IEEE P802.11  
Wireless LANs

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| Restriction of unnecessary packet exchanges | | | | |
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Abstract

This document proposes text for the following area of SFD.

* **5. Fast Network Discovery**

Proposed test describes restriction of unnecessary packet exchanges.

# Fast Network Discovery

**Motivation**

Heavy usage of Probes may break FILS requirement because of packet flooding by unnecessary packet exchanges.

**Reference**

Doc. IEEE 802.11-12/0206r0: Necessity of Probe reduction

**[Motion]** *This is reserved for Hawaii F2F meeting.*

Do you agree to include the following conceptual text for SFD?

(Editorial revisions should be made later.)

Y/N/A =

**<Proposed text>**

*I’d like to invite your comments for harmonization works toward F2F meeting. Comment exchanges will be made on TGai email reflector.*

* 1. **Negative effect of heavy packet exchanges**
     1. General

Fast AP/NW discovery is an important factor in order to achieve FILS requirements sufficiently. However, heavy packet exchanges for that may bring severe packet congestions. Instead, it may be difficult to achieve FILS.

* + 1. Current active scanning

Almost current STAs search desired APs by sending Probe Requests with target SSID identified in Service Set Identifier IE. Normally wildcard SSID is used for waiting for responses from multiple desired APs by single Probe Request.

However, considering FILS use cases which one hundred STAs try to associate with an AP in a second, responses from non-related APs around the place, which are unnecessary packets, may increase air-time occupation.

To realize aggressive WLAN utilization by FILS, it is required to get unnecessary packet exchanges less as FILS compliant STAs and APs get deployed in the future. It will make WLAN bandwidths used efficiently for associations, authentications and data communications other than AP/NW discovery.

* 1. **Fast AP Discovery**
     1. Probe reduction scheme

The following restriction should be considered for reducing unnecessary probe exchanges:

* Usage restriction of wildcard SSID in Probe Request (Details should be considered.)
* Usage reduction of Probe Request itself (Details should be considered.)
* (to be added)
  1. **Fast Network Discovery**

**References:**

* Doc. 11-12/0206r0 : Necessity of probe reduction (Katsuo Yunoki/KDDI R&D Laboratories)