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Title: **TISPAN-3GPP June 04 joint meeting notes**

Document for: **Information**
Agenda Item:

1.   Introduction

This contribution is based on the personal notes of the author who attended the meeting on behalf of 3GPP SA3. Scott Cadzow represented the TISPAN security-working group WG7.

2.   Motivation

Several presentations were given on the motivation for the development of the NGN Architecture in ETSI TISPAN. The PSTN was now coming to the end of its life and would need to be replaced with something over the next 5 years or so. It was stressed that it had been agreed that "something" was an all IP network and rather than "reinventing the wheel" TISPAN would take as much of the 3GPP work "as is". The first component identified was 3GPP IMS and associated services e.g. presence, but there may be other specifications e.g. WLAN interworking , GAA/GBA etc . However, fixed network operators were working in a more constrained environment than 3GPP. For example there is a need to account for:

- Existing Customer Networks e.g. Hubs, Routers, WLAN
- Existing Customer Terminals e.g. PC's; PDA's; Phones; and their lack of regulation & diversity
- Access Networks already deployed e.g. xDSL, backhaul to ISP's; V5 fibre and Concentrators, multiplexers
- Core Network must be 3GPP IMS based, with minimal changes
- Interconnect with other NGN; 3GPP IMS; Internet; PSTN/ISDN

Services offered would include "all 3GPP IMS Services"

Plus

- Emergency calling (112 etc.) for all terminals/users
- Existing PSTN/ISDN services for legacy only
- Interoperability with 3GPP IMS
- Interworking to PSTN/ISDN both TDM and replacement scenario
- Future Services e.g. streaming (RTSP) Video on Demand, broadcast services

More details of the proposed architecture can be found at
http://www.3gpp.org/ftp/workshop/2004-06-22_NGN-IMS_Sophia-Antipolis/TD17r1_3GPP_TISPAN_NGN.ppt

3.   Issues for 3GPP SA3

Scott Cadzow, representing the TISPAN security-working group WG7 presented on security issues

See slides 11- 18 in

http://www.3gpp.org/ftp/workshop/2004-06-22_NGN-IMS_Sophia-Antipolis/TD10%20WS_item6%20IssuesNGN-IMS.ppt

When the question of reusing 3GPP SA3 security specifications was discussed, there appeared to be some confusion in 3 areas

1. The need for each IMS subscriber to have a physical UICC with an ISIM and/or USIM application

2. 3GPP assumes a single device with a single subscriber rather than multiple devices behind a "Home Gateway and the security solution will not work with NAT and Firewall between the UE and P-SCF

3. 3GPP are only concerned with protecting the signalling in IMS and not the media stream itself

The following actions were agreed:

1. **UICC in NGN:** Current 3GPP Specifications assumes that a physical UICC is present in the 3GPP UE TISPAN is invited to evaluate if it is acceptable to require that a physical UICC is also required for an NGN UE If it is not acceptable TISPAN needs to come back to 3GPP with clear requirements/proposals

2. **Local Access Network with NAT and/or Firewall**: Not addressed in 3GPP. The IETF is working on solutions. TISPAN WG2 and 3GPP SA2 should address this issue

On the reuse of AKA and IPSec, there was an interesting presentation from Siemens proposing reusing the work in TS33.234 the WLAN interworking security specification. The presentation can be found at:

http://www.3gpp.org/ftp/workshop/2004-06-22_NGN-IMS_Sophia-Antipolis/TD09%20Siemens%20-%20WLAN%20Interworking%20for%20NGN%20Access%20Independence.ppt

This appeared to be an addition to, rather than a replacement for T33.203

I raised the point that IMS security was designed not to use IKE and certificates for performance reasons, and that the Siemens presentation adds extra layers of security. These are based on IKE and certificates, which may be appropriate for WLAN scenario 3 UE to PDG but not for SIP between UE and P-CSCF.

1. WLAN association at L1/2 (EAP/SIM or EAP/AKA)
2. Establish tunnel to PDG (EAP and IKE with certificates at the PDG)
3. Set-up security association between UE and P-CSCF (AKA again)
4. IMS registration and session set-up IPsec again?

One argument is that you need IKE, for dealing with NAT and/or Firewall transversal, but there are solutions that work without any changes to TS33.203.

One clear advantage of the Siemens proposal is that is does secure the media stream as required by NGN

There seems to be a general issue of how SA3 manages to avoid the need for IKE and certificates in some of their solutions but not others!!

Having presented to TISPAN on TS33.203 at their previous meetings and convinced them that there was no need to develop their own solution, I did not have the heart to say SA3 were having doubts about the practicality of implementing TS33.203 with lack support for IPSec in the handsets listed as one of the reasons.

