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| Project | IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 > | |
| Title | Signaling Messages Approaches for Credit Tokens based Rental Protocol | |
| Date Submitted | 2006-05-02 | |
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| Re: | IEEE 802.16h-06/011 – Working Group Review | |
| Abstract | Provided contribution IEEE C802.16h-06/038 or latest version is adopted, section 15.7.2.2.6.4 of the IEEE 802.16h working document has to be updated to introduce the signaling messages implementation approaches (over the air and via the backhaul) for the credit tokens based rental protocol. | |
| Purpose | This contribution proposes text as updated text for section 15.7.2.2.6.4 of the IEEE 802.16h working document. | |
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Signaling Messages Approaches for Credit Tokens based Rental Protocol

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Overview

Contribution [1] proposes over the air advertisement discovery mechanisms and associated signaling messages to support urgent (critical time) radio resources sharing between IEEE 802.16h systems themselves, but also between IEEE 802.16h systems and non IEEE 802.16h systems. This contribution proposes updated text for section 15.7.2.2.6.4 in [2] to take into account this over the air signaling [1]. This contribution introduces the signaling messages implementation approaches (over the air and via the backhaul) for the credit tokens based rental protocol.

Specific editorial changes

This section provides a list of changes to the draft document.

Blue text represents specific editorial additions.

~~Red strikethrough~~ text is to be deleted.

Black text is text already in the draft.

Bold italic text is editorial instructions to the editor.

Text proposal for section 15.7.2.2.6.4.

Replace the existing text of section 15.7.2.2.6.4 by the following updated one below.

The credit tokens mechanisms (section 15.7.2.2.6.3) require inter BSs communication between different NWs. This inter BS communications is necessary to exchange the parameters related to the credit tokens based scheduling cycle.

The primitive parameters include: T_{Start} , T_{end} , $T_{End\ Renting}$, $T_{Start\ Renting}$, T_{Msf} , RPA, id_k , $BS_CT_k^{(n)}$, X_k , $T_{Start\ k}$, $T_{End\ k}$.

The derived parameters include: TS_m , $\{id_{k,m}^{(n)}\}_{selected}$, $P_m^{min, (n)}$, $P_m^{max, (n)}$.

These parameters are stored into the regional LE DB and into the local database of each LE BS of the shared distributed system architecture (section 15.2.2).

The information exchange about these parameters between these databases and the RADIUS/BSIS servers ~~can be either~~ is supported-performed by IP based wired communication using the co-existence protocol (CP). This inter BS communication is supported by the inter network messages defined in the shared distributed system architecture (section 15.2.2).

The inter BS communications to support the signaling messages related to the awareness/advertisement sequence of the credit tokens based co-existence protocol can also be implemented by secured over the air mechanisms described in section 15.7.2.2.6.5.

~~or by secured over the air signaling communication between the BSs.~~

~~For the implementation of the credit tokens based co-existence protocol, these two methods for BS—BS communication are proposed.~~

~~IP based wired BS—BS communication method:~~

~~With this method; the IP based wired communications between BSs can be supported by the inter network messages defined in the shared distributed system architecture (section 15.2.2).~~

~~Over the air based BS—BS communication method:~~

~~The credit tokens based scheduling cycle requires signaling in both the downlink and uplink. Here:~~

- ~~– BS—BS downlink (DL—BS—BS) stands for the communication from the master BS towards one or several slave BS(s).~~
- ~~– BS—BS uplink (UL—BS—BS) stands for the communication from the slave BS towards one master BS.~~

~~With respect to this terminology, the UL—BS—BS signaling is dedicated to the following sequences of the credit tokens based scheduling cycle:~~

- ~~○Awareness/Advertising (sequence 1);~~
- ~~○Inform bidding phase (sequence 3);~~
- ~~○ n^{th} ($n \geq 1$) bidding results (sequence 5 & 7);~~
- ~~○Final bidding results/pricing (sequence 8);~~
- ~~○BW granting (sequence 10).~~

~~With respect to this terminology, the DL—BS—BS signaling is dedicated to the following sequences of the credit tokens based scheduling cycle:~~

- ~~○Express BS_k interest (sequence 2);~~
- ~~○Express initial BS_k bidding (sequence 4);~~
- ~~○Express new n^{th} ($n > 1$) BS_k bidding (sequence 6);~~
- ~~○Transaction (sequence 9).~~

References

- [1] IEEE C802.16h-06/038 – Radio Resources Sharing Opportunities Advertisement Discovery, 2006-05-02
- [2] IEEE 802.16h-06/010: Part 16: Air Interface for Fixed Broadband Wireless Access Systems Amendment for Improved Coexistence Mechanisms for License-Exempt Operation, Working document; 2006-03-29