

ExchangeAsia

Volume 16 Issue 14

ISSN 1320 – 2669

20 April 2008

China

Cisco announces major initiatives in China

Cisco has announced the next phase of its corporate strategy for China that, it says, fulfil its commitment to a \$US16 billion multi-year innovation and sustainability initiative first announced in November 2007.

Cisco sets up joint R&D with Peking University

Cisco has announced a collaboration with Peking University to establish the Guanghua Cisco Leadership Institute in China.

Ericsson scores \$US1.3b GSM expansion deal

Ericsson has signed GSM expansion framework agreements with China Mobile and China Unicom, valued at about \$US1.3 billion and \$US140 million respectively.

Singapore

IDA launches new security masterplan

The Singapore Government has launched a new \$S70 million Infocomm Security Masterplan that, it says, will see the public, private and people sectors work together towards combating emerging cyber threats over the next five years.

Singapore to get full mobile number portability on 13 June

Full mobile number portability will be available in Singapore from 13 June, replacing the current system which uses call-forwarding to a customers' new number.

SingTel offers managed IP VPN across other carriers' networks

India

TRAI recommends mobile number portability by June 2009

The Telecom Regulatory Authority of India (TRAI) has recommended a nationwide deadline of June 2009 for the implementation of mobile number portability.

YOU Telecom to roll out DOCSIS 2.0 in 11 cities

Japan

NTT DoCoMo unveils new logo

NTT DoCoMo and its eight regional subsidiaries have unveiled a new corporate logo and other re-branding elements that will be introduced beginning July 1.

South Korea

SK Telecom invests in UWB chip maker Alereon

Pan Asia

AOL Launches in Taiwan & Hong Kong

Australia-Japan cable upgrade complete

Verizon Business upgrades Enterprise Mobility

Technology

Telco heavyweights agree to limit LTE IPR costs

First mobile WiMAX certification not what it seems

China

Cisco announces major initiatives in China

Cisco has announced the next phase of its corporate strategy for China, marked by new public-private collaborative programs that, it says, fulfil its commitment to a \$US16 billion multi-year innovation and sustainability initiative first announced in November 2007.

The plan includes research and development, education, procurement, investment and training. The latest initiatives, announced by Cisco chairman and CEO John Chambers at a press conference in Beijing, include:

- A Memorandum of Understanding with China's National Development and Reform Commission (NDRC) with a focus on next-generation Internet and green research and development programs, leadership training, best practice sharing and business development investments;
- A Memorandum of Understanding with China's Ministry of Commerce (MOFCOM), aimed at furthering Cisco's commitment to technology innovation and providing assistance to Chinese businesses in the development of information technology and business process outsource capabilities in China;
- Strategic Cooperation with Peking University to create the 'Guanghua Cisco Leadership Institute' for leadership development (see below)
- The establishment of the 'Cisco China Strategy Board', a cross-functional executive board of senior leaders across Cisco's global business, to evolve and drive the vision and strategy for Cisco in China;
- The appointment of Jim Sherriff, Cisco senior vice president of global operations, to a newly formed position of chairman, Cisco China.

"The next stage of our strategy for China reflects the country's importance to Cisco's global growth strategy and to our long-term business model, built upon next-generation innovation in collaboration and Web 2.0 technologies," said Chambers. "Cisco's public-private collaboration within China not only helps accelerate these business efforts, but also helps the 1.3 billion people and growing number of entrepreneurs within the country gain access to social and economic opportunities afforded by the Internet."

The memorandum between Cisco and NDRC aims to broaden and deepen cooperation in the areas of manufacturing and service outsourcing, next-generation Internet, venture investment, training and development, as well as environmentally focused research and development including energy efficiency, emission reduction and network-based green urban development.

Under the memorandum with MOFCOM, Cisco will work with the ministry to help implement the Thousand-Hundred-Ten Project for China's business process operations industry. Through this program, Cisco will provide training to improve the skills of employees of China's business process operations companies.

The Cisco China Strategy Board was launched in early 2008 and is overseen by Chambers. It will have oversight of Cisco's multi-year initiative in China and will further opportunities in public-private collaboration for social and economic development. It will be responsible for Cisco's China business operations strategy, as well as small to medium-sized business and consumer IT market development programs.

