



## **IDC foresees a role for both WiMAX and LTE**

*SingTel nominates four countries for LTE trials*

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*Mon. November 30, 2009*

Telecom subscribers can look forward to widespread and ubiquitous mobile and portable connectivity from not just a single wireless technology, but a confluence of technologies that will coexist as well as compete with each other in the next wireless evolution or the 4G era.

Global marketing intelligence firm, IDC's assistant vice-president of research, Tim Dillon, shared the company's views at NetEvents' Asia Pacific press summit last week. Touching on the use of smartphones like the iPhone, he said the dilemma of telcos in U.S. is one where users want all the capacity available while carriers are hard put squeezing bandwidth out of the existing 3G infrastructure. Early data usage of the Android and the iPhone suggests that the newer devices generate up to five times the traffic of the nearest high-end mobile phones.

### **4G designed to handle bandwidth intensive demands**

The advent of 4G, also known as International Mobile Telecommunication-Advanced (IMT-Advanced), will introduce new capabilities for wireless services to go beyond the current 30Mbps limit. Dillon said that 4G radios can provide data transmissions up to 1Gbps for short ranges up to 100 meters and up to 100 Mbps to multiple users between 1 and 10 km. The other advantages include the compatibility of services between IMT and fixed networks, worldwide roaming and capability of interworking between IMT and other access systems.

Carriers will also benefit tremendously from radio systems that can work across channels that are not contiguous. As it is becoming more and more difficult for regulators to re-farm spectrum to produce large contiguous blocks that will be needed for video streaming, mobile TV, and other high-bandwidth services, Dillon predicts the age of reconfigurable software defined radio base stations is just around the corner.

From a technology perspective, both WiMAX and its future upgrades, as well as 3G HSPA evolution and LTE will be utilizing similar radio modulation, error encoding and hand-off techniques, Dillon said.

### **All IP networks**

The added peak speeds in the pipeline for the planned LTE and WiMAX 802.16m networks will force mobile operators to accelerate their migration of entire mobile core to next generation networks (NGN), Dillon said. "The mobile core will most likely include some combination of carrier Ethernet and fiber connecting to urban base stations, NGN microwave, such as 802.16d WiMAX, softswitches and media gateways."

Before 4G became a mainstream interest, the mobile industry was more concerned with improving the bandwidth of radio transmission for voice circuit-based connections as mobile penetration grew quickly in almost all markets. But the advent of broadband fixed line communications convinced engineers and service providers that IP-based wireless communications was the wave of the future. "It meant that the entire mobile core and switching core had to be changed in order to support broadband wireless communications," added Dillon.

### **WiMax vs LTE need not be a boom-or-doom issue**

IDC believes that WiMAX is better suited as a fixed wireless or portable Internet access solution for developing markets and as complementary service to LTE and HSPA in developed markets such as Japan and Korea. Regardless of the technology, deployed fiber in the backhaul will become an essential ingredient in order to enable the operators to scale easily with traffic demands that are expected to be nothing but explosive.

LTE will be best suited for HSPA operators or EV-DO operators that need to offer increased data speeds in both the uplink and downlink. Uplink tends to be more important for social networking applications and puts a lot more stress on mobile operator business models.

WiMAX is better suited for developing markets that need fixed or portable Internet access as a substitute for xDSL which is

not practical in most of the developing markets in Asia Pacific excluding Japan, Dillon stressed.

### **SingTel to hold LTE trials in four countries**

Meanwhile, Singapore Telecommunications (SingTel) has announced its plan to conduct LTE trials in four countries, Australia, Indonesia, Philippine and Singapore.

The trials are scheduled for the first half 2010 over a period of six to nine months. SingTel has 273 million subscribers across eight countries including Bangladesh, India, Pakistan and Thailand.

By coordinating the trials across the region, the telco aims to optimize the resources used and gain better technical insights through knowledge sharing, it said in a statement. Six leading network vendors have been invited to participate in the LTE trials: Alcatel-Lucent, Ericsson, Huawei, NEC, Nokia Siemens Networks and ZTE.

In recent years, SingTel has worked closely with its regional associates to launch innovative products and services such as a cloud computing platform and an online mobile applications store. These offerings leverage the SingTel Group's extensive international networks to meet the fast-changing needs of consumers and businesses across the region.