Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**amendment for MBS primitive**
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Re:	Contribution on comments to P802.16g-D5
Abstract	In this contribution, we propose to add Data Path Info attribution within MBS primitive and some clarification about MBS related attribute.
Purpose	Adoption
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Amendment for MBS primitives

1. Introduction

In the current baseline document, it has a MBS section. In this section, there has defined how to set MBS information to a BS, but if the information has been changed, it does specify clearly how BS will do. To resolve the issue, this contribution adds some clarifications about this issue. It also add Data Path Info attribute.

2. Proposed Text Changes

14.2.12.2 MBS Configuration Management

14.2.12.2.1 C-MBS-REQ (Set)

Function:

This primitive is send by the NCMS to a BS, to configure the MBS information of the BS.

Semantics of this primitive:

C-MBS-REQ
(
Message_id,
Operation_Type(Action),
Action_Type(Set),
Object_id(BSID),
Attribute_List:
MBS Zone
MBS Type
Data Path Information
)

Operation_Type
Action
Object ID
Object identifier
Action Type
Set
MBS Zone
ID of the MBS zone as defined in IEEE Std 802.16e-2005 section 6.3.23.2.4. If the ID is FF, it means that the BS does not belong to the MBSZone anymore. If the ID is not same as the value stored in BS, BS should modify according to the new value.
MBS Type
Type of MBS mode which shall be used. Two MBS types are defined:
- Type 1 for MBS without macro diversity,
- Type 2 for MBS with macro diversity

If the MBS Zone is FF, this parameter is omitted. If the value is not the same as the value stored in BS, BS should update to the new value accordingly.

Data Path Information

It describes the Data Path in the direction opposite to that in which the primitive is sent. It potentially includes:

- **Data Path Type** specifies the type of the Data Path (e.g. GRE, MPLS, VLAN, etc.)
- **Data Path ID** specifies Data Path ID (e.g. LSP identification for MPLS, GRE Key for GRE, LAN ID for VLAN, etc.). This ID can be used as unique idendifier to identify a single data path between BS and NCMS or can be used as MBSZoneID to identify multiple data paths for this MBSZone.
- **List of Classifiers** that identify what data SHOULD be classified onto the Data Path and allows optional negotiating Data Path IDs on per flow (IEEE 802.16 Connection) basis.
- **Multicast Info**. Specifies relation of the Data Path to the IP Multicast Group.
- **Endpoint Identifier.** Specifies the addressable subscriber-side endpoint for which the Data Path is being established or maintained.
- **Data Integrity informaton:** data integrity related information for this data path

14.2.12.2.2 C-MBS-RSP (Set)

Function:

This primitive is send by a BS to the NCMS in response to a C-MBS-REQ (Set) primitive.

Semantics of this primitive:

C-MBS-RSP
(
Message_id,
Operation_Type(Action),
Action_Type(Set),
Object_id(NCMS Node_ID),
Attribute_List:
MBS Error parameter information
Data Path Information
)

Operation_Type
Action
Object ID
Object identifier
Action Type
Set
MBS Error parameter information
Failed reason

Data Path Information

It describes the Data Path in the direction opposite to that in which the primitive is sent. It potentially includes:

- **Data Path Type** specifies the type of the Data Path (e.g. GRE, MPLS, VLAN, etc.)
- **Data Path ID** specifies Data Path ID (e.g. LSP identification for MPLS, GRE Key for GRE, LAN ID for VLAN, etc.). This ID can be used as unique idendifier to identify a single data path between BS and NCMS or can be used as MBSZoneID to identify multiple data paths for this MBSZone.
- **List of Classifiers** that identify what data SHOULD be classified onto the Data Path and allows optional negotiating Data Path IDs on per flow (IEEE 802.16 Connection) basis.
- **Multicast Info**. Specifies relation of the Data Path to the IP Multicast Group.
- **Endpoint Identifier.** Specifies the addressable subscriber-side endpoint for which the Data Path is being established or maintained.
- **Data Integrity informaton:** data integrity related information for this data path

