**3GPP TSG- Meeting #**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
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| *For* [*HE**LP*](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** |  |
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| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | The current 5G system prevents roaming providers from offering services that provides scalability, optimization, financial liability and value-added services.For new network operators and continuity of the deployed systems, standard capabilities to enable roaming service offerings are essential to avoid a plethora of proprietary solutions.GSMA (a customer of 3GPP) has clearly stated that they need roaming service providers enablers included in 3GPP specifications as soon as possible.  |
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| ***Summary of change:*** | New section 6.XX that adds the definition of Roaming service providers and requirements on 5G system to enable the relevant functionality. |
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| ***Consequences if not approved:*** | New network operators and operators currently using these roaming providers will not be able to deliver reliable roaming services. |
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| ***Clauses affected:*** | New chapter (6.XX) |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

 \*\*\* First Change \*\*\*

6.XX Support of Roaming services providers

6.XX.1 Overview

In the roaming ecosystem, a roaming services provider provides the technical and commercial means to facilitate the deployment and operation of roaming services between a client operator and a set of selected connected operators.

The roaming services provider handles the technical implementation of the roaming relations in a scalable and operationally efficient way.

With a roaming services provider present in the roaming ecosystem, operators can choose not to establish a bilateral direct agreement with specific operators. A trusted relation exists between the involved operator and the roaming services provider.

Roaming services providers, according to their role and responsibilities, assume financial and technical liability to apply all necessary controls and access to all communications.

Among other functionalities, a roaming services provider needs to:

• Process identifiers and potentially other information transmitted in signalling messages between PLMNs in a secure manner.

• Be able to modify, add or delete information that is relevant to their role, respecting what is contractually agreed in service level agreements (SLAs) and enforced technically.

• Isolate the individual operator signalling flows from each other

• Report on the detection of and mitigation of security breaches.

6.XX.2 Requirements

The 5G system shall allow roaming services to be provided by a roaming services provider in charge of managing roaming agreements, by mediating between two or more PLMNs, while maintaining the privacy and 5G security of any information transmitted between the home and the serving PLMN.

NOTE 1: A PLMN can support both bi-lateral direct relationships with other PLMNs and make use of roaming service provider services toward different roaming partners.

The 5G system shall allow a roaming services provider to be a trusted entity for either a home PLMN, a visited PLMN or both.

NOTE 2: The expected maximum number of roaming service providers is two, one for the home PLMN and another for the visited PLMN.

The 5G system shall allow a roaming services provider to accept or reject registration attempts, on behalf of the involved PLMNs, based on the roaming agreements.

NOTE 3: Rejecting user registrations using an appropriate release cause permits the UE to be able to reselect another roaming partner or technology.

The 5G system shall allow a roaming services provider to identify the origin and destination PLMN, and to verify the authenticity, of every transmitted message.

The 5G system shall allow the Roaming services provider to be able to originate and modify messages as per contractually agreed SLAs.

The 5G system shall allow the involved PLMNs to be able to identify the origin of any message generated by the roaming services providers as well as to identify any modification made to the exchanged messages by the roaming services providers.

\*\*\* End of Changes \*\*\*