

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Q.1762/Y.2802

(09/2007)

SERIES Q: SWITCHING AND SIGNALLING

Signalling requirements and protocols for IMT-2000

SERIES Y: GLOBAL INFORMATION

INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS
AND NEXT-GENERATION NETWORKS

Next Generation Networks – Generalized mobility

Fixed-mobile convergence general requirements

ITU-T Recommendation Q.1762/Y.2802

ITU-T Q-SERIES RECOMMENDATIONS
SWITCHING AND SIGNALLING

SIGNALLING IN THE INTERNATIONAL MANUAL SERVICE	Q.1–Q.3
INTERNATIONAL AUTOMATIC AND SEMI-AUTOMATIC WORKING	Q.4–Q.59
FUNCTIONS AND INFORMATION FLOWS FOR SERVICES IN THE ISDN	Q.60–Q.99
CLAUSES APPLICABLE TO ITU-T STANDARD SYSTEMS	Q.100–Q.119
SPECIFICATIONS OF SIGNALLING SYSTEMS No. 4, 5, 6, R1 AND R2	Q.120–Q.499
DIGITAL EXCHANGES	Q.500–Q.599
INTERWORKING OF SIGNALLING SYSTEMS	Q.600–Q.699
SPECIFICATIONS OF SIGNALLING SYSTEM No. 7	Q.700–Q.799
Q3 INTERFACE	Q.800–Q.849
DIGITAL SUBSCRIBER SIGNALLING SYSTEM No. 1	Q.850–Q.999
PUBLIC LAND MOBILE NETWORK	Q.1000–Q.1099
INTERWORKING WITH SATELLITE MOBILE SYSTEMS	Q.1100–Q.1199
INTELLIGENT NETWORK	Q.1200–Q.1699
SIGNALLING REQUIREMENTS AND PROTOCOLS FOR IMT-2000	Q.1700–Q.1799
SPECIFICATIONS OF SIGNALLING RELATED TO BEARER INDEPENDENT CALL CONTROL (BICC)	Q.1900–Q.1999
BROADBAND ISDN	Q.2000–Q.2999
SIGNALLING REQUIREMENTS AND PROTOCOLS FOR THE NGN	Q.3000–Q.3999

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

ITU-T Recommendation Q.1762/Y.2802

Fixed-mobile convergence general requirements

Summary

ITU-T Recommendation Q.1762/Y.2802 defines the requirements for fixed-mobile convergence (FMC). For this purpose, this Recommendation describes the considerations for FMC, including the fundamental characteristics, service requirements, network capabilities, approach, scenarios and the relevant network environments.

Source

ITU-T Recommendation Q.1762/Y.2802 was approved on 21 September 2007 by ITU-T Study Group 19 (2005-2008) under the ITU-T Recommendation A.8 procedure.

Keywords

Convergence, fixed, FMC, mobile, NGN, Systems beyond IMT-2000.

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/>.

© ITU 2008

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

CONTENTS

Page

1	Scope and purpose	1
2	References.....	1
3	Definitions	2
3.1	Terms defined elsewhere	2
3.2	Terms defined in this Recommendation.....	2
4	Abbreviations and acronyms	2
5	Conventions	4
5.1	Usage of the term "IMS"	4
6	Objectives of FMC	4
6.1	General objectives of FMC	4
6.2	Objectives from different perspectives.....	5
7	Fundamental characteristics of FMC.....	5
8	FMC service requirements.....	6
8.1	Access service support	6
8.2	Enhanced VPN	6
8.3	Unified messaging.....	7
9	FMC capability requirements	7
9.1	Access independence.....	7
9.2	Uniform authentication and uniform authorization mechanism.....	7
9.3	Charging and management.....	7
9.4	Service access environment.....	7
9.5	Quality of service	8
9.6	Interworking	8
9.7	Reliability requirements	8
9.8	Security requirements.....	8
9.9	Public services issues	8
9.10	Network selection.....	8
9.11	Location identification.....	9
9.12	Personalized configuration	9
9.13	Personal data network storage	9
9.14	Accounting support capabilities	9
9.15	Message processing.....	9
9.16	Presence information.....	9
9.17	Mechanism for applications to access user data.....	10
9.18	User identifier management	10



Documents

Document Sharing Hub

ITU-T Rec. Q.1762/Y.2802 (09/2007)

iii

	Page
10 Network environment	10
10.1 General network environments.....	10
10.2 FMC network scenarios.....	11
Appendix I – FMC approach and scenarios.....	13
I.1 Convergence in the control layer.....	13
I.2 Convergence in application layer	14
I.3 Convergence in the management layer.....	15
Bibliography	16

ITU-T Recommendation Q.1762/Y.2802

Fixed-mobile convergence general requirements

1 Scope and purpose

This Recommendation is intended to be used as the general requirements document leading to the development of recommendations and implementation guidelines for the realization of fixed-mobile convergence (FMC). This is to ensure that all elements required for interoperability and the associated network capabilities to support applications globally across an FMC environment are adequately addressed by ITU-T standardization activities.