14.2.12.3 MBS Configuration data plane management

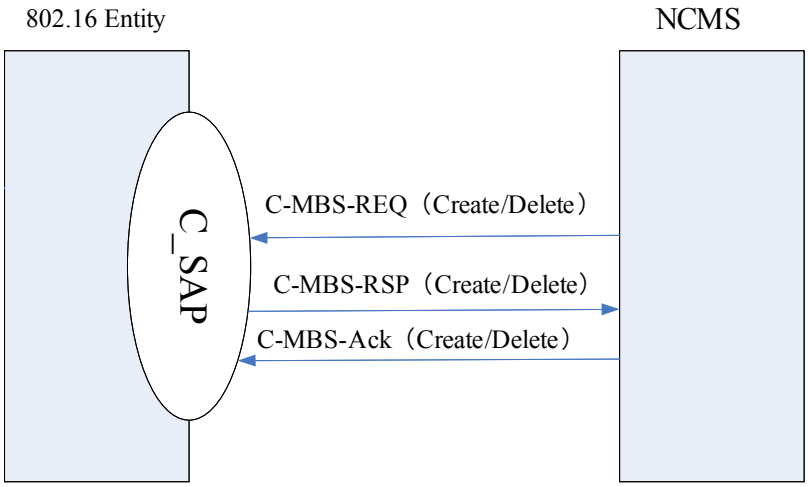

Figure 517— MBS Path management Primitives (Create and Delete)

14.2.12.3.2 C-MBS-REQ

14.2.12.3.2.1 C-MBS-REQ (Creat)

Function:

This primitive can be from IEEE802.16 entities or NCMS, and is used to creat a new MBS transmitted path between NCMS and BSs in one MBS Zone.

Semantics of the service primitive:

The parameters of the primitives are as follows:

C-MBS-REQ
(
Message_id,
Operation_Type(Create),
Action_Type(Null),
Object_id(BSID),
Attribute _list:
MBS path ID
Data Path Info
Service flow ID
Service flow information
CS parameter information
)

MBS Path ID
ID of the MBS data link It can be MBSZoneID or other ID which is a unique identifier to be used by NCMS and BSs which belong to a same MBS Zone.

Data Path Info

It describes the Data Path in the direction opposite to that in which the primitive is sent. It potentially includes:

- **Data Path Type** specifies the type of the Data Path (e.g. GRE, MPLS, VLAN, etc.)
- **List of Classifiers** that identify what data SHOULD be classified onto the Data Path
- **Multicast Info**. Specifies relation of the Data Path to the IP Multicast Group.
- **Endpoint Identifier.** Specifies the addressable subscriber-side endpoint for which the Data Path is being established or maintained.
- **Data Integrity informaton:** data integrity related information for this data path

The following parameters can be one or more per sets MBS Path ID:

Service flow ID
Unique identifier to identify a unidirectional service flow, included in the primitive for NCMS initiated service flow creation.

Service flow information
Required QoS information of a service flow include traffic characteristics and a scheduling type such as service class name, QoS parameter set type, maximum sustained traffic rate, maximum traffic burst, minimum reserved traffic rate, minimum tolerable traffic rate, service flow scheduling type, tolerate jitter and maximum latency, the connection identifier CID, Logical Channel ID and security association.

CS parameter information
Required CS information for classification and handling of the service flow.

When generated:

This primitive used from NCMS to 802.16 entities when the new MBS service data need to be delivered.

Effect of receipt:

The 802.16 entites receiving the primitive shall trigger transmitting the DSA-REQ messages following the information provided by this primitive.

14.2.12.3.2.2 **C-MBS-REQ (Delete)**

Function:

When Operation Type is set to 'Delete', this primitive shall be used to initiate an existing MBS path deletion by NCMS.

Semantics of the service primitive:

The parameters of the primitive are as follows:

C-MBS-REQ
(
Message_id,
Operation_Type(Delete),
Action_Type(Null),
Object_id(BSID),
Attribute_list:
MBS Path ID
)

MBS Path ID
ID of the MBS data link It can be MBSZoneID or other ID which is a unique identifier to be used by NCMS and BS which belong to a same MBS Zone.

