TelephonyClient:2 Device

For UPnP Version 1.0

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1 Scope

This document defines a device type named *TelephonyClient*, that complies with [1].

The *TelephonyClient* device is a UPnP device that allows control points to exploit a set of telephony features such as management of media session with a telephony server, messaging, presence etc via UPnP though other UPnP enabled home network devices. This device provides control points with the following functionality:

- Managing media session with a telephony server including setting up and terminating of media session with a telephony server.
- Messaging features including sending and retrieving messages and notifications of incoming messages.
- Enabling user friendly input capability.

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] – 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/.

3 Terms, definitions and abbreviated terms

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

3.1
Telephony Server
TS
a logical device that provides common telephony features (e.g. call/video call, messaging, address book) via UPnP to other devices in the home network. A TS is usually connected to a telephony service on its WAN interface, either wire line or mobile. For example, a TS may be a mobile phone or a home gateway with VoIP features.

3.2
Telephony Client
TC
a networked logical device that allows the user to enjoy the telephony features provided by the Telephony Server via UPnP. A TC may usually provide input/output features for voice and video. An example of a TC is a networked TV Set.

3.3
Telephony Control Point
TelCP
a software feature able to control the functionalities of both TS and TC. It may be embedded in a TS, a TC or also being a physical device on its own.

3.4
InputConfig Service
IS
a software feature that is able to provide user-friendly input capability via UPnP means and expose interfaces to describe capabilities of sender/receiver of devices to be used for input services and setup the input session between the devices using the matching profile (capability) from the ICP .

3.5
InputConfig Control point
ICP
a software feature that is able to control the functionalities of UPnP devices to be used to provide user-friendly input features. The control here refers to getting capabilities of UPnP dveices to be used for input, matching capabilities and selecting the appropriate dveice role such as receving side or sending side etc.

4 Notations and conventions

4.1 Text conventions

- Strings that are to be taken literally are enclosed in “double quotes”.
- Placeholder values that need to be replaced are enclosed in the curly brackets “{” and “}”.
- Words that are emphasized are printed in *italic*.
- Keywords that are defined by the UPnP Working Committee are printed using the *forum* character style.
- Keywords that are defined by the UPnP Device Architecture are printed using the **arch** character style.

4.2 Vendor-defined extensions

Whenever vendors create additional vendor-defined state variables, actions or properties, their assigned names and XML representation shall follow the naming conventions and XML rules as specified in [1], 2.5, “Description: Non-standard vendor extensions”.

5 Device Definitions

5.1 Device Type

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

urn:schemas-upnp-org:device:*TelephonyClient:2*

TelephonyClient device is used herein to refer to this device type.

5.2 *TelephonyClient* Device Architecture

This device is hosted by the Telephony Client and is active on the LAN network interface. The device can embed a number of telephony services including Media Management, Messaging, Presence, and InputConfig, etc. The details for each of these services can be found in the Telephony Architecture document.

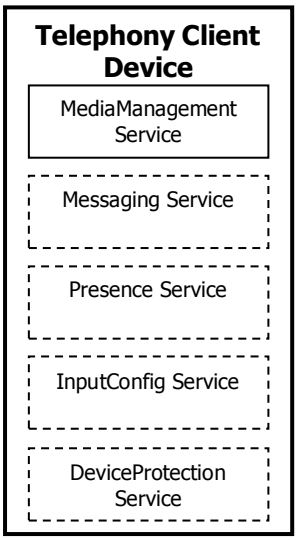

Figure 1 — TelephonyClient Device Architecture

5.3 Device Model

TelephonyClient products shall implement minimum version numbers of all required embedded devices and services specified in the table below. A TelephonyClient device can be either a Root device or can be Embedded in another UPnP device (TelephonyClient or other). A TelephonyClient device (Root or Embedded) can in turn contain other standard or non-standard Embedded UPnP devices.

Table 1 — Device Requirements

DeviceType	Root	R/A [a]	ServiceType	R/A [a]	Service ID [b]
TelephonyClient:2	Root or Embedded	R	MediaManagement:2	R	MediaManagement
			Messaging:2	A	Messaging
			InputConfig:1	A	InputConfig
			DeviceProtection:1	A	DeviceProtection1
			Presence:1	A	Presence
			Non-standard services embedded by a UPnP vendor go here.	X	*TBD*
Standard devices embedded by a UPnP vendor go here.	Embedded	A	*Services as defined by the corresponding standard UPnP Device Definition go here.*		
Non-standard devices embedded by a UPnP vendor go here.	Embedded	X	*TBD*	*TBD*	*TBD*

a R = required, A = allowed, X = Non-standard.

b Prefixed by urn:upnp-org:serviceId:

