A method which can Improve Capacity of WirelessMAN-CX

IEEE 802.16 Presentation Submission Template (Rev. 8.3)

Document Number:
S802.16h-06/103

Date Submitted:
2006-11-14

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Venue:
Session #46, 13-16 November, 2006

Base Document:
http://le.wirelessman.org/C80216h-06_103.pdf

Purpose:
Offer a mechanism that can improve the throughput capacity of system and decrease the probability of occurrence of blind area.

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Outline

• Current co-existence mechanism
• Multiple working channel mechanism
• How to implement the proposed mechanism based on current draft standard
Co-existence Mechanism in Current 16h Draft

- System will share channel with others if no idle channel exist
- A MAC frame is divided into several sub-frame
  - Common sub-frame for non-interference service
  - Master sub-frame for interfered SSs
  - System is quiet during slave sub-frame
Co-existence mechanism in current draft standard

• System do nothing during slave sub-frame
  – Except channel measurement

• Slave sub-frame is about 1/3 total of time with type 2, N=3

• System capability is wasted
  – The number of SS can be registered to the BS is decreased.
Proposed Multiple Channel Switching Mechanism

- Work on another channel during slave sub-frame
How to Do

• System enters network as defined in 15.1.3
  – Work on an exclusively channel
  – Share channel with other systems

• Sensing and seeking for idle channel during quiet period
  – Using quiet CSI/CMI and CX protocol to find co-existence neighbor on other channels
  – See contribution C80216h-06_105 for more details
How to To
-continue

• If an idle channel or idle sub-frame on non-working channel is found, switching to idle channel during corresponding slave sub-frame
  – Work on an exclusively channel
    • New idle channel is found
      – During one of sub-frame, works on newest idle channel
    • New idle sub-frame on non-working channel is found
      – During corresponding sub-frame, works on newest idle channel
  – Share channel with other systems
    • During corresponding sub-frame, works on newest idle channel
Benefit of Proposed Mechanism

• System works all time
  – Throughput capacity is improved.

• The probability of blind area is decreased
  – Because system works on more than one channel
Modifications to Current 16h Draft Standard

- Modifying the information table
- Add a new section to describe how to realize the multiple channel switching mechanism
Conclusion

• A multiple working channels mechanism is provided.
  – Throughput capability increases
  – Probability of blind area decreases

• Influence on current 16h draft is introduced.
  – Only a little modification to current 16h draft standard
    • Modify the information table
    • Add section 15.4.4 to describe the implement of multiple working channels
    • See C80216h-06_103 for text