Sherriff and executive vice president of global operations, Randy Pond, will co-chair the Cisco China Strategy Board, which also includes Owen Chan, president of Cisco Asia Pacific and Thomas Lam, president of Cisco China.

"One of the key drivers of Cisco's differentiated strategy is our ability to capture market transitions. China is very clearly a market in a dynamic state of transition. As we continue to evolve our innovation, education and sustainability programs within China, we are also focused on our goal of making China one of the company's top three world markets in the next five years," said Chambers.

Cisco employs more than 3,000 staff in sales, customer support and service, research and development, business process outsourcing, IT outsourcing in China. It has 12 offices, a major R&D facility in Shanghai, Scientific Atlanta R&D and manufacturing facilities and several development centres supporting WebEx, which Cisco acquired in March 2007.

Cisco sets up joint R&D with Peking University

Cisco has announced a collaboration with Peking University to establish the Guanghua Cisco Leadership Institute in China.

According to Cisco, the collaboration is a component of its multi-year innovation and sustainability initiative in China and is designed to create tailor-made Chinese research and executive development programs based on a curriculum of collaboration, innovation and globalisation, fostering leadership for the Chinese globalisation experience.

Cisco will invest \$US20 million over the next three to five years and the joint initiative will focus on four program areas, including:

- Research: Establishment of a research chair for the development of thought-leadership insights and the creation of case studies outlining opportunities and best practices for leadership and competitiveness in the globalisation era;
- Executive Training and Action Learning: Education programs focused on collaboration, innovation and globalisation enabled by networking technology as the cornerstones of world-class 21st-century enterprises;
- Seminars and Forums: Theme-based summits and events serving as venues for the creation of business development concepts and opportunities, showcasing industry luminaries and business leaders' discussions of key business issues in China;
- Web 2.0 Technology: Education programs focused on the role and value of information and communications technology (ICT) including unified communications, Web 2.0 and Cisco TelePresence as key enablers and competitive differentiators for government and global enterprise leaders in the 21st century, and the provision of these technologies to Peking University .

Ericsson scores \$US1.3b GSM expansion deal

Ericsson has signed GSM expansion framework agreements with China's two largest mobile operators, China Mobile and China Unicom, valued at about \$US1.3 billion and \$US140 million respectively.

China Mobile and China Unicom together provide mobile services to about 550 million subscribers in China. According to Ericsson, the expansion projects will allow both operators to boost their network capacity and performance, creating new revenue streams from enriched data services and offering an enhanced user experience.

Under the framework agreement with China Mobile, Ericsson will be one of the main suppliers of core and radio network equipment, along with related technical support and services, to expand GSM/GPRS coverage and capacity in 19 regions across China. Ericsson will also provide power-saving features that, it says, will significantly

reduce energy consumption in mobile networks and contribute to reducing carbon-dioxide emissions. This follows the "Green Action Program", a strategic cooperation memorandum previously signed between the two parties.

Under the agreement with China Unicom, Ericsson will be the main supplier and help expand GSM networks in 10 regions across China, including Beijing where Ericsson has previously not been a supplier. Ericsson will also supply multimedia solutions for WAP services to help provide attractive new multimedia services and applications. The expansion projects are set to be completed in 2008.

Singapore

IDA launches new security masterplan

The Singapore Government has launched a new \$S70 million Infocomm Security Masterplan that, it says, will see the public, private and people sectors work even more closely together towards combating emerging cyber threats over the next five years.

The Infocomm Security Masterplan 2 (MP2) was announced by Dr Vivian Balakrishnan, minister for community development, youth and sports at the annual Infocomm Security Seminar, organised by the Infocomm Development Authority of Singapore (IDA) and the Ministry of Finance.

Dr Balakrishnan said: "While the first Masterplan1 aimed largely at providing the public sector with measures to counter infocomm security threats, the second Masterplan will expand on that and engage both the public and private sectors even more deeply in securing Singapore's cyber space."

