ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

M.3361
(01/2011)

SERIES M: TELECOMMUNICATION MANAGEMENT, INCLUDING TMN AND NETWORK MAINTENANCE

Telecommunications management network

Requirements for business-to-government management interfaces – B2G interfaces – Introduction

Recommendation ITU-T M.3361

ITU-T M-SERIES RECOMMENDATIONS

TELECOMMUNICATION MANAGEMENT, INCLUDING TMN AND NETWORK MAINTENANCE

Introduction and general principles of maintenance and maintenance organization	M.10–M.299
International transmission systems	M.300–M.559
International telephone circuits	M.560–M.759
Common channel signalling systems	M.760–M.799
International telegraph systems and phototelegraph transmission	M.800–M.899
International leased group and supergroup links	M.900–M.999
International leased circuits	M.1000–M.1099
Mobile telecommunication systems and services	M.1100–M.1199
International public telephone network	M.1200–M.1299
International data transmission systems	M.1300–M.1399
Designations and information exchange	M.1400–M.1999
International transport network	M.2000–M.2999
Telecommunications management network	**M.3000–M.3599**
Integrated services digital networks	M.3600–M.3999
Common channel signalling systems	M.4000–M.4999

For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T M.3361

Requirements for business-to-government management interfaces – B2G interfaces – Introduction

Summary

Recommendation ITU-T M.3361 introduces the specification for high level requirements of business-to-government (B2G) management interfaces, including its general requirements, specific requirements, as well as security requirements. This Recommendation also defines the concept of B2G management interfaces and its relationship with existing business-to-business and customer-to-business management interfaces (B2B and C2B) Recommendations.

The B2G management interface has additional requirements to those of B2B/C2B interfaces, which has impacts on the activities of both the service provider/network operator (SP/NO) as well as on the National Administrations/Government (G) activities.

The interactions between SP/NO and G entities are addressed in clauses 6 to 9. B2B and C2B interface specifications will be reused in the development of the B2G management interface.

History

Edition	Recommendation	Approval	Study Group	
1.0	ITU-T M.3361	2011-01-13	2	

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

Table of Contents

Recommendation ITU-T M.3361

Requirements for business-to-government management interfaces – B2G interfaces – Introduction

1   Scope

The scope of this Recommendation aims to introduce the high level requirements of the business-to-government management interfaces – B2G interfaces. It gives an overview of the B2G interface including objectives and goals to be achieved, the content, scope and information to be exchanged across the B2G interface.

2   References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T M.3010]   Recommendation ITU-T M.3010 (2000), *Principles for a telecommunications management network.*

[ITU-T M.3016.1]   Recommendation ITU-T M.3016.1 (2005), *Security for the management plane: Security requirements.*

[ITU-T M.3020]   Recommendation ITU-T M.3020 (2007), *Management interface specification methodology.*

[ITU-T M.3050.0]   Recommendation ITU-T M.3050.0 (2007), *Enhanced Telecom Operations Map (eTOM) – Introduction.*

[ITU-T M.3050.1]   Recommendation ITU-T M.3050.1 (2007), *Enhanced Telecom Operations Map (eTOM) – The business process framework.*

[ITU-T M.3050.2]   Recommendation ITU-T M.3050.2 (2007), *Enhanced Telecom Operations Map (eTOM) – Process decompositions and descriptions.*

[ITU-T M.3190]   Recommendation ITU-T M.3190 (2008), *Shared information and data model (SID).*

[ITU-T M.3200]   Recommendation ITU-T M.3200 (1997), *TMN management services and telecommunications managed areas: Overview.*

[ITU-T M.3320]   Recommendation ITU-T M.3320 (1997), *Management requirements framework for the TMN X-Interface.*

[ITU-T M.3400]   Recommendation ITU-T M.3400 (2000), *TMN management functions.*

[ITU-T X.805]   Recommendation ITU-T X.805 (2003), *Security architecture for systems providing end-to-end communications.*

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 enterprise: [ITU-T M.3050.1].

3.1.2 enterprise management process area: [ITU-T M.3050.1].

3.1.3 entity: [ITU-T M.3050.1].

3.1.4 eTOM: [ITU-T M.3050.0].

3.1.5 process: [ITU-T M.3050.1].

3.2 Terms defined in this Recommendation

This Recommendation defines the following term:

3.2.1 B2G interface: The business-to-government (B2G) interface (or B2G management interface) is the interface where government entities or a National Administration can interact with service providers/network operators (SP/NO) and other regulated entities to exchange information to support regulatory processes.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

G   Government entity and National Administration

GUI   Graphic User Interface

KPI   Key Performance Indicator

KQI   Key Quality Indicator

NO   Network Operator

SC   Service Customer

SP   Service Provider

5 Background

Traditionally, relationships between government entities or a National Administration (G) and SP/NO have been made under manual processes or, alternatively, some mechanized means or a mixture of two types.

B2G interfaces were not standardized or modernized to meet government/National Administration and business entities processes requirements to cover service licensing authorization, key performance indicator (KPI), key quality indicator (KQI), surveillance methods and regulatory requirements.

