ETSI TR 121 900 V3.2.0 (2000-01)
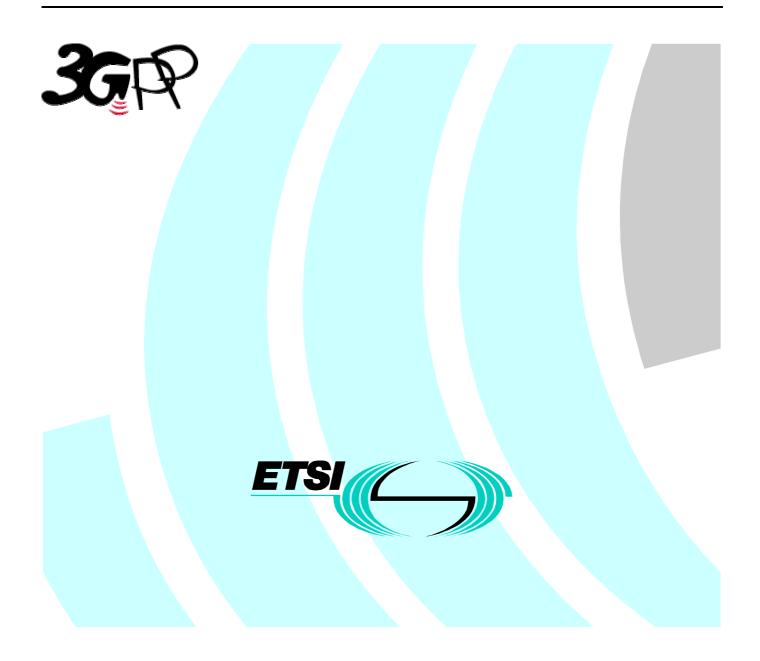
Universal Mobile Telecommunications System (UMTS); Working Methods (3G TR 21.900 version 3.2.0 Release 1999)

Reference
DTR/TSGS-0021900U

Keywords
UMTS

ETSI

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Foreword

This Technical Report (TR) has been produced by the ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables. The mapping of document identities is as follows:

For 3GPP documents:

 3G TS | TR nn.nnn "<title>" (with or without the prefix 3G)

 is equivalent to

ETSI TS | TR 1nn nnn "[Digital cellular telecommunications system (Phase 2+) (GSM);] Universal Mobile Telecommunications System; <title>

For GSM document identities of type "GSM xx.yy", e.g. GSM 01.04, the corresponding ETSI document identity may be found in the Cross Reference List on www.etsi.org/key

Contents

Foreword

This Technical Report has been produced by the 3GPP.

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of this TR, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

    Version 3.y.z

    where:

        x   the first digit:

            1   presented to TSG for information;

            2   presented to TSG for approval;

            3   Indicates TSG approved document under change control.

        y   the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

        z   the third digit is incremented when editorial only changes have been incorporated in the specification;

Introduction

In order to ensure correctness and consistency of the specifications (i.e., technical specifications and technical reports) under responsibility of the Technical Specification Groups (TSG) of the 3rd Generation Partnership Project (3GPP), clear, manageable and efficient mechanisms are necessary to handle version control, change control, document updating, distribution and management.

Also, the fact that the specifications are/will be implemented by industry almost in parallel with the writing of them requires strict and fast procedures for handling of changes to the specifications.

It is very important that the changes that are brought into the standard, from the past, at present and in the future, are well documented and controlled, so that technical consistency and backwards tracing are ensured.

The 3GPP TSGs, and their sub-groups together with the Support Team are responsible for the technical content and consistency of the specifications whilst the Support Team alone is responsible for the proper management of the entire documentation, including specifications, meeting documents, administrative information and information exchange with other bodies.

1 Scope

This document outlines the working methods [to be] used by the 3GPP Technical Specification Groups and their sub-groups and by the 3GPP Support Team in relation to document management, i.e. handling of specifications, updating procedures, change request procedures, version control mechanisms, specifications status information etc. It complements the rules and procedures defined for 3GPP. This document does not stipulate the details of the internal working of the TSG sub-groups. From the Technical Specification Group point of view, a task and responsibility is given to a Working Group (WG) directly answering to the Technical Specification Group. In practice, the work/task may be carried out in a subgroup of that WG.

2 Definitions and Abbreviations

Change Control	When a specification has been put under change control, changes to the specification require an approval of formal change requests. Rules for change control are defined in section 4.
Closed	A closed major version of a specification is still published; however no changes to the major version of the specification are possible anymore (not even essential corrections).
CR	Change Request.
Draft	A specification is draft before getting under change control.
Frozen	For a frozen major version of a specification, the only allowed change requests are essential corrections.
Major Version	For version w.x.y of a specification, w is called the major version. Example: For version 3.2.0 of a specification, the major version is 3.
Specification	In this document, the generic term Specification is used for both Technical Specifications and Technical Reports. A distinction between the two is done only where relevant.
TSG	Technical Specification Group
TSG Change Control	Technical Specification Group Change Control: The Technical Specification Group is responsible for approval of Change Requests.
TSG Sub-Group:	A TSG Working Group or a subgroup installed by a TSG Sub-Group (recursive definition)
TSG WG	Technical Specification Group Working Group. A working group installed by the TSG and reporting to the TSG.
TSG WG Change Control	Technical Specification Group Working Group Change Control: The TSG Working Group is responsible for approval of Change Requests.
Version	A specification has versions which are identified by three numbers w.x.y. Example: version 3.12.3.
WI	Work Item.
WID	Work Item Description.
Withdrawn	A withdrawn specification does not belong to the set of valid specifications.
Work Item	A work item aims at introduction of a new feature or at enhancement of existing features. It may entail new specifications and/or changes to existing specifications.

