HVAC_FanOperatingMode:1 Service Template

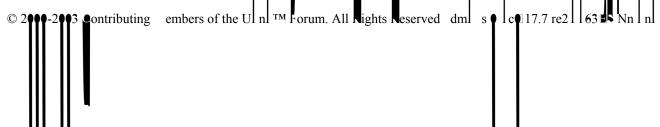
For UPnP™ Device Architecture V 1.0

Status: Standardized DCP

Date: May 13th, 2003

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Content

	3
2. SER LEMCDELING E INITIONS	
2.2. VANAB = VANAB	
2.2.1 Ande	
2.2.3. A tane	
2.2.4. Reptionships Between State Variables	
2.3.1. Es ni Model	
2.4. A 10 S	
2.4.P. CetMode	
2.4.4. CetNume	
2.4.5. SelName	
2.4.7. Felationships Between Actions	
2.4.B. III Common E ror Godes	
XML SERVICE DESCR PTION	10
TEST	1′
ist of Tables •	
able 1 state Variables	4
able 2 Allowed Value List for one	
able 3 AllowedValueList for Fan tatus	
able 4 venting oderation	
able \$ event odel	
able 6 Action list	,
able 7 Arguments for Set ode	
able 9 Arguments for oth an tatus	······································
able 1 Arguments for Pe Name	
able 1 Arguments for SetName	
	_ 1
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Overview and Scope

his service definition is compliant with the Ul h Device Architect re version 1.0.

his service definition enables the following functions:

• Changing and reading the user open ting modes of a Forced Air IVA system

1.1 Change Log for: HMAC_FanQperatingMode:1

7/24 ●hanges per 7/17 meeting of Home Automation and Security Working Troup; onversion to 0.996 tem late inor clarifications about implementing only a subset of the available mode values. 8/24/ 8/29/ dded X oceList emoved for etFanstatus direc 9/28/ orrected on to **Q**UI, added Name 11/28oved to emplate Design Complete er review ID acleck list review. Corrected capital zation, 2/14/ orrected 2/21 mplate 1.1 oved to roof read 2/26/ 3/11/ inor upd 4/2/ oved to evision marks removed; Argument direction for etName corrected from [31 Out" to "In" oved to 0.9; lest chapter added. [13 nverted to Approved standard.

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: VAC_FanOperatingMode:1

2.2. State Variables

The State Variables

V ria le Name			Req. or Opt. ¹	Data Type	Allowed Value ²	Default Value ²	Eng. Units
Mode			R	string	see table	Auto	N/a
FanSatus			R	string	see table	none	none
N me			0	string		Zero length string	N/a
No -sta dard state variables implemented by verdor p here.	y an UPn	P	X	TBD	TBD	TBD	TBD

 $^{^{1}}$ **A** = Aequired, **O** = **O**ptional, X = Non-standard.

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.

