

Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >	
Title	<b>Service Management in MR network with Distributed Scheduling RS</b>	
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Re:	IEEE 802.16j-06/027: "Call for Technical Proposals regarding IEEE Project P802.16j"	
Abstract	This proposal clarifies the service flow management in MR with distributed RS.	
Purpose	Discuss and adopt proposed text.	
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# Service Management in MR with Distributed Scheduling RS

## 1. Introduction

In MR networks, the RS may use two types of scheduling. Centralized Scheduling is where MR-BS controls all the radio resource scheduling and MAP allocation. Distributed Scheduling is where some functionality of radio resource scheduling and MAC allocation are distributed to RS. This contribution proposes text to clarify the handling of service flow management in distributed scheduling case.

When MR-BS creating/modifying the QoS parameters of service flow, to facilitate the distributed scheduling RS, the MR-BS has to inform the QoS information with the related RS, which include all the RSs on the path.

## 4. Specific Text Change

### 6.3.2.3.10 DSA-REQ message

*[Insert the following text after the second paragraph of subclause 6.3.2.3.10:]*

If the DSA-REQ message is destined to the distributed scheduling RS' subordinate MS, before sending the DSA-REQ message to the MS, the MR-BS shall send a DSA\*-REQ to all the RSs on the path between the MR-BS and the MS. The destined MS' basic CID needs to be included in the MS Basic CID TLV field in this DSA\*-REQ message.

*[Add the explanation text of DSA-REQ message as indicated:]*

In addition to all the parameters defined for DSA-REQ, the DSA\*-REQ message shall contain the following :

#### MS basic CID

Specification of the basic CID of the MS, who relates to this service flow.

### 6.3.2.3.11 DSA-RSP message

*[Insert the following text after the second paragraph of subclause 6.3.2.3.11:]*

Upon receiving DSA\*-REQ from MR-BS, the access RS replies with a DSA-RSP directly to MR-BS using its basic CID.

### 6.3.2.3.13 DSC-REQ message

*[Insert the following text after the second paragraph of subclause 6.3.2.3.13:]*

If the DSC-REQ message is destined to the distributed scheduling RS' subordinate MS, before sending the DSC-REQ message to the MS, the MR-BS shall send a DSC\*-REQ to all the RSs on the path between the MR-BS and the MS. The destined MS' basic CID needs to be included in the MS Basic CID TLV field in this DSC\*-REQ message.

*[Add the explanation text of DSC-REQ message as indicated:]*

In addition to all the parameters defined for DSC-REQ, the DSC\*-REQ message shall contain the following :

[MS basic CID \(see\)](#)

[Specification of the basic CID of the MS, who relates to this service flow.](#)

#### 6.3.2.3.14 DSC-RSP message

*[Insert the following text after the second paragraph of subclause 6.3.2.3.14:]*

[Upon receiving DSC\\*-REQ from MR-BS, the access RS replies with a DSC-RSP directly to MR-BS using its basic CID.](#)

#### 6.3.2.3.17 DSD-REQ message

*[Insert the following text after the second paragraph of subclause 6.3.2.3.17:]*

[If the DSD-REQ message is destined to the distributed scheduling RS' subordinate MS, before sending the DSD-REQ message to the MS, the MR-BS shall send a DSD\\*-REQ to all the RSs on the path between the MR-BS and the MS. The destined MS' basic CID needs to be included in the MS Basic CID TLV field in this DSD\\*-REQ message.](#)

*[Add the explanation text of DSD-REQ message as indicated:]*

In addition to all the parameters defined for DSD-REQ, the DSD\*-REQ message shall contain the following :

[MS basic CID \(see\)](#)

[Specification of the basic CID of the MS, who relates to this service flow.](#)

#### 6.3.2.3.18 DSD-RSP message

*[Insert the following text after the second paragraph of subclause 6.3.2.3.18:]*

[Upon receiving DSD\\*-REQ from MR-BS, the access RS replies with a DSD-RSP directly to MR-BS using its basic CID.](#)

### 6.3.14.9.3 DSA

#### 6.3.14.9.3.1 SS-initiated DSA

*Insert the following table the end of 6.3.14.9.3.1:*

[In MR network, before MR-BS sending DSA-RSP to the distributed scheduling RS' subordinate MS, the MR-BS shall send a DSA\\*-REQ to all the RSs on the path between the MR-BS and the MS sequentially. Such DSA\\*-REQ is first sent from MR-BS to its subordinate RS using its basic CID. If its resource condition cannot support the requested SF parameter, it updates the SF parameter with the one it can support. This procedure is repeated by each RS, until the DSA\\*-REQ reaches the access RS. After processing the DSA\\*-REQ, the access RS replies with a DSA-RSP using its own basic CID directly to the MR-BS. If MR-BS receives DSA-RSP from the access RS within T48, it shall send DSA-RSP to the MS on its basic CID.](#)

