Source: Siemens

Title: Issues for an all IP based network for R00

Document for: Decision

Agenda Item: 6.8

Introduction

Siemens supports the approach to enable an all IP based mobile network UMTS Release 00, which allows converging services and networks on an IP base.

Discussion

To standardise an all IP based mobile network UMTS Release 00, two main issue might be considered:

1. The interoperability of an all IP based mobile network with 2G and 3G (R99) networks

2. The investment in 2G and 3G (R99) networks and terminals

It should be noted that for Release 99 already foundations to enable an all IP based architecture are laid:

- All services of the UTRAN can be provided to each of the core network domains, the circuit-switched and packet-oriented ("IP domain")

- The design of the core network architecture is such that these core network domains can be implemented independently

- It is the goal for Release 99 to enable real-time services also over the packet-switched domain

To assure the success of an all IP based mobile network UMTS Release 00, the following questions might be considered:

- Can the all IP based mobile network UMTS Release 00 provide services comparable to UMTS R99 networks?

- In the all IP based mobile network UMTS Release 00, how can it be assured that the user experiences the same service quality and handling as in UMTS R99 networks? (This applies in particular to audio (voice calls) and video (face-to-face, "you see me - I see you"))

- How can it be assured that users do not notice whether its voice traffic is conveyed by circuits or by IP?

- How can it be assured that the all IP based mobile network UMTS Release 00 can support all classes of terminals compliant to UMTS R99?

- How can roaming and handover to and from R99 UMTS PLMNs be implemented in the all IP based mobile network UMTS Release 00?

- Is Migration from R99 UMTS mobile networks towards an all IP based mobile network UMTS Release 00 an issue?

- In order to support all classes of terminals compliant to UMTS R99, an all-IP based mobile network UMTS Release 00 may have to provide both legacy services (circuit-switched services over the IP infrastructure) and IP-based services (e.g. H.323). How can it be assured that the architecture to provide both types of services is alike?

- An "All IP based mobile network" involves on the one side issues only relevant to the core network and at the other side issues that also affect the radio access network and the terminal. How can it be assured that these issues are not mixed?

Proposal

The feasibility study concerning an all IP-based mobile network UMTS Release 00 should take into account the above-mentioned questions.