Work Item Description   The description of a Work Item in a standard Work Item Description sheet.

3   General responsibilities of the Support Team

The Support Team is responsible for the management of the work of the TSG. This includes editorship and management of specifications once they have been put under TSG change control. It also includes preparation of and support for the meetings (including meeting reports) of the TSG and its Working-groups, in descending priority

TSG > TSG WG > other TSG WG SG.

It furthermore includes liaison to other bodies and relevant groups and institutions.

4   Handling of Specifications

This section describes the general procedures and events involved in, and related to, the lifetime of a specification.

4.1   Overview

This section gives an overview on the development of a specification, dealing with the unexceptional cases only, and leaving out details. A more detailed description is given in the remainder of section 4.

A new specification is created in an TSG WG. At creation, a rapporteur is nominated. The rapporteur elaborates the first versions, version 0.0.0, version 0.1.0, possibly 0.1.1, 0.1.2 and so on, then version 0.2.0 etc..

The versions 0.1.0, 0.2.0, 0.3.0 etc. should be presented to the responsible TSG WG. The versions 0.i.1, 0.i.2 etc. may be internal versions.

As soon as title, scope and some other information on the specification is stable, the Support Team assigns a specification number and enters the specification into the Status List of Specifications, see section 7.

When a specification is sufficiently stable, it is presented as version 1.0.0 to the TSG for information.

Further versions 1.x.y are elaborated until version 2.0.0 is presented for approval at the TSG.

After approval, the specification becomes version x.0.0 where x >=3. It is under TSG change control. Further changes are made by means of formal change requests, to be approved by the TSG. The number x is called the major version of the specification. If all change requests approved were editorial, the new version increments the right most number (e.g., from 7.2.1 to 7.2.2); if at least one approved CR has been non-editorial, the middle number is incremented and the right most number reset to 0 (e.g., from 7.2.1 to 7.3.0).

At some point in time, the specification is frozen: Only corrections of essential errors will be applicable. (At the same time, a new major version may be developed for inclusion of new features.)

At a later point in time, the specification is closed: it is still publicly available, but no changes are carried out any more. (At the same time, higher major versions of the specification may be under development.)

The major versions of specifications may be developed in releases: Releases like Release 1999, Release 2000, Release 20001 are specified in major versions of the specifications. For example, 3rd Generation Release 1999 might be specified in the most recent versions 3.x.y of specifications, that is in major version 7.

[Example: The concept of major versions has been applied for GSM specifications: Major version 5 specifies Release 1996, major version 6 specifies Release 1997 and so on.]

4.2   Characteristics of a specification

- The specification has a prime responsible TSG.

- The specification may have a prime responsible TSG WG.

- The specification may have one or more secondary responsible TSGs and/or TSG WG.

- The specification may have a prime responsible TSG Sub-Group below a Working Group as decided by the prime responsible TSG WG.

- The specification should have a rapporteur (i.e., at least one rapporteur): a delegate from a member company (or, in exceptional cases, a Support Team expert); the delegate participates regularly in the prime responsible TSG WG (and further TSG SG if applicable).

- The specification is a <u>Technical Report</u> or a <u>Technical Specification</u>

- A specification has versions which are identified by three numbers w.x.y where w is called the major version.

Note: In the description above, attribute values are underlined while attributes aren't.

The prime responsible TSG WG may assign prime responsibility for a specification to one of its subgroups.

4.3   Characteristics of a major version of a specification:

A major version 0 or 1 or 2 of a specification has the following characteristics:

- It is either a <u>draft</u> or <u>withdrawn</u>.

- It is <u>TSG internal</u>.

A major version w > 2 of a specification has the following characteristics:

- It is either <u>under TSG WG Change Control</u> or <u>under TSG Change Control</u> or <u>closed</u> or <u>withdrawn</u>.

- It is either <u>authorised for publication</u> or <u>TSG internal</u>.

A major version of a specification under TSG WG Change Control is TSG internal.

A major version under TSG WG Change Control or TSG Change Control is called major version under Change Control.

A major version of a specification under TSG Change Control is

- either <u>not yet frozen</u> or <u>frozen</u>.

Note: In the description above, attribute values are underlined while attributes aren't.

