

Agenda Item:

Source: AT&T Wireless Services

Title: Issues Related with Inter-RAT PS Domain RT Handover (PS RT HO)

Document for: Discussion and Action

1. INTRODUCTION

The Release 4 3GPP specifications intend to support the inter-RAT handovers for both CS and PS domains per requirements in SA document 22.129 V4.3.0. Sections 4.2.2 and 4.4.1 could be interpreted as the requirement for supporting PS domain real time services continuity. However, in sections 6.3.6.2 and 7.3.6.2 [1], PS real time services are excluded from other identified services in these sections, which could cause ambiguity on PS RT inter-RAT service continuity requirement.

The purpose of this contribution is to request SA for clarification of service continuity requirements for inter-RAT PS RT HO for progressing the work in GERAN and RAN since these requirements impact service continuity which is an important element of operators' plans for UMTS deployment.

2. CURRENT STATUS

The RAN technical report, TR25.936 [3], documents support for SRNS relocation in PS domain real-time handover (PS RT HO), which should include inter-system and inter-RAT cases. However, the procedure for supporting inter-system real time handover needs to be further investigated, such as transparent container between GERAN and UTRAN, which has not been fully specified. There is also ongoing work in RAN WG2 for related PDCP Header Compression context relocation, which can be used to support both real time handover and cell reselection. The scope of this work is limited to SRNS relocation aspects does not include the radio access aspects.

At present, UTRAN only supports inter system change on PS domain, that is based on inter-system cell reselection at radio access level. Real time service continuity between GERAN and UTRAN has not been considered in RAN yet [4].

The Handover and Reselection scenarios being investigated by GERAN includes Iu-ps inter-RAT PS RT HO [5]. However, this is purely based on working assumptions while GERAN awaits specific requirements from SA2 [2].

3. SUPPORT FOR INTER-RAT HANDOVER

This section summarizes the tasks required to ensure that inter-RAT PS RT HO performance is satisfactory in the 3GPP specifications. Note that specification of the service requirement is a prerequisite for all the other tasks.

- Service continuity requirements for inter-RAT PS RT HO
- GERAN-UTRAN Iu alignment
- Target cell radio access improvements, eg: directed HO vs. random access

- SRNS relocation improvements, eg: Iur for inter-system
- Performance requirement and verification procedures

4. PROPOSAL

SA is requested to clarify to the relevant TSGs of the service continuity requirements for inter-RAT PS domain handovers for real-time services in the PS-domain. It is also requested that a target time frame be provided for including this support in the 3GPP specifications, either in a phased manner (eg: requirements for real-time streaming in the first phase and conversational in the second phase) or otherwise.

5. REFERENCES

- [1] 3GPP TSG 22.129 V4.3.0, "Handover Requirement Between UTRAN and GERAN or Other Radio Systems (Release 4)"
- [2] Tdoc GP-011673 TSG GERAN AdHoc # 6, Naantali, "Project Scheduling and Open Issues for GERAN"
- [3] 3GPP TSG RAN TR25.936 V4.0.0, "Handovers for real-time services from PS domain".
- [4] 3GPP TSG 25.331 V4.0.0, "RRC Protocol Specification (Release 4)"
- [5] Tdoc GAHW-010239 TSG GERAN AdHoc # 6, Naantali, "Open Issues regarding Handover and Cell Reselection in GERAN"