Project	**IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>**
Title	**Temporary path establishment in local CID mode**
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Re:	IEEE 802.16-08/007: "IEEE 802.16 Working Group Letter Ballot Recirc #28b: Announcement"
Abstract	This contribution clarifies the procedures of temporary path establishment in local CID mode
Purpose	Text proposal for 802.16j Draft Document
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Temporary path establishment in local CID mode

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Introduction

In 16j/D3, during network entry/re-entry of an SS/RS, temporary path establishment is accomplished per RNG-RSP message. In case the local CID mode is enabled in multihop scenario, however, the RNG-RSP is generated by the access RS rather than the MR-BS. In other words, after a new coming SS/RS completes the ranging and automatic adjustment process, MR-BS as well as RSs superordinate the access RS still have no idea of the path to the new coming SS/RS. The MR-BS can obtain the basic CID, primary CID and other information of the new coming SS/RS included in the SBC-REQ generated by the new coming SS/RS. But the RSs superordinate the access RS remain not aware of the new coming SS/RS.

To address the aforementioned problem, in multihop scenario, when the local CID mode is enabled, the Path Addition TLV that indicates the path to the new coming SS/RS shall be included in the SBC-RSP.

In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the draft standard P802.16j/D3 are listed below.

Spec changes :

[Modify subclause 6.3.27.2.3 as follows]

6.3.27.2.3 Temporary path establishment and CID to path binding during ranging

When an access RS does not use tunneling, a new path is determined by MR-BS during MS/RS network entry, relay path management for forwarding the management messages of other MS/RS network entry procedures ~~can~~may be conducted as defined below.

- When an SS/RS performs initial ranging, it shall follow the steps indicated by the type of system in 6.3.10.3.1.1.
- When an RS receives RNG-RSP or SBC-RSP message ~~with RS basic CID~~ with path information, it should bind basic CID and primary CID containing in the message with the path ID and start a timer T60 associated with the path ID. ~~If the RS is the endpoint of the path, replace RS basic CID with ranging CID, and forward to the MS or RS originating RNG-REQ.~~
- If T60 expires before the RS receiving DSA-REQ, the RS shall remove the association between the path ID and basic CID and primary CID. Otherwise, the RS shall stop T60 when receiving DSA-REQ with the same path ID.

In case the path information is included in the RNG-RSP generated by MR-BS, the path information may be omitted in the subsequent SBC-RSP.

[Modify subclause 6.3.2.3.24 as follows]

Insert the following after the first paragraph of 6.3.2.3.24:

An MR-BS shall generate the SBC-RSP messages for an RS in the same format as a BS generates SBC-RSP messages for an SS. The set of compound TLVs that shall or may be included are the same and may contain additional common encodings (see 11.1.13) and MR specific sub-TLVs (see 11.8).

[Modify subclause 11.1.13.2 as follows]

11.1.13.2 Path Addition TLV

Name	Type	Length	Value	Scope
Path Addition	132	Variable	Path ID (unsigned 16-bit) Ordered list of RSs (variable)	DSA-REQ, RNG-RSP, SBC-RSP

Ordered List of RSs

The ordered list of RSs' primary management CIDs along the path in the downstream direction. The upstream direction list can be obtained by reverse this ordered list.

[Modify subclause 11.1.13.3 as follows]

11.1.13.3 Path CID Binding Update TLV

Name	Type	Length	Value	Scope
Path CID Binding Update	131	Variable	Path ID (unsigned 16-bit) List of CIDs (variable)	DSA-REQ, DSD-REQ, RNG-RSP, SBC-RSP

List of CIDs

A list of CIDs involved in the binding update operation.