

Liaison Statement to 3GPP SA, SA3 and CT6



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Date	25-July-2022	Meeting Time	N/A
WG / Project	WBA OpenRoaming Technical Standards Task Group		
To	3GPP SA3, SA, CT6		
Project chaired by	Mark Grayson (Cisco), Betty Cockrell (Single Digits), Necati Canpolat (Intel)		
Topic	Facilitating roaming adoption across 3GPP NPN deployments		
Action ID Prefix	N/A		

Dear 3GPP

In June 2020, WBA announced the launch of a new roaming federation to lower the barriers to adoption of roaming functionality by access network providers and identity providers. The OpenRoaming federation comprises a technical framework and a legal framework that was originally conceived of to facilitate the adoption of roaming by the significant number of private enterprises that have deployed Wi-Fi systems to support in-bound roaming for guests that use credentials managed by third party identity providers.

In May 2022, WBA announced that over 1 million hotspots had been connected to the OpenRoaming federation.

In 2021, WBA approved the formation of the “OpenRoaming for 5G” project that was tasked with examining the opportunity of re-using OpenRoaming concepts to accelerate the adoption of roaming across non-public 3GPP networks. WBA have recently completed the first deliverable from this project that identifies several key issues that may be pertinent to facilitating roaming onto non-public networks.

The complete issues document is attached, but WBA would like to draw 3GPP’s attention to key aspects of the analysis as it relates to the specification of NPN-systems by 3GPP.

From the perspective of 3GPP SA3:

1. Support for scaled-down deployments: Current N32-based systems assume that there is significant signalling traffic between an access provider and credential holder, sufficient to sustain long-lived N32-f forwarding. NPN deployments may result in significantly reduced roaming signalling between the NPN and credential holder, with one datapoint indicating that some OpenRoaming access networks only experience signalling at one-thousandth of the load experienced by typical public networks. No such scale-down requirements were used in the definition of 5GS based roaming. Given the unique attributes of scaling of NPN deployments, a study can be performed on the scalability limits of the current N32-based system and subject to the findings of such analysis, enhancements to N32-based systems can be studied to facilitate adoption by small-scale NPN deployments.
2. Facilitating access network firewall traversal: Current N32-based systems assume fully decoupled signaling between the SEPP-initiator in the VPLMN and the SEPP-initiator in the HPLMN used for signalling based on subscriptions to callback URIs. This means the in-bound HPLMN initiated signalling to a VPLMN can originate from a source IP address which is independent from the destination IP address used for out-bound VPLMN initiated signalling. OpenRoaming has lowered barriers to adoption of roaming by enabling outbound sockets from the access network to support all

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roaming signalling. No firewall rules are required to be defined to support inbound signalling from the myriad of credential holders that have joined the federation. Given the alternative perimeter firewall configurations adopted by NPN deployments, a study can be performed on the ability of current N32-based system to be supported across different NPN perimeter firewall configurations. Subject to the findings of such analysis, adaptations to current N32-based systems can be studied to facilitate perimeter firewall traversal in NPN provider networks.

From the perspective of 3GPP CT6:

1. Support for operator configured NID and GIN-based access controls. While the DF_{SNPN} has recently been introduced into the USIM application, operators do not currently have the ability to define preferred NID and GIN based access network identities. Federation based systems can define the use of automatic network selection using NID and GIN-based network identities, realizing closed access group-like functionality through the use of NID and GIN-codes. However, there is currently no ability to provision such information in the USIM application.

From the perspective of 3GPP SA:

1. Devices with multiple credentials. OpenRoaming has resulted in a dramatic increase in the number of credential holders participating in the roaming ecosystem. With multiple credentials provisioned in a UE and the ability of NPNs to have signalling connections with multiple credential holders, the topic of prioritization between different credentials can be analyzed by 3GPP.

Proposed Action to 3GPP SA3, SA, CT6

- WBA kindly asks 3GPP SA3, SA, CT6 consider the above when studying how to lower the barriers to adoption of roaming by NPN providers and credential holders.

Thank you in advance and for any additional information please contact WBA PMO (pmo@wballiance.com).

The WBA OpenRoaming Technical Standards TG Chairs

Next WBA F2F Meetings:

- 17 – 20 October 2022, Amsterdam

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