KDDI Chooses LTE for 3.9-Generation Mobile Communication Systems, Selects Hitachi as the Development Vendor

Bringing innovation to its mobile communication services in response to ever-increasing traffic, KDDI has chosen Long-Term Evolution (LTE) for 3.9-generation (3.9G) mobile communication systems for deployment of its next high-speed broadband mobile communication network. As the core network equipment vendor, KDDI selected Hitachi. In this role, Hitachi will work with Nortel Networks as its partner in LTE development.

LTE standard includes peak data rate of more than 100 Mbit/s and its standardization has moved forward under the 3rd Generation Partnership Project (3GPP), a standards organization for mobile communication systems. KDDI participated in the 3GPP in November 2005, and has since been active in designing and proposing technologies.

Next-generation high-speed wireless communication, known as 3.9G, enables instantaneous transmission of rich multimedia content, such as music and video, as well as the provision of video streaming applications, real-time mobile games, and online services, which demand high bandwidth and low latency. KDDI has decided to base its 3.9G network on LTE due to LTE's advantages in terms of cost, versatility, global trend, and future potential.

KDDI selected Hitachi to be a joint development vendor of core network nodes (MME, S-GW, P-GW and PCRF) defined as SAE by the 3GPP, network equipment, and O&M equipment for monitoring and control. In developing the equipment, Hitachi will collaborate with Nortel Networks to develop a Mobility Management Entity (MME) to ensure seamless handover between base stations. In addition, Hitachi will be responsible for the overall integration of the system. Technologies from Hitachi and Nortel are an excellent combination for building a large-capacity system capable of responding flexibly within the system architecture to changing traffic conditions. Compared with existing systems, the KDDI system promises greater effectiveness from a smaller installation space. Product development at Hitachi will be carried out by Hitachi Communication Technologies, Ltd., a wholly owned subsidiary that develops and manufactures communication network equipment.

KDDI plans to place the order for the commercial core network by the end of fiscal 2008. KDDI also plans to select the development vendors for base stations in 2009, and complete the development of both core network and base stations for LTE by 2010.

■ LTE Equipment Description

1. SAE (System Architecture Evolution)

An all-IP core network architecture accommodating LTE access.

2. MME (Mobility Management Entity)

A control node for mobility management, including terminal location registration, paging and handover between base stations.

3. S-GW (Serving Gateway)

A node with functionality for relaying user data to mobile terminals executing LTE access and 3G access.

4. P-GW (Packet Data Node Gateway)

A node connecting the core network to an IP multimedia subsystem (IMS) for enabling multimedia applications with IP, or to an external network such as an Internet service provider (ISP) or enterprise network.

5. PCRF (Policy and Charging Rules Function)

A node for enforcing policy control and charging rules.

6. O&M (Operation and Maintenance) Equipment

Maintenance and monitoring equipment.

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