Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Prioritized Uplink Bandwidth Allocation**
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Re:	MAC: Data Plane; in response to the TGm Call from Contributions and Comments 802.16m-08/033 for Session 57
Abstract	Bandwidth allocation providing the usage of uplink bandwidth grants
Purpose	To discuss and adopt the proposed text in the IEEE 802.16m SDD
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Prioritized Uplink Bandwidth Allocation

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1. Introduction

In legacy systems, the BS grants the uplink bandwidth addressed by the MS Basic CID for the unicast bandwidth requests. This helps the MS utilize its uplink scheduling algorithm when the grant is actually used, however, it can cause a mismatch between the expectation of the BS when the bandwidth is granted and the execution of the MS when the bandwidth is utilized. For example, when the BS expects the ARQ feedback for the connections with ARQ enabled, if the MS delays the ARQ feedback due to uplink traffic, the overall system performance can be degraded.

We propose that the BS be able to classify the grants and indicate the purpose of its grant when the bandwidth is allocated. If the purpose of the grant is provided by the BS, the MS shall use such grants for the purpose indicated by the BS.

2. Proposed Text for the 802.16m SDD

------------------------- **Start of the proposed text** --

10.x Data Plane
10.x.y Bandwidth allocation

Each MS requests uplink bandwidth on a connection basis. For the bandwidth requested by the MS, the uplink grant can be identified by Basic CID of the MS to be backward compatible with the legacy MS/BS, however, the BS may classify the grants using a field for referencing the specific connection to indicate the purpose of the grant the BS provides. In such a case, the BS will identify which grant is for the management connection and which grant is for the transport connection. For each category, the BS may provide further details of the usage of the uplink grant. If the BS identifies a grant for the specific connection, the MS shall use granted bandwidth for the identified connection – management connection or transport connection.

------------------------- **End of the proposed text** --

References

[1] IEEE 802.16m-08/003r4. The Draft IEEE 802.16m System Description Document, July 2008.
[2] IEEE P802.16Rev2/D6. Draft Standard for Local and Metropolitan Area Networks Part 16: Air Interface for Broadband Wireless Access Systems, July 2008.