MP2 was developed through a multi-agency effort led by the IDA under the guidance of the National Infocomm Security Committee. It outlines four strategies to protect Singapore's national infocomm infrastructure and services, namely: hardening national infocomm infrastructure and services; enhancing infocomm security competencies; cultivating a vibrant infocomm security ecosystem; and increasing international collaboration.

Under MP2, the Government, in close partnership with the industry, is rolling out new programmes to enhance the nation's security competencies and infrastructure resilience over the next five years. The Association of Information Security Professionals (AISP) has been formed by the IDA, together with Government agencies and industry partners. It aims to transform infocomm security into a distinguished profession and elevate the standing, professionalism and trust accorded to infocomm security professionals.

Through the AISP, which is a first in Asia, Singapore hopes to build a critical pool of competent infocomm security professionals who subscribe to the highest standard. To date, more than 120 members have come on board the AISP and a total of 900 members is expected by 2011.

To build a pipeline of infocomm security talent, the IDA has expanded its National Infocomm Scholarship Programme to offer scholarships in infocomm security. The IDA, together with infocomm companies, will offer up to 20 scholarships in infocomm security over the next five years.

The Government and the industry have come together to form the Cyber Security Awareness Alliance, which seeks to raise awareness and adoption of cyber security measures among individuals and businesses through educational workshops, seminars and collaterals.

To better tackle cyber threats, MP2 will seek to further enhance the resilience of Singapore's national infocomm infrastructure and services. This includes cyber

security exercises, where Government agencies and the private sector will participate in crisis scenarios. Such exercises will test the nation's ability to respond and recover from cyber attacks that cause widespread disruptions.

The Government will work with critical infrastructure owners in both public and private sectors to assess and develop customised solutions that meet each sector's unique security requirements. This initiative, led by the IDA, will commence with the Government, infocomm and energy sectors since they support the vital operations of many other key sectors here.

Beyond local efforts, the Government will continue to exchange information and explore collaborations with other governments to combat cyber threats and foster close working relations. Singapore will host Meridian 2008, a key infocomm security conference in October this year. Meridian is a platform for governments around the world to gather and exchange ideas and best practices in the protection of critical infocomm infrastructures.

Singapore to get full mobile number portability on 13 June ***Full mobile number portability will be available in Singapore from 13 June, replacing the current system which uses call-forwarding to a customers' new number.***

Full mobile number portability will allow anyone who wishes to keep their current number when they switch mobile operator to do so by the next working day. That number will continue to appear when the user makes a call or sends an SMS or MMS. Full portability will also be available to prepaid customers.

IDA deputy chief executive and director-general (Telecoms) Leong Keng Thai said: "Full mobile number portability is expected to bring about a sea-change in Singapore's mobile market. Consumers will be empowered with greater flexibility to choose from the offerings from mobile operators. This in turn intensifies competition and pushes the operators to work harder to attract and retain their customers. As we can expect to see more competitive pricing or better value-for-money mobile service deals, even those who choose to remain with their current mobile operator should benefit. We can expect even more exciting times ahead for our mobile market with Full Mobile Number Portability, and consumers will be the biggest winners."

Full MNP is also expected to open the doors to new business opportunities for non-traditional telecommunication service providers like wireless broadband providers and VoIP providers. Its centralised database infrastructure will be well-placed to facilitate the entry of new players and evolution of new capabilities and services in today's converged voice and data space.

There are about 130,000 mobile subscribers who have ported their numbers under the current call-forwarding solution. They will be migrated to the new system from 22 April 2008 and this migration will be completed by 13 June 2008.

SingTel offers managed IP VPN across other carriers' networks

SingTel has launched its Global Delivery Platform (GDP) claiming it to be the first managed IP VPN platform in the world to provide full end-to-end network performance monitoring for corporate data services across multiple partners' networks.

"With GDP, customers can now have comprehensive network performance assurances and faster fault restoration," SingTel says. "In addition, they enjoy convenient round-the-clock access to real-time network performance statistics via an online portal provided by SingTel."

The service is delivered over SingTel's ConnectPlus IP VPN network's interconnections with more than fifteen IP VPN service providers around the globe. SingTel says GDP

coverage will be progressively extended to include more cities globally, especially to hard-to-reach Asian locations.

