S3-010341

TSG S1 UE-Split Meeting Report

June 27-28, 2001

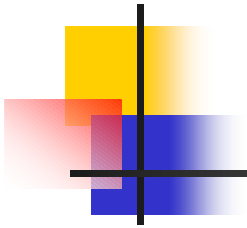
Dallas, Texas

Background

- Investigate the possibility of a functional split between TE and MT elements of a UE
  - Adapt to changing technological trends
- Charter -- complete a Technical Report
  - Address BOTH CS and PS domain?

Scope of the Work

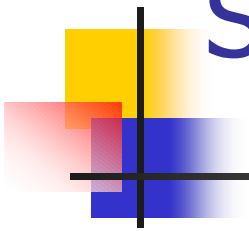
- Only one active SIM or USIM is involved
  - single bill associated with each SIM/USIM
- One MT associated with one or more (logical) TEs
- Initial case one MT and one TE case
  - architecture MUST accommodate the case of a single MT associated with multiple TEs
  - Security/Privacy issues unique to communication medium between TE-MT interface are beyond the scope



Major Issues

- Security and Privacy
- Billing
- Quality of Service
- Interoperability
- Others (possibly yet to be discovered)

Security basics -- up to Release 5



- A UICC/USIM is required to access the 3G network.
- Charging is linked to one particular USIM.
- The secret key and the authentication algorithm cannot be transferred out from the UICC.
- A periodic UICC presence detection is mandatory during a call.

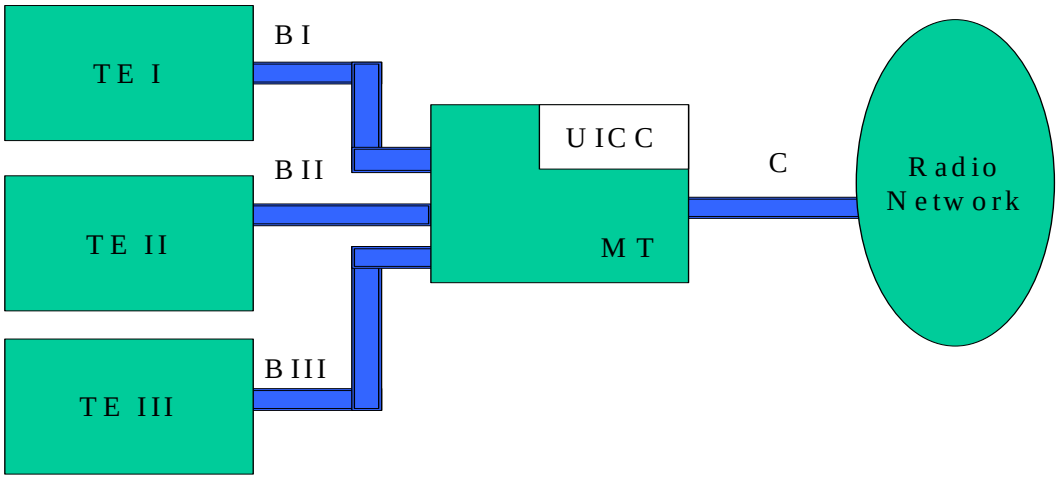
TE Functions – Initial thoughts

- Call Control, including all release 5 call control
  - Global circulation and type approval
  - multiple instances of call control
  - Radio interface conformance
- Operation of vocoders and other media codecs
- Control of hardware encapsulated in the TE (speaker, microphones, video cameras, displays)
- Open issues
  - Authentication
  - Protocol stacks

