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**Information technology — UPnP  
Device Architecture —**

**Part 26-13:  
Telephony device control protocol —  
Level 2 — Phone management service**

*Technologies de l'information — Architecture de dispositif UPnP —*

*Partie 26-13: Protocole de contrôle de dispositif de téléphonie —  
Niveau 2 — Service de gestion du téléphone*



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## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see <http://www.iso.org/directives>).

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For an explanation on the voluntary nature of Standard, the meaning of the ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword – Supplementary information](#)

ISO/IEC 29341-26-13 was prepared by UPnP Forum and adopted, under the PAS procedure, by joint technical committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by national bodies of ISO and IEC.

The list of all currently available parts of ISO/IEC 29341 series, under the general title *Information technology — UPnP Device Architecture*, can be found on the [ISO web site](#).

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5 956 487 / US; 6 170 007 / US; 6 139 177 / US; 6 529 936 / US; 6 470 339 / US; 6 571 388 / US; 6 205 466 / US

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**Original UPnP Document**

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 and later by UPnP Forum. The following table indicates the original UPnP document titles and the corresponding part of ISO/IEC 29341:

| <b>UPnP Document Title</b>                      | <b>ISO/IEC 29341 Part</b> |
|-------------------------------------------------|---------------------------|
| UPnP Device Architecture 1.0                    | ISO/IEC 29341-1:2008      |
| UPnP Device Architecture Version 1.0            | ISO/IEC 29341-1:2011      |
| UPnP Device Architecture 1.1                    | ISO/IEC 29341-1-1:2011    |
| UPnP Device Architecture 2.0                    | ISO/IEC 29341-1-2         |
| UPnP Basic:1 Device                             | ISO/IEC 29341-2           |
| UPnP AV Architecture:1                          | ISO/IEC 29341-3-1:2008    |
| UPnP AV Architecture:1                          | ISO/IEC 29341-3-1:2011    |
| 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:1 Device                     | ISO/IEC 29341-3-2         |
| UPnP MediaRenderer:2 Device                     | ISO/IEC 29341-3-2:2011    |
| UPnP MediaServer:1 Device                       | ISO/IEC 29341-3-3         |
| UPnP AVTransport:2 Service                      | ISO/IEC 29341-4-10:2008   |
| UPnP AVTransport:2 Service                      | ISO/IEC 29341-4-10:2011   |
| UPnP ConnectionManager:2 Service                | ISO/IEC 29341-4-11:2008   |
| UPnP ConnectionManager:2 Service                | ISO/IEC 29341-4-11:2011   |
| UPnP ContentDirectory:2 Service                 | ISO/IEC 29341-4-12        |
| UPnP RenderingControl:2 Service                 | ISO/IEC 29341-4-13:2008   |
| UPnP RenderingControl:2 Service                 | ISO/IEC 29341-4-13:2011   |
| UPnP ScheduledRecording:1                       | ISO/IEC 29341-4-14        |
| UPnP ScheduledRecording:2                       | ISO/IEC 29341-4-14:2011   |
| 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 29341-4-4:2008    |
| UPnP AV Datastructure Template:1                | ISO/IEC 29341-4-4:2011    |
| 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 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        |

