

Source: CN OSA Adhoc Convenor (Yun-Chao.Hu@era.ericsson.se)

Title: Status Report from CN OSA Adhoc

Agenda item: 5.5

Document for: Decision

Source: 3GPP CN OSA Convenor
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Title: Report of OSA Activities

Agenda item: 7

Document for: Approval

1 Introduction

This report reflects the activities performed by the 3GPP CN OSA Adhoc. Two meetings have been held with the following scope:

- **Meeting I**
This meeting was hosted by Ericsson Radio Systems in Kista, Sweden, chaired by Yun Chao Hu (Ericsson Radio Systems). The focus of the meeting was to review the S1 and S2 VHE/OSA specification and to describe the activity to be performed within CN to realise VHE/OSA stage 3 specifications
- **Meeting II**
This was hosted by ITU-T in Geneva, Switzerland, chaired by Yun-Chao Hu (Ericsson) & Frans Haerens, (Alcatel). The meeting focused on the cooperation between 3GPP CN OSA and ETSI SPAN3. No technical discussions took place.

On average the meeting was participated by 15 delegates from operators and vendors. A number of LS has been sent to other 3GPP WGs based on our review of the stage 1 and stage 2 specifications. In total about 50 Tdocs were reviewed.

This document describes the agreements and proposals to initiate the VHE/OSA activity in 3GPP CN.

2 3GPP VHE/OSA STAGE 3 SCOPE

The current defined scope for VHE/OSA is described in TS 22.121 (i.e. stage1 VHE). This includes a wide scope of service capability features, which is considered too wide to develop the required API protocol support. Currently the following Service Capability Features (SCF) are defined in TS 23.127 (i.e. stage 2 VHE/OSA):

- Framework SCF
- Call Control SCF
- Charging SCF
- User Interaction SCF (currently included into message transfer SCF)
- Terminal Capability SCF
- User Location SCF
- User Status SCF
- **Message Transfer SCF**
- **Data Download SCF**

- **User Profile Management SCF**

The 3GPP CN OSA Adhoc considered this list of SCFs too much a challenge for Release 99. The CN OSA agreed upon to limit the API protocol to the following Service Capability Servers (including one or more SCFs):

- “Framework SCS” (including authentication, registration, discovery)
- CAMEL SCS (including charging, user interaction, call control, user location and user status SCFs)
- **WAP GW SCS (including terminal capabilities SCFs)**
- **SAT SCS (including Data Download SCF)**

The remaining SCFs will be supported into the OSA API specification targeted for Release 2000, starting after the TSG CN#07 Plenary.

The CN OSA Adhoc advises the CN Plenary to allow parallel development of the stage 2 & stage 3 specification’s on OSA in order to progress the stage 3 activity.

Reasons for this advise are:

- OSA Stage 2 is still working on a limited issues for Release 99
- OSA Stage 2 will start on new SCFs for Release 2000 while stage 3 can start work on remaining SCFs from the stage 2 Release 99
- OSA Stage 3 activity will be earlier involved into the stage 2 activities of SA-2 on their OSA Release 2000 and will enable to provide valuable feedback to SA-2

3 VHE/OSA Workplan

3GPP VHE/OSA API Protocol Descriptions (Stage 3)

1. *Interface classes*: Detailing the stage2 interface class methods and parameters, i.e. detailing the description of parameters. This item is normative.
2. *Data definitions*: Specifying the exact format of the method parameters (e.g. the CallingPartyNumber is of type Number; and a Number can be E.164, IP-address, etc."). This item is normative.
3. *Class diagrams*: The class diagrams define the relationships between (network) services. For example, "CAMEL call control" is a specialisation of the "generic call control" network service. This item is normative.
4. *IDL*: Syntax selection, selection of ORB communication (IIOP) The actual IDL specification of the OSA interface. This item is normative.
5. *Mapping between OSA methods/parameters and CAP operations/parameters*: The relation between the OSA method invocations and the CAMEL phase3 operations are shown. This is done at least at method/operation level, but ideally even at parameter level. Since the relation between OSA method and CAMEL operation depends on e.g. the state of the call, it is proposed to define the mapping from OSA methods onto CAMEL operations in terms of use cases.
6. *Mapping between OSA methods/parameters and MAP operations/parameters*: The relation between the OSA method invocations and the MAP operations are shown. This is done at least at method/operation level, but ideally even at parameter level.
7. *Mapping between OSA methods/parameters and WAP operations/parameters*: The relation between the OSA method invocations and the WAP operations are shown. This is done at least at method/operation level, but ideally even at parameter level.

