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Re:	A response to a Call for Technical Proposal, http://www.ieee802.org/16/relay/docs/80216j-07_007r2.pdf
Abstract	To support destination RS CID based routing and source routing, QoS subheaders are introduced for the relay MAC to be transmitted along with the relay MAC header.
Purpose	To incorporate the proposed text into the P802.16j Baseline Document (IEEE 802.16j-06/026r2)
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Access RS basic CID based routing and source QoS Control Scheme for data forwarding in 802.16j Relay MAC

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1. Introduction

In 802.16j, tunnel based forwarding is introduced. As an alternative method, destination/source RS basic CID based forwarding and source QoS control may be employed. Using this scheme, for DL routing purpose, the intermediate RS keeps a routing table which simply include the destination RS CID and corresponding next hop RS identity.

Using this scheme, for DL data forwarding, MR-BS can include the destination RS basic CID and QoS info in the relay MAC header. The intermediate RS can schedule the transmission of this PDU based on QoS information along with the received PDU and identify the next hop RS based on the routing table; for UL, the access RS includes its source CID and QoS information in the relay MAC header. The intermediate RS shall make the corresponding process like that for DL.

This scheme provides the following benefits:

- lower signaling overhead – the signaling overhead regarding the tunnel setup, tunnel binding to a path (including tunnel and QoS population) can be significantly reduced
- Much less storage space for routing table/QoS profile in intermediate RS – size of the routing/QoS profile table is much less
- Very simpler process of intermediate RS – intermediate RS can simple process QoS information from sender to decide scheduling. An intermediate RS doesn't need to be populated and keep any information such as tunnel CID and associated QoS profiles

2. Proposed text modification

2.1 Proposed text change for description of this scheme

[Insert new subclause 6.3.3.8.3]

6.3.3.8.3 Transmission using access RS basic CID and source QoS control information

For this type of data forwarding, the routing table in intermediate RS shall simply include the destination RS CID and the corresponding next hop RS identity.

For DL data forwarding, the MR-BS can include the destination RS basic CID and QoS info in the relay MAC header. The intermediate RS can schedule the transmission of this PDU based on QoS information along with the received PDU and identify the next hop RS based on the routing table; for UL, the access RS includes its source CID and QoS information in the relay MAC header. The intermediate RS shall make the corresponding process like that for DL.

2.2 Proposed text change for relay MAC header and sub-header

[Insert the following text to the end of 6.3.2.1.1.1(DL), please refer to C802.16j-07/198]

For data forwarding using the access basic CID based routing, the CID field in relay MAC header shall be the basic CID of the access RS. For DL, this field is equivalent to a destination identity.

For relay MAC PDU with payload, the bit # 3 (fourth MSB in the header) in the first byte of relay MAC header is used as “Source QoS control”. If this bit is set, the QoS subheader is included and this subheader immediately follows the generic relay MAC header.

[Insert new subclause 6.3.2.1.11.1]

6.3.2.1.11.1 QoS subheader (DL)

If “Source QoS control” bit in generic relay MAC header is set, a QoS subheader presents in the Relay MAC PDU and will be the first subheader in the Relay MAC PDU. This subheader is used for source QoS control and is inserted by the station which creates a Relay MAC PDU. Such a station can be a MR-BS for DL data transmission or an access relay station for UL data relay. The QoS subheader is shown in Table XXX.

Table xxx. QoS subheader format.

Syntax	Size	Notes
QoS subheader	8	TBD

[Insert the following text to the end of 6.3.2.1.1.2(UL) please refer to C802.16j-07/198]

For data forwarding using the access basic CID based routing, the CID field in relay MAC header shall be the basic CID of the access RS. For UL, this field is equivalent to a source identity.

For relay MAC PDU with payload, the bit # 5 (the sixth MSB in the header) in the first byte of relay MAC header is used as “Source QoS control”. If this bit is set, the QoS subheader is included and this subheader immediately follows the generic relay MAC header.

[Insert new subclause 6.3.2.1.12.1]

6.3.2.1.12.1 QoS subheader (UL)

If “Source QoS control” bit in generic relay MAC header is set, a QoS subheader presents in the Relay MAC PDU and will be the first subheader in the Relay MAC PDU. This subheader is used for source QoS control and is inserted by the station which creates a Relay MAC PDU. The QoS subheader is shown in Table XXX.

Table xxx. QoS subheader format.

Syntax	Size	Notes
QoS subheader	8	TBD