The scope of this Recommendation is to provide FMC principles, high-level service requirements and capabilities. More specifically, this Recommendation identifies the fundamental characteristics, requirements and capabilities that FMC supports.

As next generation networks (as described in [ITU-T Y.2011]) evolve, they will increasingly support the general FMC requirements and capabilities defined in this Recommendation. NGN specific FMC requirements will be captured in releasing specific NGN requirements Recommendations.

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 Q.1741] ITU-T Recommendation Q.1741-series:
- Q.1741.1 (2002), *IMT-2000 references to release 1999 of GSM evolved UMTS core network with UTRAN access network.*
 - Q.1741.2 (2002), *IMT-2000 references to release 4 of GSM evolved UMTS core network with UTRAN access network.*
 - Q.1741.3 (2003), *IMT-2000 references to release 5 of GSM evolved UMTS core network.*
 - Q.1741.4 (2005), *IMT-2000 references to release 6 of GSM evolved UMTS core network.*
- [ITU-T Q.1742] ITU-T Recommendation Q.1742-series:
- Q.1742.1 (2002), *IMT-2000 references to ANSI-41 evolved core network with cdma2000 access network.*
 - Q.1742.2 (2003), *IMT-2000 references (approved as of 11 July 2002) to ANSI-41 evolved core network with cdma2000 access network.*
 - Q.1742.3 (2004), *IMT-2000 references (approved as of 30 June 2003) to ANSI-41 evolved core network with cdma2000 access network.*
 - Q.1742.4 (2005), *IMT-2000 references (approved as of 30 June 2004) to ANSI-41 evolved core network with cdma2000 access network.*

- Q.1742.5 (2006), *IMT-2000 references (approved as of 31 December 2005) to ANSI-41 evolved core network with cdma2000 access network.*
- Q.1742.6 (2007), *IMT-2000 references (approved as of 31 December 2006) to ANSI-41 evolved core network with cdma2000 access network.*

[ITU-T Q.1761]	ITU-T Recommendation Q.1761 (2004), <i>Principles and requirements for convergence of fixed and existing IMT-2000 systems.</i>
[ITU-T Y.2001]	ITU-T Recommendation Y.2001 (2004), <i>General overview of NGN.</i>
[ITU-T Y.2011]	ITU-T Recommendation Y.2011 (2004), <i>General principles and general reference model for Next Generation Networks.</i>
[ITU-T Y.2021]	ITU-T Recommendation Y.2021 (2006), <i>IMS for Next Generation Networks.</i>
[ITU-T Y.2031]	ITU-T Recommendation Y.2031 (2006), <i>PSTN/ISDN emulation architecture.</i>
[ITU-T Y.2091]	ITU-T Recommendation Y.2091 (2007), <i>Terms and definitions for Next Generation Networks.</i>

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following term defined elsewhere:

3.1.1 identifier [ITU-T Y.2091]: An identifier is a series of digits, characters and symbols or any other form of data used to identify subscriber(s), user(s), network element(s), function(s), network entity(ies) providing services/applications, or other entities (e.g., physical or logical objects). Identifiers can be used for registration or authorization. They can be either public to all networks, shared between a limited number of networks or private to a specific network (private IDs are normally not disclosed to third parties).

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 fixed mobile convergence: In a given network configuration, the capabilities that provide services and application to the end user defined in [ITU-T Y.2091] regardless of the fixed or mobile access technologies being used and independent of the user's location. In the NGN environment [ITU-T Y.2011], it means to provide NGN services to end users regardless of the fixed or mobile access technologies being used.

3.2.2 fixed network: A network that provides wire-based (e.g., copper, fibre) or wireless access to its services. The fixed network may support nomadism, but does not support mobility.

3.2.3 mobile network: A network that provides wireless access to its services and supports mobility.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

2G	Second Generation
API	Application Programming Interface
AS	Application Server