6 XML Device Description

```
<?xml version="1.0"?>
<root xmlns="urn:schemas-upnp-org:device-1-0">
   <specVersion>
      <major>1</major>
      <minor>0</minor>
   </specVersion>
   <URLBase>base URL for all relative URLs</URLBase>
   <device>
      <deviceType>
         urn:schemas-upnp-org:device:TelephonyClient:2
      </deviceType>
      <friendlyName>short user-friendly title</friendlyName>
      <manufacturer>manufacturer name</manufacturer>
      <manufacturerURL>URL to manufacturer site</manufacturerURL>
      <modelDescription>long user-friendly title</modelDescription>
      <modelName>model name</modelName>
      <modelNumber>model number</modelNumber>
      <modelURL>URL to model site</modelURL>
      <serialNumber>manufacturer's serial number</serialNumber>
      <UDN>uuid:UUID</UDN>
      <UPC>Universal Product Code</UPC>
      <iconList>
         <icon>
            <mimetype>image/format</mimetype>
            <width>horizontal pixels</width>
            <height>vertical pixels</height>
            <depth>color depth</depth>
            <url>URL to icon</url>
```

```
      </icon>
      <!-- XML to declare other icons, if any, go here -->
   </iconList>
   <serviceList>
      <service>
         <serviceType>
            urn:schemas-upnp-org:service:MediaManagement:2
         </serviceType>
         <serviceId>
            urn:upnp-org:serviceId:MediaManagement
         </serviceId>
         <SCPDURL>URL to service description</SCPDURL>
         <controlURL>URL for control</controlURL>
         <eventSubURL>URL for eventing</eventSubURL>
      </service>
      <service>
         <serviceType>
            urn:schemas-upnp-org:service:Messaging:2
         </serviceType>
         <serviceId>
            urn:upnp-org:serviceId:Messaging
         </serviceId>
         <SCPDURL>URL to service description</SCPDURL>
         <controlURL>URL for control</controlURL>
         <eventSubURL>URL for eventing</eventSubURL>
      </service>
      <service>
         <serviceType>
            urn:schemas-upnp-org:service:Presence:1
         </serviceType>
         <serviceId>
            urn:upnp-org:serviceId:Presence
         </serviceId>
         <SCPDURL>URL to service description</SCPDURL>
         <controlURL>URL for control</controlURL>
         <eventSubURL>URL for eventing</eventSubURL>
      </service>
      <service>
         <serviceType>
            urn:schemas-upnp-org:service:InputConfig:1
         </serviceType>
         <serviceId>
            urn:upnp-org:serviceId:InputConfig
         </serviceId>
         <SCPDURL>URL to service description</SCPDURL>
         <controlURL>URL for control</controlURL>
         <eventSubURL>URL for eventing</eventSubURL>
      </service>
      <service>
         <serviceType>
            urn:schemas-upnp-org:service:DeviceProtection:1
         </serviceType>
         <serviceId>
            urn:upnp-org:serviceId:DeviceProtection1
         </serviceId>
         <SCPDURL>URL to service description</SCPDURL>
         <controlURL>URL for control</controlURL>
         <eventSubURL>URL for eventing</eventSubURL>
      </service>

      <!-- Declarations for standard non-Telephony services defined by
         UPnP (if any)go here. -->


      <!-- Declarations for other services defined by UPnP vendor
         (if any)go here. -->
```

```
      </serviceList>

      <!-- Declarations for standard non-Telephony devices defined by UPnP
         (if any)go here. -->


      <!-- Declarations for other devices defined by UPnP vendor
         (if any)go here. -->


      </deviceList>
      <presentationURL>URL for presentation</presentationURL>
   </device>
</root>
```

7 Test

No semantic tests have been specified for this device.

Annex A
(informative)

Theory of Operation

The basic telephony feature a Telephony Client Dvice provides is the Media Management Service. The Media Management Service provides the feature to set-up media session on a Telephony Client (TC), under the control of a Telephony Control Point (TelCP). The architectural model shown in the diagram below at a very high level explains how media session parameters are gathered/negotiated by a Telephony Control Point (TelCP) to establish a media session between a Telephony Server (TS) and a Telephony Client (TC).

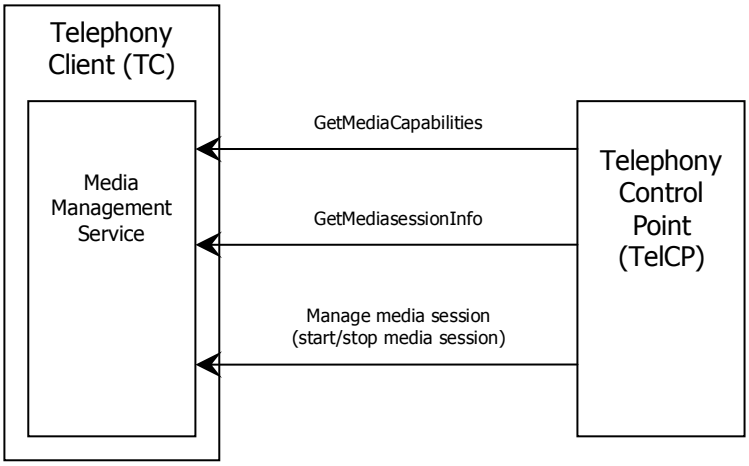

Figure A.1 — Interaction Between a Telephony Client and Telephony Control Point

A Telephony Client Device may can include messaging and presence services as well. However, features of such services are purely optional. Please see [3], clause 6, for more details of the Telephony Client (TC) architecture.

Annex B
(informative)

Bibliography

The following documents, in whole or in part, may be useful for understanding this document but they are not essential 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.

[3] – *TelephonyArchitecture:2*, UPnP Forum, December 10, 2012. Available at: http://www.upnp.org/specs/phone/UPnP-phone-TelephonyArchitecture-v2-20121210.pdf. Latest version available at: http://www.upnp.org/specs/phone/UPnP-phone-TelephonyArchitecture.pdf.