SP-050391

3GPP & TISPAN

Workshop on "IMS over Fixed Access"

- Workshop Summary & Next steps -

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All Workshop Documents and tdoc list are available at
http://www.3gpp.org/ftp/workshop/2005-03-30_3GPP_TISPAN_Washington/Tdocs/

Agenda Documents & Timing

1. Approval of agenda and Documents (s1)
2. Workshop objectives (s1)
   - Doc WS(05)01
3. NGN (Release 1) Architecture status (s1)
   - Doc WS(05)02 (TISPAN), 33 (ITU-T FGNGN)
4. IMS Architecture and R6 & R7 status (s1)
   - Doc WS(05)03 (3GPP)
5. Review of the NGN-IMS issues & status (s2)
   - Doc WS(05)04
6. Fixed Access to IMS issues/discussion (s2-s3-s4-s5)
   - Doc WS(05)05->16 (TISPAN inputs), 34 (FGNGN Racs)
   - 20 (FMMS), 21->26(Security 6.3), 28 (Emtel 6.10)
   - 30 (Access-IMS, 6.11), 31 (IMS-Sig Simulation services, 6.11)
7. Backbone issues/Interco schemes (s6)
   - Doc WS(05)17, 18
8. Session Border Controllers concept (s6-s7)
   - Doc WS(05)29, Other SBC related TISPAN-inputs under Item 6.
9. Current activities and work plan (s8)
   - Doc WS(05)19 (NGN-R1), 22 (IMS Security), 32 (IMS)
10. Next steps/Future cooperation (s7)
    - Doc WS(05)27, 21 (SA3-WG7), 35 (Endorsements)
11. Any other issue & 12. Wrap-up/Closure Doc WS(05)36 (s8)

Agenda Item 6 "IMSoFA" issues

6.1 Services & Supplementary services doc TD-05

6.2 User identification issues (with 6.1)

6.3 Security & Authentication (and Legal Intercept)
doc TD-10 & 26 (reqts), 23 & 25 (isim), 24, 21 & 22 (WG7-SA3)

6.4 Support of IPv4/IPv6, NAT TD-06

6.5 SIP/SDP Profile for IMSoFA TD-07

6.6 "Gq" requirements doc TD-08r1, 34

6.7 Bearer QoS classes & mapping doc TD-09

6.8 Audio & Video Codecs use doc TD-11

6.9 IMS Specs endorsement for NGN R1 doc TD-12

6.10 Emergency communications doc TD-13

6.11 Other R1 requirements/topics doc TD-14, 15r1

6.12 Beyond R1 requirements doc TD-16

Opening and Approval of Agenda

❑Opening of Meeting

- Mr Tim Jeffries of ATIS welcomed delegates to Washington on behalf of the Host.
- Mr Alain le Roux and Mr Magnus Olsson co-chaired the meeting and explained the organization for the two day workshop.

❑Approval of the Agenda

- Mr Alain le Roux introduced the agenda for the meeting [TD-001r1_Agenda_objectives]
- Two new documents from ITU-T FGNGN were added to the agenda [TD-033 to Agenda Item 3 and TD-034 to Item 6.6]
- The Agenda of the workshop was AGREED

NGN Release 1 Status

❑NGN Rel-1 Architecture and Status

- Presented in [TD-002_TISPAN_NGN_R1_Architecture]
- Presents the TISPAN WI 02007 (general Architecture).
- Presents NGN architecture (incl. NASS, RACS, PES, IMS)
- Provides an architectural comparison between 3GPP R6 and TISPAN R1 NGN.
- Describes NGN impacts on IMS

❑Discussion

- PSTN IDSN Emulation (provides PSTN services to legacy Terminals via a gateway). Two solutions presently under development (Monolithic, IMS-like). TISPAN is mainly concentrating on the interfaces.
- User Authentification data accessing a remote network

Standards for Business

IMS R6 and R7 Status

3GPP IMS Status for Rel6 and Rel-7

- Presented in [TD-003_3GPP_IMS_R6_R7 Status]
- All main Work items for Rel-6 IMS completed as of March 2005.
- Some Minor Stage 3 definitions still open (IMS-ALG procedures, Mn interface profile, PoC charging, WLAN access).
- Rel-7 Work Item Fixed Broadband Access to IMS, TR 24.189 is a placeholder for IMS changes (from TISPAN and other SDOs)
- CRs that are beneficial for 3GPP IMS could be directly implemented in TS 24.229. Those specific to TISPAN will be documented in the TR first.
- Stage 1 requirements expected frozen Sept 2005.