Adding EAP and IKE to the stack would appear to make the problem worse. Or is that the issue, IPSec stacks come with IKE and implementation is easier if you don't try to pull the stack apart.

Surprisingly, there were no alternative proposals for IMS security using TLS (with certificates) tabled at the meeting which seem to be a favorite for fixed network operators (and their suppliers) not concerned with UDP transport and UICC cards.

The initiative still seems to be with SA3 at least for now!

The following actions were agreed:

- Proposal to adopt the concepts of WLAN/3GPP interworking as the basis to achieve true access independence in NGN, considering that
  - Access independence is one of the NGN central requirements
  - True access independence requires a generic approach, which decouples NGN core network components and procedures as much as possible from the subtleties of access technologies
  - 3GPP is on the way to standardize with Release 6 WLAN/3GPP interworking that allows 3GPP terminals to access a 3GPP IMS via WLAN
  - The concepts of WLAN/3GPP interworking do not rely on the specifics of the WLAN access network

- TISPAN WG2 & 7 to examine the proposal, in light of
  - its relationship with the ANAS (Access Network Attachment) and RACS (Resource & Admission Control) functions
  - the WLAN access architecture to NGN
  - Contributions welcome to help quick decision making.

Presence

There was some discussion on Presence and conferencing and I raised the issue of management of the profiles by the user on the Ut interface, as I believe that SA3 have made a number of assumptions on the use of this interface.
The following actions were agreed:

- TISPAN_NGN to attempt making URIs used in SIP (except tel:) personal to the user rather than the device. TISPAN WG4 to communicate deliberations to 3GPP CN1
- NGN to identify its own work for delivering information from presence-unrelated entities to the PNA TISPAN WG1&2 (then WG3) to communicate deliberations to 3GPP CN1
- NGN to decide if the current range of elements within the PIDF definition is sufficient for NGN usage. any additional specification will need to be done via CN1 by IETF (and then used by other groups)
- Conferencing - NGN need to open any of the interfaces that are currently not specified? TISPAN WG4 to communicate deliberations to 3GPP CN1

4.   Working Methods

The conensus was that TISPAN and 3GPP would try to avoid "deltas". A common set of IMS specifications maintained by 3GPP is the goal. Companies that attend both TISPAN and 3GPP submitting CR's into 3GPP at least for stage 3 documents will achieve this. There was a comment that agreeing the requirements (stage 1) is where the problem/ conflicts of interest will be.

Three types of work have been identified

1. TISPAN only

   - PSTN/ISDN emulation
   - Network Attachment Subsystem
   - Resource and Admission Control Subsystem (jointly as well?)
   - Routeing function In addition to identify and address S-CSCF and there is a requirement to identify and address all TISPAN-NGN elements of an operator's domain for routeing purposes

2. No modification to 3GPP documents (can be taken over unchanged for TISPAN-NGN Release 1)

   - It is expected that the following functions can be taken unchanged from 3GPP-IMS
     - I-CSCF
     - MRFC, MRFP
   - Does 3GPP intend to specify an open interface between MRFC and MRFP? TISPAN see some benefit in having an open interface

3. Joint work between TISPAN and 3GPP- On a case-by-case basis, it will be decided where and how the agreements shall be documented.

- S-CSCF
- P-CSCF
- MGCF
- HSS
- SLF
- Charging/Accounting
- IBCF (new, introduced by TISPAN)
- On a case-by-case basis, it will be decided where and how the agreements shall be documented.

- TISSPAN tasked to define process e.g. CR,s into 3GPP or separate docs for NGN
- 3GPP will start to raise WI's for NGN support in R7

I raised the concern that I would not wish to see CR's that could be classed an essential corrections to R6 rejected on the basis that they appeared to be NGN related and the work item had not been approved, or if it was approved did not cover it in its scope. I did not have any support for this concern

5.   Next Steps

TISPAN actions

1. To prepare a Document defining reuse of IMS (R6) in NGN Release 1 (all aspects and relevant TSs)
2. To communicate with relevant 3GPP TSGs
3. To collocate relevant WG and 3GPP TSGs when and where appropriate

3GPP actions

1. Consider WIDs to support Fixed NGN requirements (refer to TD17r1)

Joint actions

1. A further Workshop February/March 2005 to discuss IMS and NGN related issues and to set up a TISPAN & 3GPP common (publicly open) NGN-IMS mailing list (for info/organizational purpose)

The official report from the meeting can be found at:

http://www.3gpp.org/ftp/workshop/2004-06-22_NGN-IMS_Sophia-Antipolis/TD16r1%20WS_highlights_NGN-issues-handling.ppt