

I n t e r n a t i o n a l T e l e c o m m u n i c a t i o n U n i o n

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Y.1911

(04/2010)

SERIES Y: GLOBAL INFORMATION
INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS
AND NEXT-GENERATION NETWORKS

Internet protocol aspects – IPTV over NGN

IPTV services and nomadism: Scenarios and functional architecture for unicast delivery

Recommendation ITU-T Y.1911

ITU-T Y-SERIES RECOMMENDATIONS

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GENERATION NETWORKS**

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

Recommendation ITU-T Y.1911

IPTV services and nomadism: Scenarios and functional architecture for unicast delivery

Summary

Recommendation ITU-T Y.1911 describes scenarios and functional architecture aspects related to the support of IPTV services in conjunction with nomadism.

Recommendation ITU-T Y.1911 addresses IPTV services supported via the use of unicast delivery.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T Y.1911	2010-04-30	13

Keywords

IPTV, nomadism, roaming, unicast delivery.

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.

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Document ID: 123456789

Recommendation ITU-T Y.1911

IPTV services and nomadism: Scenarios and functional architecture for unicast delivery

1 Scope

This Recommendation describes:

- Scenarios for the support of IPTV services to nomadic end users taking into account the requirements identified in [ITU-T Y.1901] and the functional architecture defined in [ITU-T Y.1910]. These scenarios are established based upon assumptions which are provided in this Recommendation;
- Functional architectures, reference points and information flows based on the scenarios identified in this Recommendation.

Scope of this Recommendation is limited to the IPTV services provided through unicast delivery. The IPTV services provided through multicast delivery are out of scope of this Recommendation.

The use of this Recommendation requires contractual agreements among involved parties, e.g., end user, service provider, network provider and content provider, whose description is beyond the scope of this Recommendation.

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 H.235.0] Recommendation ITU-T H.235.0 (2005), *H.323 security: Framework for security in H-series (H.323 and other H.245-based) multimedia systems*.
- [ITU-T H.324] Recommendation ITU-T H.324 (2009), *Terminal for low bit-rate multimedia communication*.
- [ITU-T H.770] Recommendation ITU-T H.770 (2009), *Mechanisms for service discovery and selection for IPTV services*.
- [ITU-T Q.9] Recommendation ITU-T Q.9 (1988), *Vocabulary of switching and signalling terms*.
- [ITU-T Q.1706] Recommendation ITU-T Q.1706/Y.2801 (2006), *Mobility management requirements for NGN*.
- [ITU-T Q.3401] Recommendation ITU-T Q.3401 (2007), *NGN NNI signalling profile (protocol Set 1)*.
- [ITU-T X.1191] Recommendation ITU-T X.1191 (2009), *Functional requirements and architecture for IPTV security aspects*.
- [ITU-T Y.1401] Recommendation ITU-T Y.1401 (2008), *Principles of interworking*.
- [ITU-T Y.1901] Recommendation ITU-T Y.1901 (2009), *Requirements for the support of IPTV services*.

- [ITU-T Y.1910] Recommendation ITU-T Y.1910 (2008), *IPTV functional architecture*.
- [ITU-T Y.2012] Recommendation ITU-T Y.2012 (2010), *Functional requirements and architecture of the next generation networks*.
- [ITU-T Y.2014] Recommendation ITU-T Y.2014 (2010), *Network attachment control functions in next generation networks*.
- [ITU-T Y.2111] Recommendation ITU-T Y.2111 (2008), *Resource and admission control functions in next generation networks*.
- [ITU-T Y.2701] Recommendation ITU-T Y.2701 (2007), *Security requirements for NGN release 1*.
- [ITU-T Y.2702] Recommendation ITU-T Y.2702 (2008), *Authentication and authorization requirements for NGN release 1*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 functional architecture [ITU-T Y.2012]: A set of functional entities and the reference points between them used to describe the structure of an NGN. These functional entities are separated by reference points, and thus, they define the distribution of functions.

3.1.2 home network [ITU-T Q.1706]: The network to which a mobile user is normally connected, or the service provider with which the mobile user is associated, and where the user's subscription information is managed.

3.1.3 interworking [ITU-T Y.1401]: The term "interworking" is used to express interactions between networks, between end systems, or between parts thereof, with the aim of providing a functional entity capable of supporting an end-to-end communication.

3.1.4 media [ITU-T H.324]: One or more of audio, video or data.

3.1.5 media stream [ITU-T H.235.0]: A media stream can consist of audio, video, or data, or a combination of any of them. Media stream data conveys user or application data (i.e., a payload) but no control data.

3.1.6 nomadism [ITU-T Q.1706]: The ability of the user to change their network access point. When changing the network access point, the user's service session is completely stopped and then started again, i.e., there is no service continuity or hand-over used. It is assumed that normal usage pattern is that users shut down their service session before attaching to a different access point.

3.1.7 personal mobility [ITU-T Q.1706]: This is the mobility for those scenarios where the user changes the terminal used for network access at different locations. The ability of a user to access telecommunication services at any terminal on the basis of a personal identifier, and the capability of the network to provide those services delineated in the user's service profile.

3.1.8 reference point [ITU-T Y.2012]: A conceptual point at the conjunction of two non-overlapping functional entities that can be used to identify the type of information passing between these functional entities.

3.1.9 roaming [ITU-T Q.1706]: This is the ability of users to access services according to their user profile while outside of their subscribed home network, i.e., by using an access point of a visited network.

NOTE – This requires the capability for access to the visited network, the existence of an interface between home network and visited network, as well as a roaming agreement between the respective network operators.