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|                                         |                          |
|-----------------------------------------|--------------------------|
| UPnP HVAC_UserOperatingMode:1 Service   | ISO/IEC 29341-6-17       |
| UPnP HVAC_ZoneThermostat:1 Device       | ISO/IEC 29341-6-2        |
| UPnP BinaryLight:1 Device               | ISO/IEC 29341-7-1        |
| UPnP Dimming:1 Service                  | ISO/IEC 29341-7-10       |
| UPnP SwitchPower:1 Service              | ISO/IEC 29341-7-11       |
| UPnP DimmableLight:1 Device             | ISO/IEC 29341-7-2        |
| UPnP InternetGatewayDevice:1 Device     | ISO/IEC 29341-8-1        |
| UPnP LANHostConfigManagement:1 Service  | ISO/IEC 29341-8-10       |
| UPnP Layer3Forwarding:1 Service         | ISO/IEC 29341-8-11       |
| UPnP LinkAuthentication:1 Service       | ISO/IEC 29341-8-12       |
| UPnP RadiusClient:1 Service             | ISO/IEC 29341-8-13       |
| UPnP WANCableLinkConfig:1 Service       | ISO/IEC 29341-8-14       |
| UPnP WANCommonInterfaceConfig:1 Service | ISO/IEC 29341-8-15       |
| UPnP WANDSLLinkConfig:1 Service         | ISO/IEC 29341-8-16       |
| UPnP WANEthernetLinkConfig:1 Service    | ISO/IEC 29341-8-17       |
| UPnP WANIPConnection:1 Service          | ISO/IEC 29341-8-18       |
| UPnP WANPOTSLinkConfig:1 Service        | ISO/IEC 29341-8-19       |
| UPnP LANDevice:1 Device                 | ISO/IEC 29341-8-2        |
| UPnP WANPPPConnection:1 Service         | ISO/IEC 29341-8-20       |
| UPnP WLANConfiguration:1 Service        | ISO/IEC 29341-8-21       |
| 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 Printer:1 Device                   | ISO/IEC 29341-9-1        |
| UPnP ExternalActivity:1 Service         | ISO/IEC 29341-9-10       |
| UPnP Feeder:1.0 Service                 | ISO/IEC 29341-9-11       |
| UPnP PrintBasic:1 Service               | ISO/IEC 29341-9-12       |
| UPnP Scan:1 Service                     | ISO/IEC 29341-9-13       |
| UPnP Scanner:1.0 Device                 | ISO/IEC 29341-9-2        |
| UPnP QoS Architecture:1.0               | ISO/IEC 29341-10-1       |
| UPnP QosDevice:1 Service                | ISO/IEC 29341-10-10      |
| UPnP QosManager:1 Service               | ISO/IEC 29341-10-11      |
| UPnP QosPolicyHolder:1 Service          | ISO/IEC 29341-10-12      |
| UPnP QoS Architecture:2                 | ISO/IEC 29341-11-1       |
| 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 QOS v2 Schema Files                | ISO/IEC 29341-11-2       |
| UPnP RemoteUIClientDevice:1 Device      | ISO/IEC 29341-12-1       |
| UPnP RemoteUIClient:1 Service           | ISO/IEC 29341-12-10      |
| UPnP RemoteUIServer:1 Service           | ISO/IEC 29341-12-11      |
| UPnP RemoteUIServerDevice:1 Device      | ISO/IEC 29341-12-2       |
| UPnP DeviceSecurity:1 Service           | ISO/IEC 29341-13-10      |
| UPnP SecurityConsole:1 Service          | ISO/IEC 29341-13-11      |
| UPnP ContentDirectory:3 Service         | ISO/IEC 29341-14-12:2011 |
| UPnP MediaServer:3 Device               | ISO/IEC 29341-14-3:2011  |

