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The list of all currently available parts of the ISO/IEC 29341 series, under the general title *Universal plug and play (UPnP) architecture*, can be found on the IEC web site.

This International Standard has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

ORIGINAL UPNP DOCUMENTS
(informative)

Reference may be made in this document to original UPnP documents. These references are retained in order to maintain consistency between the specifications as published by ISO/IEC and by UPnP Implementers Corporation. The following table indicates the original UPnP document titles and the corresponding part of ISO/IEC 29341:

UPnP Document Title	**ISO/IEC 29341 Part**
UPnP Device Architecture 1.0	ISO/IEC 29341-1
UPnP Basic:1 Device	ISO/IEC 29341-2
UPnP AV Architecture:1	ISO/IEC 29341-3-1
UPnP MediaRenderer:1 Device	ISO/IEC 29341-3-2
UPnP MediaServer:1 Device	ISO/IEC 29341-3-3
UPnP AVTransport:1 Service	ISO/IEC 29341-3-10
UPnP ConnectionManager:1 Service	ISO/IEC 29341-3-11
UPnP ContentDirectory:1 Service	ISO/IEC 29341-3-12
UPnP RenderingControl:1 Service	ISO/IEC 29341-3-13
UPnP MediaRenderer:2 Device	ISO/IEC 29341-4-2
UPnP MediaServer:2 Device	ISO/IEC 29341-4-3
UPnP AV Datastructure Template:1	ISO/IEC 29341-4-4
UPnP AVTransport:2 Service	ISO/IEC 29341-4-10
UPnP ConnectionManager:2 Service	ISO/IEC 29341-4-11
UPnP ContentDirectory:2 Service	ISO/IEC 29341-4-12
UPnP RenderingControl:2 Service	ISO/IEC 29341-4-13
UPnP ScheduledRecording:1	ISO/IEC 29341-4-14
UPnP DigitalSecurityCamera:1 Device	ISO/IEC 29341-5-1
UPnP DigitalSecurityCameraMotionImage:1 Service	ISO/IEC 29341-5-10
UPnP DigitalSecurityCameraSettings:1 Service	ISO/IEC 29341-5-11
UPnP DigitalSecurityCameraStillImage:1 Service	ISO/IEC 29341-5-12
UPnP HVAC_System:1 Device	ISO/IEC 29341-6-1
UPnP HVAC_ZoneThermostat:1 Device	ISO/IEC 29341-6-2
UPnP ControlValve:1 Service	ISO/IEC 29341-6-10
UPnP HVAC_FanOperatingMode:1 Service	ISO/IEC 29341-6-11
UPnP FanSpeed:1 Service	ISO/IEC 29341-6-12
UPnP HouseStatus:1 Service	ISO/IEC 29341-6-13
UPnP HVAC_SetpointSchedule:1 Service	ISO/IEC 29341-6-14
UPnP TemperatureSensor:1 Service	ISO/IEC 29341-6-15
UPnP TemperatureSetpoint:1 Service	ISO/IEC 29341-6-16
UPnP HVAC_UserOperatingMode:1 Service	ISO/IEC 29341-6-17
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UPnP DimmableLight:1 Device	ISO/IEC 29341-7-2
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UPnP SwitchPower:1 Service	ISO/IEC 29341-7-11
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UPnP LANDevice:1 Device	ISO/IEC 29341-8-2
UPnP WANDevice:1 Device	ISO/IEC 29341-8-3
UPnP WANConnectionDevice:1 Device	ISO/IEC 29341-8-4
UPnP WLANAccessPointDevice:1 Device	ISO/IEC 29341-8-5
UPnP LANHostConfigManagement:1 Service	ISO/IEC 29341-8-10
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UPnP QosPolicyHolder:1 Service	ISO/IEC 29341-10-12
UPnP QoS Architecture:2	ISO/IEC 29341-11-1
UPnP QOS v2 Schema Files	ISO/IEC 29341-11-2