When generated:

This primitive is from NCMS to BS to inform the 802.16 entities of the deletion of an existing MBS Path.

Effect of receipt:

The 802.16 entity receiving the primitive shall transmit the DSD-REQ message to release the MBS data link.

14.2.12.3.3 **C-MBS-RSP**

14.2.12.3.3.1 **C-MBS-RSP (Create)**

Function:

This primitive is used by the 802.16 entities to respond to the C-MBS-REQ for a MBS path creation. The MBS path information in this primitive contains approved QoS information if the.request is accepted.

Semantics of the service primitive:

The parameters of the primitives are as follows:

C-MBS-RSP
(
Message_id,
Operation_Type(Create),
Action_Type(Null),
Object_id(NCMS),
Attribute_list:
MBS Path ID
Data Path Info
Service flow ID

Service flow information
CS parameter information
Error Reason
)

MBS Path ID

ID of the MBS data link It can be MBSZoneID or other ID which is a unique identifier to be used by NCMS and BSs which belong to a same MBS Zone.

Data Path Info

It describes the Data Path in the direction opposite to that in which the primitive is sent. It potentially includes:

- **Data Path Type** specifies the type of the Data Path (e.g. GRE, MPLS, VLAN, etc.)
- **List of Classifiers** that identify what data SHOULD be classified onto the Data Path
- **Multicast Info**. Specifies relation of the Data Path to the IP Multicast Group.
- **Endpoint Identifier.** Specifies the addressable subscriber-side endpoint for which the Data Path is being established or maintained.
- **Data Integrity informaton:** data integrity related information for this data path

The follow service flow parameters can be zero or more.

Service flow ID

Unique identifier to identify a service flow

Service flow information

Approved complete QoS information of a service flow such as service class name, QoS parameter set type, maximum sustained traffic rate, maximum traffic burst, minimum reserved traffic rate, minimum tolerable traffic rate, service flow scheduling type, tolerate jitter and maximum latency, target Packet Error Rate, connection identifier CID, Logical Channel ID and security association.

Error Reason

Failed reason if a C-MBS-REQ is rejected

When generated:

This primitive is generated when an 802.16 entity receives a C-MBS-REQ (Create) primitive.

Effect of receipt:

The 802.16 entities receiving the primitive shall transmit the DSA-REQ message to set up the MBS data link.

14.2.12.3.3.2 **C-MBS-RSP (Delete)**

Function:

This primitive is used by the 802.16 entities to respond to the C-MBS-REQ for a MBS path deletion.

Semantics of the service primitive:

The parameters of the primitives are as follows:

C-MBS-RSP

(
Message_id,
Operation_Type(Delete),
Action_Type(Null),
Object_id(NCMS),
Attribute _list:
MBS Path ID
BSID
Error Reason
)

MBS Path ID
ID of the MBS data link It can be MBSZoneID or other ID which is a unique identifier to be used by NCMS and BSs which belong to a same MBS Zone.

BSID
ID of the BS which is response to the MBS data path deletion

Error Reason
Failed reason if a C-MBS-RSP is rejected

When generated:

This primitive is generated when an 802.16 entity receives a C-MBS-REQ (Delete) primitive.

Effect of receipt:

The 802.16 entity receiving the primitive shall transmit the DSD-REQ message to release the MBS data link.

14.2.12.3.4 **C-MBS-ACK**

14.2.12.3.4.1 **C-MBS-ACK (Create)**

Function:

This primitive is used by the NCMS to confirm to the C-MBS-RSP for a MBS path creation.

Semantics of the service primitive:

The parameters of the primitives are as follows:

C-MBS-ACK
(
Message_id,
Operation_Type(Create),
Action_Type(Null),
Object_id(BSID),
Attribute _list:
MBS Path ID

)

MBS Path ID
ID of the MBS data link It can be MBSZoneID or other ID which is a unique identifier to be used by NCMS and BSs which belong to a same MBS Zone.

When generated:

This primitive is generated when NCMS receives a C-MBS-RSP (Create) primitive to confirm the creation of the MBS data path.

Effect of receipt:

This primitive confirms the MBS path deletion to 802.16 entities.