IEEE P802.22 Wireless RANs

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| Errata – 802.22 base std, Use of CRC for MAC management messages | | | | |
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Abstract

In sub-clause 7.8.5, it is stated that the MAC management messages are not to be augmented by a CRC once the CPE authentication has been accomplished. This needs to be reflected upon and the behavior of the CPE and the base station need to be clarified in case of an error being detected for interoperability purposes.

***Proposed corrections to the IEEE Std 802.22TM- 2011***

The need for a clarification in sub-clause 7.8.5

In sub-clause 7.8.5, it is stated that the MAC management messages are not to be augmented by a CRC once the CPE authentication has been accomplished. This means that there is no way by which a CPE can detect an error that could be contained in, for example, the upstream map. Such error may result in unwanted collisions in the upstream, potentially destroying the transmission of the CPE that suffered from this error as well as that of other CPEs that happen to be affected by this collision. The need for the use of the CRC should be reflected upon in order to avoid such important mis-behavior in the WRAN operation.

If a CRC is utilized at the end of important MAC management messages, specific behaviors should be established in order to avoid problems such as the collision described above. In such case, only the CPE where the error occurs (in fringe reception condition) would be affected by, for example, waiting for another upstream allocation from the BS, and not those ones where the signal was well received.

Some text would then need to be modified as a result of some decision on the need for a CRC for those messages.

Device behavior to be defined in case of CRC error detection

In a more general context, the IEEE Std 802.22-2011 would need to include specific behavior in case of errors being detected by the CRC for the various types of messages in order to make sure that there is interoperability between devices coming from different manufacturers. This could be developed along the implementation of the technology but should be approved and progressively included in the Standard.