
ServiceType:V Service Template Version 1.01

For UPnP™ Version 1.0

Status: [Design Start (TDS); Preliminary Design (TPD); Design Complete V.9 (TDC); Approved Standard]

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1. Overview and Scope

This service definition is compliant with the UPnP Device Architecture version 1.0.

This service-type enables the following functions:

- TBD

This service template does not address:

- TBD

1.1. Change Log

2. Service Modeling Definitions

2.1. ServiceType

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

urn:schemas-upnp-org:service:serviceType:V.

2.2. State Variables

Table 2-1: State Variables

Variable Name	Req. or Opt. ¹	Data Type	Allowed Value ²	Default Value ²	Eng. Units
<u>VariableName</u>	<u>R</u>	<u>String</u>	<u>TBD</u>	<u>DEFAULT</u>	<u>TBD</u>
Description:					
<i>Non-standard state variables implemented by an UPnP vendor go here.</i>	<i>X</i>	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>
<u>VariableName2</u>					
Description:					
<i>Non-standard state variables implemented by an UPnP vendor go here.</i>	<i>X</i>	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>

¹ R = Required, O = Optional, X = Non-standard.

² Values listed in this column are required. To specify standard optional values or to delegate assignment of values to the vendor, you must reference a specific instance of an appropriate table below.

Table 2-2: allowedValueList for StateVariable

Value	Req. or Opt. ³
<u>Value1</u>	<u>R</u>
<u>Value2</u>	<u>O</u>
<i>Vendor-defined</i>	<u>R</u>
<i>Vendor-defined</i>	<u>O</u>

³ Footnotes may be used to identify requirements to support a subset(n of m) options specified, or any other mix.

Table 2-3: allowedValueRange for **StateVariable**

Value		Req. or Opt.
minimum	<u>Q</u>	<u>R</u>
maximum	<i>Vendor-defined</i>	<u>R</u>
step	<i>Vendor-defined</i>	<u>R</u>

Table 2-4: DefaultValue for **StateVariable**

Value	Req. or Opt.
<u>Value</u> or <i>Vendor-defined</i>	<u>R</u>

2.2.1. **VariableName**

Insert a description of VariableName here.

2.2.2. **VariableName2**

Insert a description of VariableName2 here.

2.2.3. Relationships Between State Variables

Add any summary information regarding the functional relationships between state variables. Delete this entire section if you are not adding any summary information.

2.3. Eventing and Moderation

Table 2-5: Event Moderation

Variable Name	Evented	Moderated Event	Max Event Rate ¹	Logical Combination	Min Delta per Event ²
<u>TBD</u>	<u>Yes/No</u>	<u>Yes/No</u>	<u>N</u>	<u>[Blank, AND, OR]</u>	<u>N * (Step)</u>
<i>Non-standard state variables implemented by an UPnP vendor go here.</i>	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>

¹ Determined by N, where Rate = (Event)/(N secs).

² (N) * (allowedValueRange Step).

2.3.1. Event Model

Add any summary information regarding Event Model Requirements and assumptions. Delete this entire section if you are not adding any summary information.

2.4. Actions

Add an overview of the action set functionality here. Delete this paragraph if you are not supplying an overview.

Immediately following this table is detailed information about these actions, including short descriptions of the actions, the effects of the actions on state variables, and error codes defined by the actions.

Table 2-6: Actions

Name	Req. or Opt. ¹
<u>ActionName1</u>	<u>TBD</u>
<u>ActionName2</u>	<u>TBD</u>
<i>Non-standard actions implemented by an UPnP vendor go here.</i>	X

¹ R = Required, O = Optional, X = Non-standard.

