

Agenda Item: 8.1, General UTRAN Architecture

Source: Siemens, Italtel

Title: **TDD/FDD Handover**

Document for:

1. References

- [1] Tdoc SMG2 2/99, Manifestations of Handover and Streamlining (SRNS Relocation), Version 8
- [2] Tdoc SMG2 UMTS-ARC 402/98 (Dec 98), Draft Liaison Statement to SMG2 L1 and SMG2 L23

2. Background

According to a Working Assumption documented in a Liaison Statement from SMG2 UMTS ARC to UMTS L1 and UMTS L23 [2], the RNC and the NodeB of UTRAN can be either single mode (FDD or TDD) or dual-mode (supporting both FDD and TDD mode). In case of dual-mode, these network elements can support both FDD and TDD cells.

This gives some guidelines for the interpretation of the handover scenarios shown in [1]: Many of them are applicable to handover from TDD to FDD cells or vice versa, where these cells are possibly under control of dual-mode equipment. So the handovers between FDD and TDD modes are no longer undefined but can be derived directly from the existing Working Assumptions. The implications for the several scenarios should be made clear in the document [1].

In addition, the last chapter of [1] which currently mentions inter-mode handover as an open issue, can be changed accordingly.

3. Proposal

The document [1], Manifestations of Handover ..., shall be changed as follows.

3.1 Adding hints on potential mode change associated with handover

The text in chapter 2 related to the scenarios shall be augmented wherever applicable, as shown in the following table.

	Scenario	Text to be added
1)	1b: Intra NodeB (Inter Cell).	In case of a dual-mode NodeB, inter-cell intra NodeB hard handover may include a change of mode (TDD <-> FDD).
2)	2a: Inter NodeB (Intra RNS)	In case of a dual-mode RNC, inter-cell intra RNS hard handover may include a change of mode (TDD <-> FDD)
3)	2b: Inter RNS Hard Handover	Inter-RNS hard handover without SRNS relocation (using the lur) may include a change of mode (TDD <-> FDD). Note: Whether the involved RNCs in this case need to be dual mode is for further study.
4)	2c: Inter RNS (Intra UTRAN) – No lur	Inter-RNS hard handover without lur may include a change of mode (TDD <-> FDD)
5)	6: Inter CN – Same URAN/CN Types	Inter CN, inter URAN handover may include a change of mode (TDD <-> FDD)

3.2 Change text in chapter 3

The text of chapter 3 should be split into two chapters (3 and 4) which should read as follows:

“3. TDD/FDD Mode

Handover between FDD and TDD mode and vice versa is a special case of the inter-cell intra-UTRAN or inter-UTRAN hard handover scenarios shown above whenever the cells involved are of different modes (FDD or TDD). So these mixed-mode scenarios are already included in the scenarios 1 to 6 above.

4. Public/private domains

The mapping of public and private domains onto the scenarios is for further study.”