IEEE P802.11  
Wireless LANs

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| Draft LS from 802.11 to 3GPP RAN and SA on IMT-2020 | | | | |
| Date: 2016-09-01 | | | | |
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Abstract

This document contains draft text for a possible liaison by IEEE 802.11 to 3GPP RAN and SA in relation to the inclusion of 802.11 radio interfaces in the 3GPP proposal to IMT-2020.

Rev 1 – Target this LS to be at the 802.11 level. Remove all references to the 802.11 air interface. Clarify that 802.11 would be using unlicensed spectrum. State that 802.11 would like to work with 3GPP to improve how WLAN and LTE/NR can work together to provide an improved wireless networking experience for IMT-2020. Request 3GPP RAN’s thoughts on how 802.11 and 3GPP RAN can work together.

Rev 2 – As updated based on discussions during the September 1 AANI SC teleconference and on the email reflector.

To: 3GPP RAN, 3GPP SA

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CC: 802 EC, 802.1

Subject: IEEE 802.11 Working Group Liaison on the role of WLAN in IMT-2020

Date: 2016-09-16

**Discussion:**

The IEEE 802.11 working group (WG) invites 3GPP RAN and SA to consider that 802.11 WLAN in unlicensed spectrum may provide a practical low costs means of meeting the performance requirements for some IMT-2020 use cases. IMT-2020 uses cases that may benefit from the use of WLAN are: the high data rate hotspot use case

*<It was suggested the use case wording to aligned with ITU 2083 for text: “Enhanced Mobile Broadband: includes wide-area coverage and hotspot, hotspot is: “for an area with high user density, very high traffic capacity is needed, while the requirement for mobility is low and user data rate is higher than that of wide area coverage”, hence the addition of the IMT-2020 reference and the removal of the word “indoor” in the text. But, should we proceed this way or should we be using the use case descriptions from RAN in TR 38.913v0.4.0: Indoor hotspot: “small coverage per site/TRP (transmission and reception point) and high user throughput or user density in buildings. The key characteristics of this deployment scenario are high capacity, high user density and consistent user experience indoor” all other use 3GPP use cases do not seem well matched for 802.11 (Dense urban, Rural, Urban macro, High speed, Extreme long distance coverage in low density areas, Urban coverage for massive connection, Highway Scenario, Urban Grid for Connected Car, Commercial Air to Ground scenario, Light aircraft scenario, and Satellite extension to Terrestrial) >*

and potentially other high data rate use cases.

802.11 WLAN currently provides 3GPP users with high data rate offload capability in many existing 3GPP networks. Recently completed 3GPP RAN WIs on LWA and LWIP and the currently active eLWA WI will provide improvements in the way WLAN (802.11) resources can be aggregated with the 3GPP radio interface resources in the 3GPP network. IEEE 802.11 believes that it is possible to further improve on the way WLAN and 3GPP LTE and NR can be aggregated to meet the performance goals of IMT-2020 and we believe that improving the aggregation of WLAN will be mutually beneficial to both 3GPP and IEEE 802.11.

In addition to considering improvements in WLAN aggregation anchored in the RAT, IEEE 802.11 would also like to explore the possibility of improvements in WLAN integration in the existing and new Core Networks. Some areas of possible improvement include: Data Radio Bearer over WLAN, improved metrics for discovery and selection of WLAN, improvements in mobility, and improvements in security.

Hence, the IEEE 802.11 WG would like to investigate ways that the IEEE 802.11 WG and 3GPP RAN and SA can work together towards these goals. The IEEE 802.11 WG is hopeful that 3GPP RAN and SA will also see the benefit in working with the IEEE 802.11 WG towards improving the aggregation of WLAN in the 3GPP network, thus enabling WLAN in unlicensed spectrum to support some requirements for some of the IMT-2020 use cases. IEEE 802.11 WG invites 3GPP RAN and SA to respond to this liaison with the 3GPP RAN opinion on the desirability of improving WLAN aggregation for IMT-2020 and suggestions on how 3GPP RAN, 3GPP SA, and the 802.11 WG can work together to improve WLAN aggregation.

**Actions:**

To 3GPP RAN:

The 802.11 WG respectfully asks 3GPP RAN to:

* Provide the 3GPP RAN opinion on the desirability of improving WLAN aggregation to assist 3GPP in providing complimentary ways of meeting some IMT-2020 use case requirements.
* Provide suggestion on how 3GPP RAN and the 802.11 WG can work together to improve WLAN aggregation.

To 3GPP SA:

The 802.11 WG respectfully asks 3GPP SA to:

* Provide the 3GPP SA opinion on the desirability of improving WLAN integration in the existing and new Core Networks to assist 3GPP in providing complimentary ways of meeting some IMT-2020 use case requirements.
* Provide suggestion on how 3GPP SA and the 802.11 WG can work together to improve WLAN integration.

**Date of Next IEEE 802.11 WG Meetings:**

802 Plenary - November 6-11 2016 in San Antonio, TX, USA

802 Interim - January 15-20 2017 in Atlanta, GA, USA

Sincerely,

Adrian Stephens  
IEEE 802.11 Working Group Chair

**References:**

1. **Recommendation ITU-R M.2083-0 (09/2015), “IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond”, M Series, Mobile, radiodetermination, amateur and related satellite services**