

Agenda Item:**Source:** Nokia**Title:** **Services standardisation at 3GPP****Document for:** Discussion, possible basis for approval.

This paper presents some ideas related to a new way to do services standardisation. In this document the current way at SMG is described and a new alternative is presented.

Service standardisation at SMG

SMG's structure has evolved over quite a long time. The original structure where that SMG1 dealt with services, SMG2 with radio and SMG3 with network, worked fine as the work was based mainly on ISDN. Then SMG4 was added for data issues and also other project oriented groups were created. Finally SMG12 (System Architecture) was created. One goal of SMG12 is to co-ordinate all the other groups.

Examples how SMG creates a service standard

1st step: SMG1 creates a stage 1 (Service Description) e.g. CCBS
(Note: stage 0 (Service Requirements) is not usually created)

2nd step: SMG3 creates stage 2 and 3

Or

Service is SMS/SIM related, SMG4 (Data) / SMG9 (SIM) work very independently

CAMEL phase 2 and 3 standardisation procedure has been somewhat different compared to SS standardisation. New features have been based on "wish lists". This wish list is like a stage 0 (service requirements). Based on this wish list SMG1 ad hoc group has created the stage 1 of CAMEL. On delegate level several delegates of this ad hoc group also participate at SMG3, which makes work more efficient. However, there is no trace how a service on the wish list can be implemented based on CAMEL.

Currently the focus on the standardisation of services in SMG is to develop and standardise toolkits and service capabilities. The idea is to generate tools that can be used to create services, with a minimum standardisation effort and naturally to ease operator's effort to implement a new service. Major toolkits in VHE are CAMEL, SAT (SIM application toolkit) and MExE. All of these are standardised by different STC and there has not been much co-ordination before VHE.

The general assumption seems to be that SMG1 should only give the service requirements and let SMG3, SMG4 or SMG12 to decide how to implement the service, but often other STC's view differs compared to SMG1's own view about the given mandate and responsibilities. This leads to difficult situation where SMG1 requirements gets easily mistreated and forgotten (a good example at the moment is the QoS discussion). It can be argued that SMG1 often includes implementation level issues in the service definitions, but in practice it is difficult to imagine a service and not to imagine realisation of it. Thus stage 1 have a clear assumption of implementation (e.g. stage 1 for all SSSs has a similar structure).

Latest difficulty have arisen for the usage of the toolkits. It is not clear yet how to document a service based on toolkits. Further it is unclear who decides the actual use of toolkits as this goes beyond SMG1 expertise (e.g. it was long time unclear if CAMEL includes all needed features for SPNP).

In UMTS standardisation SMG1 has been on stage 0 level. There is no stage 1 specifications to describe the functionality of services. Also detailed description of VHE (toolkits) has not yet been completed.

Proposal for service standardisation at 3GPP

TSG SA terms of reference (ToR) include statement (ref. part of existing ToR for TSG SA from <http://www.3gpp.org/>)

"Background: One key aspect of third generation systems is that they should be based on defined «service capabilities» rather than on defined services. This approach will ensure that systems based on 3GPP specifications will be capable of rapid development and deployment of competitive service offerings while still enabling global roaming via the Virtual Home Environment (VHE) concept.

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Development of a framework for services, service capabilities, service architecture, charging and consideration of need for «default» services and/or applications".

The major issues that should be improved in 3GPP are efficiency and speed of standardisation. Overall procedures should be adjusted to support better current way of implement services based "service capabilities". Also co-ordination and focus should be improved.

Following procedure for 3GPP services standardisation is proposed:

| | <i><u>Example</u></i> |
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| 1 st step: <u>Reference service requirements on high level</u> Stage 0 or just "a wish list" on requirements . These requirements should focus on end users perception and on the other hand operator interface. | <i>PrePaid GPRS</i> |
| 2 nd step: <u>Service architecture decision</u> Technical report , describing how reference service is implemented and which toolkits should be used (This phase is not clear at SMG.) and Stage 1 specification . | <i>CAMEL, GPRS and MAP needs to be enhanced</i> |
| 3 rd step: <u>Service implementation</u> Stage 2 and stage 3 changes to specifications . | <i>Changes to 03.78, 09.78, 03.60 and 09.02.</i> |

New needs are set for UMTS regularly. TSG SA WG1 should be the place to collect the requirements and to define the reference services and formulate them so that a service architecture decision can be made. The requirements should be also prioritised and scheduled. It should be noted that WG1 does not set requirements to all work done in 3GPP, but mainly related to end-user services. It's proposed that SA WG1 would start as soon as possible to create a list of VHE reference (benchmark) services and defining requirements for those.

The service architecture has been included to WG1 responsibility. It is proposed that the service architecture should be a new group within TSG SA. This group should start as a joint sub-group between TSG SA WG1, TSG SA WG2, TSG CN WG2 and TSG T WG2. At TSG T

WG2 an sub group on end-to-end service aspects is already established. In other WGs similar subgroups need to be agreed.

At SMG all architecture aspects belong to SMG12, but the system architecture group does not need to be the main responsible for service architecture decision. Naturally a close co-operation is needed. The System Architecture is responsible of creating new and maintaining existing network elements and the interfaces between them. Furthermore the group has the overall responsibility over the toolkits and other system features.

The Service Architecture group's main issue is to handle co-ordination between different toolkits in order to ensure good interoperability for services based on VHE. This group need to be able to report how the requirements can be fulfilled to the service requirements group (WG1). This should be done by a technical report (a service "Cook book") giving one possible implementations for the service by describing the needed service capabilities and the modifications to the existing service capabilities and core protocols. Service architecture group should also be responsible over most Stage 1 specifications. Updates and creation of stage 1 should be based on the reports.

The Service Architecture group clearly needs good understanding of all the toolkits and other VHE components being specified in different TSGs and WGs. Also understanding of external standards, like Internet and WAP, is seen important. From SMG groups experts at least from SMG4 (MExE + Data), SMG9 (SAT), SMG3 (CAMEL, SS) is required. Need for extremely wide technical expertise is reason for a separate group.

When basic lines for specification work are decided other technical groups shall implement the additions to standards (Stage 2 and 3 or equivalent). If service requires changes to several "toolkits" and core specifications, then Service Architecture group should co-ordinate the work.

This procedure seems having more stages than SMG is having currently, but it is believed that it actually speeds up procedure as it clarifies the roles of working groups.

For release '99 service requirements are set already on high level in 22.00 (+ 22.01 and 22.05). It seems not possible to do proper architecture discussions at this time as work is already on-going (e.g. for CAMEL). Work according to proposal should start soon for the future releases.

Liaison officers

During the last recent years SMG1 had quite a few "liaison officers" between STCs. For some groups there has been individual delegate or PT SMG member participating regularly SMG1 and some other STC, but not for all relevant groups. As there is often no courier with message liaison statements lead often to "LS rally", where groups mainly clarify their sayings and the solving of actual problems get delayed due to misunderstandings. Most practical way to guarantee proper communication between TSG's and WG's is to have permanent "liaison officers" between groups.

Summary

The basic idea is that service capabilities (toolkits) should be developed based on reference (benchmark) services. There should be a defined group that decides the implementation of services using service capabilities. The main task for such a group would be realisation of the Technical Report, which forms the basis for the decision, how to split the requirements across the different toolkits. Service architecture group is should also be responsible over most stage 1 specifications. After architecture decision other working groups should do needed enhancements to stage 2 and 3 level specifications.

It's proposed to establish a new joint subgroup on **service architecture** within TSG SA. This group should start as a joint sub-group between TSG SA WG1, TSG SA WG2, TSG CN WG2 and TSG T WG2.