Discussion

- TISPAN R1 will reference 3GPP IMS Rel-7 specs. [see TD-035]
- 3GPP structure has changed (http://www.3gpp.org/TB/home.htm)
- TISPAN also need to look at “system architecture evolution” work that is underway in 3GPP

ITU-T NGN Focus Group

❑ ITU-T NGN Focus Group Activities

- Presented in [TD-033_FGNGN_Activity_status]
- Presents group ToR and working structure
- Lists NGN deliverables
- Describes NGN definition
- Shows NGN functional architecture diagram
- Lists the NGN Services and capabilities
- Provides NGN scenarios and examples
- Provides the NGN FG schedule for 2005
- Plan to finish Rel-1 and initiate Rel-2 by Dec 2005.

❑ Discussion

- 3GPP should be involved in the ITU-T discussions on the terminology for mobility. Expected to be handled by liaisons.

NGN-IMS issues Status

- Review of the NGN-IMS issues (from Workshop 22-23 June 2004) & their status
  - Presented in [TD-004_IMS_NGN_WS1_issues]
  - Lists the NGN related issues in TISPAN as well as describing their status
  - Describes where work is being handled within TISPAN WGs and the present status

NGN Services (6.1)

❑ Service Requirements - Release 1

- Presented in [TD-005_WG1_ServReqts]
- Includes requirements from EU (regulatory services)
- TISPAN have proposed a list of (simulation) services to 3GPP (SA) for their consideration
- These are TISPAN Rel-1 Requirements. Those that cannot be included in Rel-1 may move to Rel-2.
- TISPAN Rel-1 service requirements expected to be frozen at TISPAN 6.

❑ Discussion

- Asserted Location Information is required as EU recommendation.
- Issue of voice services in 3GPP IMS Rel-7 has yet to be discussed in 3GPP TSG SA WG1

Support of IPv4/v6 & NAT (6.4) [1of 2]

❑ Extended P-CSCF functionality

- Presented in [TD-006_NAPT_Topology_Hiding]
- Describes NAPT(-PT), Topology Hiding and Hosted NAT
- Impacts on 3GPP work items and specifications [TS 23.228 and 23.229]

❑ Discussion

- IETF are presently discussing generic solutions for all types of NAT. Doubts expressed that TISPAN work resolves all of the issues, and also that it may be completed in a Rel-1 timescale.
- TISPAN propose a lighter fallback solution for terminals that do not support the IETF solution. However this still needs to be finally decided in TISPAN (for stage 2 and 3).
- NAT is not controlled by operator. Signalling flows required between P-CSCF and NAT function.
- TISPAN need to re-examine how they will support NAT considering the IETF documentation [draft-iab-nat-traversal].
- Issue of NAT related Security needs further consideration by TISPAN (WG2 and WG7)

Support of IPv4/v6 & NAT (6.4) [2 of 2]

❑Discussion (cont)

- SDP offer may contain URL information. The issue of Media stream MSRP awareness needs to be examined in TISPAN.
- Topology hiding was examined in 3GPP but later it was dropped. TISPAN should be careful not re-using the mechanism rejected by IETF.
- P-CSCF functional impacts have already been examined in 3GPP and caused some concerns with IETF.
- NAT may reside either in CPE or in Network

SIP Profile Issues (6.5)

❑ 3GPP SIP Profile Issues and Impacts

- Presented in [TD-007_SIP_Profile.zip]
- TISPAN endorsement of 3GPP TS23.228, 24.229, 29.162
- Add an xDSL specific annex to 24.229
- Some SIP constraints will be relaxed at the UE (optional support)
- Addition of new SIP capabilities to support supplementary services

