

**Agenda Item:** 10.6.3  
**Source:** Dolphin Telecommunications  
**Title:** Inter-operator roaming and handover between UMTS and GSM  
**Document for:** Discussion, Decision

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## **Introduction**

This document addresses the issues of:

- inter-operator roaming; and
  - inter-operator handover;
- between the UMTS and GSM networks of two different network operators.

## **Discussion**

It is likely that in the early period of UMTS operations, coverage will be primarily in dense urban and urban areas, with limited UMTS coverage outside these areas. UMTS subscribers will only be able to access UMTS services in areas where there is UMTS coverage, however the majority of these subscribers will also require communications in areas where there is no UMTS coverage. The inability to access services in areas where there is no UMTS coverage would be likely to make UMTS an unattractive service offering to potential subscribers.

In order to overcome this situation, it should be possible to supplement UMTS coverage with the already deployed GSM networks. This will provide the UMTS subscriber with an alternative mechanism to access services when beyond the boundary of the UMTS coverage area but within the boundary of the GSM coverage area. The ability for subscribers to access services via a GSM network should be equally applicable to subscribers whose network operator operates both a GSM and a UMTS network, and a subscriber whose network operator has only a UMTS network. This should be available from initial launch of UMTS services, since it is the early period of UMTS operations when the facility will be of most benefit to users.

## **Proposal**

Inter-operator roaming between UMTS and GSM should be supported in phase 1 of UMTS (including between UMTS and GSM networks operated by different network operators in the same country).

Support for hard handover (in both directions) between the UMTS and GSM networks of different operators should also be supported in phase 1 of UMTS. It is recognised that there are a number of issues to be addressed in order to implement handover. These issues should be considered by the relevant technical groups in order to ensure that they are properly taken into account in standards where necessary.

The above two requirements should be clearly stated in all the relevant standards, including UMTS standards 22.00, 22.01 and 22.29.