



IEC 62766-1

Edition 1.0 2017-05

# INTERNATIONAL STANDARD



---

**Consumer terminal function for access to IPTV and open internet multimedia services –  
Part 1: General**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

---

ICS 33.160.99; 35.110; 35.2440.95

ISBN 978-2-8322-4208-7

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	8
2 Normative references .....	8
3 Terms, definitions and abbreviated terms .....	9
3.1 Terms and definitions.....	9
3.2 Abbreviated terms.....	12
4 OIPF terminal function and network interfaces overview .....	16
4.1 General.....	16
4.2 Media formats .....	18
4.3 Adaptive streaming .....	19
4.4 Content metadata .....	19
4.5 Protocols .....	20
4.6 Declarative application environment.....	22
4.7 Procedural application environment .....	23
4.8 Authentication, content protection and service protection.....	23
4.9 Profiles .....	24
Annex A (informative) XML schemas.....	26
A.1 Imports .....	26
A.2 Includes .....	27
A.3 Redefines .....	27
A.3.1 General .....	27
A.3.2 ce-html-profiles-1-0.xsd .....	28
A.4 Schemas.....	28
A.5 Classification schemes .....	29
A.6 Examples.....	29
Annex B (informative) High-level architecture .....	30
B.1 Reference points identification .....	30
B.2 Reference points description.....	30
B.3 Residential network high-level architectural overview.....	32
B.3.1 Architecture .....	32
B.3.2 Functional entities .....	33
B.4 Residential network functional entities .....	34
B.4.1 General .....	34
B.4.2 Open IPTV terminal functional entity (OITF) .....	35
B.4.3 OITF and IG .....	38
B.4.4 OITF, IG, AG and CSPG.....	40
Bibliography.....	43
Figure 1 – Open IPTV Forum scope.....	6
Figure 2 – IPTV solution scope .....	17
Figure 3 – Residential network, functional entities, UNI and HNI reference points.....	21
Figure B.1 – Mapping functional entities to UNI reference points .....	30
Figure B.2 – Residential network architecture .....	32

Figure B.3 – OITF functions and exposed interfaces ..... 35

Figure B.4 – OITF and IG..... 38

Figure B.5 – All HN functional entities ..... 40

Table 1 – UNI reference point descriptions and protocols ..... 22

Table A.1 – Imported XML schema files ..... 26

Table A.2 – Imported classification schemes..... 27

Table A.3 – OIPF XML schema include files..... 27

Table A.4 – OIPF XML schemas ..... 28

Table A.5 – OIPF XML examples ..... 29

Table A.6 – OIPF XML examples ..... 29

Table B.1 – UNI reference points ..... 31

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONSUMER TERMINAL FUNCTION FOR ACCESS  
TO IPTV AND OPEN INTERNET MULTIMEDIA SERVICES –**

**Part 1: General**

**FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

A Category D liaison was set up between TC100 and the OPEN IPTV FORUM in 2011. The OPEN IPTV FORUM was merged with the Hybrid Broadcast Broadband Television (HbbTV) Association in 2014.

International Standard IEC 62766-1 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this International Standard is based on the following documents:

CDV	Report on voting
100/2484/CDV	100/2656/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62766 series, published under the general title *Consumer terminal function for access to IPTV and open internet multimedia services*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

