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Title	**RSRTG/RSTTG allowances**
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Re:	IEEE 80216-08/020; IEEE 802.16 Letter Ballot Recirc #28c, on P802.16j/D4
Abstract	Proposal for usage of RSRTG/RSTTG and RTD
Purpose	Accept into P802.16j specification
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RSRTG/RSTTG and RTD allowances

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Description

This contribution provides comments and solutions for RSRTG/RSTTG and R-RTI/R-RTTI.

Please see S802.16j-08/112 for supporting discussion.

Proposed text changes:

Modify section 3.107 as follows:

~~**3.107 relay receive/transmit transition interval (R-RTI):** Receive/transmit transition time interval in units of OFDMA symbols between a receive mode access zone or relay zone at an RS and the time its subsequent transmission must arrive at the target receiver such that it provides for the required RSRTG. It shall be an integer number of OFDMA symbols. The R-RTI shall be calculated by following equation:~~

$$R\text{-}RTI = OFDMSymbolUnit\left(RSRTG + \frac{RTD}{2}\right)$$

~~Where RTD is the round trip delay between the RS and its superordinate station and OFDMASymbolUnit is the integer number of OFDMA symbols, or $OFDMASymbolUnit(x) = \lceil x/(OFDMA\ symbol\ time) \rceil$.~~

Modify section 3.108 as follows:

~~**3.108 relay transmit/receive transition interval (R-TTI):** Transmit/receive transition time interval in units of OFDMA symbols between a transmit mode access or relay zone and a receive mode access or relay zone in an RS frame that provides for the required RSTTG. It shall be an integer number of OFDMA symbols. The R-TTI shall be calculated by following equation:~~

$$R\text{-}TTI = \begin{cases} 0 & \text{if } RTD/2 \geq RSTTG \\ OFDMASymbolUnit(RSTTG - RTD/2) & \text{if } RTD/2 < RSTTG \end{cases}$$

~~Where RTD is the round trip delay between the RS and its superordinate station and OFDMASymbolUnit is the integer number of OFDMA symbols, or $OFDMASymbolUnit(x) = \lceil x/(OFDMA\ symbol\ time) \rceil$.~~

Modify section 8.4.4.2 as follows:

8.4.4.2 PMP frame structure

Insert the following text at the end of 8.4.4.2:

In MR systems where relay links and access links are time separated, RS allowances shall be made by an RSRTG and by an RSTTG. The parameters of RSRTG and RSTTG for an RS are capabilities provided by the RS to MR-BS during RS network entry and shall meet the requirements set in 12.4.3.1.5.

All DL transmissions shall be symbol aligned with the corresponding symbols at the MR-BS. All DL receive times shall be determined according to the time delay from the corresponding symbols at the MR-BS, and shall be based on the RTD between the transmitting and receiving station. All UL receive times shall be symbol aligned with the corresponding symbols at the MR-BS. All UL transmissions shall be time advanced according to the RTD between the transmitting and receiving stations. such that they are symbol aligned at the receiving station with the corresponding symbols at the MR-BS.

An RS shall begin a switch from receive to transmit mode at least RSRTG before the beginning of the first transmit time. The RS shall not be required to transmit or receive during the symbols that overlap the receive-to-transmit switching time interval.

An RS shall begin a switch from transmit to receive mode at least RSTTG before the beginning of the first receive time. The RS shall not be required to transmit or receive during the symbols that overlap the transmit-to-receive switching time interval.

~~An R-RTI that allows for the RSRTG shall be inserted between the zones where RS is required to switch from receive to transmit mode. An RS shall not be required to transmit or receive during the symbols in RRTI~~

~~An R-TTI shall be inserted between the zones where RS is required to switch from transmit to receive mode. An RS shall not be required to transmit or receive during the symbols in R-TTI.~~

~~The R-RTI and R-TTI are defined in 3.107 and 3.108, respectively.~~