4.4 Characteristics of a version of a specification

0.x.y	- draft (or withdrawn) - TSG internal - no version of the specification has been presented for information to the TSG yet - no major version of the specification is under TSG change control yet
1.0.0	- draft (or withdrawn) - TSG internal - this version 1.0.0 is presented to TSG - for information - or for information and approval - no major version of the specification has been under TSG Change Control yet
1.x.y (x > 0 or y > 0)	- draft (or withdrawn) - earlier version 1.0.0 has been presented for information to the TSG - no major version of the specification is under TSG Change Control yet
2.0.0	- draft or withdrawn - TSG internal - earlier version 1.0.0 has been presented for information to the TSG - this version 2.0.0 is presented to the TSG for approval - no version of the specification has been approved yet - no major version of the specification has been under TSG Change Control yet
2.x.y (x > 0 or y > 0)	- draft - TSG internal [- earlier version 1.0.0 has been presented for information to the TSG] - no major version of the specification is under TSG Change Control yet - earlier version 2.0.0 had been presented to the TSG for approval but had not been approved by the TSG
x.y.z (x ≥ 3)	- under TSG Change Control or closed - TSG internal or authorised for publication [- earlier version 1.0.0 has been presented for information to the TSG] - earlier major versions of the specification, if any, shall be under TSG Change Control or closed or withdrawn
draft y.z of version x	- under TSG WG Change Control - TSG internal [- earlier version 1.0.0 has been presented for information to TSG] - earlier major versions of the specification, if any, shall be under TSG Change Control or closed or withdrawn

Notes: In a future version, file name conventions should be added in the table above.

In the table above, statements between square brackets are true but not relevant. The first two lines of each row are implied by section 4.2.

4.5 Actions on a specification

4.5.1 Actions on a new specification (version 0.x.y)

- A new specification (a specification version 0.0.0) may be created by a TSG WG. A rapporteur (more exactly: at least one rapporteur) is assigned by that WG. A prime responsible subgroup of the TSG WG may be allocated by the TSG WG.

- The rapporteur prepares version 0.1.0 and presents it to the prime responsible TSG WG/SG for discussion.

- In an iterative process, the rapporteur prepares a new version 0.x+1.0 incorporating comments from the prime responsible TSG WG/SG to versions 0.x.y and presents version 0.x+1.0 to the prime responsible TSG WG/SG for discussion.

- Between version 0.x.0 and 0.x+1.0, the rapporteur may create versions 0.x.1, 0.x.2, … with only editorial modifications.

- When the title and scope of a specification is sufficiently stable, a Specification Number is assigned by the Support Team , which also informs the other relevant Technical Bodies.

- The TSG WG reports the creation of a new specification to the TSG.

- New specifications should be co-ordinated between the TSGs and, if GSM is concerned, SMG. These bodies should seek agreement on prime and secondary responsibilities for each specification. In areas of common interest it is recommended to agree on new specifications in joint meetings.

- The TSG may cancel a new specification.

- The TSG WG may decide to present a specification version 0.x.y to the prime responsible TSG and to the secondary responsible TSG SG(s) for information; the specification should then be to at least 60 stable.

- The TSG WG may also conclude that the specification is already to at least 80% stable and decide to present it to the TSG for information and approval; before doing that, comments from secondary responsible TSG SGs, if any, should have been taken into account.

  Then the specification is handed over to the Support Team for the necessary - strictly editorial - cleaning up resulting in version 1.0.0.

4.5.2 Actions on version 1.x.y of a specification

- On decision of the prime responsible TSG WG, the Support Team transforms version 0.x.y of a specification into version 1.0.0, performing the necessary - strictly editorial - cleaning up, and version 1.0.0 is presented by the TSG WG to the to the prime responsible TSG and to the secondary responsible TSG WG(s) for information or for information and approval.

- The TSG may decide to put the specification under change control as major version x (where x > 2 depends on the Release which the specification belongs to). In this case, version 1.0.0 is transformed by the Support Team into version x.0.0, and the further handling is described in section 4.5.4. Otherwise, the handling of the specification continues as described below:

- In an iterative process, the rapporteur prepares a new version 1.x+1.0 incorporating comments from the prime and secondary responsible TSG SGs to versions 1.x.y and presents version 1.x+1.0 to the prime and secondary responsible TSG SGs for discussion.

- Between version 1.x.0 and 1.x+1.0, the rapporteur may create versions 1.x.1, 1.x.2, … with only editorial modifications.

- The prime responsible TSG WG may decide to present a specification version 1.x.y to the prime responsible TSG for approval; the specification should then be to at least 80% stable; comments of the secondary responsible TSG SGs should have been taken into account.

  Then the specification is handed over to the Support Team for the necessary - strictly editorial - cleaning up resulting in version 2.0.0.

4.5.3 Actions on version 2.x.y of a specification

- On decision of the prime responsible TSG WG, the Support Team transforms version 1.x.y of a specification into version 2.0.0, performing the necessary - strictly editorial - cleaning up, and version 2.0.0 is presented by the prime responsible TSG WG to the prime responsible TSG for approval; comments of the secondary responsible TSG SGs should have been taken into account. If version 2.0.0 is not approved, work continues with versions 2.x.y.

