Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Draft IEEE 802.16m System Requirements: Section 8: Deployment Related Requirements**
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Re:	Call for contributions regarding P802.16m project, 1/22/2007
Abstract	This document contains proposed system-level and service requirements for IEEE 802.16m standard.
Purpose	For discussion and approval by TGm
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8.0Deployment-Related Requirements

8.1 Evolution of Legacy Networks

Backward compatibility is required in all existing spectrum bands where the 802.16e reference systems are deployed or could be deployed by the time 802.16m technology is available. This requirement shall not be construed as different modes of operation for different frequency bands; rather to reduce the number of optional features and the complexity of the standard, a unified baseband system with configurable parameters shall be used for operation in different frequency bands.

IEEE 802.16m and the IEEE 802.16e systems shall be deployable on the same RF carriers; i.e., performance should be appropriate for the mix of 802.16e and 802.16m terminals attached to the same RF carrier. The IEEE 802.16m enhancements shall be transparent to the IEEE 802.16e reference-system-based terminals and base stations.

The IEEE 802.16m may also be deployed on a separate RF carrier as an overlay to legacy IEEE 802.16e reference system.

The IEEE 802.16m system shall support seamless handover to and from legacy IEEE 802.16e reference system.

8.2 Greenfield Deployment

The IEEE 802.16m system may be deployed without an underlying legacy network. In this case, while the standard and implementations remain fully backward compatible, the deployment may be optimized for the new IEEE 802.16m terminals.

8.3 Advanced Architectures

The IEEE 802.16m amendment should provide schemes for coverage extension or filling coverage hole such as multi-hop topologies. However, the system requirements described in this document shall be met without the use of the schemes.

IEEE 802.16m system shall support different cell sizes which are expected for cellular layer systems. The cell radius and coverage requirements are as follows:

IEEE 802.16m shall support legacy cell sizes allowing for co-location of IEEE 802.16m deployments. In addition, larger cell sizes should be considered. Cell sizes up to 30 km should be supported with limited performance degradation. Cell sizes up to 100 km should not be precluded from the standard. Support for these larger cell sizes should not compromise the performance of smaller cells (see also Section for performance requirements).

8.4 Wi-Fi Coexistence and Interworking

IEEE 802.16m standard shall enable optimized L2 (and/or L3) handoff between Wi-Fi and 802.16m air-interfaces to enable seamless connectivity for upper layer applications.