3GPP TSG RAN Plenary #23 RP-040132
10 – 12 March, 2004
Phoenix, AZ, USA

Source: **T-Mobil, Motorola, Nokia, …**

Title: **Finalisation of Rel-5 IP/ATM-Interworking**

Agenda item: **7.4.1**

Document for: **Approval**

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1. INTRODUCTION

The 3rd IP-ATM interworking option is the last remaining open issue in Rel-5 IP transport.
RAN plenary #23 is to make the decision on how to close it. The corresponding sets of CRs are in RP-040054 and RP-040055 and they have been endorsed by RAN WG3 as technically correct.

This contribution gives some further justification for the proposal in RP-040055 to remove the yet unfinished 3rd interworking option from Rel-5.

The two finalised options that are already there in Rel-5 specifications are as follows:

1) ATM-IP dual stack interface, allowing the dual stack node to interface both an ATM and an IP network
2) IP-ATM Interworking Function as the logical part of the corresponding UTRAN node. The IWF is then to perform the interworking between IP and ATM. The details of the interface between the UTRAN node and its IWF are open, allowing the use of any approach and protocols that fulfill the requirements for Rel-5 IP transport.

2. DISCUSSION

In the following a summary of the arguments supporting the removal of the yet unfinished 3rd interworking option from Rel-5 is given.

1) Generally the number of options that are there in the specifications should be minimised. Currently there are already 2 approved options in the specifications for the IP-ATM interworking.

1.1) In the already finalised 2nd interworking option the IP side of the IWF is left unspecified. Only the requirements for it have been specificed in 3GPP. The ITU-T protocols Q.2631.1 and Q.2632.1 represent one possible way of implementing this interface. However, there are also other ways that may result in more efficient (cost and/or performance) operation.

2) To accept an additional option in the specifications, this option should bring some substantial benefits to the system to justify its introduction. In this case the proposed new 3rd interworking option would introduce additional cost and O&M burden for the operator, thanks to the fact that the stand-alone Interworking Units would have to be purchased, operated and managed accordingly. The IWUs are new network nodes in addition to the existing network nodes, and regardless of their location in the network, they would appear as new network nodes. Generally the number of network nodes is a cost issue for the operator and it needs to be taken into account when designing a solution.

2.1) As it was explained above in 1.1), the additional benefit the 3rd interworking option could bring is questionable as it is already covered by the 2nd option! The proposed new 3rd option is one example of the ways allowed by the 2nd option.

3) The application of the IWU as proposed in RP-040054 would introduce additional delay in the bearer establishment between the two UTRAN nodes. The bearer setup time has already been identified as something that should be minimised and reduced from its present figures rather than to specify anything that would increase it. This is especially the case in Iub interface but valid also in Iur. The need for fast bearer setup becomes even more essential when the amount of IP traffic increases in UTRAN, resulting in more frequent channel switching and the use of HS-DSCH.

3.1) one of the advertised benefits of IP transport already in Rel-4 was its connectionless characteristic, allowing the removal of IP bearer control protocol (IP-ALCAP) from the system and thus making the bearer setup faster and the system cheaper. In this respect the inroduction of Q.2631.1 in the specifications would be a step back in the development of UTRAN.

3. PROPOSAL

In order to finally close the last remaining open issue in Rel-5 IP transport, it is proposed that RAN plenary approves the Rel-5 CRs in RP-040055. The justification for this proposal has been given above.