Technical Specification Group Services and System Aspects***TSGS#17(02)0593***
Meeting #17, Biarritz, France

Title: IMS, part of the 3GPP system

Source: Vodafone, Orange

Agenda Item: 7.1.3

Contact: Armin Toepfer (armin.toepfer@vodafone.com)

Introduction

During last the SA plenary in Marco Island the USIM/ISIM relation independence has been questioned. SA1 was asked to verify the full impact and implications of the requirement and respective CRs were referred back to SA1 in due course.

The SA1 plenary was being held 12-16th of August in Durango (USA) where the USIM/ISIM independence issue has been discussed.

During the SA1 plenary strong objection was received from mobile operators towards the proposal to make on a UICC the relationship between USIM and ISIM application and subscription independent of each other in Release 6. Despite of objections from mobile operators the CR S1-021838 has been approved by SA1. The CR formulates the requirement that *'the 3GPP system shall provide the functionality to maintain each subscription (to CS, PS or IM system) independent of each other'*.

Discussion

1. 3GPP Principles

The Third Generation Partnership Project Agreement clearly states that *'The purpose of 3GPP is to prepare, approve and maintain globally applicable Technical Specifications and Technical Reports for a 3rd Generation Mobile **System** based on the evolved GSM core networks, and the radio access technologies supported by the Partners (i.e., UTRA both FDD and TDD modes), to be transposed by the Organisational Partners into appropriate deliverables (e.g. standards).*

The intention of 3GPP is to define a entire 'system' (not loosely coupled system**s** !) which implies that functions should be defined once and serve multiple processes in this one system. It also implies that sub-parts of the system are always accessible by other sub parts, as appropriate. Limiting access to a certain subsystem results in limiting the use of available functionality in other parts and therefore needs to copy those functionality into his domain to become selfprovisioning. This results in having two systems, which is not the intention of the 3GPP Agreement. It is also common understanding that IMS constitutes an integral part of the system specified by 3GPP.

ETSI (SCP) has defined a general purpose UICC which provides the possibility to store eight separate, independent applications on an UICC. These applications can be everything, from telecom to banking applications, access to corporate networks etc.. That does not mean that this possibility should be abused to split artificially applications belonging to one integral system, which would be the case if the IMS is logically separated from the CS and PS part of 3GPP system by independent subscription and respective UICC applications.

2. Binding IMS with CS/PS subscription

Defining a separate ISIM application besides the USIM application is splitting the 3GPP system into such subparts and thereby excluding parts of the whole 3GPP system which therefore is not acceptable. This issue has been liased to S2 and they responded that they could not understand this requirement, see LS from S2 (SP-020441). It appeared to them *to demand independent subscriptions for CS and PS domain, which might lead to very tricky layer 1 ciphering issues in the UTRAN*. The response from SA2 illustrates the additional complexity generated if the 3GPP system is designed as demanded by SA1..

Conclusion: *The request for USIM and ISIM subscription independence is thus conflicting with agreed 3GPP principles.*

Instead of this, we request to maintain the functionally that one general Subscriber Identity Module (SIM) serves in it's functionality all access processes within the 3GPP system, no matter whether this is CS/PS access or IMS access, etc. As the IMS is considered as the IP-based platform for access to and provisioning of multi-media services it is also recognised that the IMS could also host additional dedicated application which additional need for subscription. In this respect those subscriptions could sit on the UICC independent of access subscription to 3GPP system.

Conclusion: *In order to accommodate the functional integrity for access to 3GPP system, we require binding between IMS and CS/PS subscription.*

3. Insurance of access independence

The 3GPP system can provide access via different radio systems with the same subscription.

Conclusion*: Access independence with IMS and CS/PS subscription bound is still ensured.*

4. Summary of Conclusions

- Realising independence between USIM and ISIM application on an UICC conflicts with the principles agreed in the Third Generation Partnership Project Agreement.
- It is requested to maintain current practise to have, functionally, one general Subscriber Identity Module (SIM). To accommodate this binding between IMS and CS/PS subscription is necessary.
- Access independence is still ensured when IMS and CS/PS subscription are bound.

5. Proposal

Consequential to the above discussion we ask SA Plenary to:

- Agree on the conclusions made.
- Reject CR S1-021838.
- Agree that binding IMS subscription with CS/PS subscription is a mandatory requirement.
- Agree that USIM and ISIM (and other future 3GPP SIM applications on an UICC) are complementary functionality to perform the SIM role for the 3GPP system and for that depend on each other to use each other's functionality.
- Agreeing the above, the proposal for multiple ISIM subscriptions on one UICC becomes obsolete.

6. Further Considerations

The roaming scenario

Unlike fixed network ISP customers, cellular customers are mobile and roam frequently. Some international ISPs provide regional and local assess points for travelling fixed network customers.

Under normal conditions an independent ISIM subscription would preclude that a roaming cellular customer can make use of the IMS of the roamed-to network. Some special arrangements would be necessary, otherwise the roaming customer needs to access the IMS she has subscribed to, probably generating some long haul traffic links.

The requirement, to tie the ISIM subscription to the USIM has the beauty, that roaming scenarios are already covered because VPLMNs would grant access to their IMS using the combined USIM/ISIM subscription.

Further Considerations

In many countries telephony service provider are obliged to comply to strict regulations in terms of

- data privacy,
- lawful interception,

- and other obligations.

Those obligations do not apply in full extend to ISPs as they typically do not offer telephony-grade services. Regulations are enforced via licenses and its conditions. IMS Rel-6 is supposed to support real-time conversational services, including telephony.

With the concept of IMS subscription independent to the UMTS subscription there is a danger that current regulation regimes get undermined: Customers may use their national UMTS subscription (licensed by the national authority) and any foreign IMS subscription (without a license). Cellular operators would no more be able to fulfil their obligations, e.g. enable interception.

The author is aware that similar reasoning might be applicable to fixed network operations. However, recent history has shown that the cellular business is very dynamic in terms of implementation of new technologies, whereas fixed network show high technology latency.