3GPP TSG SA WG3 Security — S3#29   **S3-030348**
15 –18 July 2003
San Francisco, USA

Source:	**Nokia**
Title:	**Interface Naming in Bootstrapping System**
Document for:	**Discussion and Decision**
Agenda Item:	**Support for subscriber certificates**

Table of Content:

Proposed interface names
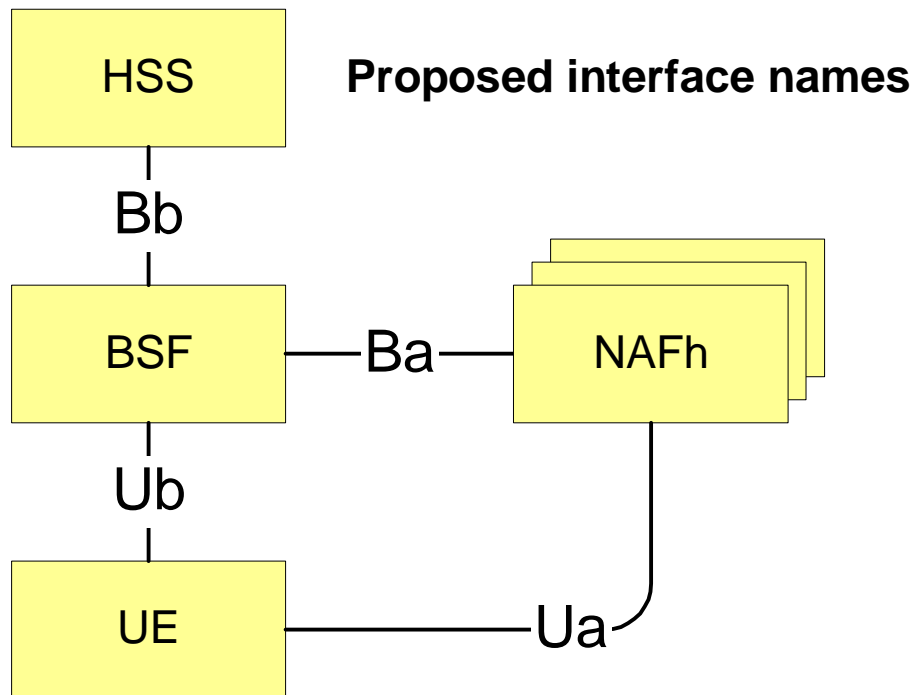
1. INTRODUCTION

This contribution proposes names for interfaces in SA3 draft TS "Bootstrapping of application security using AKA and Support for Subscriber Certificates" [S3-030317]. The current interface names (A, B, C and D) for Bootstrapping Function (BSF) and Network Application Function (NAF), i.e. applications that utilize the security associations created by bootstrapping, are only placeholders. Below we propose names that are in line with 3GPP interface naming conventions.

This proposal assumes following 3GPP interface naming convention:

1. 3GPP uses naming convention Xx i.e. one upper case base letter followed by one or two lower case letters. Up to now there has not been need for two uppercase letters.

2. So-called "user interfaces", i.e. names from UE to network over radio/air interfaces have U as upper case base letter.

3. On fixed network side all network-internal interfaces of the specified system are named by the same upper case base letter.

2. TERMINOLOGY

A interface	old UE – BSF interface
B interface	old NAF – BSF interface
Ba	Proposed NAF-BSF interface name
Bb	Proposed BSF-HSS interface name
BD	Billing Domain
BS	Base Station
BSF	Bootstrapping function (a network element)
C interface	old BSF – HSS interface
D interface	old NAF – BSF interface
NAF	Network Application Function (a network element)
Ua	Proposed UE-NAF
Ub	Proposed UE-BSF
UE	User Equipment

3. PROPOSAL

The proposal is based on the following selections:

X**b**   **B**ootstrapping interfaces where **B**SF (**B**ootstrapping Function) is in central role.
            Lower case letter "b" is used for all interfaces that are part of the Bootstrapping procedure

X**a**   **A**pplication interfaces where N**A**F (Network **A**pplication Function) is in central role.
            Lower case letter "a" is used for all applications that utilize the security association created
            by the bootstrapping procedure

Bx   Upper case letter "B" is used as base letter for all network interfaces in **B**ootstrapping system.

Ux   Upper case letter "U" is used for user interfaces, as is the custom in 3GPP.

Those selections generate the following interface names:

	Bootstrapping procedure	Application procedures
UE interfaces	**Ub**	**Ua**
Network-internal interfaces	**Bb**	**Ba**

In Figure 1 we show the mapping between current and proposed names:

