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Date: 18 August 2015

To: Suzanne Kooistra
Liaison Coordinator, 3GPP

Requested distribution to:
3GPP SA Chair - Erik Guttman
3GPP SA2 Chair - Frank Mademann
3GPP SA3 Chair - Anand Prasad
3GPP RAN Chair - Dino Flore
3GPP CT1 Chair - Atle Monrad

From: Wi-Fi Alliance®

RE: Proposed requirements for carrier Wi-Fi® networks

Ms. Kooistra,

Wi-Fi Alliance requests that the attached memo be distributed to the Chairs of the working groups listed above, in regards to requirements being developed in Wi-Fi Alliance for carrier Wi-Fi networks.

Best Regards,

Tina Hanzlik
Wi-Fi Alliance Staff



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From: Wi-Fi Alliance Operator Marketing Task Group

RE: Proposed requirements for carrier Wi-Fi networks

The Wi-Fi Alliance Operator Marketing Task Group has conducted a study that identifies a set of requirements for carrier Wi-Fi networks (see Appendix). For the purpose of this document, carrier Wi-Fi networks are Wi-Fi networks deployed and managed by operators.

The carrier Wi-Fi requirements in this document are essential to provide for:

- End-users: a 'better network experience' proposition in terms of quality of experience, ease of access and use, consistency, security, service continuity, etc.
- Operators: a network that is reliable, efficient, scalable, secure, can be more easily managed and easier to integrate with the operator's core infrastructure
- Equipment vendors: more competitive products and growth opportunities by identifying a common set of requirements for products designed for the operator market segment

A primary purpose of documenting carrier Wi-Fi requirements is to encourage the deployment of Wi-Fi CERTIFIED™ products that meet carriers' Wi-Fi requirements. Therefore, requirements are grouped and prioritized. A set of existing and proposed Wi-Fi Alliance certification programs such as Passpoint™, Wi-Fi CERTIFIED ac, Multiband Operations, and Optimized Connectivity Experience have the potential to meet carriers' Wi-Fi requirements.

Wi-Fi Alliance would like to make 3GPP groups aware that deployment of devices that comply with some of these new requirements may require 3GPP to enhance the functionality designed to support carrier Wi-Fi. As an example, the proposed Optimized Connectivity Experience program is developing requirements for support of 802.11ai and EAP-RP for fast re-authentication and IP address allocation. Therefore 3GPP network functionality for WLAN interworking would need to support EAP-RP for the UE authentication in order to take advantage of these new carrier Wi-Fi features.

Wi-Fi Alliance would like to take this opportunity to request to 3GPP to consider the 802.11 and EAP-RP technical requirements identified by Wi-Fi Alliance, and the technical features defined to satisfy such requirements in order to ensure that deployment of 3GPP networks will meet the requirements of carrier Wi-Fi devices in the future.

Wi-Fi Alliance looks forward to continued dialogue with 3GPP on carrier Wi-Fi.



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APPENDIX

Operator Requirements for carrier Wi-Fi

This section summarizes the outcome of discussions in Wi-Fi Alliance Operator Marketing Task Group on the relevant requirements for carrier Wi-Fi.

Requirements apply to logical elements of the Wi-Fi network that are within scope of Wi-Fi Alliance. These include:

- Wi-Fi end-user devices
- Wi-Fi Access Points

The requirements in this section are classified according to the following broad elements of carrier Wi-Fi identified by the Operator Marketing Task Group:

- 1) Enhanced user experience on carrier Wi-Fi
 - a. Seamless Logon
 - b. Secure communication
 - c. Better User Experience
 - d. Differentiated user experience
- 2) Efficient Network Management
 - a. Easy to deploy Wi-Fi network
 - b. Automatic Resource management
 - c. Efficient network operation

Requirements Theme Priority Ranks

The requirement theme priority ranks are derived from the individual ranking inputs from Wi-Fi Alliance members who volunteered to provide theme prioritization scores. Twelve Wi-Fi Alliance Operator Marketing Group member companies including ten network operators provided ranking inputs. The scores of all submitting prioritization rankings were averaged to provide an overall prioritization rank of each requirements theme.

The following table provides the overall prioritization rank of each requirements theme based upon Wi-Fi Alliance member input:



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Priority Rank	Theme
1	Network-guided load balancing and transition management between bands and APs
2	Passpoint
3	Management frame overhead reduction
4	Information provided by network to assist device's scanning, AP selection and roaming behavior
5	Fast (re)association to APs
6	Efficient spectral (re)use and sharing
7	Support for all available channels in a band
8	RF performance testing
9	AP coordination for load balancing
10	Network diagnostics and monitoring
11	Network guided roaming to cellular networks
12	Radio interface metrics and network policies for Wi-Fi network selection/roaming
13	Support for seamless interworking with cellular networks
14	Device and transport security
15	Differentiation of user experience
16	Secure subscription management
17	Prioritization policies for Wi-Fi network selection/roaming
18	Information provided by the network about WMM-AC support to assist device's network selection/roaming behavior
19	Enhanced uplink PHY
20	Device test mode

Wi-Fi Alliance carrier Wi-Fi Requirements: theme priority rank