❑ Discussion

- A RFC exists for discovering SIP servers. TISPAN may wish to consider this as an alternative solution.
- Changes to 3GPP specifications will be discussed and approved in TISPAN, and then presented (as potential CRs) to 3GPP to be discussed and included in their documentation (R6 or R7).
- Relaxing of requirements should be conditional on access network (and not optional)
- P-Access-Network-Info is not relevant to the fixed UE

Security-Authentication Legal Intercept (6.3)

❑NGN Security Requirements

- Presented by TISPAN in [TD-010_Sec-Auth_LI]
- Requirements to ensure a secure and trustworthy environment for customers, network operators and service providers
- TISPAN looking at Security architecture, threat analysis
- TISPAN will endorse 3GPP security documentation as well as developing NGN specific documents
- Joint discussions required with 3GPP SA3

❑Discussion

- 3GPP has done work on early IMS security. TISPAN need to consider this work although it does not cover all of the NGN security requirements

Security-Authentication Legal Intercept (6.3)

- **Security requirements for IMS over Fixed**
  - Presented in [TD-026_security_requirements] from Axalto/Gemplus
  - Identifies 3GPP working assumptions and security requirements, and suggests the adoption of a baseline for the access security solution in fixed network
  - Proposes addition of additional security requirements for IMS over fixed
- Discussion
  - This document should be contributed to TISPAN for deliberation on the requirements

User Identification (6.3)

❑ User Identification with non-ISIM devices

- Presented in [TD-023_user_identi_without_ISIM]
- Presents proposals on how to use ISIM in non-ISIM devices (soft/hard ISIM, line identifiers)
- Proposes a secure and fully standard solution
- Include a fixed UICC in RGW using SIP B2BUA

❑ Discussion

- Question on how to protect the ISIM in a non-ISIM device (authentication). Have to ensure user has permissions
- Line identification is limited when wireless technologies are used (WLAN / Bluetooth)

IMS security (6.3)

- **Usage of ISIM in IMS networks**
  - Presented in [TD-025_ISIM_in_IMS]
  - 3GPP IMS and IMS over fixed access should use same security mechanisms
  - Proposes a removable tamper resistant device to secure IM Services for fixed access
  - Recommends the adoption of UICC-based ISIM
  - TISPAN deliberation required (currently not mandated)
- **IMS signalling protection with TLS**
  - Presented in [TD-024_IMS_security]
  - Proposes using TLS as opposed to the present IMS security
  - Supported in general but this needs to be examined in 3GPP in order to make it generic and not TISPAN specific.

TISPAN/SA3 interwork (6.3)

TISPAN and 3GPP SA3 Interworking

- Presented in [TD-021r1_Interworking_TISPAN_and_3GPP_Security]
- Suggests a work split for TISPAN and 3GPP SA3 for security work

Discussions

- Will be discussed in TISPAN WG7 (April 2005)
- Results will be communicated to 3GPP SA3 (in a LS)

IMS security extensions (6.3)

❑ IMS security extensions WI for 3GPP R7

- Presented in [TD-022_IMS_security_extensions]
- TISPAN WG7 Interim meeting (Oslo) should send a LS to SA WG3
  - Ask SA WG3 to start work on ”IMS security extensions”
  - Send a summary of NGN/IMS R1 working assumptions and requirements (covering requirements from all TISPAN WGs, e.g. WG1 and WG2)

❑ Discussions

- Proposes to keep the maintenance of IMS core security specifications in 3GPP

"Gq'" Requirements (6.6)

- **TISPAN NGN Gq' requirements**
  - Presented in [TD-008r1_Gq_Interface_requirement]
  - Presents the NGN requirements on Gq ref. point
  - Uses info. exchange between the Application Function (AF) and Policy Decision Function (SPDF)
  - RACS architecture and requirements on Gq should be finalized in April (20-21/04 in Darmstadt)
- Discussion
  - Why combining Resource/QoS control (Gq) and NAT control (Gq')? Impacts are limited to Gq interface
  - LI on Gq'? Not excluded.
  - AF to decide on per session or multiple sessions flows

Resource and Admission Control

❑NGN FG Resource and Admission Control

- Presented in [TD-034_FGNGN_WG3_RACS]
- Similar to TISPAN but wider scope than TISPAN Release 1 (e.g. including core network control and inter-domain PDF-PDF communication)
- Resource mediation layer (core network selection) is still under discussion in ITU-T NGN FG.

