3GPP TSG CT Meeting #28 **CP-050173**
1st – 3rd June 2005. Quebec, CANADA.

Source:	**Ericsson**
Title:	**Test aspects for the IMS core and IMS related applications in 3GPP**
Agenda item:	**6.1.2**
Document for:	**APPROVAL**

Introduction

Due to the introduction of the IP Multimedia Subsystem in 3GPP Rel-5, a decision must be taken on if, how and where test of IMS-capable terminals should be handled. These tests may include the IMS core protocols, applications utilising the IMS core, and IMS-capable terminals either individually or taking into consideration the network aspects. A WID was brought to CT1#38 to address the need for interoperability testing of CSI, resulting in an LS (CP-050110) to the RAN, CT and SA plenaries.

RAN5 proposes in a new WID (R5-050661 / RP-050286) to perform conformance testing of the SIP core (according to 24.229). To which extent this work will be aligned with the work performed by GSMA IMSADH, ETSI TISPAN and ETIS MTS is not considered here, but the common denominator of the work proposed by RAN5, GSMA IMSADG, ETSI TISPAN and ETSI MTS seems to be testing of the IMS core.

In addition to RAN5s proposed WID for conformance testing of the 3GPP IMS core, additional testing of application enablers such as Presence, IMS Messaging, PoC, CSI and Multimedia Telephony must be considered.

Testing of such enablers can be done as interoperability tests that do not require special test equipment but are instead performed between vendors. This type of test specification will then specify how the application logic implemented on a terminal shall interact with applications on remote terminals. It is important to note that the interoperability test specifications is specified at the application level, which is currently lacking in the Conformance Tests as outlined in RAN5. The main benefit with this solution is that application enablers can be tested individually and therefore brought to the market faster than if only conformance tests are utilised.

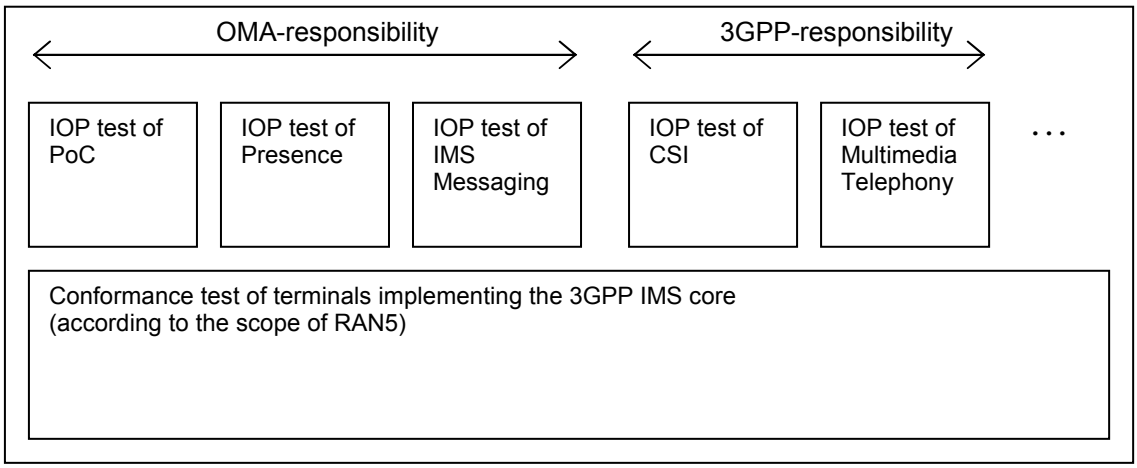
OMA has created a framework for interoperability testing and is testing the PoC and the presence enablers via interoperability test specifications. It is also assumed that messaging will be handled in the same way. This will mean that application enablers that are specified by OMA will use a uniform test methodology described in their test specifications.

Application enablers that are created within 3GPP, such as combinational services and Multimedia Telephony will also need some testing on application level to ensure interoperability. It is proposed that a similar framework as used by OMA is used to perform interoperability testing of application enablers.