|                                                   |                          |
|---------------------------------------------------|--------------------------|
| UPnP ContentSync:1                                | ISO/IEC 29341-15-10:2011 |
| UPnP Low Power Architecture:1                     | ISO/IEC 29341-16-1:2011  |
| UPnP LowPowerProxy:1 Service                      | ISO/IEC 29341-16-10:2011 |
| UPnP LowPowerDevice:1 Service                     | ISO/IEC 29341-16-11:2011 |
| UPnP QoS Architecture:3                           | ISO/IEC 29341-17-1:2011  |
| UPnP QoSDevice:3 Service                          | ISO/IEC 29341-17-10:2011 |
| UPnP QoSManager:3 Service                         | ISO/IEC 29341-17-11:2011 |
| UPnP QoSPolicyHolder:3 Service                    | ISO/IEC 29341-17-12:2011 |
| UPnP QoSDevice:3 Addendum                         | ISO/IEC 29341-17-13:2011 |
| UPnP RemoteAccessArchitecture:1                   | ISO/IEC 29341-18-1:2011  |
| UPnP InboundConnectionConfig:1 Service            | ISO/IEC 29341-18-10:2011 |
| UPnP RADAConfig:1 Service                         | ISO/IEC 29341-18-11:2011 |
| UPnP RADASync:1 Service                           | ISO/IEC 29341-18-12:2011 |
| UPnP RATAConfig:1 Service                         | ISO/IEC 29341-18-13:2011 |
| UPnP RAClient:1 Device                            | ISO/IEC 29341-18-2:2011  |
| UPnP RAServer:1 Device                            | ISO/IEC 29341-18-3:2011  |
| UPnP RADiscoveryAgent:1 Device                    | ISO/IEC 29341-18-4:2011  |
| UPnP SolarProtectionBlind:1 Device                | ISO/IEC 29341-19-1:2011  |
| UPnP TwoWayMotionMotor:1 Service                  | ISO/IEC 29341-19-10:2011 |
| UPnP AV Architecture:2                            | ISO/IEC 29341-20-1       |
| UPnP AVTransport:3 Service                        | ISO/IEC 29341-20-10      |
| UPnP ConnectionManager:3 Service                  | ISO/IEC 29341-20-11      |
| UPnP ContentDirectory:4 Device                    | ISO/IEC 29341-20-12      |
| UPnP RenderingControl:3 Service                   | ISO/IEC 29341-20-13      |
| UPnP ScheduledRecording:2 Service                 | ISO/IEC 29341-20-14      |
| UPnP MediaRenderer:3 Service                      | ISO/IEC 29341-20-2       |
| UPnP MediaServer:4 Device                         | ISO/IEC 29341-20-3       |
| UPnP AV Datastructure Template:1                  | ISO/IEC 29341-20-4       |
| UPnP InternetGatewayDevice:2 Device               | ISO/IEC 29341-24-1       |
| UPnP WANIPConnection:2 Service                    | ISO/IEC 29341-24-10      |
| UPnP WANIPv6FirewallControl:1 Service             | ISO/IEC 29341-24-11      |
| UPnP WANConnectionDevice:2 Service                | ISO/IEC 29341-24-2       |
| UPnP WANDevice:2 Device                           | ISO/IEC 29341-24-3       |
| UPnP Telephony Architecture:2                     | ISO/IEC 29341-26-1       |
| UPnP CallManagement:2 Service                     | ISO/IEC 29341-26-10      |
| UPnP MediaManagement:2 Service                    | ISO/IEC 29341-26-11      |
| UPnP Messaging:2 Service                          | ISO/IEC 29341-26-12      |
| UPnP PhoneManagement:2 Service                    | ISO/IEC 29341-26-13      |
| UPnP AddressBook:1 Service                        | ISO/IEC 29341-26-14      |
| UPnP Calendar:1 Service                           | ISO/IEC 29341-26-15      |
| UPnP Presense:1 Service                           | ISO/IEC 29341-26-16      |
| UPnP TelephonyClient:2 Device                     | ISO/IEC 29341-26-2       |
| UPnP TelephonyServer:2 Device                     | ISO/IEC 29341-26-3       |
| UPnP Friendly Info Update:1 Service               | ISO/IEC 29341-27-1       |
| UPnP MultiScreen MultiScreen Architecture:1       | ISO/IEC 29341-28-1       |
| UPnP MultiScreen Application Management:1 Service | ISO/IEC 29341-28-10      |

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|                                                             |                     |
|-------------------------------------------------------------|---------------------|
| UPnP MultiScreen Screen:1 Device                            | ISO/IEC 29341-28-2  |
| UPnP MultiScreen Application Management:2 Service           | ISO/IEC 29341-29-10 |
| UPnP MultiScreen Screen:2 Device                            | ISO/IEC 29341-29-2  |
| UPnP IoT Management and Control Architecture Overview:1     | ISO/IEC 29341-30-1  |
| UPnP DataStore:1 Service                                    | ISO/IEC 29341-30-10 |
| UPnP IoT Management and Control Data Model:1 Service        | ISO/IEC 29341-30-11 |
| UPnP IoT Management and Control Transport Generic:1 Service | ISO/IEC 29341-30-12 |
| UPnP IoT Management and Control:1 Device                    | ISO/IEC 29341-30-2  |
| UPnP Energy Management:1 Service                            | ISO/IEC 29341-31-1  |

## 1 Scope

This document specifies the PhoneManagement profile of the ConfigurationManagement Service defined in [7].

The PhoneManagement profile can be used for managing the configuration of the UPnP TelephonyServer device (i.e. a telephone), with tasks such as managing an address book, configuring the settings of the phone, configuring the ringing modes, checking the battery level of the phone. This profile is compliant with the UPnP Telephony Architecture defined in [9].