❑Discussion

- TISPAN have some divergence with NGN FG (typically resource mediation). Will hinder the smooth evolution for a converged architecture
- Doubts on the need for Topology collection

Bearer QoS Classes (6.7)

❑ Bearer QoS classes and mapping

- Presented in [TD-009_QoS_Mapping]
- QoS Framework and requirements contained in ETSI DTS/TISPAN-05008
- TISPAN will subtract the 3G objectives from the Y.1541 objectives

❑ Discussion

- 3GPP have not documented the amount of jitter and are not presently studying this issue
- 3GPP has currently no work item on jitter values and apportionment of QoS parameters to different segments
- No direct impact on TISPAN R1

Codecs use (6.8)

- ***Codecs support by networks and NGN Rel-1***
  - Presented in [TD-011_Codecs_support]
  - TISPAN principles for Codec support in WI DTS-05008
  - Lists the codecs supported by the network and UE
- Discussion
  - No issues raised

IMS Specs endorsement (6.9)

❑ Endorsement of 3GPP IMS Specifications

- Presented in [TD-012r1_IMS_endorsements]
- STF 280 is evaluating IMS R6 specifications for endorsement
- WG3 will endorse the actual IMS documents
- The contribution lists the TISPAN WIs and the 3GPP specs that are under consideration
- 3GPP have a work item to support NGN “System enhancements for fixed broadband access to IMS”, Acronym “FBI”.

❑ Discussion

- TISPAN plans to Endorse 3GPP IMS specifications where possible and identify areas not covered.
- Similar experience in 3GPP and IETF for SIP. Better to make changes in the base documents (IETF). 3GPP prefer that changes are made in the core IMS specifications
- 3GPP has concerns with the endorsement / replacement mechanism. (see related document in TD-035)

Standards for Business

Emergency communications (6.10)

- Status of Emergency Comms work
  - Presented in [TD-013_Emergency]
  - Requirements almost fixed, aligned with 3GPP where possible
  - Use Access level routing or IMS level routing
  - Location information mechanisms not yet decided
  - IETF draft-ietf-sip-resource-priority-07 still needs to be considered for priority handling
- Discussion
  - Ensure one common procedure for IMS level routing. This is being studied in 3GPP TSG SA WG2 (TR 23.867).

Emergency communications (6.10)

- **Handling location information for emergency services**
  - Presented in [TD-028_location_infor_for_emergency]
  - (Ericsson proposal) An option whereby the IMS core requests the location information from the NASS appears to have the advantages of not requiring the trust of the terminal, and not requiring the use of a location centre for emergency services.
- Discussion
  - No agreement to remove two other options
  - Contribution will be examined in 3GPP SA2 and CT1

Control of Processing overloads (6.11)

❑ Control of Processing Overloads

- Presented in [TD-014_NGN_NOCA]
- TISPAN R1 will have mechanisms that automatically maximise effective throughput at any overloaded ressource
- TISPAN plans to define a (GOCAP) Generic Overload Control Application Protocol
- Overload control architecture [WI 02026] and protocols [03034]

❑ Discussion

- TISPAN will evaluate extensions to existing protocol or definition of a new GOCAP protocol

FSMS/MMS Harmonization (6.11)

