IEEE P802.22  
Wireless RANs

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| Resolution for comment 1016,1018 and 1019:  Text change for Section 9.2.3.1 | | | | |
| Date: 2010-03-30 | | | | |
| Author(s): | | | | |
| Name | Company | Address | Phone | email |
| Chang-Joo Kim | ETRI | Korea | +82-42-860-1230 | cjkim@etri.re.kr |
| Byung Jang Jeong | ETRI | Korea | +82-42-860-6765 | bjjeong@etri.re.kr |
| Gwang-Zeen Ko | ETRI | Korea | +82-42-860-4862 | gogogo@etri.re.kr |
| Sung-Hyun Hwang | ETRI | Korea | +82-42-860-1133 | shwang@etri.re.kr |
| Jung-Sun Um | ETRI | Korea | +82-42-860-4844 | korses@etri.re.kr |

Abstract

This document provides the resolutions for comment 1016, 1018 and 1019. This document provides text change for Section 9.2.3.1 Transition Diagrams for Channel Sets.

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**Comment 1016**

***Figure 182 - does not specify the event under which channels change states***

**Remedy:**

***Add event / Ouput for each of the arrows..***

**Comment 1018**

***Figure 182 was not properly imported into the draft.***

**Remedy:**

***Revise diagram or re-import from original source***

**Comment 1019**

***Figure 182 - does not specify the event under which channels changes states***

**Remedy:**

***Add event / Ouput for each of the arrows.***

***[Replace below text with corresponding Section 9.2.3.1]***

***[Modification of Section 9.2.3.1]***

* + - 1. Transition Diagram for Channel Sets

All channels belong to one of the possible channel sets in the BS. At the end of the quiet period, depending on the activity of incumbent users and channel quality each channel may transit to other sets as shown by the state transition diagram shown in Figure 182. The transition diagram consists of 5 states and 10 events.The 5 states are described in Section 9.2.3. Note that these states are classified using spectrum sensing results during WRAN initialization and operation. Therefore, disallowed and unavailable channels are omitted in this state transition diagram because those channels are classified by oprator or incumbent DB. Possible events for each state transition are described as follows:

1. The channel in the Operating, Backup or Candidate sets becomes a member of the Protected set as an incumbent appears.
2. Incumbent service releases the channel.
3. The poorest channel in the Backup set becomes a member of the Candidate set as its quality is worse than that of a new member of the Backup set. It can also occur when an incumbent has appeared during the last 30s.
4. The channel is released due to the termination of the WRAN usage and its quality is worse than that of the existing members of the Backup set.
5. The channel becomes Operating by its new allocation to the WRAN service.
6. If the channel quality is better than that of an existing member of the Backup set, then it replaces this member of the Backup set. Also, all these channels satisfy that no incumbent appeared during the last 30s.
7. The channel is released due to the termination of WRAN usage and its quality is within the range of the existing members of the Backup set.
8. Once an Unclassified channel has been sensed, it is re-classified as Candidate channel depending on the sensing results. (Note that a channel may have been considered as a Candidate channel by the CPE automaton, see 9.3.3, but the BS station spectrum manager will only be able to reclassify this channel as Candidate when all the CPEs will have reported it as a Candidate, i.e., all the CPEs will have had time to sense it.)
9. Once an Unclassified channel has been sensed, it is re-classified as Protected channel depending on the sensing results.
10. If the channel is not sensed during the pre-defined time duration, the channel becomes Unclassified. (Note that at the base station, the channel has to be sensed by all active CPEs within the pre-defined time duration and the results reported to the BS to not be considered as Unclassified.)

The following legend applies to the transition diagram depicted in Fiugure 182.

a) Ovals indicate the state of the channel (the channel set to which it belongs)

b) Transition lines (i.e., channel state transition) are labeled with < event that causes the transition>/<events triggered by the transition>. However, the event triggered by the state transisitions is the change of the current state of the channel and it is omitted in the diagram. So “imcumbent appearance/” in a state transition means that channel state is changed from tail of arrow to head of arrow due to the incumbent appearance on that channel.

c) The detailed explanation for each transition event is given above (i.e., **Event 1**, **Event 2**, …, **Event 10**).



Figure 182 Channel Set Transition Diagram*[Option 1]*



Figure 182 Channel Set Transition Diagram*[Option 2]*