

Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Network and Service Management; WG8 Specification Guidelines

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Full standard:
<https://standards.iteh.ai/catalog/standards/sist/cdb9-a0f6-a7fa-4e4d-b51a-ee5e28535bdf/etsi-tr-188-007-v2.1.1-2008-11>



ReferenceDTR/TISPAN-08018-NGN

Keywordsinterface, management, methodology

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2008.
All rights reserved.

DECT™, PLUGTESTS™, UMTS™, TIPHON™, the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.

3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

Contents

Intellectual Property Rights	5
Foreword.....	5
Introduction	5
1 Scope	6
1.1 Motivation and Vision.....	6
1.2 Scope	6
1.3 Non-scope.....	7
2 References	7
2.1 Normative references	7
2.2 Informative references.....	7
3 Definitions and abbreviations.....	9
3.1 Definitions	9
3.2 Abbreviations	10
4 Principles of the Guidelines	11
4.1 Three-Step-Approach	11
4.2 Reuse of Methodologies	12
4.3 Units of Standardization	13
4.4 Modelling	13
4.5 ETSI documentation of standards	13
5 NGN Management Specification Methodologies	14
5.1 Generic Activities and Context Specific Activities.....	14
5.2 WG8 Methodology Details.....	14
5.2.1 Step 1: Requirements	15
5.2.1.1 Step 1a: Generic Requirements	15
5.2.1.2 Step 1b: Context-specific Requirements	15
5.2.2 Step 2: Technology Independent Modelling.....	16
5.2.2.1 Step 2a: Generic, Technology Independent Modelling	16
5.2.2.1.1 Management Information Model (MIM).....	16
5.2.2.1.2 Meta-Model	16
5.2.2.2 Step 2b: Context Specific, Technology Independent Modelling.....	16
5.2.2.2.1 UML Information Model.....	16
5.2.2.2.2 Functional Architecture/Technology-Independent NOSI.....	17
5.2.3 Step 3: Technology Dependent Modelling	17
5.2.3.1 Step 3a: Generic, Technology Dependent Modelling	17
5.2.3.2 Step 3b: Context Specific, Technology Dependent Modelling	17
5.3 Tool-based Approach	18
5.3.1 Tool Chain	18
5.3.2 Tools	18
6 Mapping from WG8 Methodology Elements to WG8 Standards Documents	18
6.1 Titles and Objectives of documents.....	18
6.2 Mapping to TISPAN WG8 documents.....	19
Annex A: Existing Methodologies.....	20
A.1 Management Interface Specification Methodology (ITU-T)	20
A.2 Integration Reference Points (3GPP)	21
A.3 mTOP Specification Guidelines (TMF)	23
A.4 NGOSS Lifecycle (TMF).....	24
A.4.1 Background	24
A.4.2 Lifecycle View of Interfaces and Contracts	24
A.4.3 Relation with NOSIs	25

A.4.4 Documenting the Lifecycle Views	27
History	28

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Full standard:
<https://standards.iteh.ai/catalog/standards/sist/cdb9-a0f6-a7fa-4e4d-b51a-ee5e28535bdf/etsi-tr-188-007-v2.1.1-2008-11>

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://webapp.etsi.org/IPR/home.asp>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN).

Introduction

The present document describes the specification methodology in ETSI TISPAN WG8. The present document includes guidelines for the specification of NGN OSS Service Interfaces (NOSI) throughout all the steps necessary for their standardization. The present document accompanies the specification process in WG8 by documenting the way of work.

Clause 1 outlines the background and motivation for the present document, and describes vision and scope for the specification guidelines.

Clauses 2 and 3 give references, definitions, and clarify abbreviations in the context of the present document.

Clause 4 develops the basic principles of the specification guidelines which are the foundation for the work in WG8.

Clause 5 elaborates the WG8 specification methodology by investigating each step in detail. Furthermore, a tool-based approach is introduced to ease and accelerate the standardization process by automation.

Clause 6 deals with naming conventions for the ETSI TISPAN WG8 documents, and the mapping of the methodology steps to existing and planned documents.

Annex A includes a description of existing methodologies and their importance for the work in WG8.

1 Scope

1.1 Motivation and Vision

In ETSI TISPAN WG8's current NGN Management related work, standards forming principles are being used implicitly. Therefore, Specification Guidelines are necessary to transform these implicitly existing principles to explicitly described principles. These WG8 Specification Guidelines should reflect and, if necessary, modify or unify explicit principles. Consequently, the basic driver and motivation for the evolution of such WG8 Specification Guidelines are the currently running WG8 standardization activities in the area of NGN OSS. From this point of view, the work on the Specification Guidelines has an accompanying character to WG8's regular standards forming process.

The vision standing behind this work is that ETSI TISPAN WG8 has a clear understanding of how to develop NOSIs from an idea to standard documents, following a set of guidelines which head, ease, and accelerate the whole standards developing process, and using a consistent terminology.

1.2 Scope

The present document puts on record the WG8 internal way how to develop ideas to standard documents.

