Project	**IEEE 802.16j Mobile Multihop Relay Task Group**
Title	**Harmonized definitions and terminology for Mobile Multihop Relay**
Date:	**2006-05-11**
Source(s)	Ad Hoc on Definitions and Terminology Roger Peterson r.peterson@motorola.com Motorola 1301 E. Algonquin Road, Schaumburg, IL 60196 USA
Re:	IEEE P802.16j Task Group on Mobile Multihop Relay
Abstract	This contribution defines the terminology that will be used within the Mobile Multihop Relay Task Group. This contributions includes only those definitions that have been agreed to within the 802.16j Ad Hoc on Definitions and Terminology
Purpose	For later use in the Definitions section of amendment IEEE 802.16j
Notice	
Release	
Patent Policy and Procedures	

Harmonized definitions and terminology for Mobile Multihop Relay

1 Introduction

This contribution presents definitions and terminology for use within the IEEE 802.16j Task Group on Mobile Multihop Relay. This contribution includes only definitions that have been agreed to within the Definitions and Terminology Ad Hoc and is therefore a living document that will be revised regularly. It is expected that these definitions will be imported to the IEEE 802.16j amendment as needed.

2 Definitions

Acronyms and terms used in these definitions and not defined herein are defined in paragraph 3 of IEEE Standard 802.16-2004 or IEEE Standard 802.16e-2005 or in the IEEE Dictionary of Standards Terms. These definitions are in alphabetical order and may depend upon later definitions.

2.1 **access link**: An 802.16 radio link that originates or terminates at an MS. The access link can be uplink or downlink.

2.2 **active MMR-BS**: An MMR-BS which is informed of the MS capabilities, security parameters, service flows, and full MAP context information. For macro diversity handover the MS transmits/receives data to/from all active MMR-BSs in the MMR diversity set.

Informative notes: Active BS was defined in 802.16e.

2.3 **active RS**: An RS which is informed of a *subset* of the MS capabilities, security parameters, service flows, and MAP context information. For macro diversity handover the MS transmits/receives data to/from all active RSs in the MMR diversity set.

2.4 **anchor MMR-BS**: In the context of Macro Diversity Handover (MDHO), cooperative relay, and Fast Serving Station Switching (FSSS), this is the MMR-BS that transmits registration, ranging, synchronization, and other control information to the MS.

Informative notes: Anchor BS was defined in 802.16e.

2.5 **anchor RS**: In the context of Macro Diversity Handover (MDHO), cooperative relay, and Fast Serving Station Switching (FSSS), this is the RS that transmits a *subset* of registration, ranging, synchronization, and other control information to the MS.

2.6 **cel**l: The geographic area containing all locations that can access the network via a particular station (e.g. BS, MMR-BS, or RS) using one-hop radio links.

2.7 **cooperative relay**: Transmitting information over multiple relayed paths and estimating the transmitted information at the receiver by combining or selecting the signals received from multiple paths where at least one path is relayed.

2.8 **fast serving station switching (FSSS)**: Serving station switching with which an MS can change its serving station from frame to frame depending on the serving station selection mechanism. A serving station can be an RS, BS, or MMR-BS.

Informative notes: Fast BS switching (FBSS) was defined in 802.16e and the terminology is modified to allow switching between any types of serving stations (RS, BS, or MMR-BS). Switching can be either between same type of serving stations or between different types of serving stations.

2.9 **fixed relay station (FRS)**: A relay station that is permanently installed at a fixed location.

Informative notes: A connection to a power source is assumed. A backup power source may be provided.

2.10 **inband relay**: MMR using the same RF channel for the RS to MMR-BS, RS to RS, and RS to MS radio links.

2.11 **inter-MMR-BS handover**: MS or RS handover between two RS or between a BS and an RS where two different MMR-BS are involved in the handover.

Informative notes: The MS or RS that is being handed over is in a different MMR-cell before and after the handover.

2.12 **intra-MMR-BS handover**: MS or RS handover between two RSs or between an MMR-BS and an RS where all stations involved in the handover are controlled by the same MMR-BS.

Informative notes: The MS or RS that is being handed over is in the same MMR-cell both before and after the handover

2.13 **k-hop**: k consecutive links.

2.14 **MMR base station (MMR-BS)**: A base station that is compliant with amendments IEEE 802.16j through IEEE 802.16e-2005, which has extended functionality to support MMR as defined in 802.16j.

Informative Notes: An MMR-BS is fully compliant with IEEE Standard 802.16e-2005 and has been enhanced by amendment IEEE 802.16j to support mobile multihop relay. Mobile multihop relay is supported only for the OFDMA mode of IEEE Standard 802.16e-2005. Relay stations that support a particular MMR-BS are managed by that MMR-BS.

2.15 **MMR-cell**: The geographic area composed of the MMR-BS cell and all of its subordinate RS cells.

Informative Notes: All communications resources within an MMR-cell are managed by the MMR-BS either through centralized or decentralized control. The MMR-cell contains all MSs connected to the MMR-BS using one-hop links and all MSs connected to any of the RSs managed by the MMR-RS. Resource management and control of MSs within an MMR-cell may be via direct radio link (i.e. not relayed) or via relayed messages.

2.16 **MMR diversity set**: List of active RSs, BSs, and/or MMR-BSs of an MS. This set is applicable to macro diversity handover, cooperative relay, and [fast serving station switching].

2.17 **mobile multihop relay (MMR)**: The concept of relaying user data and possibly control information between an MMR base station and an IEEE Standard 802.16 compliant mobile station through one or more relay stations.

Informative Notes: Licensed spectrum is used for relay. The purpose of enabling relay is to enhance coverage, range, and throughput and possibly capacity of an MMR–BS and to enable very low power devices to participate in the network. The adjective “mobile” used here refers to the fact that both mobile subscriber stations and mobile relay stations are supported. It is possible to establish multiple communications paths between the MMR-BS and an MS and to communicate the same user data and/or control/management information through both paths to improve communications reliability.

2.18 **relay link**: An 802.16j radio link between an MMR-BS and an RS or between a pair of RSs. This can be a relay uplink or downlink.

.