Project	IEEE 802.16 Broadband Wireless Access Working Group < <u>http://ieee802.org/16</u> >
Title	Proposal of initial MMR TOC updates
Date Submitted	2006-09-19
Source(s)	Guoqiang Wang, Wen Tong, Peiying Zhu, Hang Zhang, David Steer, Derek Yu, Mark Naden, Dean Kitchener, Gamini Senarath Nortelguoqiang@nortel.com3500 Carling Avenue 
Re:	Response to a call for comment on Initial TOC proposal for the Relay TG, see C80216j-06/017r1
Abstract	This document provides the proposed updates for initial TOC proposal for 802.16j group working document.
Purpose	The objective is to discuss the structure of the TOC.
Notice	This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.
Release	The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.
Patent Policy and Procedures	The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures <a href="http://ieee802.org/16/ipr/patents/policy.html">http://ieee802.org/16/ipr/patents/policy.html</a> , including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair <a href="mailto:chair@wirelessman.org">mailto:chair@wirelessman.org</a> > as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site < <a href="http://ieee802.org/16/ipr/patents/notices/">http://ieee802.org/16/ipr/patents/notices/</a> .

# Proposal of Initial MMR TOC Updates

GuoQiang Wang, Wen Tong, Peiying Zhu, Hang Zhang, David Steer, Derek Yu, Mark Naden, Dean Kitchener, Gamini Senarath Nortel

#### Introduction 1

This document provides the comments and the suggested updates to "Table of Contents of Task Group Working" Document", IEEE 802.16j-06/017r1. The objective of the proposal is are to keep MMR TOC to be consistent with the existing standards document (IEEE Std. 802.16-2004, IEEE Std 802.16e-2005, IEEE Std 802.16-2004/Cor1-2005).

In the following sections, the updates are highlighted with red color.

#### **Proposed Table of Contents** 2

1. Overview 1.1 Scope 1.2 Purpose 1.3 Frequency bands 1.3.4 Air interface nomenclature and PHY compliance 1.4 Reference model 1.4.2 MMR network architecture 1.4.2.1 Overview "This section defines MMR network elements including MMR-BS, RS and MS" 1.4.3.MMR network interface "This section defines all MMR network interfaces between MMR elements including MMR-BS-RS, RS-RS, RS-MS" 2. References 3. Definitions 4. Abbreviations and acronyms 6. MAC common part sublayer 6.1 PMP 6.1.1 MMR MAC protocol stack and MMR sublayer "This section provides the MMR protocol architecture" 6.3 Data/Control plane 6.3.1 Addressing and connections 6.3.1.2 MMR network Relay Station identity "This section defines MMR RS addressing and naming scheme" 6.3.1.3 MMR connection management "This section specifies how an end-to-end connection is identified and managed in MMR network" 6.3.2 MAC PDU formats 6.3.2.1 MAC header formats 6.3.2.1.3 MMR MAC header formats 6.3.2.2 MAC subheaders and special payloads 6.3.2.2.8 MMR MAC subheaders and special payloads 6.3.2.3 MAC management messages 6.3.2.3.62 MMR MAC management messages 6.3.3 Construction and transmission of MAC PDUs 6.3.4 ARO mechanism 2

2006-09-19

- 6.3.6 Bandwidth allocation and request mechanisms 6.3.6.7 MMR bandwidth allocation and request mechanisms
- 6.3.7 MAC support of PHY

### 6.3.7.7 MMR MAC support of PHY

- 6.3.8 Contention resolution
- 6.3.9 Network entry and initialization

### 6.3.9.16 MMR network entry and initialization

- 6.3.10 Ranging
  - 6.3.10.1 Downlink burst profile management
    - 6.3.10.1.1 MMR burst profile management
- 6.3.11 Update of channel descriptors
  - 6.3.12 Assigning SSs to multicast groups
    - 6.3.12.2 MMR Assigning SSs to MMR multicast groups
  - 6.3.13 Establishment of multicast and broadcast transport connections
    - 6.3.12.2 MMR Establishment of multicast and broadcast transport connections
- 6.3.14 QoS
- 6.3.17 MAC support for HARQ
- 6.3.18 DL CINR report operation
  - 6.3.18.3 MMR DL CINR report operation
- 6.3.19 optional Band AMC operations using 6-bit CQICH encoding
- 6.3.21 Sleep mode for mobility-supporting MS
- 6.3.21.7 MMR sleep mode support
- 6.3.22 MAC layer handover procedures 6.3.22.4 MMR handover procedures
- 6.3.23 Multicast and broadcast services (MBS) 6.3.23.3 MMR multicast and broadcast services
- 6.3.24 MS Idle Mode (optional)

6.3.24.10 MMR MS idle mode support

- 7. Security sublayer
- 7.1 Architecture

### 7.1.4 MMR security scheme

- 7.2 PKM protocol
- 7.3 Dynamic SA creation and mapping
- 7.4 Key usage
- 7.5 Cryptographic methods
- 7.6 Certification profile
- 7.7 Pre-Authentication
- 7.8 PKMv2

8. PHY
8.4 WirelessMAN-OFDMA PHY layer
8.4.1 Introduction
8.4.4 Frame structure

8.4.4.8 MMR frame structure
8.4.5 Map message fields and IEs
8.4.5.8 MMR zone

8.4.7 OFDMA ranging 8.4.8 Space-Time Coding (optional) 2006-09-19

8.4.9 Channel coding

8.4.10 Control mechanisms

8.4.11 Channel quality measurements

8.4.12 Transmitter requirements

8.4.13 Receiver requirements

8.4.14 Frequency control requirements

8.4.15 Optional HARQ support

9. Configuration

9.3 MMR-BS configuration

9.4 RS configuration

10. Parameters and constants

10.1 Global values

10.2 PKM parameter values

10.3 PHY-specific values

## 10.3.5 MMR PHY parameters and definitions

10.4 Well-known addresses and identifiers

11. TLV Encodings 11.20 MMR TLV encodings

Annex I MMR routing and path management Scenarios (informative) "To provide examples of MMR routing and path management based on the usage scenarios"

Annex J MMR system profiles (informative) MMR MAC profiles MMR system PHY profiles MMR RF profiles