**SA WG2 Meeting #143E S2-2100xxx**

**24 February-09 March 2021, Elbonia (revision of S2-20xxxx)**

**Source: Ericsson (Rapporteur)**

**Title: FS\_eNPN and eNPN issues for CC**

**Document for: Agreement**

**Agenda Item: 8.2.1 and 8.2.2**

**Work Item / Release: eNPN / Rel-17**

*Abstract of the contribution: This contribution discusses issues that need a resolution e.g. at a CC.*

# 0. Introduction

Some open issues were resolved during moderated email discussion and at CC#0, while some required further discussions.

Further, during SA2#143e it has been clear that it is urgent to agree on a common terminology to use as to get the CRs aligned.

# 1 Issues for CC#3

## 1.1 Issues left from FS\_eNPN moderated email discussion

**KI#2-Q1: Continuity for single radio UE using N3IWF**

No clear majority, but majority of comments proposed to rely on existing means and potentially describe how to best make use of what we have.

It is proposed to consider CR(s) providing informative description of how to "best" achieve continuity using N3IWF, there is no need to update the WID as it can be considered as part of " Informative guideline for how to use existing Rel-16 mechanisms and information to support VIAPA services".

It should be checked whether any update to the TR will be needed in addition to the informative annex in the TS.

COMMENT: Related tdoc is a CR in S2-2100367 and discussions ongoing, no need for any TR changes it seems

**PROPOSAL:** Agree that no TR changes are required

**KI#2-Q2: Network trigger for UE to register to N3IWF**

Majority wanted to leave it to UE implementation (11 vs 5)

It is proposed to not progress such network trigger.

Optionally, consider some discussions and input from proponents to explain a complete solution and show why it provides a benefit.

Further discussion needed at the SA2#143-e e-meeting.

COMMENT: Related tdoc is S2-2100507 and in revision the network trigger been removed (discussions continues in relation to UE logic)

**PROPOSAL:** Do not progress such network trigger

**KI#3-Q1: Support for IMS deployment scenarios - with IMS in Separate Entity**

All proposes to support the IMS deployment scenarios with IMS in Separate Entity, but some companies see it dependent on KI#1, and no SMF/UPF in SP (aka separate Entity) and also see no need for standardization work.

It is proposed to support the scenario and dependent on conclusion of KI#1 (informatively) describe it with HR or without HR in separate entity.

Draft an update of the WID.

Orange considered that as no normative work is needed there is no need to update the WID. Deutsche Telekom agreed that this should be left open. Further discussion needed at the SA2#143-e e-meeting.

**PROPOSAL:** Agree on one of the options in S2-2100362 as basis for the conclusion of the TR i.e. either:

**Option A)** It is recommended for normative work to support the scenario when the separate entity (or Home SP) supports IMS

**Option B)** The scenario when the separate entity owning credentials per KI#1 supports IMS is supported without any need for normative work.

**Question**, do you support option A or option B?

**Way forward:**

**KI#3-Q2: Support for IMS deployment scenarios - separate IMS and access provider**

No clear majority (5 vs 4).

It is proposed to allow proponents to provide input paper to show what would be changed to TS 23.228 (as opponents claiming it is already supported), and a decision on updating the WID will be based on the outcome.

Proposals on required changes should be distributed early via the discussion list. Ericsson commented that he would provide a draft CR for sharing before the main meeting. Further discussion needed at the SA2#143-e e-meeting.

**PROPOSAL:** agree TR conclusion in S2-2100183 i.e. along the lines:
*Support scenario with IMS network providing services to a UE connected in an SNPN having an interconnection with the IMS network e.g. documented in an informative Annex in TS 23.228.*

## 1.2 Terminology:

**Term-1:** Separate Entity - options:

A Credential Holder (CH)

B SNPN Credentials Holder (SCH)

C Separate Entity (SE)

**Question; Do we want to use A, B or C?**

**Proposal**: Use "A" i.e. Credential Holder (CH)"

**Term-2:** The SNPN (supporting Separate Entity) providing the access network to the UE:

A SNPN (use SNPN for all cases…)

B Serving SNPN: The SNPN that provides the user with access to the services of Separate Entity\*

C Visited SNPN (VSNPN): This is an SNPN different from the SNPN or PLMN of Separate Entity\*

D

\* Name dependent on previous decision

NOTE: B and C is intended for different cases i.e. both may be useful

**Question; Do we want to use A, B, C or allow B and C?**

**Proposal**:

**Term-3:** Onboarding Network

A Onboarding Network (ON) and O-SNPN

B ONboarding Network (ONN) and ON-SNPN

**Question; Do we want to use A or B?**

**Proposal**: Use

**Term-4:** Definition of Underlay and Overlay networks

A Keep usage of Underlay/overlay networks only within 23.501 annex

B Do a proper definition and allow broader usage

**Question; Do we want A or B?**

**Proposal**:

# 2. "All" Issues

## 2.1 Issues left from eNPN moderated email discussion

Some dependent on SA1 LS i.e. postpone to CC#4

## 2.2 Issues left from FS\_eNPN moderated email discussion

**KI#1-Q2: Simultaneous connections for UEs with one subscription**

Majority preferred to support the functionality (17 vs 3).

It is proposed to update the TR and the WID with the functionality to support simultaneous connections for UEs with one subscription (i.e. to allow PDU Session to anchor also in the SP aka separate Entity).

Orange commented that this was outside the scope of the Work Item and need not be concluded for the Study. Deutsche Telekom agreed with orange and suggested at least awaiting for the answer from SA WG1 to the LS.

This should be further discussed with any response from SA WG1 at the SA2#143-e e-meeting.