Service providers and network operators face very different regulatory environments in different countries and sometimes within a particular country, when exchanging information with national administrations. Diverse paper form (non-mechanized processes) and graphic user interface (GUI) processes between G and SP/NO frequently become a significant financial burden to both parties.

To illustrate the scenario in the previous paragraph, some SPs/NOs deal with requests for licensing in paper forms, and fill in forms of telecom taxes and fees. Others process the notification of fines and other penalties. On the other hand, Government entities are interested to issue licences more

quickly to meet the needs of a broader number of telecom SPs/NOs. Those tasks are ordinarily time- and cost-consuming because of their semi-mechanized or fully-manual activities.

Concerning this limitation imposed by the present communication structure, it is important to note that:

• SPs/NOs and a National Administration are deeply dependent upon effective management of information and communications in their regulatory processes;

• the adoption of an automated communication structure by SPs/NOs and a National Administration based on a standardized framework will smooth the planning, implementation and provision of services processes and ease the government regulatory processes.

For the reasons cited above, a B2G interface standard has an enormous potential to improve the quality of a communication process between national administrations and SPs/NOs.

Therefore, it is vital to create a technical standard to meet the various communication requirements between the National Administrations/Governments and SPs/NOs.

This Recommendation introduces the high level requirements for B2G interfaces, mainly by the reuse of B2B and C2B interface specifications.

6   Content, scope, and type of information to be exchanged through the B2G interface

The information to be exchanged in the B2G interface is strongly dependent on the businesses as well as on the government processes requirements.

For the purpose of this Recommendation, five categories of information are expected to be exchanged over the B2G interface: licensing, taxation, financial, service quality, and infrastructure as well as other regulatory issues.

Even though security requirements shall be treated when defining B2G interface security requirements to support the interconnection needs of the B2G interfaces, as stated in clause 8, it is important to emphasize that security has to be approached in two ways. Primarily, security is seen as a generic requirement; in this sense, it is useful to refer to [ITU-T M.3016.1] and [ITU-T X.805]. Alternatively, security might be considered as a specific requirement in the same level of abstraction of: licensing, taxation, financial, service quality, and infrastructure as well as other regulatory issues.

7   B2G interface requirements

B2G interface requirements refer to [ITU-T M.3320], i.e., functional, service and network-level requirements for the exchange of information between G and "SP/NO and other regulated entities".

The government processes requirements are mandatory for the National Administration's activities that necessarily involve interactions with SPs/NOs.

The SP/NO requirements must be defined in order to satisfy their processing needs related to the interactions with G.

The list below, though not exhaustive, includes the essential requirements for the B2G management interface:

– management framework and architecture requirements for B2G management interfaces;

– application specific requirements for B2G management interfaces;

– B2G interface security requirements to support the interconnection needs of the SPs/NOs to G interfaces;

– generic management requirements for licensing management across the B2G interface;

– generic management requirements for taxation management across the B2G interface;

– generic management requirements for financial management across the B2G interface;

– generic management requirements for service quality management across the B2G interface;

– generic management requirements for infrastructure management across the B2G interface;

– generic management requirements for regulatory issues management across the B2G interface.

8 Guidelines to elaborate a roadmap for the reuse of existing ITU-T Recommendations: architecture, methodology, and security

As the intent is to reuse and build on previous work, it is fundamental to design a roadmap for utilizing existing ITU-T Recommendations. This roadmap has to be understood as an auxiliary tool to optimize the implementation of B2G management interface specifications. Prior to this design, there should be an objective analysis, which takes into consideration mandatory requirements to be met.

The drivers to select existing ITU-T Recommendations for useful reuse are, among others, in principle, the requirements cited above in clause 7.

The roadmap itself shall be elaborated in order to meet B2G requirements. In this sense, for each requirement, it is useful to elaborate its associated ITU-T Recommendation.

8.1 Relationship with other ITU-T Recommendations

8.1.1 Relationship with [ITU-T M.3020]

To be aligned with the management interface development specification methodology described in [ITU-T M.3020], B2G management interface development has to adopt the three-phase process: requirements, analysis and design.

8.1.2 Relationship with [ITU-T M.3190] (SID)

To elaborate an implementation-independent specification for B2G management interface, a conceptual information model is required, which calls for ITU-T M.3190 shared information and data model, or an alternative industry standard information model.

8.2 Candidate ITU-T Recommendations to be reused in order to meet B2G interface requirements

The following ITU-T Recommendations can be quoted in advance as candidates: [ITU-T M.3050] series, [ITU-T M.3010], [ITU-T M.3020], [ITU-T M.3200], [ITU-T M.3400], and [ITU-T M.3190].

The roadmap of reuse shall be derived from the definition of B2G interface requirements.

9 Potential changes, enhancements or revisions on the business processes described in ITU-T M.3050 series and other related ITU-T Recommendations

According to [ITU-T M.3050.1], "The eTOM is a business process framework, or a reference framework or model for categorizing all the business activities that a service provider will use". It is also stated, "A business process framework is one part of the strategic business model and plan for a service provider".