- Harmonization of **SMS/MMS over IP**
  - Presented in [TD-015r1_SMS_MMS_over_IP_Harmz]
  - ETSI TC AT is developing DES/AT-030036, “Fixed Network Short Message Service (F-SMS)
  - 3GPP SA2 is developing 3GPP TR 23.804, “Support of SMS and MMS over generic 3GPP IP access;”
  - They are similar but have different architectures, need to be harmonized
  - Cooperation between 3GPP SA2, ETSI TISPAN and ETSI AT is required
- Discussion
  - 3GPP work is only a TR so not fully finalised, still time to make changes in 3GPP
  - Agreement to do the work in one place

FSMS/MMS Harmonization (6.11)

- **Comparison of the solutions for providing SMS/MMS over IP**
  - Presented in [TD-020_SMS_MMS_IP_Access_Solns]
  - Contribution compares the two solutions
  - Nokia believe the 3GPP architecture is more aligned with existing implementations and it should be the reference architecture
- Discussion
  - No issues raised

Other R1 requirements (6.11)

- **IMS Support for Signalling of PSTN Supplementary and Simulation Services**
  - Presented in [TD-031_IMS_SS_Signalling]
  - Signalling of PSTN SS information needed between network entities
    - For PSTN bridging scenarios
    - To interwork with Subscriber SS Control procedures
  - Lucent proposes adoption of requirements for Network SS Control signalling
  - 3GPP CT WGs expected to perform detailed work under WID for FBI (fixed broadband IMS) With input from SDOs such as TISPAN
- Discussion
  - Some IMS nodes need not interpret ISUP
  - It was suggested that interworking should be possible without encapsulation
    Further work required in TISPAN before this issue is taken to 3GPP.

Other R1 requirements (6.11)

- **IMS dependencies on access technology**
  - Presented in [TD-030_IMS_access_tech]
  - Proposes that should be no requirement in the IMS or associated UE for configuration to a particular access technology
  - 3GPP should investigate mechanisms to allow the P-CSCF and the UE to make consistent determination of the access technology
  - Need to decide how much mixtures of technology in IP-CAN should be taken into account
- Discussion
  - No issues raised

Beyond R1 (6.12)

❑ Generic NGN IP Access

- Presented in [TD-016_Generic_IP_Access]
- Presents a possible architecture to access NGN services by using the so-called Generic IP Access
- Possible new area of co-operation between ETSI TISPAN and 3GPP

❑ Discussion

- Work needs to be coordinated between TISPAN and 3GPP
- 3GPP AAA server may also be required.
- Mobility scenarios (fixed / mobile) need to be studied
- This is beyond the scope of 3GPP Rel-6 and TISPAN R1
- Enhanced functionality for QoS control is being studied in 3GPP Rel-7 and includes I-WLAN. [3GPP TR 23.803]

Backbone & IP-IP interconnection issues (7)

- NGN Backbones and Interconnection
  - Presented in [TD-017_Backbone_Interco]
  - Presents the options for the NGN backbone (public / private internet / isolated subnets)
  - Suggests the creation of a forum to discuss the various options from an operational perspective.
- Discussion
  - GRX was initially designed by GSMA IREG for GPRS roaming for the exclusive use of GSM/UMTS
  - Need to clarify the functions provided by the GRX
  - GSMA IREG is examining the evolution of the GRX to e.g. support IMS interconnect
  - TISPAN should work with GSMA IREG to consider the evolution of the GRX to include fixed access and QoS considerations
  - Contributions welcomed in TISPAN on identifying the requirements on the GRX
  - It is possible that there is more than one solution – the use of co-existing optional solutions could be one method

Backbone & IP-IP interconnection issues (7)

- **IP-IP interconnection**
  - Presented in [TD-018_IP_IP_interconnection]
  - Describes the status of IP to IP interconnect in TISPAN
- **Discussion**
  - H248 chosen for Ia interface. No decision yet for Gq'
  - The RACS issue will be further discussed in a TISPAN rapporteurs meeting April 2005

Session Border Controllers concept (8)

❑ Issues with Session Border Controllers

- Presented in [TD-029r1_Session_Border_contribution]
- Presents a number of questions related to SBCs to ensure interoperability
- Common Functionality is required
- Agreement on Requirements by Carriers is Essential (Carriers need to take initiative quickly)
- SBC Proposes a Global Carrier Initiative to:
  - Develop Requirements
  - Be Delivered to Standards Development