UPnP Document Title	ISO/IEC 29341 Part
UPnP QosDevice:2 Service	ISO/IEC 29341-11-10
UPnP QosManager:2 Service	ISO/IEC 29341-11-11
UPnP QosPolicyHolder:2 Service	ISO/IEC 29341-11-12
UPnP RemoteUIClientDevice:1 Device	ISO/IEC 29341-12-1
UPnP RemoteUIServerDevice:1 Device	ISO/IEC 29341-12-2
UPnP RemoteUIClient:1 Service	ISO/IEC 29341-12-10
UPnP RemoteUIServer:1 Service	ISO/IEC 29341-12-11
UPnP DeviceSecurity:1 Service	ISO/IEC 29341-13-10
UPnP SecurityConsole:1 Service	ISO/IEC 29341-13-11

1. Overview and Scope

This service template is compliant with the UPnP Device Architecture version 1.0. It defines a service type referred to herein as Content Directory Service (CDS).

1.1. Introduction

Many devices within the home network contain various types of content that other devices would like to access (e.g. music, videos, still images, etc). As an example, a "Media Server" device might contain a significant portion of the homeowner's audio, video, and still-image library. In order for the homeowner to enjoy this content, the homeowner must be able to browse the objects stored on the Media Server, select a specific one, and cause it to be "played" on an appropriate rendering device (e.g. an audio player for music objects, a TV for video content, an Electronic Picture Frame for still-images, etc).

For maximum convenience, it is highly desirable to allow the homeowner to initiate these operations from a variety of UI devices. In most cases, these UI devices will either be a UI built into the rendering device, or it will be a stand-alone UI device such as a wireless PDA or tablet. In any case, it is unlikely that the homeowner will interact directly with the device containing the content (i.e. the homeowner won't have to walk over to the server device). In order to enable this capability, the service device needs to provide a uniform mechanism for UI devices to browse the content on the server and to obtain detailed information about individual content objects. This is the purpose of the Content Directory Service

The Content Directory Service additionally provides a lookup/storage service that allows clients (e.g. UI devices) to locate (and possibly store) individual objects (e.g. songs, movies, pictures, etc) that the (server) device is capable of providing. For example, this service can be used to enumerate a list of songs stored on an MP3 player, a list of still-images comprising various slide-shows, a list of movies stored in a DVD-Jukebox, a list of TV shows currently being broadcast (a.k.a an EPG), a list of songs stored in a CD-Jukebox, a list of programs stored on a PVR (Personal Video Recorder) device, etc. Nearly any type of content can be enumerated via this Content Directory service. For those devices that contain multiple types of content (e.g. MP3, MPEG2, JPEG, etc), a single instance of the Content Directory Service can be used to enumerate all objects, regardless of their type.

2. Service Modeling Definitions

2.1. Service Type

The following service type identifies a service that is compliant with this template:

urn:**schemas-upnp-org**:**service**:ContentDirectory:1

Content Directory Service (CDS) is used herein to refer to this service type.

2.2. References

This section lists the normative references used in this document and includes the tag inside square brackets that is used for each such reference:

[DEVICE] - UPnP Device Architecture, version 1.0.

[XML] - "Extensible Markup Language (XML) 1.0 (Second Edition)", T. Bray, J. Paoli, C. M. Sperberg-McQueen, E. Maler, eds. W3C Recommendation, 6 October 2000. Available at: http://www.w3.org/TR/2000/REC-xml-20001006.

[EBNF] ISO/IEC 14977, *Information technology - Syntactic metalanguage - Extended BNF*, December 1996.

[DIDL] ISO/IEC CD 21000-2:2001**,** *Information Technology - Multimedia Framework - Part 2: Digital Item Declaration,* July 2001.

[RFC 2396] Tim Berners-Lee, et. al. *RFC 2396: Uniform Resource Identifiers (URI): Generic Syntax.*. 1998. Available at: http://www.ietf.org/rfc/rfc2396.txt