**3GPP TSG-CT WG4 Meeting #101-bis-eC4-210xyz**

**E-Meeting, 25th – 29th January 2021**

**Source: Ericsson**

**Title: New WID on CT aspects of Integration of GBA into SBA**

**Document for: Agreement**

**Agenda Item: 5**

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: CT aspects of Integration of GBA into SBA

## Acronym: GBA\_5G

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

Potential target Release: Rel-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:

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

### 2.2 Parent Work Item

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| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| GBA\_5G | SA3 | 850023 | Integration of GBA into 5GC |

### 2.3 Other related Work Items and dependencies

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| --- |
| Other related Work Items (if any) |
| Unique ID | Title | Nature of relationship |
| 800036 | Study on authentication and key management for applications based on 3GPP credential in 5G | SA3 study item. |

**Dependency on non-3GPP (draft) specification**: none

## 3 Justification

SA3 has studied authentication and key management for applications based on 3GPP credential in 5G in the FS\_AKMA study. The study is covering also the evolution of Generic Bootstrapping Architecture (GBA) as it is stated in the SID: "The study will consider new solutions as well as evolve existing 3GPP mechanisms such as GBA and BEST".

GBA was developed to be access agnostic in the sense that it needs only IP connectivity from the UE to Bootstrapping Server Function (BSF) and to application servers (NAFs). Currently GBA uses Diameter-based interfaces Zh between the BSF and HSS, Zn between the BSF and NAF and Zpn between the BSF and Push-NAF. This has allowed GBA to be used in 3G and also in 4G core networks since the HSS in 3G and 4G supported Diameter-based interfaces. Since release 16, SA2 has already introduced service-based interfaces for the HSS e.g. for IMS. In order to enable the use of GBA and GBA Push also with an SBA-capable HSS, there is a need to specify service-based versions of those interfaces.

Additionally, it will be required to enable the use of GBA and GBA Push also with the UDM (e.g. for 5GC deployments where an HSS is not available).

GBA and GBA Push were designed to support 3GPP defined services as well as applications specified outside of 3GPP. To support an SBA-capable BSF, service-based versions Zn and Zpn interfaces need to be specified.

Considering the above, impacts on protocols and interfaces under CT WGs' responsibilities are foreseen and the related work in CT WGs should be carried out within Rel-17.

## 4 Objective

The objective of this work item is to develop the stage-3 work in specifications under remit of CT WGs; in particular to specify service-based versions of Zh, Zn and Zpn interfaces which are currently Diameter-based interfaces (specified in 3GPP TS 29.109) to allow the use of GBA and GBA Push with an SBA-capable BSF, an SBA-capable HSS or with UDM.

The following areas of work are expected to be covered (non-exhaustive, additional areas can be identified based on progress in SA3 and in normative work in SA2):

**CT4:**

- Specify the API for the SBA-capable HSS, exposing SBA services to be consumed by an SBA-capable GBA's BSF (Bootstrapping Server Function), to support equivalent functionality to the existing Zh interface.

- Specify the API for the UDM, exposing SBA services to be consumed by an SBA-capable GBA's BSF, to support equivalent functionality to the existing Zh interface (e.g. for 5GC deployments where an HSS is not available).

- Specify the API for the GBA's BSF, exposing SBA services to be consumed by an SBA-capable NAF (Network Application Function), to support equivalent functionality to the existing Zn interface.

- Specify the API for the GBA's BSF, exposing SBA services to be consumed by an SBA-capable Push-NAF, to support equivalent functionality to the existing Zpn interface.

## 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 |
| TS | 29.abc | Bootstrapping Server Function (GBA's BSF) Services  | CT#94 (Dec 2021) | CT#95 (Mar 2022) | Jesús de Gregorio(Ericsson) |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR** *{One line per specification. Create/delete lines as needed}* |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 29.503 | Impacts to Nudm API when UDM is used in GBA instead of HSS. | CT#95 (Mar 2022) | CT4 responsibility |
| 29.505 | Impacts to Nudr API where the UDM is used in GBA instead of HSS, to retrieve GUSS info from UDR. | CT#95 (Mar 2022) | CT4 responsibility |
| 29.510 | Impacts to NRF API due to definition of a new NF type (GBA's BSF) and new SBI services. | CT#95 (Mar 2022) | CT4 responsibility |
| 29.562 | Specify new HSS services for interworking with GBA, after renaming the title of the TS and extending its scope. | CT#95 (Mar 2022) | CT4 responsibility |
| 29.571 | Potential impacts to define new common data types. | CT#95 (Mar 2022) | CT4 responsibility |

## 6 Work item Rapporteur(s)

de Gregorio, Jesús (Ericsson). jesus.de.gregorio@ericsson.com

## 7 Work item leadership

CT4

## 8 Aspects that involve other WGs

None

## 9 Supporting Individual Members

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| --- |
| Supporting IM name |
| Ericsson |
| Orange |
| China Mobile |
| ZTE |
| Deutsche Telekom AG |
| Qualcomm Inc. |
| Vodafone |
| HPE |
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