

INTERNATIONAL STANDARD

Consumer terminal function for access to IPTV and open internet multimedia services –
Part 8: Profiles

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IEC 62766-8:2017

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.170 35.240.95

ISBN 978-2-8322-4623-8

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

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

Part 8: Profiles

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International Standard IEC 62766-8 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
100/2552/CDV	100/2666/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- withdrawn,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
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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.

This document specifies three profiles of the features contained in the IEC 62766 series, namely:

- the open internet profile;
- the baseline managed profile; and
- the enhanced managed profile.

The three profiles are hierarchical in the sense that the open internet profile is formed of a sub-set of the features of the baseline managed profile, and that the baseline managed profile is formed of a sub-set of the features of the enhanced managed profile.

NOTE These profile names are defined as technical terms and as such are not intended to be used for any logo mark or similar purpose.

Profiles define the minimum set of features that a terminal need to support in order to be able to claim compliance to that profile, and the maximum set of features that a service can rely on being present in the OITF. Some features are optional within a profile, and a service can use capability exchange protocols to determine if a terminal supports such features. Some features are mandatory or optional depending on the configuration of the OITF, for example whether the OITF is equipped with local storage or a broadcast tuner.

It is expected that the profiles could be used as the basis for interoperability and certification programs.

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

Part 8: Profiles

1 Scope

This part of IEC 62766 defines three example profiles that may be adopted for implementation in suitable devices.

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 62766-2-1:2016, *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 62766-3:2016, *Consumer terminal function for access to IPTV and open Internet multimedia services - Part 3: Content Metadata*

IEC 62766-4-1:2017, *Consumer terminal function for access to IPTV and open Internet multimedia services - Part 4-1: Protocols*

IEC 62766-5-1:2017, *Consumer terminal function for access to IPTV and open Internet multimedia services - Part 5-1: Declarative Application Environment*

IEC 62766-7:2017, *Consumer terminal function for access to IPTV and open Internet multimedia services - Part 7: Authentication, Content Protection and Service Protection*

ETSI, TS 102 034 V1.5.1, *Digital Video Broadcasting (DVB); Transport of MPEG-2 Based DVB Services over IP Based Networks*

ETSI, TS 102 809, V1.2.1, *Digital Video Broadcasting (DVB); Signalling and carriage of interactive applications and services in hybrid broadcast/broadband environments*

ETSI, TS 102 539 V1.3.1, *Digital Video Broadcasting (DVB); Carriage of Broadband Content Guide (BCG) information over Internet Protocol (IP)*

3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 Terms and definitions

3.1.1

unmanaged network open internet

ability to access any service provider using any access network provider without any quality of service guarantees.

3.2 Abbreviated terms

For the purposes of this document, the terms and definitions given in IEC 62766-1, as well as the following apply.

BMP	Baseline Managed Profile
EMP	Enhanced Managed Profile
OIP	Open Internet Profile

4 Release 2 IPTV solution profiles

A profile in the context of the present part is a set of features and elements, as specified in the other parts of the IEC 62766 series, which could be used by an interoperability and certification program to define equipment or services as being compliant with this document.

The overall objective is to enable the best possible capability and flexibility for service providers to deploy services to terminals that are available in the horizontal (i.e., non-subsidised) market in the near-term time frame. In selecting a set of features and elements that constitute a profile, a balance is made between the following factors:

- time to market of the compliant OITF within a non-subsidised, horizontal-market device;
- viability of implementation of the selected technologies;
- flexibility in the provision of the envisaged IPTV services;
- enabling a wide range of services to be accessible to the user.

Three profiles are specified in the present document.

- The Open Internet Profile (OIP): this profile is intended for "over-the-top" services that do not use any QoS provision or terminal management features.
- The Baseline Managed Profile (BMP): this profile adds support for multicast and unicast content streaming services, including all associated features that facilitate QoS provision for content delivery in a managed network, compared to the OIP.
- The Enhanced Managed Profile (EMP): this profile adds native support for advanced managed-network features like IMS, Broadband Content Guide and TR-069 based remote management, compared to the BMP.

Clauses 5, 6 and 7 provide normative descriptions of the OIP, BMP and EMP respectively.

Clause 8 provides a normative specification of the set of features of each profile in tabular form, with cross-references to the relevant clauses of the other parts of IEC 62766.

It is believed that Clauses 5, 6 and 7 are consistent with Clause 8, but in the case of an inadvertent discrepancy, the normative requirements in Clause 8 shall take precedence.

