



Migrating to Mobile WiMAX

IEEE 802.16-2004 Compliance

Also referred to as 802.16 "d", this is the standard upon which WiMAX certification is based.

WiMAX Forum Certification

WiMAX certification is based upon interoperability between 3 or more vendors' products that each supports a subset of the 802.16-2004 standard.

802.16 "e"

The "e" variation will be a mobile version of the 802.16 standard. These products will be part of a larger network infrastructure that supports mobility and hand-off similar to today's cell phone networks.

What is Mobile WiMAX?

The WiMAX-based technology available today is a fixed solution, designed for subscriber units that generally remain in one place, or may be somewhat nomadic, like a temporary building or a portable command post. True mobility implies the kind of mobility we see with cell phones, where users can move at high speed from one area to another while maintaining an ongoing connection.

Widespread commercialization of mobile WiMAX is a few years away. The first release of the standard is not yet complete. For some operators, this is not a problem, as they can benefit from fixed WiMAX now, and address mobile WiMAX in a couple of years. However, some carriers would like to deploy fixed WiMAX products now, and know that they can upgrade to mobile WiMAX without major disruption or cost duplication.

Network Build-out Strategy

1) Initial infrastructure build-out

The first critical step in most networks is the infrastructure build-out to support the backhaul infrastructure to the base stations.

2) Access links to the largest and most important customer locations

In the early stages of deployment, many operators will want to install connections to the larger customers in their service areas, since these customers are relatively few but generate a disproportionately large amount of revenue.

3) Fixed residential build-out

Once infrastructure is in place, network build-out to fixed locations can begin. Examples would be fixed connections to residences, small businesses, and smaller multi-tenant buildings.

4) Mobility build-out

With the widespread availability of mobile WiMAX devices, such as laptops and PDA's, mobility can be enabled in the base station, supporting these devices without disturbing existing fixed customers.

Migrating to Mobility - Minimize disruption and protect the investment

Preserve existing backhaul infrastructure

Since both Fixed WiMAX and Mobile WiMAX use a native IP based backhaul infrastructure, there can be a seamless transition to mobility

Preserve base station chassis hardware

Redline's base station chassis is designed to preserve all chassis and blade hardware, allowing "e" support without replacing critical hardware elements.

Fixed CPE devices stay in place

Redline's WiMAX chassis blades will support the fixed "2004" WiMAX subscriber units and the mobile "e" subscriber units in the same sector and channel, without having to replace or physically touch the "d" units, and without requiring a truck roll.

Redline's Migration Strategy

Redline's strategy is to develop chassis hardware that will support both IEEE 802.16 "2004" and "e" subscriber units simultaneously, requiring only a software upgrade at the base station. Subscriber units for fixed WiMAX use will co-exist in the same sector with "e" mobility devices. This will enable migration to mobility without truck rolls to the subscriber sites.