via the internet in terms of what you are going to see with WiMAX technology support with regard to video on demand. Operators will be providing content via WiMAX to handsets. This represents additional revenue streams in terms of the operators maintaining their customers and bringing on additional services via WiMAX technology.

For more information visit:

WiMAX website at www.wimaxforum.org