Bill Chang, SingTel's executive vice president of business, said: "This is a significant milestone in SingTel's efforts to build a global IP VPN solution with a key focus in Asia...The ability to monitor the performance of the entire network, including our partners' infrastructure, is a breakthrough. And this is possible through our close relationships with strategic partners worldwide."

Chang claimed that "Most service providers today deploy IP nodes only in a few 'gateway cities' in a country and do not provide network visibility beyond these locations. SingTel GDP provides in-depth access like never before with coverage that includes lesser known cities."

India

TRAI recommends mobile number portability by June 2009

The Telecom Regulatory Authority of India (TRAI) has recommended a nationwide deadline of June 2009 for the implementation of mobile number portability.

The recommendation, in a letter to the department of telecommunications (DoT) secretary Siddhartha Behura, comes after DoT indicated last November that the facility would be available in the metropolitan cities by December 2008. The new deadline applies to the whole of India.

TRAI has also suggested the creation of a Mobile Number Portability Clearing House Administrator which will be entrusted with the task of controlling and managing mobile number portability. It has requested DoT to issue a licence to a neutral party to set up such an administrator. It will be funded by charging service providers for the porting of numbers.

'There will be 'break-before-make' arrangement for completion of porting process, but the TRAI says this should be less than two hours.

Surveys indicate that as many as half of India's 250 million-odd mobile phone users are unhappy with their service providers and willing to switch operators if allowed to retain their existing numbers.

YOU Telecom to roll out DOCSIS 2.0 in 11 cities

Datacraft has won a project worth over \$US1 million from Citigroup-owned YOU Telecom to implement and support a cable modem rollout in 11 cities.

YOU Telecom has deployed Cisco's cable modem technology and is upgrading to DOCSIS 2.0 compliance to enable its expansion plans. According to Datacraft, the DOCSIS 2 cable modem solution will enable YOU Telecom to offer its subscribers more bandwidth particularly during peak traffic hours, more personalisation and triple play services (data, voice, and video) to support the increased demand for new applications.

Datacraft will install the system and maintain and support YOU Telecom's network over a three-year period. YOU Telecom has also signed up for Uptime powered by Cisco Services and will benefit from Cisco's technology expertise and problem escalation to the Cisco Technical Assistance Centre.

YOU Telecom is one of India's largest private cable broadband players. It is owned by Citigroup Venture Capital International. It operates more than 1,000 km of fibre optic networks and offers video, data and voice services across 12 cities in India: Mumbai, Chennai, Hyderabad, Bangalore, Pune, Surat, Ahmedabad, Baroda, Rajkot, Gurgaon, Navi Mumbai and Vizag. It has more than 175,000 registered subscribers. The

company is also one of India's first ISO 9001:2000 certified companies in the dedicated broadband business.

Japan

NTT DoCoMo unveils new logo

NTT DoCoMo and its eight regional subsidiaries have unveiled the new DoCoMo corporate logo and other re-branding elements that will be introduced beginning July 1.

The new logo's colour is red, which, NTT DoCoMo says, "symbolises the company's energy and dynamism...[and] along with other branding elements, embodies DoCoMo's commitment to achieve customer satisfaction by understanding the needs of customers and building stronger relationships with them, and to maximise the creativity of the company's workforce and remain a leading innovator in the mobile communications industry."



The logo and new brand slogan - Unlimited Potential, in Your Hand - also "express DoCoMo's commitment to offer high-quality, value-added mobile services and technologies that enhance human relationships and lifestyles."

The changes are the result of DoCoMo's review of its branding and related marketing strategies after establishing the Corporate Branding Division in August 2007.

South Korea

SK Telecom invests in UWB chip maker Alereon

Ultra Wideband (UWB) chip maker, Alereon has received a \$US3 million investment from SK Telecom.

The move follows Samsung Ventures' investment in Alereon in the fourth quarter of 2006. Eric Broockman, CEO of Alereon, said: "I believe this commitment from SK Telecom is strong evidence that our technology, along with our ability to bring added value to our strategic partners, is capturing the attention of even the most demanding investors."

Alereon's AL5000 family chipset – the AL5100 RF transceiver and the AL5300 baseband processor plus media access controller - is claimed to be the only certified USB chipset that meets frequency spectrum requirements worldwide, including the upper band groups required in Korea, Japan and China.