#### 6.3.14.9.3.2 BS-initiated DSA

*Insert the following table the end of 6.3.14.9.3.2:*

In MR network, before MR-BS sending DSA-REQ to the distributed scheduling RS' subordinate MS, the MR-BS shall send DSA\*-REQ to to all the RSs on the path between the MR-BS and the MS sequentially. Such DSA\*-REQ is first sent from MR-BS to its subordinate RS using its basic CID. If its resource condition cannot support the requested SF parameter, it updates the SF parameter with the one it can support. This procedure is repeated by each RS, until the DSA\*-REQ reaches the access RS. After processing the DSA\*-REQ, the access RS replies with a DSA-RSP using its own basic CID directly to the MR-BS. If MR-BS receives DSA-RSP from the RS within T48, it shall send DSA-REQ to the MS on its basic CID.

#### **6.3.14.9.4.1 SS-initiated DSC**

*Insert the following table the end of 6.3.14.9.4.1:*

In MR network, before MR-BS sending DSA-RSP to the distributed scheduling RS' subordinate MS, the MR-BS shall send DSC\*-REQ to all the RSs on the path between the MR-BS and the MS sequentially. Such DSC\*-REQ is first sent from MR-BS to its subordinate RS using its basic CID. If its resource condition cannot support the requested SF parameter, it updates the SF parameter with the one it can support. This procedure is repeated by each RS, until the DSC\*-REQ reaches the access RS. After processing the DSC\*-REQ, the access RS replies with a DSC-RSP using its own basic CID directly to the MR-BS. If MR-BS receives DSC-RSP from the RS within T48, it shall send DSC-RSP to the MS on its basic CID.

#### **6.3.14.9.4.2 BS-initiated DSC**

*Insert the following table the end of 6.3.14.9.4.2:*

In MR network, before MR-BS sending DSC-REQ to the distributed scheduling RS' subordinate MS, the MR-BS shall send DSC\*-REQ to all the RSs on the path between the MR-BS and the MS sequentially. Such DSC\*-REQ is first sent from MR-BS to its subordinate RS using its basic CID. If its resource condition cannot support the requested SF parameter, it updates the SF parameter with the one it can support. This procedure is repeated by each RS, until the DSC\*-REQ reaches the access RS. After processing the DSC\*-REQ, the access RS replies with a DSC-RSP using its own basic CID directly to the MR-BS.

If MR-BS receives DSC-RSP from the RS within T48, it shall send DSC-REQ to the MS on its basic CID.

#### **6.3.14.9.5 Connection release**

##### **6.3.14.9.5.1 SS-initiated DSD**

*Insert the following table the end of 6.3.14.9.5.1:*

In MR distributed scheduling case, upon receiving a DSD-REQ from an MS, the MR-BS shall delete the service flow on relay link (MR-BS ~ RS). And then the RS shall delete the service flow on access link (RS-SS). BS shall send DSD\*-REQ to all the RSs on the path between the MR-BS and the MS sequentially. Such DSD\*-REQ is first sent from MR-BS to its subordinate RS using its basic CID. If its resource condition cannot support the requested SF parameter, it updates the SF parameter with the one it can support. This procedure is repeated by each RS, until the DSD\*-REQ reaches the access RS. After processing the DSD\*-REQ, the access RS replies with a DSD-RSP using its own basic CID directly to the MR-BS.

##### **6.3.14.9.5.2 BS-initiated DSD**

*Insert the following table the end of 6.3.14.9.5.2:*

In MR distributed scheduling case, the MR-BS shall delete the service flow on relay link (MR-BS ~ RS). And then the RS shall delete the service flow on access link (RS-SS). BS shall send to all the

RSs on the path between the MR-BS and the MS sequentially. Such DSD\*-REQ is first sent from MR-BS to its subordinate RS using its basic CID. If its resource condition cannot support the requested SF parameter, it updates the SF parameter with the one it can support. This procedure is repeated by each RS, until the DSD\*-REQ reaches the access RS. After processing the DSD\*-REQ, the access RS replies with a DSD-RSP using its own basic CID directly to the MR-BS.

#### 10.1 Global values

*[Add one row in table 342 as indicated]*

<u>System</u>	<u>Name</u>	<u>Time reference</u>	<u>Minimum value</u>	<u>Default value</u>	<u>Maximum value</u>
<u>MR-BS</u>	<u>T48</u>	<u>Time the MR-BS waits for DSA-RSP or DSA-ACK from RS</u>	=	=	=

*[Add one subclause after 11.13.37]*

#### 11.13.38 MS basic CID

<u>Type</u>	<u>Length</u>	<u>Value</u>	<u>Scope</u>
<u>TBA</u>	<u>2</u>	<u>Basic CID of the Destined MS</u>	<u>DSA-REQ, DSA-RSP</u>