

**Agenda Item:** 12.3 “Open R99 security issues”

**Source:** Ericsson

**Title:** Identifying specifications that implement “Secure UMTS-GSM Interoperation”.

**Document for:** Discussion

### Candidate specifications for “Secure UMTS-GSM Interoperation” review

These are the principal areas of interest for the “Secure UMTS-GSM Interoperation” review:

- AKA for UMTS subscribers under GSM-BSS coverage.
- AKA for GSM subscribers under UTRAN coverage.
- Distribution and use of authentication data between VLRs/SGSNs.
- Intersystem HO for CS services from UTRAN to GSM-BSS (and vice versa).
- Intersystem change for PS services from UTRAN to GSM-BSS (and vice versa).

In a first approach, the following specifications marked in **bold** are subject to implement the above mentioned areas related to “Secure UMTS-GSM Interoperation”:

Specification	Title	Sections -- Comments
<b>23.009</b>	Handover procedures	GSM-UMTS Intersystem handover
23.012	Location registration procedures	
23.018	Basic call handling	
<b>23.060</b>	GPRS service description, stage-2	Authentication and GSM-UMTS intersystem change
23.108	Mobile radio i/f layer 3 - stage 2	
23.116	Super Charger - stage 2	
24.007	Mobile radio i/f layer 3 - General aspects	
<b>24.008</b>	Mobile radio i/f layer 3 - Core Network Protocols	Authentication and key agreement
<b>25.331</b>	RRC Protocol Specification	Inter system GSM - UMTS handover
<b>25.413</b>	UTRAN Iu Interface RANAP signalling	Relocation procedures (GSM - UMTS inter system handover)
<b>29.002</b>	Mobile Application Part, MAP	Transfer of AVs and transfer of established security context
29.010	Info. element mapping	
<b>29.060</b>	GPRS Tunnelling Protocol, GTP	Transfer of AVs and transfer of established security context
<b>31.102</b>	Characteristics of the USIM Application	Authentication and key agreement
<b>GSM 04.18</b>	Mobile radio i/f layer 3 - Radio Resource Control Protocol	Handover to UMTS and Transfer of UE security capability
<b>GSM 08.08</b>	MSC – BSS i/f layer 3	Handover to UMTS

“Secure UMTS-GSM Interoperation” shall be primarily implemented in the technical specifications marked in **bold** above. These should be reviewed although no significant misalignments with S3 requirements are foreseen. Other specifications, e.g. those not marked in bold above, might mention but not implement interoperability procedures. S3 specifications shall be also checked in order to assure that they are correct and consistent. The review as proposed might not be complete, but it should cover the essential technical specifications.