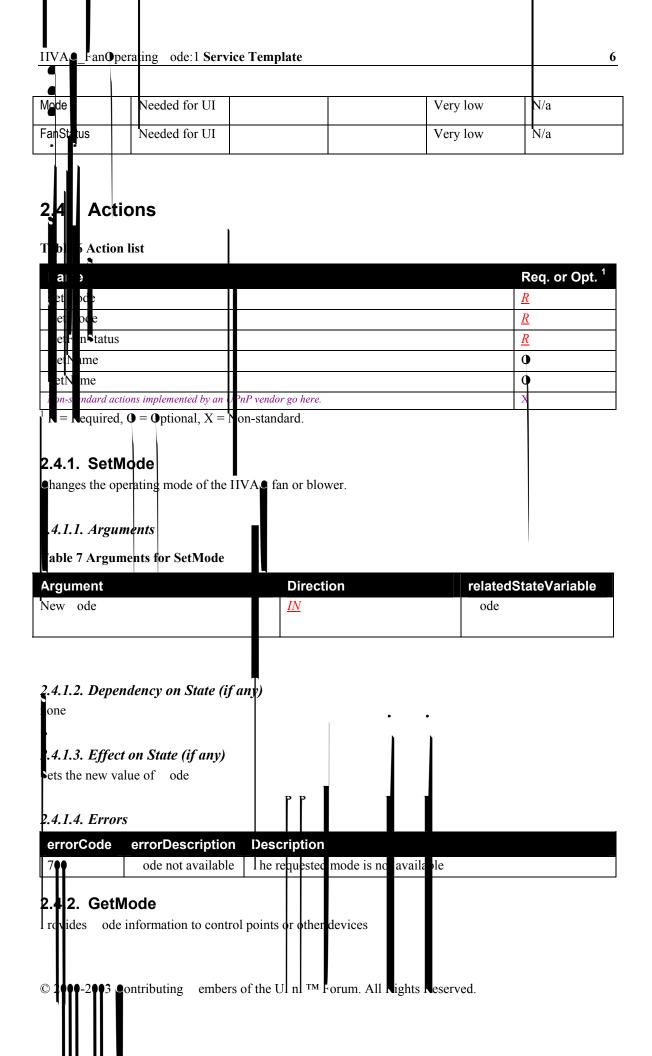
Table 2 Allowed Value List for Mode

ble k Allowed	ValueList for N	loue				
	Value			Req. or	Opt. ¹	
to				<u>R</u>		
ntii iousOn				<u>R</u>		
rioc cOn				<u>O</u>	•	
ndo -defined				<u>R</u>		
ndo -defined			<u>O</u>			
= Required, O	= Optional, X =	Non-standa	ırd.			
able 3 Allowed	ValueList for F	anStatus				
	Value			Req. or	Opt. ¹	
n				<u>R</u>		
ff				<u>R</u>		
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Name requirements Requirements rate tradeoffs rate evented

Name Needed for UI

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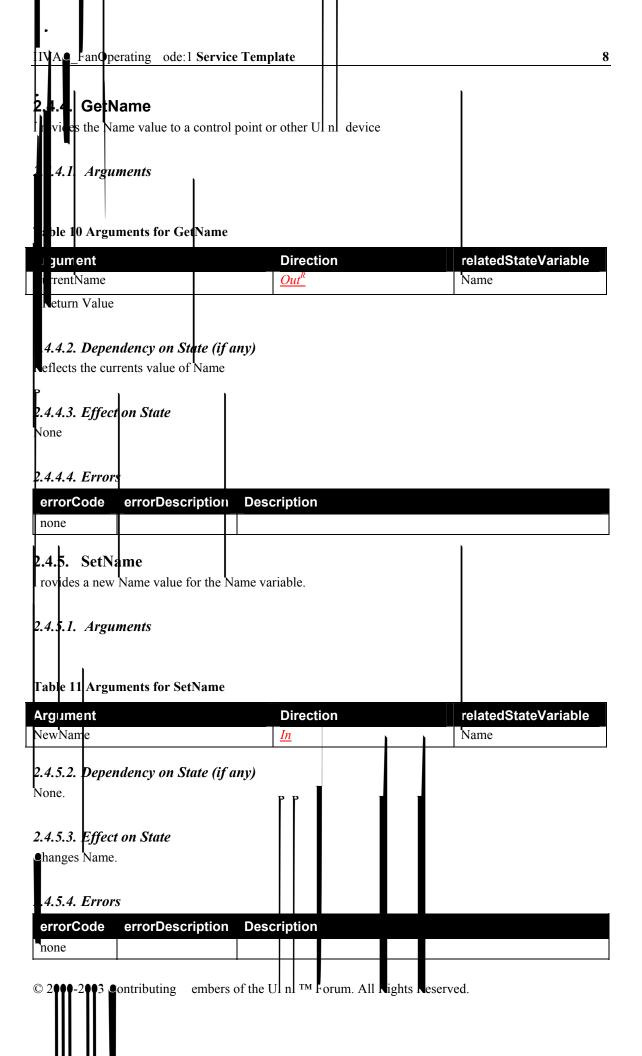


ç ument	Direction	relatedStateVariabl
n ent ode	<u>Out^R</u>	ode
Neturn Value		
4.2.2. Dependency on State ((if any)	
pends on the value of ode		
1.2.3. Effect on State (if any)	'	
one		
1.2.4. Errors		
r orCode errorDescription	on Description	
o e		
3. GetFanStatus		
anstatus retrieves the current	operational status of the Fan.	
43.13 Arguments		1 3
le 9 Arguments for GetFanS	Status	
_		
(um ∌nt r ent \$ tatus	Direction Out ^R	ela ledStateVariab
i ent•tatus	<u>Out</u>	ran•tatus
Neturn Value		
eturn Value		

2.4.3.3. Effect on State
None

2.4.3.4. Errors

errorCode	errorDesc	ription	Desci	iption			
none							
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2.4.6. Non-Standard Actions Implemented by a UPnP Vendor

o facilitate certification, non-standard actions implemented by Ul nl vendors should be included in this service template. The Ul nl Device Architecture lists naming requirements for non-standard actions see the section on De cription).

