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| Source(s) | Min-Sung Kim, Yongjoo Tcha, Yong-Bum Kim, Seong-Choon Lee KT 17 Woomyeon-dong, Seocho-gu, Seoul, 137-792, Korea | Voice: +82-2-526-6109 Fax: +82-2-526-5200 mailto:cyberk@kt.co.kr |
| Re: | IEEE P802.16e/D3 Letter Ballot | |
| Abstract | This document contains a suggestion of new Live Poll messages for Multicast and Broadcast Service in IEEE 802.16e. | |
| Purpose | The document is contributed to support certain comment on IEEE P802.16e/D3 Letter Ballot. | |
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Live Poll messages for Multicast and Broadcast Service in IEEE 802.16e

*Min-Sung Kim, Yongjoo Tcha, Yong-Bum Kim, Seong-Choon Lee
KT*

1. Problem Statements

In Multicast and Broadcast service (MBS), data is transmitted to multiple recipients. Transmitting the same data to multiple recipients allows network resources to be used efficiently. The MBS uses a group address to transmit the data for all recipients instead of the recipients' host addresses.

The recipient that wants to receive MBS has to join a group in advance. Internet Group Management Protocol (IGMP) for IPv4 and Multicast Listener Discovery (MLD) protocol for IPv6 are used for joining a multicast group. Multicast router broadcasts Membership query message to the directly attached hosts in its subnet. The MSS responds to join the group. The choices of poll are assigned to different Multicast addresses.

2. Proposal

A Poll Query message and a Poll Report message are defined in MAC management message. A BS shall broadcast the Poll Query message to all MSSs or MSSs that are joined the group in the cell. MSSs that received Poll Query message may respond with Poll Report message.

The choices of questionnaire are discriminated by multicast address and the MSS shall receive different questionnaire depending on the user's choice.

These messages may be used in some applications like public opinion survey, live interview, etc.

3. Proposed Text Changes

[Add new section after the section 6.3.2.3.60:]

6.3.2.3.6x Poll Query (POLL-QRY) message

A POLL-QRY message may be transmitted by a BS to inquire opinions with some choices to MSSs. Each choice has different multicast address.

A BS shall generate POLL-QRY message in the format shown in Table xx1.

Table xx1 POLL-QRY Message Format

| Syntax | Size | Notes |
|-----------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POLL-QRY_Message_Format() { | | |
| Max Resp Code | 8 bits | The Max Resp Code field specifies the maximum time allowed before sending a responding report. The actual time allowed, called the Max Resp Time, is represented in units of 1/10. |
| Group address | 32 bits | Original Multicast address |
| Number of Choices (N) | 3 bits | How many choices are present in a Question |

| | | |
|-----------------------|---------|------------------------------------------------------------------------------|
| For (i=1; i<N; i++) { | | |
| Choice Address [i] | 32 bits | Multicast address of choice 1'st choice address keeps above Group address |
| } | | |
| } | | |

6.3.2.3.6x Poll Report (POLL-RPT) message

A POLL-RPT message may be transmitted by MSSs in response to the questionnaire with an answer to BS. The MSSs may receive different questionnaires with different multicast addresses according to the answer of the question.

A MSS shall generate POLL-RPT message in the format shown in Table xx2.

Table xx2 POLL-RPT Message Format

| Syntax | Size | Notes |
|-----------------------------|--------|-------|
| POLL-RPT_Message_Format() { | | |
| Answer among choices | 3 bits | |
| } | | |

[Insert two rows in Table 14 at the subsection 6.3.2.3]

Table 14 – MAC Management messages

| Type | Message name | Message description | Connection |
|------|--------------|---------------------|------------|
| 62 | POLL-QRY | POLL Query message | broadcast |
| 63 | POLL-RPT | POLL Report message | Transport |