Proposal for Multihop Relay Frame Structure for 802.16j

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Purpose: Proposal for a frame structure to support 802.16j multihop relay

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Frame Structure Recommendations for 802.16j

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What should be standardized?

• Preamble, FCH, MAPs at beginning of every frame for both the MR-BS and the RS
  – current implementations of MS may not be able to search over entire frame for handover measurements
  – WiMax forum is specifying only synchronous systems

• Option for null preamble and MAPs from RS

• Separate independent zone for RS-to/from-RS and MR-BS to/from RS communications
  – enables enhanced design for increased spectrum efficiency on this advantaged link

• 16e PHY enhancements for the relay links
What should be standardized?

• New RS preambles for start of downlink relay zone
  – preclude MS from synchronizing to the RS Zone

• Separate zones for uplink BS-to-RS and uplink BS-to-MR-BS communications
  – MS can be time advanced to either the RS or the MR-BS but not both at one time

• Signalling to support relay zone specifications and other relay-related functions

• The requirement to allow time gaps for transmit to receive transitions
What should NOT be standardized?

• Specific locations within frame for all of the zones

• Methods for extending the frame structure to multiframe sequences

• The multihop scheduler operation
Nevertheless: A recommended example frame structure...