IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Active Scanning related requirements for Specification Frame Work Document | | | | |
| Date: 2012-01-19 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Jarkko Kneckt | Nokia | Rakentajainrinne 6, 02330 Espoo Finland |  | Jarkko.Kneckt@nokia.com |
| Marc Emmelmann | Fraunhofer FOKUS | Kaiserin-Augusta-Alle 31 10589 Berlin Germany | +49-30-3463-7268 | emmelmann@ieee.org |
| Phillip Barber | Huawei Technologies Co., LTD. | 5360 Legacy Dr, Ste 175  Plano, Texas 75024 USA |  | [pbarber@huawei.com](mailto:pbarber@huawei.com) |
| George Cherian, Santosh Abraham, Jouni Malinen | Qualcomm Inc | 5775 Morehouse Dr., San Diego, CA |  | [gcherian@qualcomm.com](mailto:gcherian@qualcomm.com) |

Abstract

The document contains minimal set of requirements to achieve faster, more precise and less overhead creating active scanning mechanism. More requirements will be added later.

The requirements are grouped according to enhancement.

The submissions that are covered with these requirements are based on:

11-1414r4 Probe Request and Response in TGai

11-1521r2 AP and Network Discovery Enhancements

11-1523r6 Access Delay Reduction for FILS

11-1619r3 Active Scanning

12-50r0 Broadcast Probe Response including Normative Text

12-56r0 FILS enabled active scanning

12-59r0 Selection of the AP for Scanning

12-60r0 Text for Selection of the AP for scanning

12-61r0 Probe Response frame transmission interval

12-62r0 Text for Probe Response frame transmission interval

12-67r0 Active Scanning Time Notification

12-124r0 Text for access delay reduction for FILS

Normative text to implement the choices is provided in 11-1619r3.

# Enhacements for scanning mechanism

* 802.11ai shall define enhancements to scanning mechanisms.

# MLME

* The MLME-SCAN.confirm primitive shall be invoked to report every found BSS during the scan procedure.

# FILS capability indication

* If applicable, Probe Request, Probe Response and Beacon should indicate FILS capability.

# Probe Request

* Probe Requests may be sent to an individual address [11-12/13r0]
* The probe request may restrict responses by indicating APs that should or should not respond
* The transmitter of the Probe Request frame may indicate the time that it is available to receive Probe Response frames.

# Canceling Probe Responses transmission

* Responses to Probe Request may be cancelled by requesting STA

# Probe Response

* The Probe Response frame may be transmitted to an individual or broadcast address.
* The Probe Response may contain information of other than responding AP (Comprehensive response).

# Probe Response collision avoidance

* AP may respond to multiple Probe Requests with a single response frame
* AP may transmit a Beacon frame instead of Probe Response frame if the TBTT occurs within short time interval

# Strawpoll:

Do you agree to requirements of this submission?

Yes: No: Abstain:

# References:

11-1414r4 Probe Request and Response in TGai

11-1521r2 AP and Network Discovery Enhancements

11-1523r3 Access Delay Reduction for FILS

11-1619r3 Active Scanning

12-50r0 Broadcast Probe Response including Normative Text

12-56r0 FILS enabled active scanning

12-59r0 Selection of the AP for Scanning

12-60r0 Text for Selection of the AP for scanning

12-61r0 Probe Response frame transmission interval

12-62r0 Text for Probe Response frame transmission interval

12-67r0 Active Scanning Time Notification

12-124r0 Text for access delay reduction for FILS