The basis of the present document is a status-quo analysis of WG8's way to develop ideas to standards. Therefore, implicitly existing steps of the actual WG8 standardization activities have been identified and their purpose has been clarified. These implicit steps have then been reflected, consolidated, and transformed to explicit methodology elements.

The present document captures the above mentioned reflected, consolidated, explicit steps and bundles them to a consistent WG8 methodology. The present document sets the WG8 methodology in relation to a list of well-selected existing methodologies or wide-spread standards forming technologies, and considers the use of these methodologies in WG8. Furthermore, the present document provides guidelines how to map explicit methodology elements to standards documents.

The present document tracks how the WG8 specifications are currently produced, i.e. it describes the ongoing and it will direct the future work of ETSI TISPAN WG8. However, not all aspects of the WG8 methodology are already fully defined and ready to be documented. Those aspects are identified in the present document as "for further study".

The scope of the present document explained before is depicted in figure 1.

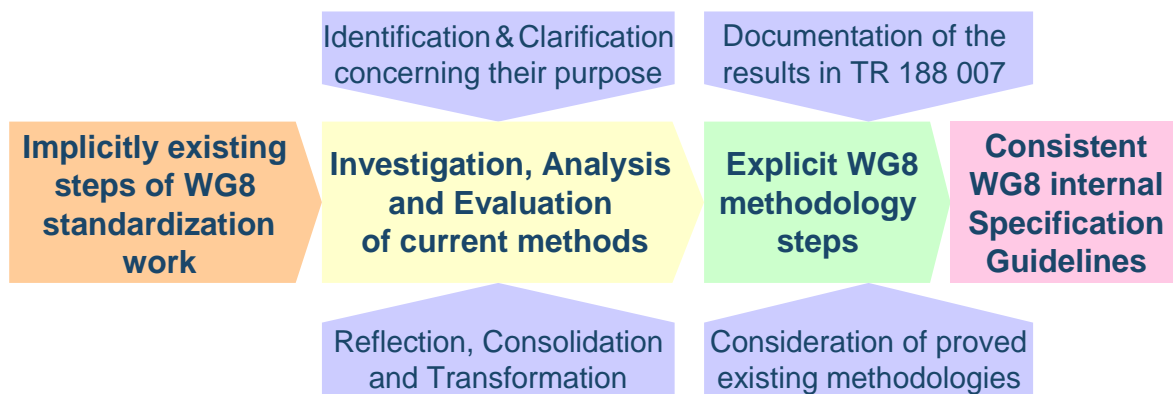


Figure 1: Scope of WG8 Specification Guidelines

1.3 Non-scope

The following items are out of the scope of the present document:

- Guidance for other ETSI WGs or standardization bodies than TISPAN WG8.
- Definition of a new standardization process in the sense of refining or formalizing the guidelines.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
 - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
 - for informative references.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

For online referenced documents, information sufficient to identify and locate the source shall be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference shall include the method of access to the referenced document and the full network address, with the same punctuation and use of upper case and lower case letters.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

Not applicable.

2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

- [i.1] ETSI TS 188 001: "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); NGN management; Operations Support Systems Architecture".
- [i.2] ETSI TS 188 002-1: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Subscription Management; Part 1: Requirements".
- [i.3] ETSI TS 188 002-2: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Network and Service Management; Subscription Management; Part 2: Information Model".

- [i.4] ETSI TS 188 002-3: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Network and Service Management; Subscription Management; Part 3: Functional Architecture".
 - [i.5] ITU-T recommendation M.3020: "Management interface specification methodology".
 - [i.6] ETSI TS 132 150: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Telecommunication management; Integration Reference Point (IRP) Concept and definitions (3GPP TS 32.150)".
 - [i.7] TMF: "mTOP Specification methodology".
- NOTE: Available at <http://www.tmforum.org/>.
- [i.8] OASIS Standard: "Reference Model for Service Oriented Architecture 1.0".
 - [i.9] TMF Specification 053B: "Technology Neutral Architecture, Contract Description: Business and System Views, V4.4".
 - [i.10] OMG Specification: "Unified Modelling Language, V2.1.1".
 - [i.11] TMF Specification GB921: "Enhanced Telecom Operations Map, Release 7".
 - [i.12] 3GPP TS 32.155: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; Requirements template".
 - [i.13] TMF Specifications GB922 & GB926: "SID Solution Suite, Release 7.0".
 - [i.14] ETSI TS 132 101: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Telecommunication management; Principles and high level requirements (3GPP TS 32.101)".
 - [i.15] ETSI TS 132 151: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Telecommunication management; Integration Reference Point (IRP) Information Service (IS) template (3GPP TS 32.151)".
 - [i.16] ETSI TS 132 152: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Telecommunication management; Integration Reference Point (IRP) Information Service (IS) Unified Modelling Language (UML) repertoire (3GPP TS 32.152)".
 - [i.17] 3GPP TS 32.153: "3rd Generation Partnership Project; Technical Specification Group Services and system Aspects; Telecommunication management; Integration Reference Point (IRP) technology specific templates, rules and guidelines".
 - [i.18] ETSI TS 132 154: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Telecommunication management; Backward and Forward Compatibility (BFC); Concept and definitions (3GPP TS 32.154)".
 - [i.19] TMF Specification GB927: "TMF Lifecycle Methodology, V1.1".
 - [i.20] ETSI TR 188 004: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Management; OSS vision".
 - [i.21] ETSI TR 102 647: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Network Management; Operation Support System Standards Overview and Gap Analysis".
 - [i.22] ETSI TS 188 003: "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); OSS requirements; OSS definition of requirements and priorities for further network management specifications for NGN".
 - [i.23] ETSI TS 188 005-1: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Management; Network Resource Model (NRM); Part 1: Requirements".

