

3GPP TS 32.xy1 V0.0.0 (2011-12)

Technical Specification

**3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Telecommunications management;
Fixed Mobile Convergent (FMC) Network Management;
FMC Architecture Model;
(Release 11)**



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Contents

Foreword	4
Introduction	4
1 Scope	5
2 References.....	5
3 Definitions, symbols and abbreviations	6
3.1 Definitions	6
3.2 Symbols.....	6
3.3 Abbreviations.....	6
4 Concepts and background	6
4.a SubSectionTitle	6
5 Business Level Requirements.....	6
5.1 Requirements.....	7
5.1.a SubSetTitle.....	7
5.2 Actor roles	7
5.3 Telecommunications resources	7
5.4 High-level use cases.....	7
5.4.a UseCaseName	7
6 Specification level requirements	9
6.1 Requirements.....	9
6.1.a SubSetTitle	9
6.2 Actor roles	9
6.3 Telecommunications resources	9
6.4 Use cases.....	9
6.4.a UseCaseName	9
Annex A (Informative): Change history.....	10

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (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 the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater 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 document.

Introduction

This clause is optional. If it exists, it is always the second unnumbered clause.

1 Scope

The present document is part of a TS family covering the 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; as identified below:

TS 32.xy1	Fixed Mobile Convergent (FMC) Network Management; FMC Architecture and Model; Requirements
TS 32.xy2	Fixed Mobile Convergent (FMC) Network Management; FMC Architecture and Model; Stage 2

In a fixed mobile convergent (FMC) network, the services offered to end users need resources from networks of different technologies.

NM standards of different technologies are the responsibilities of various standardization organizations (SDOs) and organizations. Various SDO/organizations may have defined different network management (NM) protocols to manage their respective network resources. Their managed resource models are mostly different from one another. Different parts of the large FMC network may be managed by different organizations.

The key challenge of FMC NM is the production of a set of specifications whose implementations would

- a) Reduce FMC operators' CAPEX and OPEX and
- b) Facilitate OSS (playing the role of `IRPManager`) to integrate the various NM services consumed into the so-called "end-to-end" view of the FMC network under management.

Since network resource models are designed and maintained by different SDO/organizations and the provision of the "end-to-end" view requires defined relations among network resource models, this set of specifications would include:

1. Model architecture, called Federated Network Model (FNM), identifying various network resource models and their relations among each other;
2. The governance of each network resource model and the working procedures among SDO/organizations (that are designers and maintainers of the network resource model) involved.

The present document defines, in addition to the requirements defined in [1], [2] and [3], the Requirements for item 1 and item 2 above.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TR 41.001: "GSM Release specifications".

[3] 3GPP TR 21.912 (V3.1.0): "Example 2, using fixed text".

...

[x] <doctype> <#>[([up to and including]{yyyy[-mm]|V<a[b.c]>}{onwards})]: "<Title>".

It is preferred that the reference to 21.905 be the first in the list.

3 Definitions, symbols and abbreviations

Delete from the above heading those words which are not applicable.

Clause numbering depends on applicability and should be renumbered accordingly.

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [x] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [x].

Definition format (Normal)

<defined term>: <definition>.

example: text used to clarify abstract rules by applying them literally.

3.2 Symbols

For the purposes of the present document, the following symbols apply:

Symbol format (EW)

<symbol> <Explanation>

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [x] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [x].

FMC	Fixed Mobile Convergent
NM	Network Management
SDO	Standard-Developing Organization

4 Concepts and background

<Describe major goals and objectives and the applicable management interfaces (for more detailed guidelines for this clause, see ITU-T M.3020)>

4.a SubSectionTitle

SubSectionTitle is the name of a subclause.

"a" represents a number, starting at 1 and increasing by 1 with each new subclause.

The use of subclauses is optional.

5 Business Level Requirements

This first class of requirements is referenced to as business level requirements. A subject matter expert shall be able to determine that the requirements adequately represent the needs of the management problem being solved, described on a high level, related to the business cases for the operators.

5.1 Requirements

5.1.a SubSetTitle

SubSetTitle is the name of a sub-set of the business level requirements.

"a" represents a number, starting at 1 and increasing by 1 with each new sub-set.

The use of sub-sets is optional and all business level requirements can be stated in subclause 5.1.

REQ-ABC-XYZ-01 <Requirement 1>

REQ-ABC-XYZ-02 <Requirement 2>

...

(where

ABC = the "Label" which is an abbreviation for the TS (or part thereof). The set of labels is not finite and not subject for standardization. ABC may therefore also be defined in the form "SON_CM" to denote a TS and a part thereof with two separate substrings separated by an "underscore" character.

XYZ = the "Requirements Category", using one of the following options:

- Conceptual (CON) – Identifies a concept, data type, relationship, format, or structure.*
- Functional (FUN) – Identifies a functional capability, dynamic situation, a sequence, timing parameters, or an interaction.*
- Non-functional (NON) – Non-functional requirements, including abnormal conditions, error conditions and bounds of performance.*
- Administrative (ADM) – System administration and operational requirements not related to the use cases normal operations.)*

5.2 Actor roles

A description of the Actor(s) and actor role(s) involved in the Use case(s) relevant for the business level requirements, following OMG UML conventions.