3.1 Meeting Plan

Date	Meeting	Venue
06/01 – 07/01 2000	Joint SPAN3/CN OSA adhoc #3	Tilburg (Holland)
27/01 – 28/01 2000	Joint SPAN3/CN OSA adhoc #4	Sophia Antipolis
28/02 – 01/03 2000	Joint SPAN3/CN OSA adhoc #5	Antwerp (Belgium)
13/03 – 15/03 2000	CN#7 plenary	Madrid
20/03 – 24/03 2000	ETSI SPAN3 meeting	Istanbul

Note: This schedule is quite impressive considering the amount of work **only 56 meeting hours!!!**

4 Work Organization

4.1 Relationships to other CN WGs

The mapping of the API Protocol towards the core network protocols requires close relationship towards N1 and N2. More specifically:

- N1 ↔ Service Classmark (reflecting terminal capabilities)
- N2A ↔ CAP
- N2B ↔ MAP

4.2 External 3GPP TSG CN

The stage 1 and stage 2 descriptions of the VHE/OSA are developed within the TSG SA WG1 and WG2 activities. These WGs are supposed to provide input requirements for the stage 3 API protocol development. This work will relate also closely to the capabilities of MExE, SAT, and terminals.

The mapping of the API Protocol towards the terminal protocol requires close relationship towards T2 (i.e. WAP).

Therefore, relationships towards 3GPP S1, S2, T2, and T3 are required.

4.3 Work Organisation with other bodies

CN OSA Adhoc has identified a number of organisations (i.e. Parlay, OMG, ETSI SPAN3, ITU-T SG11, etc.) that are involved in the development of an API protocol.

CN OSA Adhoc would like to advise CN Plenary to allow cooperation with the following organisations:

- **ETSI SPAN3**

ETSI SPAN3 already started the API Protocol on Call Control Service Capability Features. Close cooperation with ETSI SPAN3 will introduce the opportunity to benefit from this ongoing activity. Also the mapping of the API Protocol on the INAP and CAP network protocols will be considered quite similar since CAP is based on the concepts of INAP.

Furthermore, operators are supporting that the API must be applicable on both fixed as mobile networks to support the mobile/fixed convergence at a service level.

- **ITU-T SG11 (i.e. Question II)**

It was agreed that the ETSI members during the SG11 API Question discussion should defend the work performed in ETSI & 3GPP specifications to be referenced into the ITU-T Recommendations (as a roadmap). ETSI specifications can be referenced by ITU-T. ETSI & 3GPP are prepared to perform the required standardisation work. SG11 API question should only provide a roadmap referencing existing specifications and it should not develop their own API protocol specification to avoid duplication of standardisation activities.

4.3.1 Document Handling

As non-ETSI 3GPP delegates have no access to the ETSI server and the ETSI automated document system, it is proposed that the handling of documents shall conform to the usual 3GPP document handling currently. This is the manual MCC support, providing the Tdoc numbers to the requesting delegates and putting the document received from the delegates (including the number) on the 3GPP server (proposed at [3GPP FTP OSA](#) server”).

4.4 Proposed Work Organisation

CN OSA Adhoc requests the CN Plenary to initiate a new VHE/OSA activity either by creating a dedicated Working Group or creating a new WI in an existing Working Group.

4.4.1 Proposed Terms of Reference

N-VHE/OSA WG is responsible for the stage 3 specifications of Virtual Home Environment (VHE) and Open Service Architecture (OSA) API Protocol development

The following areas of work will be addressed by N-VHE/OSA:

- Open interfaces (OSA) between the core network and external application servers to support functionality such as call control, mobility management information, etc.
- Handling of user profiles
- Handling of terminal capabilities
- Interaction between the different VHE mechanism
- Developing API protocols defined by TSG SA requirements (i.e. stage 1 & 2)
- Specifying mapping between the API protocols and network/terminal protocols

Target dates for Release 99 ☞ March 2000

Target dates for Release 00 ☞ December 2000

Future releases for further study.

5 Risks

5.1 Open Issues in TS 22.121

The following issues are considered to be open in stage 1 of VHE/OSA

- Support for MeXE and SAT in OSA
- Support for messaging transfer Service Capability Feature (in relation to MMS)
- Availability of terminal capabilities/user profile

5.2 Open Issues in TS 23.127

The discussions on VHE/OSA stage 2 is based on the document TS 23.127 Version 1.0.0.

5.2.1 Contentious issues

- User profile handling, including secure access to user data.
- Description of 'Data download' service capability features (pending decision in TSG SA WG1)
- Description of 'Message Transfer' service capability features (pending decision in TSG SA WG1)
- CAMEL ph3 (TS 22.078, TS 23.078, TS 29.078) support (support is agreed, the way how is open for discussion)

5.2.2 Non-Contentious issues

- Registration of Service Capability Server.
- Support for GPRS and SMS online charging.
- Description of 'Load Balancing' service capability features
- Support for USSD/SMS user interaction

5.3 Meeting Planning

The CN OSA group considered the meeting plan to be a challenge considering the amount of work on the API protocol development. The CN OSA would like to highlight that most of the CAMEL API can benefit from the ongoing activity jointly between ETSI SPAN3 & 3GPP CN OSA, however the API protocol development for WAP GW and SAT needs to be developed by 3GPP CN OSA.

Considering this situation, CN OSA Adhoc would like to propose the flexibility from the 3GPP CN Plenary to allocate more meetings or extend existing planned meetings on their choice.