- The TSG may decide to put the specification under change control. In this case, version 2.0.0 is transformed by the Support Team into version x.0.0, (where x > 2, see section a.4), and the further handling is described in section 4.5.4. Otherwise, the handling of the specification continues as described below:

- In an iterative process, the rapporteur prepares a new version 2.x+1.0 incorporating comments from the prime and secondary responsible TSG SGs to versions 2.x.y and presents version 2.x+1.0 to the prime and secondary responsible TSG SGs for discussion.

- Between version 2.x.0 and 2.x+1.0, the rapporteur may create versions 2.x.1, 2.x.2, … with only editorial modifications.

- The prime responsible TSG WG may decide to present a specification version 2.x.y to the TSG for approval; the specification should then be to at least 80% stable; comments of the secondary responsible TSG WGs should have been taken into account.

  Then the specification is handed over to the Support Team for the necessary - strictly editorial - cleaning up resulting in version 2.x+1.0.

4.5.4   Actions on version w.x.y of a specification (w > 2)

- On decision of the TSG, the Support Team transforms a version v.x.y of a specification into version w.0.0, performing the necessary - strictly editorial - cleaning up.

- The prime responsible TSG WG may agree on Change Requests to the most recent version w.x.y of major version w of a specification. It will then propose these CRs to the TSG for approval, however before doing that, it has to seek comments from the secondary responsible TSG (WG)s - if any - and to take them into account (joint meetings of the appropriate TSG SGs are recommended for that purpose). If and when at least one Change Request to version w.x.y of major version w of that specification is approved by the TSG, the Support Team includes all Change Requests to version w.x.y of major version w of that specification into a new version

  - w.x.y+1   if all change requests approved by the TSG are editorial

  - w.x+1.0   if at least one change request approved by the TSG is not editorial

- From a version w.x.y of major version w of a specification, the Support Team may create a new version w.x.y+1 where only changes in the front sheet, preface and history are performed (for publication purposes)

- From the most recent version w.x.y of major version w of a specification, the Support Team may create a new version w.x.y+1 in agreement with the rapporteur and the prime responsible TSG WG where only strictly editorial changes are performed.

- If Change Requests have been introduced incorrectly into the most recent version w.x.y of major version w of a specification, the Support Team may create a new version w.x+1.0 in agreement with the rapporteur and the prime responsible TSG WG, to correct the introduction of Change Requests.

4.5.5   Actions on the major version of a specification

- The TSG may decide to create a new major version >2 of a specification.

- The TSG may decide to withdraw a major version of a specification.

- The TSG may decide to close a frozen major version of a specification.

- The TSG may authorise a major version >2 for publication or decide that it is TSG internal.

- The TSG may decide to freeze a major version of a specification under change control.

- The TSG may decide to unfreeze a major version of a specification under change control.

- The prime responsible TSG WG may decide to create a new major version > 2 of a specification under TSG WG Change Control.

These decisions have to be taken in agreement with all relevant TSGs (all TSGs and, if GSM is concerned, SMG).

4.6   Change Request Regime

Modifications to specifications under TSG Change Control are decided by the TSG, on the basis of Change Requests (CR). These CRs, described in the following sections, shall in principle only be presented to the TSG after having been scrutinised by the TSG WG responsible for the concerned specification; comments from secondary responsible TSGs (if any) have to be have sought and comments have to be have taken into account.

4.6.1   Change Requests

Whenever an error or an inconsistency is discovered or when a new feature is proposed to be included, a Change Request is produced, normally by the one discovering the error but in consultation with the rapporteur and/or with the Support Team .

In the case of an essential error corrections, separate Change Requests for each affected major versions that is under TSG Change Control or TSG WG Change Control shall be produced.

In the case of a correction of a non-essential error, separate Change Requests for each affected major versions that is

-    under TSG Change Control and not yet frozen or

-    under TSG WG Change Control

shall be produced.

4.6.2   Change Request forms

To ensure an appropriate and consistent way of presenting and documenting Change Requests, there exist standardised front covers (forms) for CRs as well as rules on how to accurately identify the modified parts of the specification.

The purpose of the CR form itself is to provide the relevant management information of the proposed changes, e.g. such as

-    Target specification with its version number,

-    Source of the CR,

-    Reason for the proposed change and consequences if not accepted,

-    Category of proposed change (i.e. correction, change request corresponding to an earlier release change request, addition of feature, functional modification of feature, or editorial modification),

-    Cross-phase compatibility aspects.

As the degree of acceptability for modifications differs between not yet frozen major versions of specifications and frozen major versions of specifications, the CRs differ on the allowed/possible Categories:

-    CRs to a frozen major version of a specification can only be essential corrections whilst

-    CRs to a not yet frozen major version of a specification can also fall into any other of the categories quoted above.

The actual CR forms to be applied and guidance how to apply them are distributed by the Support Team . The access to them is described in an annex of each TSG plenary report.

4.6.3   Contents of Change Requests

Although the CR form shall indicate the details of change, each CR shall have attached the pages of the specification that are affected by the CR, using the latest version of the major version. These pages shall have the proposed modifications clearly marked, by means of the word processor's "revision mode", i.e. new proposed text should be double underlined (xxx) and proposed deletions should be marked by strike through (xxx), and a bar in the margin should further indicate the change.