The work initiated by RAN5 for conformance testing of the IMS capable terminals can progress independently of the interoperability testing of the application enablers. The scope of the conformance testing and the interoperability testing of application enablers are complementing each other.

Proposal

It is proposed that the below framework for splitting the conformance test of the 3GPP IMS core and interoperability test for application enablers is adopted. The scope of the interoperability testing of an application enabler and the conformance test of the IMS core shall be complementary.



The interoperability testing of an application enabler should be performed by the organisation specifying the application enabler. This is in line with the current work where OMA specify the IOT for PoC and Presence. It is assumed that Messaging will be handled in the same way.

It is proposed that 3GPP perform interoperability test of application enablers specified by 3GPP. This means that interoperability tests for combinational services and multimedia telephony shall be specified by 3GPP.

It is proposed that a interoperability testing is handled by a group that has interoperability testing as its primary focus . This will ensure that the group will have its primary focus on IOT and that the group will consist of experts on interoperability testing. Organising the work as a sub-group to CT1 should be considered as this give proximity to the experts of the relevant core specifications. This will also ensure a simple and informal interface between the group responsible for the core specifications and the specifications for interoperability testing.

To avoid duplicated work and risk for lack of interoperability, interoperability testing of the same application enabler should not be performed in multiple organisations. It is proposed to communicate with OMA to agreed on this framework and agree on where the different application enablers shall be interoperability tested.

Background Information

As part of the discussion on conformance testing and interoperability testing on IMS core specifications and IMS based applications, different standardisation bodies currently involved in with such activities have been identified below:

Identified testing activities inside 3GPP:

- **3GPP RAN5 -** IMS Call Control 3GPP extensions (24.229)
  The technical objective of this proposed work item is to provide for conformance testing of the IMS Call Control Protocol.

Identified testing activities outside 3GPP:

- **GSMA IMSADH**
  GSMA has the working group IMS ad-hoc group (IMSADH) with the scope IMS testing including IMS end-to-end interworking and roaming / CN testing.

- **ETSI TISPAN**
  TISPAN **-** WG6 is responsible for testing with the following scope:
  - Management and co-ordination of the development of testing specifications for the next generation telephony.
  - Providing testing specifications for TISPAN-developed specifications and profiles.
  - Maintaining existing testing specifications as required.
  - Tracking ongoing worldwide bake-off, interoperability, testing and certification activities of interest to TISPAN.

- **ETSI MTS**
  (Technical Committee Methods for Testing and Specification) has developed and published conformance test specification for IETF SIP (RFC 3261) in ETSI TS 102 027
  - ETSI TS 102 027-1; Conformance Test Specification for SIP (IETF RFC 3261); Part 1: Protocol Implementation Conformance; Statement (PICS) proforma.
  - ETSI TS 102 027-2; Conformance Test Specification for SIP (IETF RFC 3261); Part 2: Test Suite Structure and Test Purposes (TSS&TP).
  - ETSI TS 102 027-3; Conformance Test Specification for SIP (IETF RFC 3261); Part 3: Abstract Test Suite (ATS) and partial Protocol; Implementation eXtra Information for Testing (PIXIT) proforma.

- **OMA IOP:**
  Has sub-groups for relevant features. The scope of this activity for OMA-PoC is:
  - Coordinate and liase with technical working groups to ensure the right testing scope and strategy for PoC technology enablers.
  - Manage and own test specification and appropriate test cases and ensure continuing development of PoC test specification.
  - Ensure that PoC specification are reviewed from an interoperability testing perspective.
  - Track and Liase with appropriate bodies on issues relating to PoC test methodology.
  - Use of the OMA PR tracking tool to ensure that all defects raised, are processed and specifications are updated as necessary.

This list shows that there are a number of organisations and groups working with test aspects of SIP and IMS. As the IMS core protocols according to 3GPP consists of RFC 3261 and related RFCs specified by the IETF, the scope of testing in a 3GPP environment must be a superset of work performed by ETSI TISPAN and ETIS MTS.