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DATE: December 2, 2022

TO: Liaison Coordinator, 3GPP

Requested distribution to:

Puneet Jain, 3GPP SA WG2 Chair

Andy Bennett, 3GPP SA WG2 Vice Chair

Tao Sun, 3GPP SA WG2 Vice Chair

FROM: Wi-Fi Alliance

RE: Wi-Fi Alliance communication on methods for consistent QoS across 5G and Wi-Fi networks

Dear Liaison Coordinator,

Wi-Fi Alliance® requests that the attached memorandum regarding quality-of-service treatments in Wi-Fi and 5G convergence scenarios be distributed to the 3GPP SA WG2 working group.

Best Regards,

Consuelo Ortiz

Wi-Fi Alliance



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RE: Wi-Fi Alliance communication on methods for consistent QoS across 5G and Wi-Fi networks

Dear 3GPP SA WG2 Chair and Vice Chairs,

Wi-Fi Alliance® Operator Marketing Task Group, a group with a focus on the needs of Wi-Fi Network Operators, contributed to a paper published by Wi-Fi Alliance titled **“Analyzing operator QoS deployment scenarios between Wi-Fi® and 5G (2022)”**. This paper advocates for a consistent quality of service approach across Wi-Fi and 5G networks for end-to-end QoS experience. We would like to make 3GPP SA WG2 aware of this paper as this relates to enabling mapping between 5G QoS to Wi-Fi QoS across 5G and Wi-Fi access networks. The intent of the paper is to provide guidance to operators to assess methods to map QoS across 5G and Wi-Fi networks.

The paper highlights different deployment scenarios for fixed mobile convergence (FMC) with 5G access used for backhaul connectivity. It advocates that the FMC is opening new opportunities for service operators, ISPs and MNOs to offer converged data services over wired or wireless access networks. The paper also advocates that the 3GPP defined convergence architecture for integrating Wi-Fi access into the 5G system via N3IWF/TNGF/TWIF enables operators to offer seamless connectivity over Wi-Fi and 5G for converged services.

For both FMC and 3GPP defined Wi-Fi and 5G convergence deployment scenarios, paper recommends use of QoS mapping to provide consistent QoS treatment across wired, Wi-Fi, and 5G networks, and for the industry to adopt the features included in **Wi-Fi CERTIFIED QoS Management™** to enable robust delivery of latency sensitive services. It recommends using IETF defined DSCP marking as a bridge between mapping 5G QoS to Wi-Fi QoS, by defining a mapping between 5QI to DSCP (and vice versa) and then mapping DSCP to 802.11 User Priority (UP).

Wi-Fi Alliance would like to bring following items to 3GPP SA WG2 attention and consideration:

1) Consideration of DSCP markings at UPF and UE

In FMC deployment scenarios, service data flows from wireline core are marked with DSCP for QoS differentiation. The paper recommends that in the 5G core packet classification filters set on the UPF take into consideration DSCP along with other packet filtering criteria, to map these wireline service data flows to 5G QoS flows with desired 5QIs.

For both FMC and 3GPP defined 5G and Wi-Fi integration architecture, paper recommends that the UE take into consideration DSCP markings of IP flows when mapping uplink service data flows to 5G QoS flows with desired 5QIs.

2) QoS Mapping at CPEs

For FMC deployments, paper recommends that the customer premise equipment (CPEs) implement functionality for mapping service flows between 5G backhaul and Wi-Fi fronthaul access in both downlink and uplink, using 5QI to DSCP to UP mapping in downlink and DSCP to 5QI mapping in uplink. The paper also recommends that CPEs support Wi-Fi CERTIFIED QoS Management to provide their customers a consistent connectivity experience over wired or wireless networks.

For more information, please contact Consuelo Ortiz cortiz@wi-fi.org .

Sincerely,

Wi-Fi Alliance