

3GPP TSG-SA WG2 Meeting #43
Seoul, South Korea, 15 - 19 November 2004

Tdoc S2-043891
rev of S2-043725

Title: LS on evolution of network architecture

Response to: -

Release: Release 7

Work Item: -

Source: SA2

To: RAN, SA

Cc: CN

Contact Person:

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Attachments: S2-043650

1. Overall Description:

During the SA2 #43 meeting, Tdoc S2-043650 (attached) brought to the attention of SA2 the different network evolution activities that are taking part in different groups in 3GPP. In particular, it identifies the work on All-IP Network (AIPN) done in SA1 and the UTRAN evolution proposals shown in the recent RAN Evolution Workshop held in Toronto (some of which had architectural implications well beyond UTRAN).

Also, during both the SA 2 #42 and #43 meetings, SA 2 have held extensive discussion on a WID relating to WLAN scenario 4/5 work. Currently there is no agreement within SA 2 as to whether or not this work should focus only on WLAN-3GPP interworking, or, whether it can focus on interworking to any other generic RAT. SA 2 would appreciate guidance from SA on this matter.

SA2 strongly encourages other working groups to continue the work in this area. However, SA2 believes that there is a need to coordinate the architectural evolution of CN and RAN(s) in order to ensure that they follow a complementary path. As the leading working group on overall UMTS architecture, SA2 would like to inform RAN and SA that we plan to take this coordination role as well as overall responsibility for network evolution. SA2 expects close coordination with RAN and SA groups working on UTRAN or CN evolution and would like to be kept informed on the progress of this work in RAN and other SA groups.

Note: the terms of reference for 3GPP SA 2 can be found at <http://www.3gpp.org/TB/SA/SA2/ToR.htm>

2. Actions:

For RAN and SA: to kindly take the above information into account when discussing the outcome of the RAN evolution workshop.

For SA: to give SA 2 guidance on how to progress with the WLAN scenario 4/5 work.

3. Dates of Next TSG-SA WG2 Meetings:

TSG-SA WG2 Meeting #44 26 Jan - 02 Feb 2005 EU

Source: Vodafone
Title: Future SA 2 work related to “RAN evolution”; AIPN; and WLAN scenario 4/5
Agenda item: 12.1

1 RAN Evolution Workshop

3GPP TSG RAN held a workshop on “RAN evolution” in Toronto 2-3/11/04.

Although the focus of many of the workshop presenters was on the radio technology, several of the presentations showed anticipated developments in the system architecture behind the radio interface (see REV-WS022, 23, 24, 25, 26, 27, 31, 37, 40, 41 at ftp://ftp.3gpp.org/workshop/2004_11_RAN_Future_Evo/Docs/).

The summary of the meeting is in tdoc REV-WS044 and it identifies the

“Need for input from SA on different subjects e.g.:

- Potential New functional splits between Radio Access Network and Core Network
- Evaluation of the ratio between Peak and Average throughput for service delivery to determine optimisation of the backhaul
- Determine the throughput per user”

It is believed that various companies are preparing proposals for Study Items/Work Items that will be presented to TSG RAN for approval.

Many of the architectures that were presented depicted the new radio interface as a totally new RAT. The interconnection of this new RAT with the existing 3GPP system might be via Iu or via Gn or “at Gi”.

Although no detailed architecture descriptions were proposed, several speakers hypothesised about new architectural features. Examples include: connecting the Iu interface to the base station site; or placing the SGSN functionality into the base station site. However important issues were frequently omitted (eg charging, legal interception, encryption of the user plane from the Base station site), and, many of these are interesting to SA Working Groups including SA 2.

2 All IP Network (AIPN)

Within SA 1 there is a large piece of work progressing on the “requirements for an All IP Network”. One of its conclusions MIGHT (or might not) be that specifications for “network controlled mobility between heterogeneous RATs” should be developed.

This work could well link to the RAN evolution work – alternatively it could diverge from it.

3 WLAN scenario 4/5

This work is under active discussion within SA 1 and SA 2. In SA 1, the discussions on WLAN seem to be treated in a separate drafting group to those on AIPN. Again, this work could converge or diverge from the AIPN and/or RAN evolution work.

4 Scope of SA 2

SA 2 is believed to have overall responsibility for the system architecture of the 3GPP system. Hence it seems sensible that SA 2 prepare some proposals as to how these different work areas within 3GPP can be converged, rather than permitting (or even encouraging) their divergence.

5 Proposals

- a) that SA 2 draft a work item for SA to consider when discussing the RAN evolution report.
- b) that SA 2 consider the “RAN evolution” aspects while discussing/revising the scenario 4/5 WID.