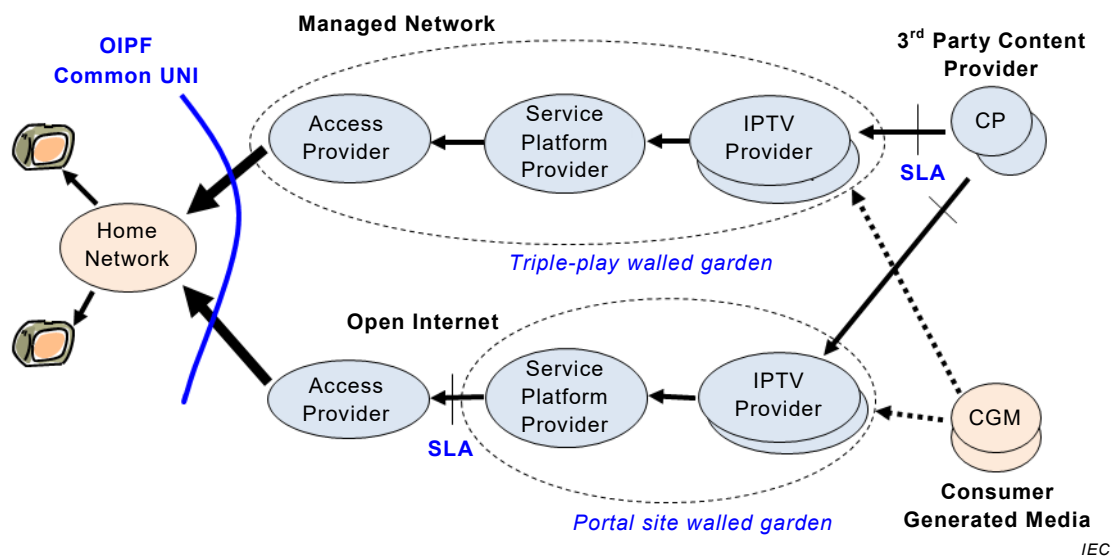
## INTRODUCTION

The IEC 62766 series is based on a series of specifications that was originally developed by the Open IPTV Forum (OIPF). They specify the user-to-network interface (UNI) for consumer terminals to access IPTV and open internet multimedia services over managed or non-managed networks as defined by OIPF.

The Open IPTV Forum (OIPF) IPTV solution provides specifications for an end-to-end platform for the deployment of IPTV services. Figure 1 shows a high-level logical view of the scope of the OIPF IPTV solution.

The Open IPTV Forum has developed an end-to-end solution to allow any consumer end-device, compliant to the Open IPTV Forum specifications, to access enriched and personalised IPTV services either in a managed or a non-managed network.

To that end, the Open IPTV Forum focuses on standardising the user-to-network interface (UNI) both for a managed and a non-managed network, as depicted in Figure 1.



**Figure 1 – Open IPTV Forum scope**

Throughout the specifications, the terms “open Internet” and “unmanaged network” are used interchangeably to refer to the ability to access any service provider using any access network provider without any quality of service guarantees.

Managed network IPTV services are provided with QoS guarantees, for example within a triple-play walled garden.

Open Internet IPTV services are accessed via the Internet, without QoS guarantees, for example via a portal.

In both cases, IPTV services are accessed via a service platform that provides supporting facilities for multiple service providers.

Third-party content providers supply media assets that are delivered within the IPTV services.

The Open IPTV Forum (OIPF) specification for consumer terminal function and network interfaces for access to IPTV and open Internet multimedia services consist of the following multiple parts:

- Part 1: General (this document)
- Part 2-1: Media formats
- Part 2-2: HTTP adaptive streaming
- Part 3: Content metadata
- Part 4-1: Protocols
- Part 4-2: Examples of IPTV protocol sequences
- Part 5-1: Declarative application environment
- Part 5-2: Web standards TV profile
- Part 6: Procedural application environment
- Part 7: Authentication, content protection and service protection
- Part 8: Profiles

This document (Part 1) defines general common elements and specifies the document structure, the scopes of, and relationships between the other parts, which deal with specific aspects of the OIPF consumer terminal function and network interfaces.

# CONSUMER TERMINAL FUNCTION FOR ACCESS TO IPTV AND OPEN INTERNET MULTIMEDIA SERVICES –

## Part 1: General

### 1 Scope

This part of IEC 62766 defines general common elements and specifies the structure of the IEC 62766 series, the scopes of, and relationships between the other parts.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62766-2-1, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 2-1: Media formats*

IEC 62766-2-2, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 2-2: HTTP adaptive streaming*

IEC 62766-3, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 3: Content metadata*

IEC 62766-4-1, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 4-1: Protocols*

IEC 62766-4-2, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 4-2: Examples of IPTV protocol sequences*

IEC 62766-5-1, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 5-1: Declarative application environment*

IEC 62766-5-2, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 5-2: Web standards TV profile*

IEC 62766-6, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 6: Procedural application environment*

IEC 62766-7, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 7: Authentication, content protection and service protection*

IEC 62766-8, *Consumer terminal function for access to IPTV and open internet multimedia services – Part 8: Profiles*