Project	**IEEE 802.16 Broadband Wireless Access Working Group** <http://ieee802.org/16>	
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Re:	IEEE 802.16j-07/019: "Call for Technical Comments Regarding IEEE Project 802.16j"	
Abstract	The current baseline document has the RS concept defined. However, its benefits and details on different operation configurations are needed which is covered by this document.	
Purpose	To incorporate the proposed text into the P802.16j Baseline Document (IEEE 802.16j-06/026r4)	
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Clarifications on RS Grouping Concept

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Nortel

I. Introduction

The original text on Virtual RS group concept in the baseline document (IEEE 802.16j-07/026r4) need further clarification for its operation. This contribution aims to clarify certain aspects of Virtual RS group operation.

An RS group can be operated under several configurations. The proposed text is to clarify those configurations and general benefits of the RS grouping concept.

II. Text Proposal

----------Start of the Text----------

[*Do the following text modification into the Section* 6.3.9.16.3.1, *P802.16j baseline document page 88 Line 22*]

6.3.9.16.3.1 Virtual RS group~~ing~~

[*Insert the following text modification into the Section* 6.3.9.16.3.1, *P802.16j baseline document, Line 40, Page 88*]

- A virtual group may be formed to obtain the following benefits.
  - To reduce the number of handovers when an MS crosses boundaries of the RSs belong to the same MR-BS. Sine RS coverage is small, even with a moderate number of RSs there can be lot of handovers.
  - To increase the data rate when the MSs in an area receives adequate signal levels for the preamble, FCH and Map but the data rate is low. This case we may need a virtual RS group with transparent RSs.
  - When needed to introduce a new RS in a location where the segment allocation is not possible due to interference from all three segments which could cause high interference to broadcast messages.
  - When two RSs are so close that the individual permanent co-operation is better.

- A virtual RS group (VRG) has a Group Head, which is the RS or MR-BS whose preamble all the RSs in the VRG is sharing.
- A virtual RS group (VRG) has a logical entity called a Group Controller, which controls resource allocation and all the other messaging within the VRG.. Group Controller can reside in MR-BS, Group head or any other RS belong to VRG..
- When the group head is the MR-BS, the group controller shall reside in the MR-BS, i..e., the system is centrally controlled. When the group head is another non-transparent RS, the system can either operate as a

centralized system where controller resides in the MR-BS or as a decentralized system where controller resides at the Group Head. In the latter case, the RS group appear as a single non-transparent RS to the MR-BS.

- RS group shall be allocated with a BS-ID as indicated in Section 6.3.1.3.

[Change the text at the end of second paragraph in 6.3.1.3 (page 6 line 1 and 2) as indicated below:]

RSs that broadcast a preamble, FCH, and DL Map shall be assigned a unique Base Station ID when they are not belong to a Virtual RS Group. A Virtual RS Group shall also be assigned a unique Base Station ID. The format of the Base Station ID is defined in section 6.3.2.3.2.

----------End of the Text----------