According to Alereon, SK Telecom intends to use UWB technology as a standardised method of providing high-speed mobile phone services to customers, expanding their options for entertainment content delivery to their mobile devices. "Users will be able to seamlessly communicate directly with other mobile users, with kiosks and with their own entertainment devices enjoying the benefits of having their content wherever they want, whenever they want," Alereon says.

"This investment is consistent with our vision that UWB and Wireless USB will be important in mobile and consumer electronic products with significant volume production," said an investment manager at SK Telecom. "SK Telecom has conducted an in-depth analysis of many UWB companies and chose to invest in Alereon as they represent the ideal balance of leading products and product plans to address many of our future implementations of wireless USB and UWB in mobile handsets, especially in Korea and China."

Broockman concluded, "In addition to the initial investment, we believe we are well prepared to collaborate with SK Telecom for their specific application needs. We look forward to engaging with SK Telecom to develop UWB-related products for mobile applications in Korea and China."

Pan Asia

AOL Launches in Taiwan & Hong Kong

AOL has announced the beta launch of a dedicated Web destination serving Taiwan, <http://www.aol.tw> and one for Hong Kong at <http://www.aol.hk>

Both sites offer AOL's suite of communications products – including free e-mail and instant messaging – with "industry-leading safety features" and localised content in Chinese. AOL says it will continue to add new content and features over the coming months. It is developing a series of partnerships with creators of content in the region including udn.com (United Daily News) and Phoenix New Media. AOL will also draw upon its worldwide distribution partnership with HP to deliver a co-branded local language portal and search solution for HP users in Taiwan and Hong Kong.

According to Norman Koo, AOL's VP and general manager for Greater China, the new sites are only the beginning of an ongoing effort to provide consumers in Taiwan and Hong Kong with the services and content they want. AOL says that, as part of its international growth plans, it has launched 18 portals and plans to expand to 30 countries by the end of 2008.

Free content and services available on AOL include: AOL's e-mail service with spam blocking, virus protection and 'unlimited' storage integrated with AIM (AOL Instant Messenger); channels featuring locally relevant news, entertainment and finance; regional and local information from partnerships with udn.com, Phoenix New Media and others; a technology channel featuring news and commentary from chinese.engadget.com; global news, entertainment and finance feeds, creating an interactive experience on the AOL Taiwan portal.

● AOL acquires contextual search specialist Sphere Source

AOL has acquired Sphere Source, a provider of contextual-search tools which offers related content to publishers. Sphere will operate as a wholly owned subsidiary of AOL as part of the company's programming division.

Sphere, based in San Francisco, was founded in 2005. It uses its contextual-search platform technology to make connections between content from blogs, video, media, photos and advertisements. These contextual results are then displayed in a pop-over window or an integrated widget that lets publishers enhance articles by incorporating related articles and blog posts from archived content and across the Web.

Sphere's third-party network includes more than 50,000 content publishers and blogs and is live on an average of more than 2 billion article pages across the web every month¹.

Prior to the acquisition, AOL partnered with Sphere to offer its widget technology on AOL News, <http://news.aol.com>, and the myAOL service, Mgnnet, <http://mgnet.aol.com>.

"Our focus at AOL is providing consumers relevant content wherever they are on the Web, and Sphere's capabilities fit in perfectly with this effort. Not only will it let us enhance content on our own sites, it will let us distribute our content across Sphere's growing third-party publisher network," said Ron Grant, President and COO of AOL. "In addition, this acquisition provides AOL with access to advertising inventory across Sphere's network, while growing its reach to content publishers via the widget."

Australia-Japan cable upgrade complete

Australia-Japan Cable has completed its capacity upgrade announced in May 2007, taking total capacity on its system to 240Gbps.

The system was built with an initial capacity of 80Gbps but is upgradeable to 1Tbps. When AJC announced plans for the upgrade it said at the time that the upgrade would cost between \$US20m and \$US30m. An initial 80Gbps of the additional capacity became available in December.