2.4.7. Relationships Between Actions

<u>Vone.</u>

2.4.8. Compon Error Codes

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

able 6: Common Error Codes

errorCode	errorD escription	Description				
41	Invalid Action	ee U. n. Device Architecture section on Pontrol.				
4•2	Invalid Args	ee U. n. Device Architecture section on control.				
404	In•valid Var	ee U. n. Device Architecture section on control.				
\$ 1	Action Failed	ee Ul nl Device Architecture section on control				
600-699	BD	Ommon action errors. Defined by Uln 10 um 1 chnical ommittee.				
70 -799		ommon action crors defined by the U in Forum working ommittees.				
8 00 -899	TBD	Specified by UP P vendor.)				

2.5. Theory of Operation

It is service allows a control I oint to set and observe the operating mode of a IIVAC fan or blower. Defined operating modes are:

- Auto or automatic in this mode the fan cycles with the heating or cooling unit. The IIVA system may impose on and off delays. Delay times are not exposed by this service.
- Lontinuous On in this mode the fan is on continuously
- eriodicOn in this mode the fan cycles with the heat or cooling unit AND will cycle periodically then the heating or cooling unit has not cycled for an extended time. The periodic time is not exposed by this servcie.

Different vendors employ different modes of operation. This service allows vendors to subset the defined operating modes per their particular implementation.

3. XML Service Description

```
version="1.0"?>
<scpd xmlns="urn:schemas-upnp-org:service-1-0">
  <specVersion>
    <major>1</major>
    <minor>0</minor>
  </specVersion>
  <actionList>
    <action>
    <name>SetMode</name>
       <argumentList>
         <argument>
           <<u>name</u>>NewMode</<u>name</u>>
           <dre><direction>in</direction>
     <relatedStateVariable>Mode</relatedStateVariable>
         </argument>
       </argumentList>
    </action>
<actionList>
    <action>
    <<u>name</u>><u>GetMode</u></<u>name</u>>
       <argumentList>
         <argument>
           <name>CurrentMode</name>
           <<u>direction</u>><u>out</u></<u>direction</u>>
           <retval/>
           <relatedStateVariable>Mode</relatedStateVariable>
         </argument>
       </argumentList>
    </action>
<actionList>
    <action>
    <name>GetFanStatus</name>
       <argumentList>
         <<u>argument</u>>
           <name>CurrentStatus</name>
           <<u>direction</u>><u>out</u></<u>direction</u>>
           <retval/>
           <relatedStateVariable>FanStatus/relatedStateVariable>
         </argument>
       </argumentList>
    </action>
<action>
    <name>GetName</name>
       <argumentList>
         <argument>
           <<u>name</u>><u>CurrentName</u></<u>name</u>>
           <direction>out</directi
                                      on)
              <retval/>
           <relatedStateVariable>Name</relatedStateVariable>
         </argument>
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```

```
</argumentList>
      'action>
     action>
    <<u>name</u>><u>SetName</u></name>
      <argumentList>
         <argument>
           <name>NewName</name>
           <direction>in</direction>
           <<u>relatedStateVariable</u>><u>Name</u></<u>relatedStateVariable</u>>
        </argument>
      </argumentList>
    </action>
    Declarations for other actions added by UPnP vendor (if any) go here
  </actionList>
  <serviceStateTable>
    <<u>stateVariable</u> <u>sendE</u>vents="yes">
      <name>Mode</name>
      <dataType>string</dataType>
      <defaultValue>Auto</defaultValue>
      <allowedValueList>
         <allowedValue>Auto</allowedValue>
        <allowedValue>ContinuousOn</allowedValue>
      The following allowed value is optional
      <allowedValue>PeriodicOn</allowedValue>
      Vendor defined allowed values go here
      </allowedValueList>
    </stateVariable>
   <serviceStateTable>
    <<u>stateVariable</u> <u>sendEvents</u>="<u>yes</u>">
      <name>FanStatus</name>
      < dataType>string</dataType>
      <allowedValueList>
         <allowedValue>Off</allowedValue>
        <<u>allowedValue</u>><u>On</u></allowedValue>
      Vendor defined allowed values go here
      </allowedValueList>
    </stateVariable>
      <stateVariable sendEvents="yes">
      <name>Name</name>
      <<u>dataType</u>><u>string</u></<u>dataType</u>>
    </stateVariable>
    Declarations for other state variables added by UPnP vendor (if any)
    go here
  </serviceStateTable>
</scpd>
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```

Testing of the Ul plus functions Addressing, Discovery, Description, Control Syntax) and Eventing are performed by the Ul number 1 ool v1.1 based on the following documents:

- Ul n. Device Architecture v1.
- he service Definitions in chapter 2 of this document
- he X 1 Pervice Description in chapter 3 of this document
- he U n est ool service template test file: HVAC_FanOperatingMode1.xml
- I he Ul nl lest lool service template test file: HVAC_FanOperatingMode1.SyntaxTests.xml

The test suite does not include tests for control semantics, since it is felt that such tests would not provide a higher level of interoperability.