2.4.1. ActionName1

2.4.1.1. Arguments

Table 2-7: Arguments for ActionName1

Argument	Direction	relatedStateVariable
<u>Argument1</u>	<u>TBD</u>	<u>TBD</u>
<u>Argument2</u>	<u>TBD</u>	<u>TBD</u>

2.4.1.2. Dependency on State (if any)

2.4.1.3. Effect on State (if any)

2.4.1.4. Errors

Table 2-8: Error Codes for ActionName1

errorCode	errorDescription	Description

2.4.2. ActionName2

2.4.2.1. Arguments

Table 2-9: Arguments for ActionName 2

Argument	Direction	relatedStateVariable
<u>Argument1</u>	<u>TBD</u>	<u>TBD</u>
<u>Argument2</u>	<u>TBD</u>	<u>TBD</u>

2.4.2.2. Dependency on State (if any)

2.4.2.3. Effect on State

2.4.2.4. Errors

Table 2-10: Error Codes for ActionName2

errorCode	errorDescription	Description

2.4.3. Non-Standard Actions Implemented by a UPnP Vendor

To facilitate certification, non-standard actions implemented by UPnP vendors should be included in this service template. The UPnP Device Architecture lists naming requirements for non-standard actions (see the section on Description).

2.4.4. Relationships Between Actions

Add any summary information regarding dependencies between actions. Delete this entire section if you are not adding any summary information.

2.4.5. Common Error Codes

The following table lists error codes common to actions for this service type. If an action results in multiple errors, the most specific error must be returned.

Table 2-11: Common Error Codes

errorCode	errorDescription	Description
401	Invalid Action	See UPnP Device Architecture section on Control.
402	Invalid Args	See UPnP Device Architecture section on Control.
404	Invalid Var	See UPnP Device Architecture section on Control.
501	Action Failed	See UPnP Device Architecture section on Control.
600-699	TBD	Common action errors. Defined by UPnP Forum Technical Committee.
701-799		Common action errors defined by the UPnP Forum working committees.
800-899	<i>TBD</i>	<i>(Specified by UPnP vendor.)</i>

2.5. Theory of Operation

Use this section to describe service functionality from the perspective of a user control point (that is: how does a user control point interact with this service to realize its functionality). This section, when combined with other sections of this template, should provide sufficient detail to aid understanding and implementation of UPnP-compatible interfaces.

3. XML Service Description

```

<?xml version="1.0"?>
<scpd xmlns="urn:schemas-upnp-org:service-1-0">
  <specVersion>
    <major>1</major>
    <minor>0</minor>
  </specVersion>
  <actionList>
    <action>
      <name>actionName</name>
      <argumentList>
        <argument>
          <name>formalParameterName</name>
          <direction>in xor out</direction>
          <retval />
          <relatedStateVariable>stateVariableName</relatedStateVariable>
        </argument>
        Declarations for other arguments defined by UPnP Forum working
        committee (if any)go here
      </argumentList>
    </action>
    Declarations for other actions defined by UPnP Forum working
    committee (if any)go here
    Declarations for other actions added by UPnP vendor (if any) go here
  </actionList>
  <serviceStateTable>
    <stateVariable sendEvents="yes">
      <name>variableName</name>
      <dataType>variable data type</dataType>
      <defaultValue>default value</defaultValue>
      <allowedValueList>
        <allowedValue>enumerated value</allowedValue>
        Other allowed values defined by UPnP Forum working committee (if
        any) go here
      </allowedValueList>
    </stateVariable>
    <stateVariable sendEvents="yes">
      <name>variableName</name>
      <dataType>variable data type</dataType>
      <defaultValue>default value</defaultValue>
      <allowedValueRange>
        <minimum>minimum value</minimum>
        <maximum>maximum value</maximum>
        <step>increment value</step>
      </allowedValueRange>
    </stateVariable>
    Declarations for other state variables defined by UPnP Forum working
    committee(if any) go here
    Declarations for other state variables added by UPnP vendor (if any)
    go here
  </serviceStateTable>
</scpd>

```

4. Test

Content requirements for this section to be specified in revision 1a of this standard template.

Change History**Change Log for Version 1.0 (10-4-00)**

- Revised the Title Page to call out V1.0 of the Service Template
- Changed to be consistent with Sample Designs released to the Technical Committee
- Service State Table: Variable Descriptions removed from the table and are listed in specific sections following the table.
- Actions: Reformatted the information contained in the Action Table:
 - Added overview entry point.
 - Added an Action Summary Table to specify Required or Optional
 - Added enumerated sections to specify each actions: Arguments, Effect on State, and Errors.