The AJC network extends from Sydney to Japan via Guam and connects with more than a dozen other international networks in Guam and Japan. CEO, Robin Russell, said the upgrade had included "installation of 10Gbps wavelength equipment plus the latest generation SDH transmission equipment at each of the AJC cable stations as well as improved network management capabilities." He added that the upgrade had not required any change to submarine elements such as the cable or repeaters."

The latest announcement of the upgrade follows Southern Cross announcing earlier this month plans to add 130Gbps on each of its two routes to the USA. Plans for the upgrade were announced in August 2007. According to director of sales and marketing Ross Pfeffer, "when completed later this year the current upgrade will take our total installed capacity to 860Gbps."

Verizon Business upgrades Enterprise Mobility

Verizon Business has upgraded its Enterprise Mobility service with flat-rate and usage-based pricing plans for its individual and combined Global Dial and Wi-Fi services in Asia-Pacific and Canada.

Customers can adapt their price plans as required, with automatic billing adjustments in local currency. New reporting tools enable the customers to keep track of usage patterns and optimise management of their services, according to Verizon Business.

Verizon Business claims more than three million users of its enterprise mobility services, a service designed to reduce the administrative costs associated with extending corporate network access to on-the-go workers. The service includes end-user client software that is centrally administered and ensures all communications to the corporate network comply with customer's security policies. Verizon Enterprise Mobility also integrates seamlessly with Verizon Private IP for network-based remote access to a Verizon-provided MPLS network.

Technology

Telco heavyweights agree to limit LTE IPR costs

The Long Term Evolution of cellular technology - which promises wireless broadband access in the 100Mbps range and above - has taken a significant step forward with seven major global telco vendors signing up to an agreement that will limit intellectual property licensing fees.

The agreement should also avoid the costly and protracted IPR litigation that has bedevilled other technologies in recent years. The seven vendors: Alcatel-Lucent, Ericsson, NEC, NextWave Wireless, Nokia, Nokia Siemens Networks and Sony Ericsson say they have committed to "a framework for establishing predictable and more transparent maximum aggregate costs for licensing intellectual property rights that relate to 3GPP Long Term Evolution and Service Architecture Evolution standards (LTE/SAE)." They have invited other holders of relevant IPR to join this initiative - one conspicuous by its absence from this initial partnership is Qualcomm.

The framework is based on the principle of fair, reasonable and non-discriminatory (FRAND) licensing terms for essential patents. This means that the companies agree, subject to reciprocity, to reasonable, maximum aggregate royalty rates based on the value added by the technology in the end product and to flexible licensing arrangements according to the licensors' proportional share of all standard essential IPR for the relevant product category.

Specifically they are proposing a single-digit percentage of the sales price as being "a reasonable maximum aggregate royalty level for LTE essential IPR in handsets." For notebooks, with embedded LTE capabilities, the companies support a single-digit dollar amount as the maximum aggregate royalty. The parties believe the market will drive the LTE licensing regime to be in accordance with these principles and aggregate royalty levels.

● **Reduced royalty rates for 3G IPR**

Also this week, 3G Licensing Limited, the licensing administrator of the WCDMA patent licensing programme has published new royalty rates under a renewed Joint License Agreement for Terminals (JLAV4.0) for 2009-2013. A royalty of between \$US1.00 and \$US2.00 for each WCDMA terminal product for new licensees and a royalty of \$US1.00 for licensees that have been licensed for two years or more has been agreed by PlatformWCDMA Limited.

According to 3G Licensing, "The new rates represent a reduction over the current license offer whilst at the same time offering a larger essential patent portfolio with more patent owners. There are fidelity discounts triggering royalty reductions after one year and two years."

3G Licensing Limited is responsible for the commercialisation worldwide of W-CDMA standards defined by 3GPP. It is based in the UK. PlatformWCDMA was established in September 2003 to govern the W-CDMA patent licensing programme. Its prime role is to establish the licensing terms and conditions of the W-CDMA patent licensing programme. Day-to-day operations of the programme are assigned to 3G Licensing.