In case there are more than one independent CR to the same part of the specification, neither of them should contain the proposed modifications from the other(s), however any potential interaction between the modifications should of course be resolved before presentation.

4.6.4   Handling of the Change Requests

Entry to the TSG WG:

A proposed CR should be brought to the relevant TSG WG or, if applicable, to the prime responsible TSG WG SG in charge of the specification concerned and discussed there, before presentation to the TSG. If possible it should be distributed, by the source, as soon as possible and prior to the coming TSG SG / TSG WG meeting to the relevant email reflector (with a clear indication of the subject) , for the purpose of shortening discussions in meetings and to try at an as early stage as possible to come to a widely acceptable solution. Comments from secondary responsible TSGs (if any) have to be have sought and comments have to be have taken into account before presentation to the TSG for approval.

To ease the work of the TSG SG and of the Support Team , a proposed CR should be presented in a form suitable for TSG WG agreement and TSG approval. If a CR is not immediately accepted it is the responsibility of the originator to update the CR taking into account comments and other guidelines from the relevant groups, including change of reference version if needed, and to re-present it to the TSG SG.

> Note: It is also highly important that the originator of the CR provides the Support Team with an electronic copy (in Word 8?, for further study) since the contents is supposed to be incorporated into the specification, by the Support Team , and re-typing of CRs is clearly a waste of resources and a possible source of errors.

CR identification:

A CR can have different revisions: rev. 0, 1, 2, and so on. Revision 0 of a CR is the not revised CR. A given revision of a CR is applicable to a certain version of a specification. The CR identifies, to which specification, which version of the specification and which phase it applies. A given revision of a CR is uniquely defined by

- the specification it belongs to

- an alphanumeric string (the CR number) and

- the revision number (default, i.e. the value if no number is given, is 0).

One CR may only apply to one version of a specification, that is to the latest version of a major version. If more than one major version of a specification exists, it may be necessary to elaborate parallel CRs for different major versions.

The uniqueness of the CR number is on a per specification basis, but independent of the major version, i.e. CR No 001 [may] exist for each specification but only once.

The CR number is allocated by the Support Team . It may be allocated prior, during or after the TSG WG meeting at which it is discussed but before submission to the TSG. Even though different TSG SGs have different working routines it is beneficial and thus recommended that CR numbers are allocated no later than at TSG WG agreement.

CR numbers are unique and shall never be reused, not even numbers used for [early] rejected CRs.

Impact on other specifications and Joint CRs:

If the contents of the CR is such that isolated it makes the whole set of approved Specifications inconsistent, corresponding CRs must also be considered and produced. This should preferably be carried out by the originator of the CR (and his colleagues in other TSGs and TSG SGs) in advance. The Support Team is co-responsible for identifying and communicating cross TSG and cross TSG WG impacts.

In principle, a CR shall not be forwarded to the TSG unless the potential impact on other specifications have been thoroughly examined and concluded, either resulting in a 'No impact' statement or in a full and consistent set of corresponding CRs to all affected specifications. Such sets of CRs are normally combined in one single document, by the Support Team , before submission to all responsible TSGs and called 'Joint CR'. An approval by all prime responsible TSGs is necessary.

If some of the corresponding CRs are to be considered by other TSG SGs or TSGs then the Support Team is responsible for monitoring the result in the TSG WGs and to submit the full set, when available, to the TSG. This might mean that in some cases the TSG WG agreed CRs are not presented to the immediately following TSG meeting due to outstanding CRs from other TSG WGs or TSGs.

Other "consequential" CRs, needed for reasons other than direct consistency, may be drafted, presented and agreed independently. This covers typically additions to Test specifications and O&M specifications. It should be noted though that if a CR causes an inconsistency with an existing/approved test or O&M specification, the corresponding CRs should be presented together with the core specification CR.

Handling of the CR in the TSG:

If the TSG WG has agreed to a CR and comments from secondary responsible TSG (WG)s have been taken into account, the CR is forwarded to the prime responsible TSG for formal approval. It is the responsibility of the Support Team to make sure that TSG WG agreed CRs are made available to the TSG, and that they are properly formatted, numbered and consistent. Likewise, it is the responsibility of the Support Team to ensure that Joint CRs are complete and put together before submission to the TSG(s).

Non-strategic CRs are submitted to the TSG for approval without presentation; strategic CRs are submitted to the TSG for approval with presentation.

The Support Team is responsible for making available to the TSG summary lists of all CRs presented for decision. This list is then updated to include the result of each and every CR.

> Note: This list is generated from the CR database held by the Support Team , see section 7.

Decisions on CRs, and results:

The TSG considers and concludes on each strategic CR independently, except for Joint CRs which are handled and concluded together, and the verdicts could be as follows:

Verdict	Meaning
Approved:	Contents to be incorporated in the specification.
Postponed:	Concept of CR seems acceptable in principle but further refinements are necessary. CR is sent back to the TSG-WG for revision and possible re-submission at a later TSG meeting.
Rejected:	CR not acceptable in any sense. If further discussions on the subject should take place that shall be done on the basis of different documents and approaches.

If there is at least one Approved CR to a given specification, a new version number of the specification is allocated (see clause 4.2.3), and the Support Team will produce and issue a new version of the specification after the TSG approval.

