

Source: NEC Technologies
Title: Draft Proposed WI for Terminal capabilities
Document for: Decision
Agenda Item: 16

Revision ~~21~~
Title

Definition of Terminal Capabilities

Intended Output

Technical Specifications

Impact on Other Technical Specifications and Technical Reports

TBA

Technical Scope

Definitions

The capabilities of the UE can be divided into two domains:

The **service capabilities** of the UE provides. Service capabilities can be used either singly or in combination to deliver services to the user. The characteristic of service capabilities is that their logical function can be defined in a way that is independent of the implementation of the UMTS system (although all service capabilities are of course constrained by the implementation of UMTS). Examples: a data bearer of 144 kbps; a high quality speech teleservice; an IP teleservice; a capability to forward a speech call.

The **implementation capabilities** that the UE implementation supports. Implementation capabilities relate to a particular technical domain. Examples (in the domain of the air interface); a spreading factor of 128; the ability to support TDD. Examples (in the domain of security): the A5 algorithm; a 64 bit key length. Examples (in the domain of transmitter performance); a power output of 20 dBm; power control capability.

The minimum set of implementation capabilities, in each technical domain, required to achieve authentication and registration with the network is called the **baseline implementation capabilities**. A UE that implements just these capabilities and no more is called a **no-service mobile**.

Scope

This work program has these principal objectives:

1. It should be possible to produce UE's with different service capabilities, for example voice only UE's should be allowed as well as multimedia terminals.
2. When UE's provide compatible service capabilities (for example two UE's support voice) they should be assured of successful interworking.
3. We do not burden UE with the need to support mandatory implementation capabilities that are not needed to support its target service capability.

The work item comprise the following steps.

Identify the required service capabilities in accordance with market requirements. To be carried out by TSG-S1.

Identify, in each technical domain, the baseline implementation capabilities required to produce a no-service mobile. Produce recommendations for mandatory implementation features of the no-service mobile (specific example: minimum authentication key length supported). To be carried out by each technical group in each domain that affects the UE.

Identify the implementation capabilities, in each technical domain, that are required to support each given service capability. Produce recommendations for mandatory implementation capabilities required to ensure that UE's with this service capability will interwork (possible example: default codec for UE's that support speech). To be carried out by each technical group in each domain that affects the UE.

Define appropriate conformance tests which test claimed service capabilities against required implementation capabilities.

Impact on Other 3GPP Work Items

This specification will define the services and service requirements which the architecture, networks, terminals etc will have to support.

To ensure harmonisation between groups, the following principles should be followed:

- implementation capabilities should be defined by the groups working on the appropriate technical domain.
- TSG-T2 should have an overview of the totality of capabilities available from other groups.
- TSG-T2 should identify certain types of terminal implementation (ie dual mode FDD/TDD) and asceration which of the implemenatin capabilities are required to produce these.
- TSG-T2 should prioritise the work.
- TSG-T2 should liaise with S1 to ensure that implementations meet service requirements.
- TSG-T2 should liaise with the groups defining implementatin capabilities in each domain to improve understanding of capabiliteis or advise on areas where T2 believes corrections are needed.

Proposed schedule for definition of UE Capabilities

Note: these dates are provisional, and need to be reviewed in the light of comments made that they may be unrealistically tight.

Responsibilities	Target document	Schedule
TSG SA	Approval of WI	Mar 99
Each working group	Define baseline implementation capabilities	April 99
TSG SA WG1	List of all services or service capabilities	April 99
TSG T WG2	- Review of lists of service & baseline capabilities, check for consistency, - Identify sets of UE baseline capabilities from the terminal view point	May 99
Each working group	List implementation capability for each service capability	June 99
TSG T WG2	- Review of lists (implementation vs service capabilities)	July 99(*1)
Each working group	Definition of minimum sets of UE implementation capabilities	Sep 99
TSG T WG1	Definition of terminal conformance test	Dec 99(*2)

Supporting Individual Members

NEC, Samsung, {DoCoMo}, [BT?], [Ericsson], Telecom Modus

Rapporteur

Will be provided by NEC Tech. Expected to attend the terminals TSG.