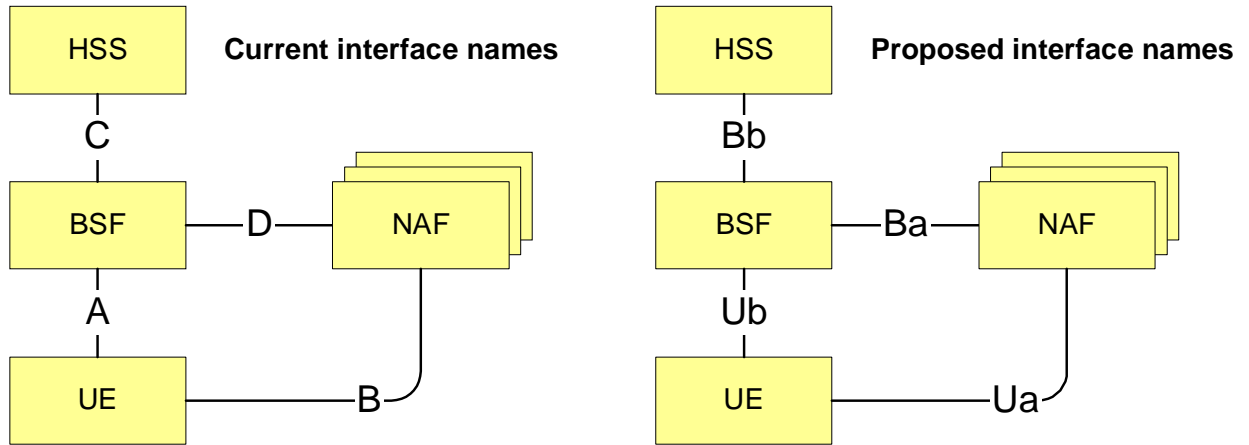**Figure 1: The current and proposed interface names**

The following table summaries the proposed names:

New Abbr.	Interface	Old Abbr.
Ub	UE-BSF	A
Bb	BSF-HSS	C
Ua	UE-NAF	B
Ba	NAF-BSF	D

The interfaces used in bootstrapping and application procedures look as follows:

Bootstrapping procedure:
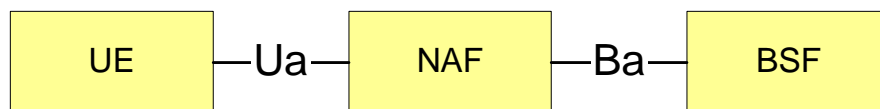
Application procedure:

Figure 2: The interfaces of the Bootstrapping and Application procedures

NOTE:
Because the proposed Bb is probably based in the IMS MM application messages in Cx interface, it could be named **Bx** (like Cx, or Dx). But **Bx** is reserved by the charging specification [TS 32.297]. It seems to be a convention in 3GPP to indicate the interfaces to the HSS by lowercase "x" in abbreviations. Another unreserved alternative name could be Bh (like Sh SIPAS–HSS [TS 23.002]).

4. INTERFERENCE STUDY

4.1 U-series

We have identified the following reserved U-series interface names:

Um   GSM (MS-BTS)
Uu   UMTS radio interface (UE-BS)

4.2 B-series

The B-series is used for charging i.e. billing. The usage of the same base letter series also for security-related functions seems logical.

Rel-6 draft TS 32.297 v1.0.0 (Telecommunication management; Charging Management; Charging interface description to the billing domain) chapter 3.2 [TS 32.297] defines the following symbols for billing domain (BD) interfaces:

Bc   The Interface between the Circuit Switched charging function and the BD
Bi   The Interface between the IMS charging function and the BD
Bp   The Interface between the Packet Switched charging function and the BD
Bm   The Interface between the MMS charging function and the BD
Bw   The Interface between the WLAN charging function and the BD
Bx   The Interface between a 3G core network charging function and the BD

4.3 Other network base series

The letters G, L, N, S and W are already used as follows:

G-series   for packet data services (GPRS) [TS 23.002]
L-series   for Location Services (LCS) [TS 23.002]
M-series   for IMS interfaces [TS 23.228]
N-series   for interfaces to 2G network elements [TS 23.002]
W-series   for WLAN [TS 23.234]

Besides the above series there are interfaces whose names are not part of any series (see [TS 29.228] and [23.002]):

Cx (CSCF - HSS),
Dx (I-CSCF - SLF),
Sh (SIP-AS/OSA-CSCF – HSS),
Si (IM-SSF – HSS)

5. PROPOSAL

We propose that the interface names in draft TS [S3-030317] are changed as outlined in this contribution.

6. REFERENCES

[S3-030317]   Bootstrapping of application security using AKA and Support for Subscriber Certificates; System Description (Release 6)

[TS 23.002]   Network architecture; (Release 5), V5.9.0 (2002-12). 3GPP.

[TS 23.228]   IMS IP Multimedia Subsystem (IMS); (Release 6), V6.1.0 (2003-03). 3GPP.

[TS 23.234]   3GPP system to Wireless Local Area Network (WLAN); (release 6), V1.10.0 (2003-05). 3GPP.

[TS 29.228]   IP Multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and message contents; (Release 5); V5.3.0 (2003-03). 3GPP.

[TS 29.229]   Cx and Dx interfaces based on the Diameter protocol;Protocol details; (Release 5); V5.3.0 (2003-03). 3GPP.

[TS 32.297]   Rel-6 draft TS 32.297 v1.0.0 (Telecommunication management; Charging Management; Charging interface description to the billing domain - for Information http://www.3gpp.org/ftp/tsg_sa/tsg_sa/TSGS_20/Docs/PDF/SP-030273.pdf.