Control and notification of CR decisions:

- At the end of each TSG meeting, the Support Team issues lists containing the detailed result of the CRs presented at the meeting, including information about the consequential new version numbers of the concerned specifications. These lists form an annex to the meeting report (and hence are part of a permanent document). These lists, being the evidence of which specifications have changed and how, are important management tools for both TSG delegates and the Support Team since it always takes some time before the new versions of the specifications can be compiled and released.

Databases: See section 7.

4.6.5   Updating and release of new versions of the specifications

After TSG approval of one or more CRs, the Support Team produces a new version of the specification (with the version number incremented according to above).

5   Availability and distribution of specifications

The latest versions of TSG approved and TSG WG approved specifications are made available on a TSG server (exact location see TSG meeting report) by the Support Team . For specifications (or major versions of specifications) that are not yet under change control, the versions presented to the responsible TSG-SG or WG, shall be made available to the Support Team by the rapporteur and made available on a TSG server by the Support Team .

6 Work items

For project management purposes, the work is itemised in Work Items (WI), which are documented, developed and handled as described in this section.

The possible modifications of the specifications are basically of different natures:

- Error corrections; Modifications which correct overlooked errors or inconsistencies in the specifications.

- Enhancements; Modifications that enhance the system, e.g. by new services or features, or by improving performance or decreasing costs.

Modifications of the correction category are ongoing maintenance tasks and are handled with direct CRs and thus not by means of Work Items.

Modifications of the enhancement category are handled within the concept of Work Items as described in the sections below. Note that prior agreement of the TSG is needed before any substantial work is launched.

6.1 Creation of a Work Item

When an enhancement of the standard is considered desirable a delegate or delegation can make a proposal by submitting a Work Item Description sheet to the relevant TSG or TSG WG.

- For new services, features or functions, the TSG responsible for Services and System Aspects is the relevant TSG. This TSG also assigns prime and, if necessary, second responsible TSGs for the corresponding work items.

- For pure performance enhancements, other TSG WGs may be the responsible TSGs (the test specifications are normally not seen as independent work items).

The relevant TSG WG should study and refine the WI sheet before passing it on to the TSG for adoption.

No substantial work shall commence in a TSG WG prior to a decision of the responsible TSG.

The actual WI description sheets to be used and guidance how to apply them are distributed by the Support Team . The access to them is described in an annex of each TSG plenary report.

The TSG shall not approve a WI unless the Work Item Description (WID) sheet has been properly filled in to the degree possible at that time.

Once the TSG has approved the WI, it is included in the WI Status List and the WI Description sheet is included in the WID compilation. Both these actions are carried out by the Support Team . The WID should be updated as soon as new information is available.

The effects of the WI in terms of initial work distribution and responsibilities in the TSG (WG)s must be identified and allocated. Also, one or more rapporteurs have to be identified for the initial tasks, typically one for the service aspects and one for the system requirements. This should preferably be done prior to submission to the TSG, but in the worst case during the following TSG (WG) meetings. This information is also included in the WI Status List managed by the Support Team . During the lifetime of the WI, additional responsibilities as well as output documents and corresponding rapporteurs can be identified. Similarly, this information is then included in the status list.

A work item normally implies the creation of new specification and Change Requests to existing specifications.

6.2 Type of Work Items

Modifications of the standard could in principle be of two different types:

- New services/features/functions that in general affects several specifications and several TSG-SGs;

- Pure [technical] enhancements that affects a small number of specifications and TSG-SGs only (generally only one).

Of these, modifications of the latter type can be submitted to the TSG SG(s) and then TSG directly as a Change Request without prior presentation/agreement of a WI Description sheet. Such CRs shall instead refer to the pseudo Work Item 'Technical Enhancements'. For the other type of modifications, the following sections apply.

6.3 Start and continuation of the work and responsibilities

An early task when elaborating a work item, is to identify the tasks related to the WI and allocate those to the TSGs and TSG SGs.

In most cases the tasks from a WI can be split immediately in the following areas:

- Service requirements

- System/Architectural requirements and implications

- Protocol specifications

Service requirements:

The responsibility of the service requirements can usually be allocated immediately at the creation/adoption of the WI. Occasionally other groups may be given responsibility for the service requirements. This might be another TSG-SG, e.g. a Task Force. In any case, however, it should be a single group and one that reports directly to the TSG.

System/Architectural requirements and implications:

Also, the responsibility for system/architectural requirements should be allocated immediately, even though the implications and requirements normally will be seen only after the study on service/system requirements have been initiated. The responsibility for the system/architectural requirements must be given to a single body to guarantee the consistency of the adopted solution.

The choice of group should not [pre-]determine the technical choices and in many cases, the responsibility for system and architectural requirement study needs a widening of the competency and a readiness to look to a variety of technical aspects. This can be obtained either by drawing the attraction of the suitable experts (e.g., by setting special meetings or clear meeting dates) or by the organisation of joint meetings.

