Path Selection and Reselection for RSs in IEEE 802.16j Multi-hop Relay Network

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None

Purpose:

Propose the path reselection procedures for RSs in IEEE 802.16j specification

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Path Selection and Re-selection for RSs in IEEE 802.16j Multi-hop Relay Network

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Path Selection & Path Re-selection for RSs

According to [1], a mechanism shall be defined to select, set up and maintain one or more multi-hop paths.

- **Path selection for RSs**
  - When a RS first comes to attach to the MR network, path selection is applied to find the most suitable access station.
  - Path selection can be performed during the RS initial network entry.

- **Path re-selection for RSs**
  - When the network or an operating RS wants to improve the path and/or network performance, path re-selection can be applied to find the most suitable access station.
  - Path re-selection could be separated from RS network (re-)entry.

Both are needed for RSs in the MR network.
RS-assisted network-controlled V.S. network-assisted RS-controlled

The methods for path selection and reselection for RSs can be divided into two categories:

- **RS-assisted network-controlled method [2,4,7,8]**
  - RS makes measurements of the MR-BS and/or other RSs and then reports them to the network.
  - Network (MR-BS) makes decision.

- **Network-assisted RS-controlled method [3,6]**
  - Network broadcasts information regarding relay paths to RS.
  - RS makes decision after evaluating the information.
  - Periodic broadcast of path information is needed to support path selection and reselection anytime and this is not efficient.

We focus on this
Proposal

- Both path selection and re-selection are needed for RSs in the MR network.
  - We propose to add “6.3.25.1 path selection for RSs” and “6.3.25.2 path re-selection for RSs” in Section 6.3.25 “relay path management and routing”.

- The procedures of path selection for RSs may refer to Section 6.3.9.16 “support for network entry and initialization in relay mode”.

- The procedure of path re-selection for RSs is proposed to consist of three steps:
  - MR-BS and/or RSs measurements and reporting.
  - Decision of path reselection and notification.
  - RS network re-entry.
References


