Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Broadcast Connection through Dedicated Broadcast CIDs.**
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Re:	Response to Sponsor Ballot
Abstract	Broadcast Connection through Dedicated Broadcast CIDs in 802.16e
Purpose	Adoption of proposed changes into P802.16e

Broadcast Connection through Designated Broadcast CIDs.

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1. Introduction

In this contribution, Broadcast CIDs are introduced. If an MSS decides to use IPv4 or IPv6 for Data or Management, not only unicast layer 3 control signal but also broadcast control signal from the network should be delivered to the number of MSSs for IP interface management.

If the broadcast control messages are not delivered, each and every MSSs, which are supposed to receive broadcast layer 3 control messages periodically, will generate layer 3 signal, e.g, Agent Solicitation, or Router Solicitation and unicast reply from the router or Agent to MSSs will be generated. This is waste of bandwidth. Especially in IPv6, this is serious because Advertisement interval is very short (mean time between unsolicited muticast router advertisements: 50ms [IETF RFC 3775]).

Under current specification, broadcasting over the data IP interface can be supported by assigning specific multicast connection CID for broadcast traffic. In this way, more than one virtual group can be defined. However, delivering broadcasting control signal from the network over the traffic multicast connection has several disadvantages. Because creation of multicast connection needs DSA procedure before L3 signaling broadcast, more time is required for MSS to enter the network than using pre-defined Broadcast Network CIDs. Whenever MSS performs handover, Multicast Transport CID update should be done. MSSs in Idle Mode while maintaining IP connectivity can not be managed with multicast transport CIDs.

In order to overcome disadvantages introduced above, we propose to define a couple of Broadcast CIDs to be used to deliver layer 3 control signals to MSSs. Broadcast CIDs are pre-defined values. MSS monitors specific CID values, which are same over all BSs.

2. Proposed Text Changes in Document

Remedy 1:

Add Broadcast CIDs to the Table 343 CIDs.

[In 10.4 Well-known addresses and identifiers, page 274, line 48, modify and append to Table 343 CIDs]:

CID	Value	Description
Initial ranging	0x0000	Used by SS and BS during initial ranging process.
Basic CID	0x0001 - m	The same value is assigned to both the DL and UL connection.
Primary management	m+1 - 2m	The same value is assigned to both the DL and UL connection.
Transport CIDs secondary Mgt CIDs	2m+1 - 0xFE9F	For the secondary management connection, the same value is assigned to both the DL and UL connection.
Multicast CIDs	0xFEA0 - 0xFE~~FD~~FC	For the downlink multicast service, the same value is assigned to all MSSs on the same channel that participate in the connection.
Broadcast CIDs	0xFEFD - 0xFEFE	Used for transmission of broadcast MAC message to all MSSs. 0xFEFD: MAC message payload is IPv4 datagram 0xFEFE: MAC message payload is IPv6 datagram
AAS initial ranging CID	0xFEFF	A BS supporting AAS shall use this CID when allocating a Initial Ranging period for AAS devices
Multicast polling CIDs	0xFF00 - 0xFFFD	An SS may be included in one or more multicast polling groups for the purposes of obtaining bandwidth via polling.
Padding CID	0xFFFE	Used for transmission of padding information by SS and BS.
Broadcast CID	0xFFFF	Used for broadcast information that is transmitted on a downlink to all SS.