MT Functions – Initial Thoughts

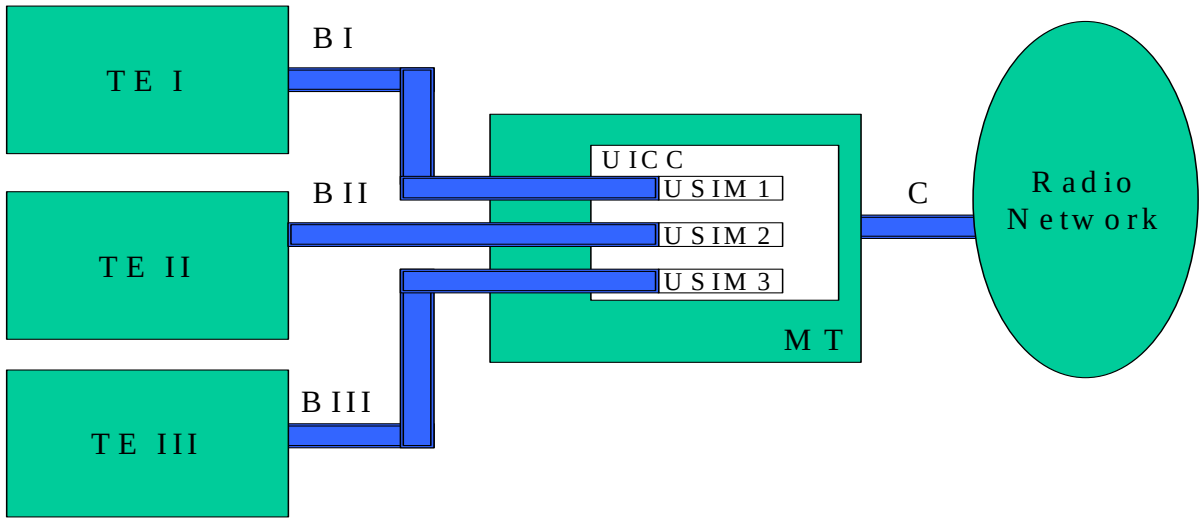
- Radio attachment/ authentication
- Communicating with the UICC & SIM/USIM on behalf of the TE
  - which functions need to be exposed by the MT to the TE?
- Creation/activation/deactivation of PDP contexts on demand from the TE
- Transceiving PS data across the appropriate Radio Access Bearers with the RAN
- Mobility Management function
  - IMEI is stored on the MT

Case Study –Case 1



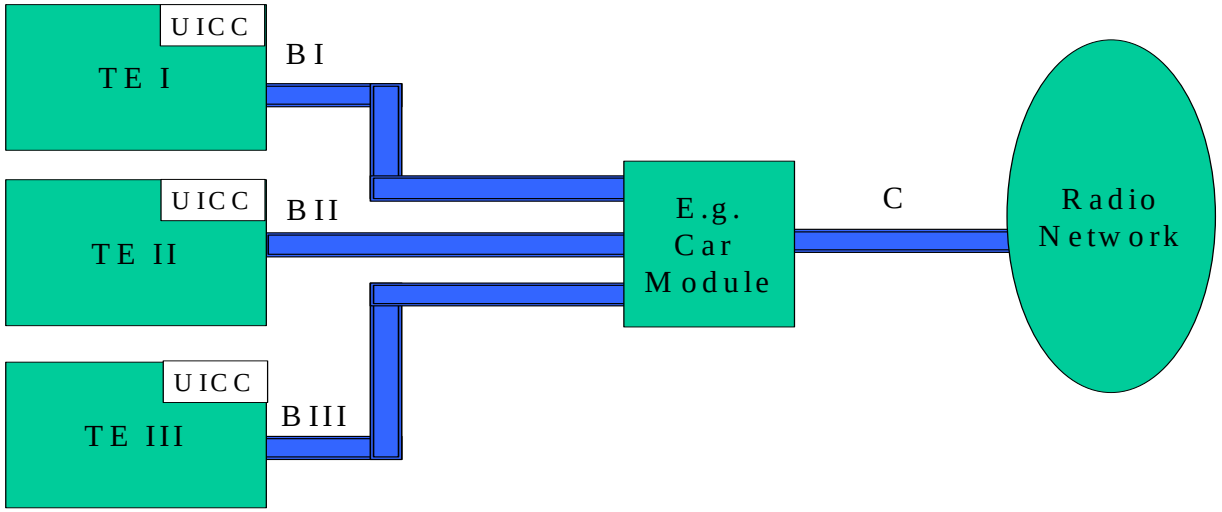
- **All billing is for the same subscription,**
- **Independent billing is not possible and not considered part of the UE-split functionality**