**PROPOSAL:** Wait for SA1 LS reply (no need for CC discussion)

**KI#1-Q5: Other UE ID than SUPI towards AAA**

Majority see no need for another UE ID than SUPI/SUCI, but also a number of comments that it depends on SA3 work.

It is proposed to remove the related EN and if SA3 see the need for another UE ID than it will be introduced via SA3 during normative phase.

Huawei asked for clarification on what will happen when a response from SA WG3 is received. Depending on the response, this issue may need to be handled.

**PROPOSAL:** SA3 replied that SUPI/SUCI can be used i.e. progress work/CRs accordingly (no need for CC discussion)

**KI#2-Q1: Continuity for single radio UE using N3IWF**

No clear majority, but majority of comments proposed to rely on existing means and potentially describe how to best make use of what we have.

It is proposed to consider CR(s) providing informative description of how to "best" achieve continuity using N3IWF, there is no need to update the WID as it can be considered as part of " Informative guideline for how to use existing Rel-16 mechanisms and information to support VIAPA services".

It should be checked whether any update to the TR will be needed in addition to the informative annex in the TS.

COMMENT: Related tdoc is a CR in S2-2100367 and discussions ongoing, no need for any TR changes it seems

**PROPOSAL:**

**KI#2-Q2: Network trigger for UE to register to N3IWF**

Majority wanted to leave it to UE implementation (11 vs 5)

It is proposed to not progress such network trigger.

Optionally, consider some discussions and input from proponents to explain a complete solution and show why it provides a benefit.

Further discussion needed at the SA2#143-e e-meeting.

COMMENT: Related tdoc is S2-2100507 and discussions ongoing, potential topic for CC#4?

**PROPOSAL:** Do not progress such network trigger

**KI#3-Q1: Support for IMS deployment scenarios - with IMS in Separate Entity**

All proposes to support the IMS deployment scenarios with IMS in Separate Entity, but some companies see it dependent on KI#1, and no SMF/UPF in SP (aka separate Entity) and also see no need for standardization work.

It is proposed to support the scenario and dependent on conclusion of KI#1 (informatively) describe it with HR or without HR in separate entity.

Draft an update of the WID.

Orange considered that as no normative work is needed there is no need to update the WID. Deutsche Telekom agreed that this should be left open. Further discussion needed at the SA2#143-e e-meeting.

**PROPOSAL:** Agree on one of the options in S2-2100362 as basis for the conclusion of the TR i.e. either:

**Option A)** It is recommended for normative work to support the scenario when the separate entity (or Home SP) supports IMS

**Option B)** The scenario when the separate entity owning credentials per KI#1 supports IMS is supported without any need for normative work.

**KI#3-Q2: Support for IMS deployment scenarios - separate IMS and access provider**

No clear majority (5 vs 4).

It is proposed to allow proponents to provide input paper to show what would be changed to TS 23.228 (as opponents claiming it is already supported), and a decision on updating the WID will be based on the outcome.

Proposals on required changes should be distributed early via the discussion list. Ericsson commented that he would provide a draft CR for sharing before the main meeting. Further discussion needed at the SA2#143-e e-meeting.

**PROPOSAL:** agree TR conclusion in S2-2100183

**KI#4-Q1: CP provisioning**

Majority stated yes, but a number with a dependency on SA3.

It is proposed to wait for SA3, and if SA3 states it is feasible to include also CP based provisioning for SNPNs.

Further discussion needed at the SA2#143-e e-meeting.

**PROPOSAL:** wait for SA3 progress (no need for CC discussion)

**KI#4-Q2: Selection of CP or UP**

The issue depends on whether CP provisioning is to be supported for SNPNs (see question KI#4-Q1), and if supported then same/similar outcome as for PNI-NPN can be used.

It is proposed to wait for SA3, and if SA3 states it is feasible to include also CP based provisioning for SNPNs, then agree on the same outcome for selection of CP vs UP as for PNI-NPN.

Further discussion needed at the SA2#143-e e-meeting.

**PROPOSAL:** Send an LS S2-2100802 to CT1 and SA3 on UPU, and wait for SA3 progress (no need for CC discussion)

## 2.3 Terminology

Following terminology has been discussed and sometimes questioned, i.e. a way forward is needed.

Propose all to be discussed at CC#3

Separate Entity - options:

A Credential Holder (CH)

B SNPN Credentials Holder (SCH)

C Separate Entity (SE)

**Question; Do we want to use A, B or C?**

**Proposal**: Use "A" i.e. Credential Holder (CH)"

The SNPN (supporting Separate Entity) providing the access network to the UE:

A SNPN (use SNPN for all cases…)

B Serving SNPN: The SNPN that provides the user with access to the services of Separate Entity\*

C Visited SNPN (VSNPN): This is an SNPN different from the SNPN or PLMN of Separate Entity\*

D

\* Name dependent on previous decision

NOTE: B and C is intended for different cases i.e. both may be useful

**Question; Do we want to use A, B, C or allow B and C?**

**Proposal**:

Onboarding Network

A Onboarding Network (ON) and O-SNPN

B ONboarding Network (ONN) and ON-SNPN

**Question; Do we want to use A or B?**

**Proposal**: Use

Definition of Underlay and Overlay networks

A Keep usage of Underlay/overlay networks only within 23.501 annex

B Do a proper definition and allow broader usage

**Question; Do we want A or B?**

**Proposal**:

## 2.4 eCall and PWS support for SNPNs

Do we handle this with the LS out or add it to CC?

It seems SA1 are working on an LS reply, but it may be noted. Propose to delay the topic to CC#4

## 2.5 Other

Any other issues that may need to be discussed at CC?