PhoneManagement defines

- A profile of the CMS in order to satisfy the requirements for PhoneManagement (see clause 5).
- The *Phone Data Model* to perform configuration management of the specific features of a phone (see Annex A) by reusing the CMS data model (see [7], Annex B).

The ConfigurationManagement service offers a general purpose data model and a set of configuration management operations for retrieving and managing the actual configuration parameters of a device. These features are completely reused from CMS in the PhoneManagement.

The ConfigurationManagement service defines the functions for manipulating the configuration and status parameters that are exposed by the device hosting the ConfigurationManagement service. These actions and state variables defined in the ConfigurationManagement service are reused in order to manage the configuration parameters of a TelephonyServer device for e.g. phone, defined in the data model of the PhoneManagement.

The main goal of this specification is to define the data model (called herein as *Phone Data Model*) for the TelephonyServer device like Phone, according to the rules defined by the ConfigurationManagement service for defining a new data model.

The *Phone Data Model* is organized as a hierarchical tree of parameter sets, where each set represent a feature of a TelephonyServer (e.g. address book, ringing modes etc) that can be managed by a TelCP.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[1] – UPnP Device Architecture, version 1.0, UPnP Forum, October 15, 2008. Available at: <http://www.upnp.org/specs/arch/UPnP-arch-DeviceArchitecture-v1.0-20081015.pdf>. Latest version available at: <http://www.upnp.org/specs/arch/UPnP-arch-DeviceArchitecture-v1.0.pdf>.

[2] – Data elements and interchange formats – Information interchange -- Representation of dates and times, International Standards Organization, December 21, 2000. Available at: [ISO 8601:2000](http://www.iso.org/iso/8601.html).

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[3] – IETF RFC 2119, Key words for use in RFCs to Indicate Requirement Levels, S. Bradner, 1997. Available at: <http://www.faqs.org/rfcs/rfc2119.html>.

[4] – IETF RFC 3339, Date and Time on the Internet: Timestamps, G. Klyne, Clearswift Corporation, C. Newman, Sun Microsystems, July 2002. Available at: <http://www.ietf.org/rfc/rfc3339.txt>.

[5] – Extensible Markup Language (XML) 1.0 (Third Edition), François Yergeau, Tim Bray, Jean Paoli, C. M. Sperberg-McQueen, Eve Maler, eds., W3C Recommendation, February 4, 2004. Available at: <http://www.w3.org/TR/2004/REC-xml-20040204>.

[6] – XML Schema Part 2: Data Types, Second Edition, Paul V. Biron, Ashok Malhotra, W3C Recommendation, 28 October 2004. Available at: <http://www.w3.org/TR/2004/REC-xmlschema-2-20041028>.

[7] – *ConfigurationManagement:1 Service*, UPnP Forum, July 5, 2010. Available at: <http://www.upnp.org/specs/dm/UPnP-dm-ConfigurationManagement-v1-Service.pdf>. Latest version available at: <http://www.upnp.org/specs/dm/UPnP-dm-ConfigurationManagement-Service.pdf>.

[8] – IETF RFC 2426, vCard MIME Directory Profile, F. Dawson, Lotus Development Corporation, T. Howes, Netscape Communications, September 1998. Available at: <http://www.ietf.org/rfc/rfc2426.txt>.

### 3 Terms, definitions, symbols and abbreviated terms

For the purposes of this document, the terms and definitions given in [1] and the following apply.

#### 3.1 Provisioning terms

##### 3.1.1

##### **conditionally allowed**

##### **CA**

The definition or behavior depends on a condition. If the specified condition is met, then the definition or behavior is allowed, otherwise it is not allowed.

##### 3.1.2

##### **conditionally required**

##### **CR**

The definition or behavior depends on a condition. If the specified condition is met, then the definition or behavior is required, otherwise it is not allowed.

##### 3.1.3

##### **not allowed**

The definition or behavior is prohibited by this specification. Opposite of required.

#### 3.2 Symbols

##### 3.2.1

::

signifies a hierarchical parent-child (parent::child) relationship between the two objects separated by the double colon. This delimiter is used in multiple contexts, for example: Service::Action(), Action():Argument, parentProperty::childProperty.