Case Study –Case 2



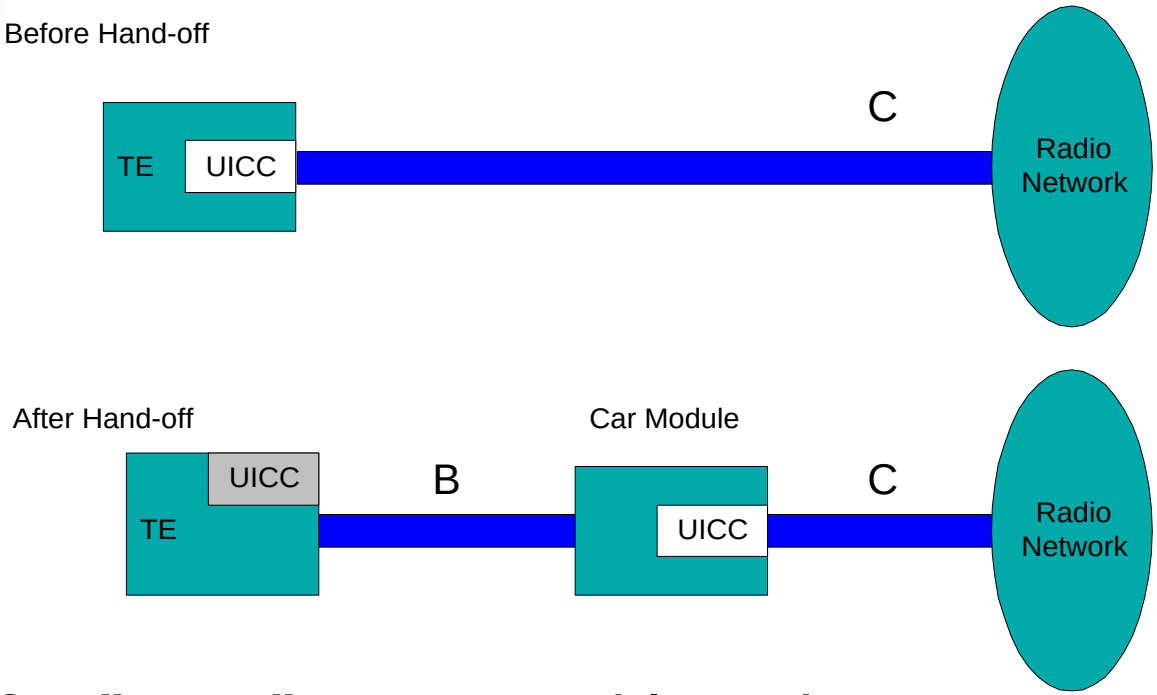
Multiple USIM/SIM can be stored on a UICC
Only a single USIM/SIM application can be active

Case Study – Case 3



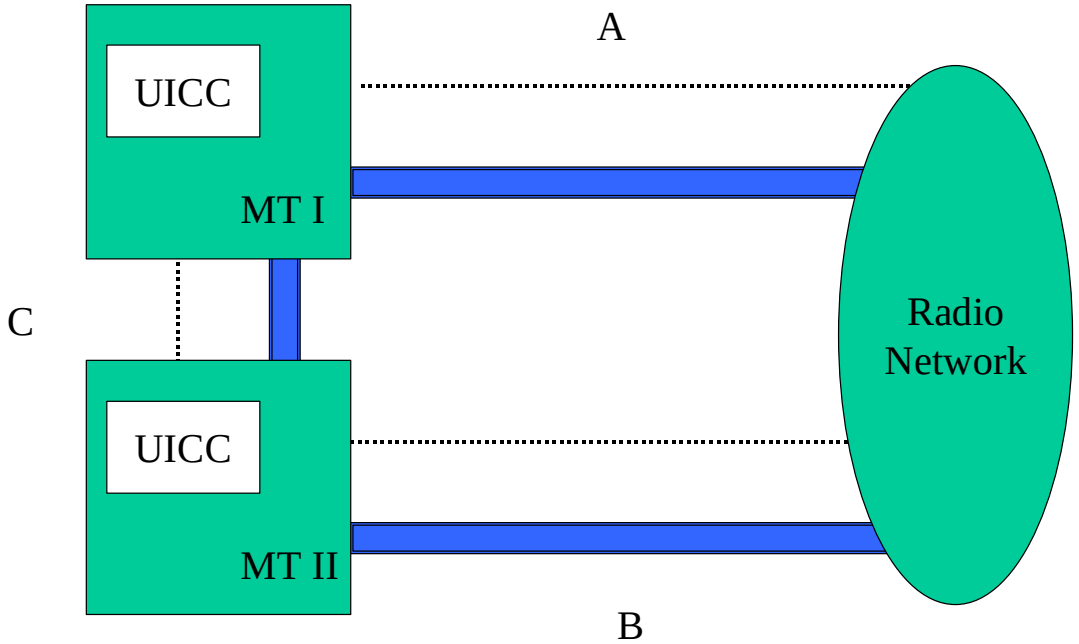
Security concerns prohibit location of UICC on TE.
Case not supported

Case Study – Case 4



- Handoff in "IDLE" state possible with existing services
  - using existing supplementary services – forwarding, transfer
  - Assumes TE-MT functionality split remains constant
- Handoff during "Active" state challenging

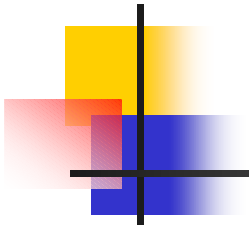
Case Study – Case 5



The USIM/SIM application in

- MT1 will be billed for all data on interface A
- MT2 will be billed for all data on interface B

Any load sharing between the two is an application issue



What TSG S1 Desires?

- Understand any security (or other issues) that would help in creating requirements for the TE-MT functional split