5.3 Telecommunications resources

A description of the Telecommunications resources involved in the Use case(s) relevant for the business level requirements. Telecommunications resources are physical or logical entities requiring management, using management services.

5.4 High-level use cases

A high-level use case diagram may be presented. In order to understand the use case, they should be augmented with a textual description for each use case.

The description should serve two purposes: to capture the domain experts' knowledge and to validate the models in analysis and design phases with respect to the requirements.

An example of a high-level use case diagram is given in Appendix I of M.3020.

5.4.a UseCaseName

UseCaseName is the name of the use-case.

"a" represents a number, starting at 1 and increasing by 1 with each new definition of a use case.

This clause is repeated for each high-level use case defined.

A use case table, using the template here below, is recommended to represent the significant capabilities studied at a level of abstraction appropriate to the problem being analysed.

For more detailed guidelines for this subclause, see ITU-T M.3020.

Use case stage	Evolution/Specification	<<Uses>> Related use
Goal (*)	<i>This is the objective/end result the use case strives to achieve and should be a concise statement of what the use case should achieve in a successful scenario. There may be a statement about priority relative to other use cases and required performance of the use case, e.g.:</i> <ul style="list-style-type: none"> • Real Time. • Near real time. • Not real time. 	
Actors and Roles (*)	<i>The names of actors/roles involved in the use case including role characteristic for each actor.</i>	
Telecom resources	<i>The names of the telecommunications resources involved in the use case.</i>	
Assumptions	<i>A description of the environment providing a context for the use case. Assumptions are mutually exclusive to pre-conditions. Assumptions are concerned with static properties.</i>	
Pre-conditions	<i>A list of all system and environment conditions that must be true before the use case can be triggered. Pre-conditions are mutually exclusive to assumptions. Pre-conditions are related to dynamic properties and can result in an exception. This is never the case with assumptions.</i>	
Begins when	<i>The name of the single event that triggers the start of the use case. Optional and normally not used to specify triggers such as "when the manager must retrieve information".</i>	
Step 1 (*) (M O)	<i>A use case describes a list of steps (manual and automated) that are necessary to accomplish the goal of the use case. Steps may invoke other use cases. Steps are numbered for traceability. Each step is identified as being mandatory (M) or optional (O). Sub-steps are identified relative to the containing step, e.g.:</i> <p>Step n</p> <p>Step n.1</p> <p>Step n.2</p> <p>where n.1 and n.2 are sub-steps of step n</p>	<i>Reference to a used use case.</i>
Step n (M O)	<i>Steps added as necessary and in a logical sequence.</i>	
Ends when (*)	<i>The list of event(s) that indicates the use case completion. NOTE – In this context, "event" should be considered in the most general sense and not limited to, e.g., notifications exchanged across a management interface. As an example, the completion of processing can be considered an event that indicates completion of a use case.</i>	
Exceptions	<i>A summary list of exception conditions and faults detected by the use case during its operation.</i>	
Post-conditions	<i>A list of all system and environmental conditions that must be true when the use case has completed. The statement of post-conditions determines if the use case is expected to be fully successful, partially successful or even to have failed in order to be completed.</i>	
Traceability (*)	<i>Requirements or use case exposed by the use case.</i>	<i>REQ-Label-Category-Number</i>

NOTE – Fields marked with "" are mandatory for all use case specifications. Other fields are only mandatory when relevant for the specific use case.*

6 Specification level requirements

This second class of requirements is referred to as specification level requirements. These requirements shall provide sufficient details so that the interface definition in the analysis and design phases (i.e. the IS and SS) can be developed.

6.1 Requirements

6.1.a SubSetTitle

*SubSetTitle is the name of a sub-set of the specification level requirements.
"a" represents a number, starting at 1 and increasing by 1 with each new sub-set.*

REQ-ABC-XYZ-01 <Requirement 1>

REQ-ABC-XYZ-02 <Requirement 2>

...

(where

ABC = the "Label" as defined in subclause 5.1.a above.

XYZ = the "Requirements Category" as defined in subclause 5.1.a above.

6.2 Actor roles

A description of the Actor(s) and actor role(s), not already defined in high-level requirements, involved in the Use case(s) relevant for the specification level requirements.

6.3 Telecommunications resources

A description of the Telecommunications resources, not already defined in high-level requirements, involved in the Use case(s) relevant for the specification level requirements.

6.4 Use cases

6.4.a UseCaseName

UseCaseName is the name of the use-case.

*"a" represents a number, starting at 1 and increasing by 1 with each new definition of a use case.
This clause is repeated for each high-level use case defined.*

A use case table, using the template in subclause 5.4.a, is recommended to represent the significant capabilities studied at a level of abstraction appropriate to the problem being analysed.

For more detailed guidelines for this subclause, see ITU-T M.3020.

Annex A (Informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