The overall consistency of the system architecture must be maintained along with the numerous modifications due to various work items. This responsibility is allocated to TSG SA, which for this purpose ensures the co-ordination of the development of general architecture concepts and their applications to individual Work Items, and should thus also draw attention and expertise from other TSGs and TSG WGs as well.

Protocol specifications:

The responsibility for the elaboration of the protocol specifications can in most cases not be allocated at the early stages since it depends on the technical implementation choices and hence on the results of the study of the service/system requirements as well as on the architectural conclusions.

The identification of new protocols to be specified and/or existing protocols to enhance will be derived from the system/architectural requirements. In general, modifications of existing protocols are done by the TSG WG in charge of the protocol in question, whilst the responsibility for development of new protocols is allocated by the TSG based on proposals from the TSG WG on system/architecture. Then, whether the actual work is done in the TSG WG itself or in an ad hoc subgroup thereof is at the discretion of that TSG WG.

6.4 Realisation of Work Items

6.4.1 Planning and categorisation of the deliverables (and control thereof)

Planning:

An initial time plan should be set up at an early point. As a basis, the time plan should include at least the following points:

1. Presentation for principle agreement of the service requirements;

2. Presentation for principle agreement of the architectural/system implications and requirements;

3. Presentation for information of the drafts of all needed deliverables,

4. Presentation for approval of all needed deliverables.

The time plane includes realistically achievable dates for each step and should be part of the Status List.

The WI Status List contains also information/lists about existing and planned permanent and semi-permanent documents related to the WI, e.g. future specifications as well as interim/temporary requirements "specifications", including the responsible TSG SG/group, the rapporteur, the state of the documents, expected completion dates, etc.

Categorisation:

Before the substantial work on a Work Item starts, the WI shall be examined in the light of its technical and commercial dependency with respect to the existing specifications as well as with respect to other Work Items. Aspects that must be considered and settled at an early stage are:

- Required versus acceptable time scales;

- Whether the WI has an impact on User Equipment or not;

- Whether the WI has an architectural impact or not;

- To which degree the WI needs to be standardise (and hence how much can be left "open", to speed up the work);

- Whether the WI can be technically and/or commercially combined/grouped with other WIs;

Unless the above aspects are sorted out in the beginning of (or prior to) the work, the risk of getting inefficient and non-optimal specifications increases and the control of the work becomes difficult and unmanageable.

These aspects are also contained in the WI Status List.

6.4.2   Choice of deliverables

The WI will be realised as new specifications and/or amendments to existing specifications; the exact structure lies with the individual TSG SGs and the TSG. Typically, a new feature may result in at least three completely new specifications (Stages 1, 2 and 3) but also cause amendments to the major protocol specifications.

6.4.3   Contents of deliverables

6.4.3.1   Service Requirements

This task, allocated and controlled according to above clauses, consists in describing in details the aim of the work item, as seen by those for which a service is provided, e.g. end users, operators, service providers, etc.

Apart from the general rules on how to write specifications, certain state of the art ways of producing service requirements specifications are established in the TSG, but as most new types of service differ in nature and structure from each other, no detailed rules are written.

In many cases it is preferred that prior to the actual service requirements specification being produced, an initial combined service and system/architectural requirements and considerations document is produced, involving both service oriented and implementation expertise. In particular when an ad hoc Task Force is charged with performing a study on a certain WI (aspect) such a starting point document is produced and then used as a basis for the TSG SGs when carrying out the detailed work on service requirements/descriptions and technical realisation specifications. Such setting-the-basis documents are generally kept for some time after the actual work on the detailed specifications has progressed to a mature level (mainly for the purpose of easing the understanding and to shorten the interaction and negotiation period between service requirements and system/architectural and technical restrictions).

Such 'setting-the-basis' document can also be used to describe the project management of a work item (to collect all prepared but not yet approved CRs related to the WI in question and so on).

6.4.3.2   Technical realisation specifications

This covers both the overall architectural and interface specific detailed specifications. The architectural implications and requirements need to be identified at a very early stage, for the purpose of knowing which parts of the standard (and hence of the system) are affected by a WI, and for the purpose of supporting the identification of cross-WI similarities (and hence more overall efficient solutions).

The overall co-ordination of the architectural/system requirements is with a single group as stated above, whilst the ensuing detailed protocol definitions and specifications may be distributed over several groups (according to their scope).

6.4.3.3   Test Specifications

Changes to the core specifications may have impact on the test specifications. The corresponding changes to test specifications should be approved before publication the new core specifications.

6.5   Closing of Work Items

When all necessary modifications for a given Work Item (or group of Work Items) are completed all over the scope of the system, and all the corresponding new specifications and Change Requests have been approved and released, then the Work Item is officially closed.

7   Management documents and tools

This clause summarises and lists the various permanent or semi-permanent documents (and means of documenting).

All these documents/tools are within the responsibilities of the Support Team and or TSG SA

7.1   Status List of Specifications

This list (data base) contains information about all 3GPP specifications, in terms of specification number, title, latest version, , rapporteur and other details.

7.2   Work Item Status List

This data base contains information about all 3GPP work items, in terms of identified future specifications, identified specifications to be amended, supplementary/temporary documentation, expected/planned completion dates and intermediary milestones, and other management information related to specifications, responsible TSG Sub-Groups, rapporteurs, completion dates etc..