PlatformWCDMA director and chairman, Hisashi Kato, commented "As recent 3G mobile terminals are increasingly developing in embedding music, moving pictures and even broadcast features in addition to voice communication, terminal manufacturers must comply with various standards, not merely WCDMA, but also video, speech, broadcast, and others. The royalties payable to numerous patentees under these standards are expensively accumulating so that the competition in this market is intensifying to meet the demand of multi-functionalities of WCDMA terminals while manufacturers have to bear accumulative royalties. This reduced royalty scheme is believed to provide a truly satisfactory solution for the mobile terminal industries suffering from the aforementioned dilemma"

First mobile WiMAX certification not what it seems

The WiMAX Forum last week announced the first certification of mobile WiMAX products, almost 18 months later than originally scheduled: and they are limited to WiBro, the Korean variant of WiMAX.

Commenting on the announcement, Ovum analyst, Julien Grivolos, said: "If certification is expected to boost the market for global mobile WiMAX the impact of this first wave of certified products is likely to be limited...This certification announcement does not concern the mobile WiMAX that all operators and vendors with interest in 16e are marketing. Even if WiBro is now a profile of mobile WiMAX (using an 8.75MHz channel in the 2.3GHz band), it would still be fairer to speak about the first certified WiBro products than the first Mobile WiMAX certified products. This is especially true because mobile WiMAX is mostly associated with the benefits of

the Wave 2 version, meaning support of advanced features such as full mobility or MIMO / smart antenna techniques."

According to Grivolos, "most of the current mobile WiMAX projects are in the 2.5GHz band and are based on Wave 2 features, including the major projects announced by Sprint-Nextel in the US and UQ Communications (KDDI's consortium) in Japan. The certification of 2.5GHz Wave 2 Mobile WiMAX products is expected before the end of 2008 and will have a far more significant impact on the market. Sprint Nextel's suppliers (Motorola, Samsung and NSN) are expected to be among the first vendors to achieve certification in this round of certification, but they certainly won't be alone. We expect that other Mobile WiMAX infrastructure vendors such as Alcatel-Lucent, Nortel, Alvarion and Fujitsu/Airspan will also be among the first."

Following 2.5GHz certification, the next step will be the certification of Mobile WiMAX products operating in the 3.5GHz band.

Coming soon: Bluetooth devices with 10 year battery life

UK-based chip maker CSR has demonstrated the first ultra-low power bluetooth chip.

The technology, previously known as Wibree, promises to enable wireless data communications from small devices powered by button sized batteries typically used in wrist watches with standby battery life of up to ten years.

}Because of its low power requirements, ULP Bluetooth is set to significantly broaden the applications for Bluetooth. It has been developed for small devices that need to send short data bursts intermittently. According to CSR, its ULP Bluetooth silicon consumes 10 times less power than standard Bluetooth on standby and transfers data packets 50-times faster than standard Bluetooth, so is able to transfer the same amount of data as standard bluetooth using only one fiftieth of the electrical energy. Its demonstration ICs support both standard Bluetooth (v.2.1) and ULP Bluetooth.

According to CSR, to connect devices in standard Bluetooth, the master device has to synchronise to a slave device by paging a specific device using up to 32 frequencies, it then issues FHS (frequency hopping spectrum) packets, then it polls the slave before negotiating connections at both the link manager and L2CAP layers – all of this essential connection process takes place before actually sending data.

CSR says that, while this overhead is essential for standard Bluetooth carrying more complex data protocols, it does slow down the connection. When ULP Bluetooth is used, in a wireless heart rate monitor for example, the monitor simply 'advertises' itself to the control/reader using just three frequencies. It then connects, sends its very short burst of data and then switches off again. This allows ULP Bluetooth to achieve data transfer 50-times faster than standard Bluetooth; less time spent transferring data means the ULP radio spends less time active and battery life is prolonged.

The technology was previously known as Wibree. The Bluetooth Special Interest Group and the Wibree Forum announced in June 2007 that the Wibree technology, then still under development would become a low power version of bluetooth.

The move ended a curious phase in Bluetooth's history, in which the unanswered question was why development the functionality provided by Wibree had not been undertaken within Bluetooth in the first place, as several Wibree backers, such a Nokia, had been early players in and continued to be active in Bluetooth developments. The need for a low power version of Bluetooth, suitable for small devices like watches powered by 'button' batteries, had been evident for some time.