Agenda item: 10.2

Source: Alcatel, Ericsson, Nokia, Nortel Networks, Motorola, Qualcomm, T-Mobil

Title: UE capability for commercial deployment

Document for: Discussion

1 Introduction

There has been some discussions regarding how to have a timely availability of Release 99 terminals with successful inter-working. These discussions have led to the identification of three proposed actions in TSG-RAN:

- Some currently mandatory features which are not critical for commercial deployment should be grouped into an optional package in Release 99; the package would then be mandatory in Release 4

- A management in the Core Specifications of an "interim test period" marker, allowing to manage the transition period between commercial launch, where test equipments are likely to support only a sub-set of Release 99, and a later phase with the availability in third party test equipments of the full release 99

- Documentation of the features which are wrong from the system/standard point of view, or identified UE faulty implementations which have to be supported in networks

This document addresses the first bullet, i.e. the necessary actions and principles to be applied in RAN so as to define mandatory requirements in UEs which correspond to time-to-market requirements for initial commercial deployment.

2 Discussion

The situation is as follows:

- A UE shall support the core specifications i.e. all mandatory features, and optional features according to its UE capability

- The specifications still have many key corrections on mandatory features

- The list of mandatory features is very large and will not covered sufficiently in the test specifications prior to commercial launch of UMTS terminals. T1 has defined a set of tested configurations and test cases which are limited.

- The standard allows many configurations which are not critical for commercial launch

    o The R99 specifications do not, despite certain attempts, contain the strict minimum for commercial viability, but a lot of nice to have features which could have been added in later releases

- Certain functionalities are mandatory in UEs, although are not key for commercial deployment

The following points should also be noted:

- The UE capability is handled in the RAN independently of the Core Network, which is an advantage compared to GSM/GPRS i.e. the discussion in this contribution makes no assumption on the CN. This is important since it brings some simplifications on an already very complex problem.

As a result of this situation, it is expected that the availability of terminals and the interoperability of the complete release 99 at commercial launch will be an important challenge for the UMTS community. Therefore, it is proposed to

identify in RAN which features among the complete set of current mandatory features could be made optional so as to speed up terminal availability, and also allow to clearly prioritise the features covered by test cases i.e. increase the test coverage of remaining mandatory features.

3 Proposal

3.1 Objectives

The intended objective is to reduce the set of mandatory features for the UE support of release 99 in the core specifications, so as to allow:

- the removal from the set of mandatory release 99 features of the functionalities which are not essential and to allow a later introduction of these

- the removal from the set of mandatory release 99 features of the functionalities which are not essential and where essential corrections are yet applied

- test specification development and IOT activities on a reduced set of functionalities defined as mandatory for release 99

3.2 Description of the proposal

The following is proposed:

- A sub-set of release 99 functionalities is identified as becoming part of an optional package for release 99. A package corresponds to defined sub-sets among the release 99 functionalities. Already optional features will generally stay optional and not being part of the optional package.

- 25.306, which is describing the UE capability, is modified to include this package of Release 99 functionalities. Several groups, in particular RAN1 and RAN2, would contribute to 25.306 according to their respective expertise

- The UE reports whether it supports this optional package in its UE capability, along with its other UE capabilities

- The package is mandatory from Release 4 onwards

The intention is not to change what is mandatory and optional from Release 4 onwards. In that respect, there is no impact on Release 4.

The definition of the optional package should be performed by March 02. This may be continued beyond March 02, in particular when features, which are not essential experience a very late stage correction in Release 99.

Of course, the task on the release 99 specifications clean-up should be continued. In fact, due to the flexibility of the tool-box concept, in particular in the physical layer, many combinations are allowed but will never be needed, alone or in combination with others. These should be removed as much as possible, so as to ensure:

- That the network does not use them in some strange scenario

- That the UE manufacturers spends time implementing useless configurations

The package can contain a sub-set of currently mandatory and optional features. Regarding features that are currently optional, generally the features should stay as individual optional feature. However, some optional features can be split into two parts: one part that stays as individual optional feature and another part that is part of the package. E.g. the need and therefore the support of compressed mode is an option, but a subset of compressed mode could be made part of the optional package

4 Conclusion

This contribution has described an analysis of the current situation and made a proposal so as allow a timely introduction of release 99 terminals for commercial launch.

The following is proposed to RAN Plenary:

- Discuss and agree on the proposal in section 3

- Task RAN WG1, RAN WG2 and RAN WG 4 to carry on the work on the definition of the optional package for Release 99 and propose a Change Request on 25.306 for the Plenary in March 02. Work could continue on a quarterly basis depending on actual needs.