Mobile broadband for Rural and Remote Areas: The CDMA450 Solution

Much of the population in the region is spread across large areas outside the metropolitan areas so bringing both mobile and fixed broadband access to this segment for education, banking, business and entertainment is a real challenge. Technically and economically wireless networks maybe the most practical solution with, ideally, a single wireless network able to efficiently support both fixed and mobile users. These networks must be built with the minimum of infrastructure to keep the cost as low as possible to allow the networks to be spread far out from the urban/suburban areas.

The latest developments of IMT-2000 technologies are highly flexible and can simultaneously support DSL data rates to fixed users, and voice plus data to mobile users with hand held terminals. By applying this IMT-2000 technology at frequencies well below the main 2G-3G bands the useable range/cell size is increased and the cost of the infrastructure can be greatly reduced.

Operation of networks in the 450MHz band offers these significant coverage advantages and in many cases there have already been allocations for NMT450 operators, so these valuable resources can be reused. IMT-2000 CDMA MC (cdma2000) fits well into the available spectrum as it only uses a 1.25MHz channel width. In light these benefits, many NMT-450 operators in Eastern Europe and developing countries have adopted the cdma450 solution as the preferred technology to digitize their analogue NMT-450 networks and both cdma2000 1x and cdma2000 1xEV-DO are already commercially deployed in the 450MHz band. These cdma450 solutions provide extremely cost effective voice plus data up to 153Kbps while 1xEV-DO offers full broadband access up to 2.4Mbps.

In this session, we will address the following topics:

- Comparative advantages of cdma2000 in terms of voice capacity, data throughput and latency.
- Provide a typical business model that shows the economical advantages of cdma450 versus the conventional copper and broadband solutions.
- Provide a high level view of Lucent’s cdma450 architecture, products and development roadmap.