**SA WG2 Meeting #137E** **S2-2001836**

**February 24-27, 2020 Electronic meeting (revision of S2-****2001355, 0179)**

**Source: Ericsson, ATT, Sprint, T-Mobile USA**

**Title: Support for Signed Attestation for Priority and Emergency Sessions**

**Document for: Approval**

**Agenda Item: 7.1**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>   
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

# Title: Support for Signed Attestation for Priority and Emergency Sessions

## Acronym: SAPES

## Unique identifier: *{A number to be provided by MCC at the plenary}*

Potential target Release: Release 17.

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  |  |  | x |  |
| **No** | x | x | x |  |  |
| **Don't know** |  |  |  |  |  |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

This work item is a … *{Tick one box. "***Feature** */* **Building Block** */ Work Task" form a hierarchical structure. E.g. no Building Block can be proposed without a corresponding parent Feature. The full structure of all existing Work Items is shown in the 3GPP Work Plan in* [*ftp://ftp.3gpp.org/Information/WORK\_PLAN*](ftp://ftp.3gpp.org/Information/WORK_PLAN) *}*

|  |  |
| --- | --- |
| X | Feature |
|  | Building Block |
|  | *Work Task* |
|  | Study Item |

### 2.2 Parent Work Item

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Work / Study Items | | | |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
|  |  |  |  |

### 2.3 Other related Work Items and dependencies

|  |  |  |
| --- | --- | --- |
| Other related Work Items (if any) | | |
| Unique ID | Title | Nature of relationship |
| 790028 | Enhancements to Call spoofing functionality | *{optional free text}* |
| 750033 | (Small) Technical Enhancements and Improvements for Rel-15 | Support for identity attestation and verification for non-emergency IMS sessions was introduced in TS 23.228 with CR#1184. |

## 3 Justification

Regulators in North America (U.S and Canada) currently have a strong focus on combatting nuisance calls, including robocalling and illegitimate caller ID spoofing, using caller authentication techniques based on the Signature-based Handling of Asserted Information Using toKENs (SHAKEN) standards developed by ATIS (e.g., ATIS-1000074, *Signature-based Handling of Asserted information using toKENs [SHAKEN]* ) and the IETF RFC related to Secure Telephone Identity Revisited (STIR) (i.e., RFC 8224, *Authenticated Identity Management in the Session Initiation Protocol [SIP]*).

TS 23.228 supports the usage of these mechanisms for attestation and signing of originating calling identification information for non-emergency IMS sessions

## 4 Objective

There is a need to apply STIR/SHAKEN to emergency calls, and priority calls. In addition to caller identity authentication/verification, emergency calls, callback, and priority calls may also be subject to “Resource-Priority” Header (RPH) signing. In these cases, the attestation is applied to the RPH by the IMS entity responsible for authorizing and handling the IMS session. This enables the inclusion of cryptographically signed assertions for the values populated in the Session Initiation Protocol (SIP) “Resource-Priority” header field, which is used for prioritization of communications resources.

In the context of emergency calling, where an emergency session is delivered to an emergency network outside the domain of the operator, the IBCF should be capable of interacting with an Application Server (AS) that supports calling number and/or RPH authentication/signing, and may do so based on local policy, once it determines that an emergency call is destined for a Next Generation Emergency Services Network. Therefore, it is proposed that TS 23.167 be modified to allow an IBCF to support RPH authentication associated with emergency calls using signature verification and attestation in addition to the signing of attestation and identity information already specified in 23.228 for calling numbers.

In the context of priority sessions, the S-CSCF, TAS, or another IMS AS should be capable of interacting with an Application Server (AS) that supports calling number and/or RPH authentication/signing and may do so based on local policy. Furthermore, for priority sessions it is additionally possible to perform calling number attestation/verification.

The expected time for completing this work is 0.5 TU.

## 5 Expected Output and Time scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **New specifications** *{One line per specification. Create/delete lines as needed}* | | | | | |
| Type | TS/TR number | Title | For info  at TSG# | For approval at TSG# | Rapporteur |
| *{Possible values:*  *"TS" or*  *"Internal TR" or*  *"External TR". See Note 1}* | *{E.g.*  *"22.XXX" or actual number if known}* | *{Title of the specification (as per TR 21.801 §6.1.1), to be aligned as much as possible with the WI/SI title}* | *{E.g.*  *"TSG#87"}* | *{E.g.*  *"TSG#89"}* | *{<FamilyName>, <GivenName>, <Company>, <email address>. See Note 2}* |

*{Note 1: Only TSs may contain normative provisions. Study Items shall create or impact only TRs.  
"Internal TR" is intended for 3GPP internal use only whereas "External TR" may be transposed by OPs.}*

*{Note 2: The first listed Rapporteur is the specification primary Rapporteur. Secondary Rapporteur(s) are possible for particular aspect(s) of the TS/TR. In this case, their responsibility has to be provided as "Remarks".}*

|  |  |  |  |
| --- | --- | --- | --- |
| **Impacted existing TS/TR** *{One line per specification. Create/delete lines as needed}* | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
| 23.228 | Include support for signing RPH headers and Calling Line identification for Priority sessions | TSG SA#88 |  |
| 23.167 | Include support for signing RPH headers and Calling Line identification for Emergency sessions, and callback sessions | TSG SA#88 |  |

## 6 Work item Rapporteur(s)

Foti, George, Ericsson, George.foti@ericsson.com

## 7 Work item leadership

SA2

## 8 Aspects that involve other WGs

Any identified security aspects will be evaluated by SA3.

## 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Ericsson |
| Nokia |
| ATT |
| Verizon |
| T-Mobile USA |
| Sprint |
| Matrixx |