Project	IEEE 802.16 Broadband Wireless Access Working Group <***http://ieee802.org/16***>	
Title	A Proposal for Construction and Transmission of MAC PDU in 802.16j	
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Re:	Response to a call for technical proposal for the TG Relay.	
Abstract	A proposal for construction and transmission of MAC PDU in 802.16j is submitted in this contribution.	
Purpose	Adopt this technical proposal as part of the baseline document.	
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A Proposal for Construction and Transmission of MAC PDU in 802.16j

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We need some new specifications to describe the construction and transmission of MAC PDU when there are PDUs for MSs from the network, wherein MSs communicate with BS directly, or via one hop or multiple hops relay stations.

[Add the following contents at the end of section 6.3.3.2 Concatenation]

The MAC PDUs from the network are for the subscriber stations which communicate with BS directly or via one hop or multiple hops relay stations. These MAC PDUs should be divided into the groups based on the relay station firstly. The general PDU groups should include the MAC PDUs for the subscriber stations which communicate with BS directly. The different Relay PDU groups should be created based on relay stations. The MAC PDUs for subscriber stations which communicate with BS via same relay stations or partially same relay stations can belong to the same relay PDU group. Then the Relay PDU should be created from the corresponding Relay PDU group.

The general MAC PDU for subscriber station belonging to the general PDU group may be concatenated into a single transmission in either uplink or downlink directions. The relay PDU for one relay station may be concatenated into a single transmission in either uplink or downlink. The general PDU and the relay PDU for different relay station shall not be concatenated into a single transmission in uplink or downlink.

Figure 25a illustrates the concept for a downlink burst transmission. In Figure 25a the user #1 and the user #2 communicate with BS via different relay stations. The PDUs for them are transmitted in different downlink bursts. And the PDUs for the user direct communication with BS are transmitted in the different downlink bursts from the relay PDUs.

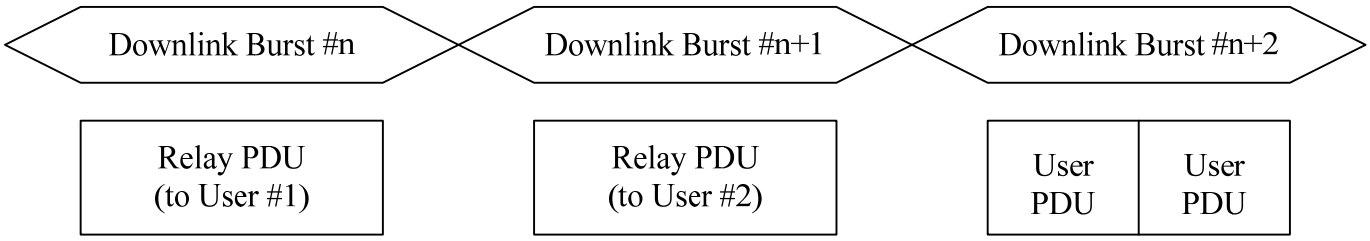

Figure 25a Downlink MAC PDU concatenation example

The relay station receives the Relay PDUs and decodes the relay PDUs into one or multiple subordinate relay PDU for subordinated relay stations or PDU for the subscribe stations. The relay station should transmit the subordinate relay PDU and PDU to the subordinate relay station and subscribe stations respectively.