7.3   Change Request data base

The Change Request data base records all CRs to specifications.

7.4   Mailing lists and Membership data bases

The members data base contains information of all delegates in the 3GPP TSG.

7.5   Electronic tools used/preferred

For the various types of documents and parts of documents of 3GPP, a minimum variety of word processors etc. should be used. The following lists those tools to be used for documents:

Type	Tool(s)	Comments
Text	Microsoft Word 97 (SR-2)	
Graphics	Micrografx Designer version 7.0	
	MS Draw 98	Freeware from Microsoft. The built-in drawing package of Word is not recommended.
SDL, MSC,	Telelogic SDT version 3.2	Rapporteurs can obtain, as a loan, this software from ETSI
TTCN	Telelogic ITEX version 3.4	
Databases	Microsoft Access 97 (SR-2)	
General Tools	Microsoft Office 97 software Suite (Excel 97, Powerpoint 97, etc.)	

7.6 WEB and FTP services

The 3GPP (http://www.3gpp.org) web pages provide up-to-date information on specification work, such as: meeting calendars, meeting minutes, meeting documents and latest specifications. FTP links to file server areas of each TSG and WG can be found via the 3GPP web pages.

7.7 E-mail reflectors

TSGs, WGs and SWGs have their own e-mail lists. There are also several additional lists per topic. Further information can be found on 3GPP web pages.

8 Email decisions

WGs may apply e-mail decision procedures for decisions they are entitled to take, as defined by superior bodies (e.g. on specifications, CRs, Liaison statements, etc). Each WG may set its rules for making e-mail decisions, however, it is required that:

- the rules are clearly defined and documented;

- a delegate having participated in plenary meetings is able to identify that he has possibly missed an e-mail relevant to e-mail decision.

Clauses 8.1-8.6 describe an e-mail decision procedure example.

8.1 Email drafting phase

An e-mail drafting session can be launched, either on a dedicated exploder list as a cybermeeting or as an informal discussion between interested delegates. Objectives can extend from debating an existing contribution, a Liaison Statement or a Change Request to progressing the service requirements of a specific Work Item and involving one or more Working Groups.

In case of "cybermeeting", the chairman of the discussions shall issue an un-ambiguous guideline including:

1) the objectives and agenda of the meeting;

2) input document(s) to be clearly specified;

3) start date and end date of the debates;

4) afterwards, summary of results of the "cybermeeting".

The end-goal being to reach an "agreement" on the deliverable, either at the next meeting or via an e-mail approval procedure.

8.2 E-mail decision declaration

Authority for an e-mail decision to take place should usually be agreed at plenary meeting. If this is not possible, there shall be a clear notification (i.e. status report) indicating that there will be an e-mail decision. This notification shall be sent on the main mailing lists indicating the mailing list where the discussion will take place (TSG, WG or SWG list). Target and timeframe shall be clearly indicated. A permanent Chairman (i.e. WG chairman or vice chairman) shall be nominated, who will be responsible for managing the e-mail decision procedure, including initiation, monitoring and announcing when it is complete.

8.3 Status reporting

During the e-mail decision period, there shall be a clear message stating what the status of each open item is. It is recommended to have a weekly summary of the status of all items, from the previous plenary listing:

- the name of the open item;

- the name of the responsible delegate;

- time left for comments before the deadline & expiration date;

- current work versions of documents: Tdoc number, CR number, Revision number;

- status (Debate ongoing, Agreed, Postponed, Rejected, ...).

8.4 Decision announcement

When a decision is made (Agreed, rejected, postponed, ...) a clear notification on what has been agreed shall be sent on the main mailing lists of the relevant groups.

8.5 Timing

E-mail decision procedure should start latest 3 weeks before relevant plenary:

- the e-mail decision period is two weeks (one status report required);

- the procedure shall be completed one week before the relevant TSG, WG or SWG plenary, due to practical arrangements.

8.6 General

- in exceptional cases when the procedure cannot be followed a clear notice from chairman is required;

- e-mails on mailing lists shall contain a subject with meaningful keywords, e.g. S1 Tdoc xxx on Charging and/or 22xxx-CR012r4;

- if there are no comments during the allowed period, agreement is granted automatically;

- status reports to higher level body meetings, should be e-mailed to the mailing list one week before the meeting. This allows delegates a final possibility to review the progress in the last period.

Annex A:
Change history

Change history					
TSG SA#	Version	CR	Tdoc SA	New Version	Subject/Comment
SA#4 06/1999	3.0.0	001	SP-99288	3.1.0	Alignment with TSG SA decisions made at TSG#3. Deletion of Strategic/non strategic CR references. Change of PT to Support Team, editorial corrections.
SA#4 06/1999	3.0.0	002	SP-99289	3.1.0	Harmonisation of the use of software for 3GPP documents in order to minimise the errors due to software conversion problems and to allow efficient interchange of electronic files for electronic working.
SA#5 10/1999	3.1.0	003	SP-99428	3.2.0	Addition of new text related to electronic working practices.

History

Document history		
V3.2.0	January 2000	Publication