❑ Discussion

- Need to involve the mobile operators

Current activities and Workplans (9)

❑ TISPAN_NGN Project plan

- Presented in [TD-019r1_TISPAN_NGN_Project_plan]
- Presents the proposed TISPAN Workplan
- Similar mechanism to 3GPP work planning
- Will be updated and adopted at TISPAN 6

❑ Discussions

- Can include 3GPP and TISPAN in .zip file so that they can be compared
- Stage 1, Stage 2, and Stage 3 completion dates need to be studied further. They should not finish at the same time (although TISPAN are doing some reverse engineering.

Next steps and Working arrangements (10)

- **Specification of the IMS Core (including TISPAN enhancements)**
  - Presented in [TD-035_Specification_of_the_IMS_Core]
  - 3GPP asks TISPAN to recommit to a single set of IMS core specs.
  - Indication from TISPAN on how “standardized” these specifications must be: (available on 3GPP website, TS, ES, EN):
  - TISPAN to provide 3GPP with a list of specs they need to refer to.
  - Understanding of the TISPAN Rel-1 timelines/priorities

- **Discussions**
  - TISPAN REL-1 is based upon (refers to) 3GPP IMS Rel-7 specs
  - Results in single set of IMS specs for companies to implement
  - This process is already and successfully used in the joint working group with TISPAN OSA and 3GPP (WG CT5)
  - TISPAN may bring DRAFT CRs to 3GPP as they will be refined
  - Ideally TISPAN wish to have 3GPP IMS specifications by Sept-05
  - TISPAN will provide 3GPP with a list of priorities and timelines

Next steps and Working arrangements (10)

- Discussions (cont)
  - Joint meeting required between 3GPP and TISPAN WGs (before Sept 05)
  - 3GPP (and TISPAN) is contribution driven. Companies must be pro-active to progress the work
  - TR 24.819 captures all potential the changes to 3GPP Stage 3 specifications.
  - The joint Workshop endorsed the principles described in TD-035, with the clarification of the endorsement process (making normative references)

Next steps and Working arrangements (10)

- **Early Implementation in 3GPP of IMS Enhancements for TISPAN Rel1**
  - Presented in [TD-032_Early_Implementation_IMS_Enhancements]
  - T-Mobile proposes that the 3GPP utilize its “early implementation” mechanism for features and capabilities that are needed in the marketplace prior to the official completion of Release 7. This would allow for the timely completion of the necessary enhancements to IMS and would ensure that TISPAN does not have to wait for the completion of the full Rel7 for these enhancements to become available.
- Discussions
  - No Issues raised

Highlights (1/2)

- Highly productive Workshop
  - 35 highly valuable inputs. Some 180 participants
- Areas requiring urgent/close coordination
  - TISPAN_NGN security mechanisms, IMS R7 Security extensions. WG7 and SA3 close coordination
  - Workshop recommends closed coordination between TISPAN WG7 and 3GPP SA WG3
  - SIP/SDP profile and Extended P-CSCF requirements to be documented and coordinated with SA2 and CT1 (particularly w.r.t TS 23.228 and 24.229)
- Other useful feedback
  - TISPAN to make decisions on the use of Gq' or Gq + another interface within TISPAN

Highlights (2/2)

- Joint working arrangements for a common core IMS
  - The joint Workshop endorsed the principles described in TD-035, with the clarification of the endorsement process (making normative references)
  - 3GPP CT1, SA2 and TISPAN WG2 and WG3 to have a “Joint meeting” to advance the FBI work.
    - Potential 1st date 12-13th July (during TISPAN 7)
    - Scope is to develop potential TISPAN CRs to 3GPP TS23.228 and 24.229.
    - Meeting will have the mandate to make CRs to 3GPP specs.
    - The 3GPP and TISPAN leaderships will make the detailed arrangements for the joint meeting.