The enterprise management process area of the eTOM is likely to require updating, and in particular the "Stakeholder and external relations management" process needs modifications as of the B2G emergence. The reason for this is the necessity to specify the regulator, operators and other regulated entities' relationship in their communication processes.

Appendix I

B2G chart

(This appendix does not form an integral part of this Recommendation)

The purpose of this appendix is to present the main ideas of this Recommendation in a graphical form.
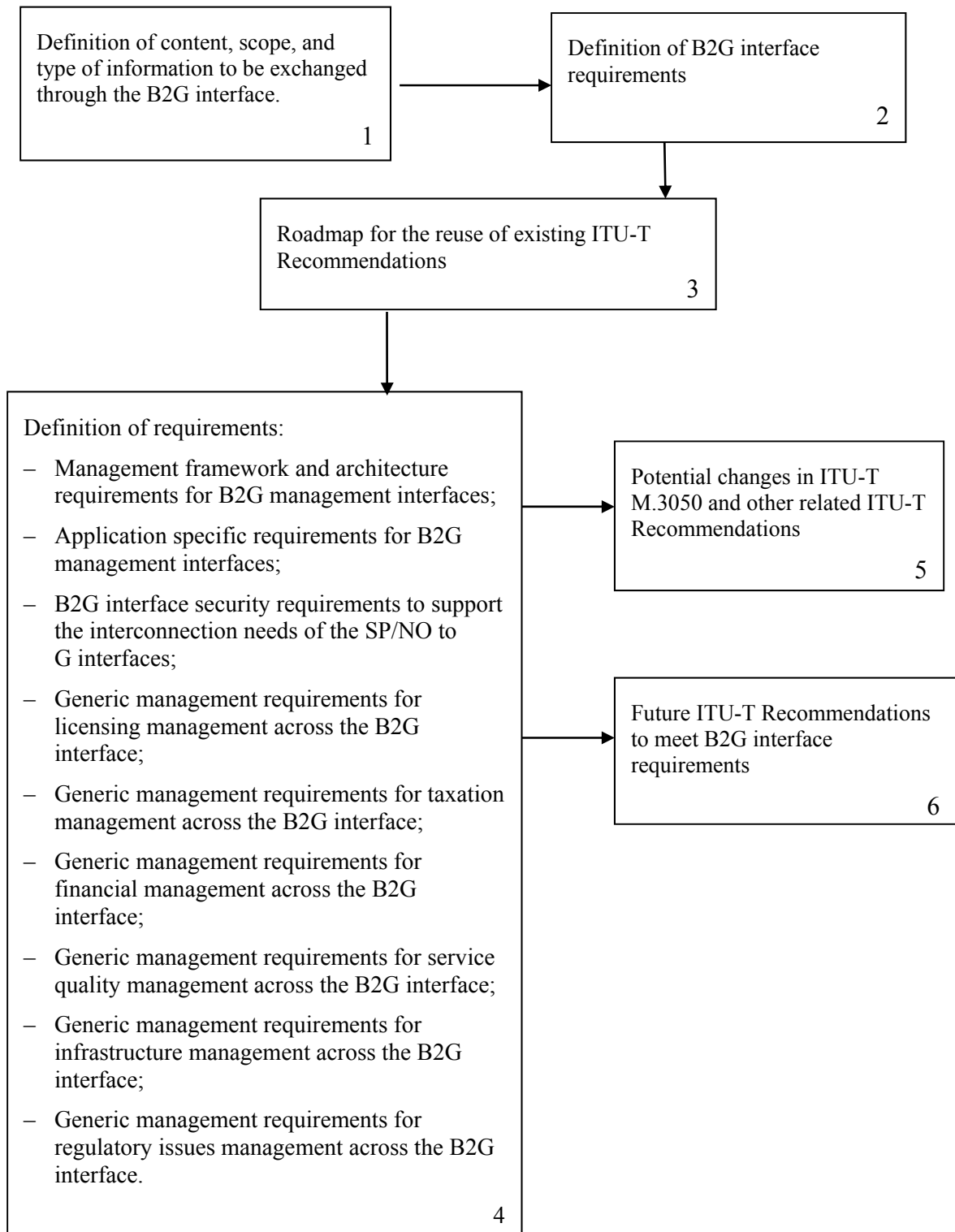

Figure I.1 – B2G chart

Block 1 defines the information to be exchanged in the B2G interface. It provides the basis for Block 2.

Block 2 specifies requirements: functional, service and network-level requirements for the exchange of information between government entities or a National Administration with operators and other regulated entities. It provides the basis for Block 3.

Block 3 specifies the roadmap for the reuse of existing ITU-T Recommendations. It provides the basis for Block 4.

Block 4 specifies B2G interface requirements. It provides the basis for Block 5 and Block 6.

Block 5 specifies the potential changes in [ITU-T M.3050] and other related ITU-T Recommendations.

Block 6 specifies future ITU-T Recommendations to meet B2G interface requirements.

SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Cable networks and transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	**Telecommunication management, including TMN and network maintenance**
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Terminals and subjective and objective assessment methods
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks, open system communications and security
Series Y	Global information infrastructure, Internet protocol aspects and next-generation networks
Series Z	Languages and general software aspects for telecommunication systems