5 Open internet profile

5.1 General

An OITF that is compliant with the OIP is referred to as an OIP-OITF.

Open internet IPTV services are accessed via the internet, without QoS guarantees. They may be accessed via a service platform (e.g., a portal).

The OIP-OITF enables access to compliant services that do not provide QoS guarantees over at least one network segment between the IPTV service provider and the OITF, independently from their ISP – i.e. “over the top” (OTT) mode.

The OIP is a sub-set of the BMP and of the EMP in terms of the features included.

Subclauses 5.2 to 5.9 summarise the features of the OIP.

5.2 IPTV Services

The OIP-OITF shall support the scheduled content service, using the HTTP transport method. Support of the multicast and unicast streamed via RTSP/RTP variants is optional.

The OIP-OITF shall support the streamed CoD service, using the HTTP transport method. Support of the streamed CoD service via RTSP/RTP is optional.

The OIP-OITF shall support information services, which are realised as DAE applications.

Support for the download CoD and local PVR services in the OIP-OITF is optional and depends on the provision of persistent storage in the OITF.

Support for the hybrid broadcast broadband service in the OIP-OITF is optional and depends on the provision of at least one broadcast tuner in the OITF.

5.3 Residential network

5.3.1 WAN gateway

If an OIPF-compliant WAN gateway is present, then it may fulfill the relevant network attachment functions as specified in 13.2 of IEC 62766-4-1:2017 in order to provide additional service provider discovery entry points as described in 5.4.

5.3.2 IMS gateway

The IMS gateway (IG) functional entity is not necessary for access to services not relying on IMS using an OIP-OITF. However, if an IG is present, an OIP-OITF may use it to access some IMS-based managed network services.

5.3.3 Application gateway

The AG functional entity, as is generally valid, is optional in the OIP.

5.3.4 OITF

The required features for the OIP-OITF are described in 5.4 to 5.9, which deal with specific aspects of the overall IPTV solution.

Clause 8 provides details about the IPTV solution features that shall be supported by the OIP-OITF.

5.4 Service provider discovery entry points

The present document defines three methods for the provision of service provider discovery entry points to the OITF. The availability of these various methods enables the user to access various service providers' IPTV services in a convenient manner, namely entry points that are pre-configured in the OITF, manually entered or acquired entry points, and entry points provided by the access network service provider.

The WAN gateway may provide service provider discovery entry points via DHCP, as specified in 13.2.2 of IEC 62766-4-1:2017.

The OIP-OITF may provide pre-configured service provider discovery entry points.

The OIP-OITF may provide means by which the user is able to enter his own chosen service provider discovery entry points via the OITF user interface.

The OIP-OITF shall offer the complete set of service provider discovery entry points acquired by all of the three above methods, if any are provided, but the method of presentation and relative positioning of the various service provider discovery entry points in the user interface is out of the scope of the present document.

5.5 Service discovery and content metadata

If the OIP-OITF provides persistent storage and supports the download CoD service, then it shall support the provision of content metadata via the content access descriptor for that service, otherwise all service discovery data and content metadata shall be embedded within the DAE application CE-HTML pages.

5.6 Authentication methods IEC 62766-8:2017

The OIP-OITF shall support the following authentication methods specified in the indicated subclauses of IEC 62766-7:2017:

- HTTP basic and digest authentication (IEC 62766-7:2017, 5.4.1), and
- web-based authentication (IEC 62766-7:2017, 5.4.3).

5.7 Content and service protection

The OIP-OITF shall support at least one of the CSP solutions specified in IEC 62766-7, i.e. it shall support the TCA and/or CSPG-DTCP and/or CSPG-CI+, in order to support compliant services that deliver protected content.

5.8 SVG tiny V1.2

The use of SVG tiny 1.2 enables advanced graphics capabilities within a DAE application, but it is expected that not all terminals will be able to support SVG tiny 1.2; hence, the support of SVG tiny 1.2 in the OIP-OITF is optional.

A DAE application may use SVG tiny 1.2 as specified in IEC 62766-5, but it is recommended that service providers ensure that an OITF that does not support SVG tiny 1.2 is nevertheless able to offer the full functionality of the service to the user, except for the enhanced user interface.

5.9 Remote management

The remote management feature for the OIP facilitates the function of basic inventory of OITFs that are accessing services, without the presence of a remote management server that provisions the OITF.