

PRESS BACKGROUND

HSPA, LTE AND BEYOND – DELIVERING RICH COMMUNICATION, CONNECTIVITY AND ENTERTAINMENT OVER TRUE MOBILE BROADBAND

The online multimedia world made possible by broadband has changed people's perceptions of data speeds and network service quality. Regardless of where they are, consumers no longer accept slow speeds on their laptops and mobile devices, as they send and receive corporate email, music or video clips. From the network operator and service provider perspective, speed isn't the only issue – more network capacity is needed to handle the growth in mobile traffic from both business and private users.

To address these issues, Ericsson has led the development of High Speed Packet Access (HSPA), a standardized evolution of Wideband Code Division Multiple Access (WCDMA), the world's leading third generation mobile standard. Ericsson is also at the forefront of Long Term Evolution (LTE) of 3G networks, which will deliver even higher broadband speeds.

With current download speeds up to 21Mbps and upload speeds of 5.8Mbps, HSPA offers users fixed broadband speeds from their notebooks and other devices anywhere there is coverage. People can experience a rich combination of voice, text, audio, photo and video content wherever they go. The coming years will see these data rates increase substantially, and operators will be able to more than double their system capacity and reduce latency delays for interactive services.

With reduced delay, users will enjoy shorter response times for interactive applications such as mobile office, and fast Internet access for gaming and audio and video downloads. Additionally, the faster uplink will improve user experience of mobile broadband services such as video conferencing, uploading user-generated content and sending e-mail with attachments.

For users, such capabilities mean a simpler, but enhanced, mobile experience. They help bring people closer together and give them more flexibility and control over their daily working and private lives. They also begin to realize the potential for mobile vertical applications in areas such as healthcare, public safety, travel and transport, utilities and manufacturing.

HSPA going strong

HSPA is already a huge success. There are already more than 240 commercially deployed HSPA networks, serving subscribers in over 110 countries worldwide (January 2009). What's more, a burgeoning ecosystem of mobile broadband devices and services has emerged around the technology. For example, there are over 1250 HSPA-enabled devices launched on the market – including phones, notebooks, PC modems and wireless routers.

Out of the estimated 3.4 billion people who will have broadband by 2014, more than 80% will be mobile broadband subscribers, and of those, 80% will use HSPA/LTE. By 2011 at least half of all sold notebooks will have HSPA embedded modules.

Experience from several countries has shown that adoption rates soar as soon as mobile broadband is available below a US\$30 price point for unlimited monthly usage.

Ericsson supplies Radio Access network equipment to close to half of all operators, which have commercially launched HSPA to date. Consistent with Ericsson's tradition of supplying future-proof products based on cutting-edge technology, Ericsson's upgrade to HSPA was done with only a software upgrade of its existing WCDMA radio base stations (RBSs).

HSPA provides mobile broadband capacity and coverage using the same resources in the base stations that are also used for voice and other services. This enables operators to provide simultaneous voice, video and data services and shared channel high-speed data services (multi-services) over the same carrier – thanks to two- to three-fold increase in system data capacity.

The next phase of the HSPA Evolution will bring end-user data rates up to 28Mbps in the downlink. This is made possible through the transmission of multiple parallel data streams to a single terminal using a technique called Multiple Input Multiple Output (MIMO), combined with higher-order modulation techniques.

2x2 MIMO doubles the potential downlink data rate using multiple transmit and receive channels and antennas to improve performance and throughput.

Separately, using multi-carrier technology, data rates of up to 42Mbps can be achieved on the HSPA downlink. Multi-carrier technology enables consumers to receive data simultaneously on two frequency channels. This doubles the user data rate in the coverage area of an HSPA network and on the cell edge, where consumers normally experience lower data rates.

Furthermore, on the HSPA uplink, the introduction of 16QAM will provide data rates of up to 12Mbps.

Long Term Evolution ... and beyond

The Third Generation Partnership Project (3GPP) standard initiative, LTE, improves the user experience even more. It will enhance more demanding applications like interactive TV, mobile video blogging, advanced games and professional services. In January, 2008, 3GPP confirmed that the LTE Terrestrial Radio Access Network technology specifications have been approved and are now under change control, leading to their inclusion in the forthcoming 3GPP Release 8.

LTE provides a clear evolution path to meet future demands for a system that supports different spectrum allocations. It will provide smooth migration for 2G, 3G and other radio spectrum (including TV bands) for use in future mobile communication networks. The standard is specified for data rates of at least 100Mbps in the downlink and latency below 10ms. During 2008, Ericsson demonstrated LTE at data rates of 160Mbps. Commercial roll-outs of LTE are planned to start globally during 2009.

Operators gain deployment flexibility and simplicity from LTE. It offers a choice of carrier bandwidths – from 1.4MHz to 20MHz – and supports both Frequency Division Duplex (FDD) and Time Division Duplex (TDD) access. Fifteen paired and eight unpaired spectrum bands have so far been identified by 3GPP for LTE (February 2009), and there are more to come. This means that an operator may introduce LTE in 'new' bands where it is most suitable to deploy 10MHz or 20MHz carriers, and eventually deploy LTE in all bands.

LTE radio network products will have a number of features that simplify the building and management of next-generation networks known as Self-Organizing networks. For example, features like plug-and-play, self-configuration and self-optimization will simplify and reduce the cost of network roll-out and management. The LTE radio access network will be deployed in parallel with IP-based core and transport networks that are easy to build, maintain and introduce services on.

In addition to mobile phones, many computer and consumer electronic devices, such as notebooks, ultra-portables, gaming devices and cameras, will incorporate LTE embedded modules.

Since LTE supports hand-over and roaming to existing mobile networks, all these devices can have ubiquitous mobile broadband coverage from day one.

In summary, operators can introduce LTE flexibly to match their existing network, spectrum and business objectives for mobile broadband and multimedia services.

Looking beyond LTE, the International Telecommunication Union (ITU) defines '4G' as network technology with throughput of 100Mbps for wide area/mobile use and 1Gbps for hotspot coverage to be applied in new spectrum bands with 100MHz channels. Such systems will be commercially available to meet these requirements long beyond 2010.

Notes to editors:

Ericsson's standard multimedia content is available at the broadcast room:

www.ericsson.com/broadcast_room

Ericsson is the world's leading provider of technology and services to telecom operators. The market leader in 2G and 3G mobile technologies, Ericsson supplies communications services and manages networks that serve more than 250 million subscribers. The company's portfolio comprises mobile and fixed network infrastructure, and broadband and multimedia solutions for operators, enterprises and developers. The Sony Ericsson joint venture provides consumers with feature-rich personal mobile devices.

Ericsson is advancing its vision of 'communication for all' through innovation, technology, and sustainable business solutions. Working in 175 countries, more than 70,000 employees generated revenue of USD 27 billion (SEK 209 billion) in 2008. Founded in 1876 and headquartered in Stockholm, Sweden, Ericsson is listed on OMX Nordic Exchange Stockholm and NASDAQ

For more information, visit www.ericsson.com or www.ericsson.mobi.

FOR FURTHER INFORMATION, PLEASE CONTACT

Ericsson Corporate Public & Media Relations

Phone: +46 10 719 69 92

E-mail: press.relations@ericsson.com