- [i.24] ETSI TS 188 005-2: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Network and Service Management; Network Resource Model; Part 2: Information Service".
- [i.25] ETSI TS 188 005-3: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Network and Service Management; Network Resource Model; Part 3: eXtensible Markup Language (XML) Schema definition".
- [i.26] ETSI TS 132 732: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Telecommunication management; IP Multimedia Subsystem (IMS) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS) (3GPP TS 32.732)".
- [i.27] ITU-T recommendation M.3060/Y.2401: "Principles for the Management of the Next Generation Networks".
- [i.28] ETSI ES 282 001: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Functional Architecture".
- [i.29] 3GPP TR 32.809: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; Feasibility Study of XML-based (SOAP/HTTP) IRP Solution Sets".
- [i.30] 3GPP TR 32.818: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; Study on 3GPP SA5/MTOSI XML harmonization".
- [i.31] ETSI TS 188 008: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IPTV Management; Context and Requirements".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

contract: fundamental unit of interoperability in an NGOSS system

NOTE: It is much more than a software interface specification. Rather, the contract is a specification of how a managed entity interacts with its environment. As such, it includes other aspects of the solution in addition to software [i.9].

guidelines: provide instructions and advice for performing a task or activity, and suggest possible approaches to reach a pre-defined goal

information model: conceptual/analysis/domain/semantic model that represents real-world objects. It includes things of interest (entities), relationships between these entities (associations), and details/characteristics of these entities (attributes)

NOTE: It provides a way of structuring information, standard definitions, and a consistent common terminology. There are several terms for an information model in different standardization organizations (e.g. information service, information agreement). In order to use a unique term, within the present document the term information model is used.

methodology: documented approach for performing activities in a coherent, consistent, accountable, and repeatable manner

NGN OSS Service Interface (NOSI): well defined grouping of related NGN OSS Operations and constant data which are necessary to deliver coherent business or system functionality [i.1]

Service Oriented Architecture (SOA): paradigm for organizing and utilizing distributed capabilities that may be under the control of different ownership domains [i.8]. It is an evolution of distributed computing and modular object-oriented programming

NOTE: SOA builds applications out of software services. Services are relatively large, intrinsically unassociated units of functionality, which have no calls to each other embedded in them. They typically implement functionalities as services. Instead of services embedding calls to each other in their source code, protocols are defined which describe how one or more services can talk to each other. This architecture then relies on a business process to link and sequence services, in a process known as orchestration, to meet a new or existing business system requirement.

SOA service interface concept: means for interacting with a service. It includes the specific protocols, commands, and information exchange by which actions are initiated that result in the real world effects as specified through the service functionality portion of the service description

NOTE: The specifics of the interface should be syntactically represented in a standard referenceable format prescribing what information needs to be provided to the service in order to access its capabilities and interpret responses. It is not specified how the consumer accesses the interface definition nor how the service itself is accessed. However, it is assumed that for a service to be usable, its interface is represented in a format that allows interpretation of the interface information by its consumers [i.8].

3.2 Abbreviations

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

ASN.1	Abstract Syntax Notation No.1
BA	Business Agreement
CMIP	Common Management Information Protocol
CORBA	Common Object Request Broker Architecture
DDP	Document Delivery Package
eTOM	enhanced Telecom Operations Map
GDMO	Generic Definition of Managed Objects
IA	Information Agreement
IDL	Interface Definition Language
IIS	Interface Implementation Specification
IOC	Information Object Class
IRP	Integration Reference Point
IS	Information Service
JMS	Java Message Service
MIM	Management Information Model
MISM	Management Interface Specification Methodology
mTOP	multi Technology OSS Program
MTOSI	Multi-Technology Operations System Interfaces
NGN	Next Generation Network
NGOSS	New Generation Operations Systems and Software
NOSI	NGN OSS Service Interface
NRM	Network Resource Model
OSS	Operations Support System
SID	Shared Information and Data model
SNMP	Simple Network Management Protocol
SOA	Service Oriented Architecture
SOAP	Simple Object Access Protocol
SuM	Subscription Management
TIP	TeleManagement Forum Interface Program
TMF	TeleManagement Forum
UML	Unified Modelling Language
WS	Web Services
WSDL	Web Service Definition Language
XML	eXtensible Markup Language