OCF "Jakarta" – Resource Defaults – Smart Home WG CR 2641

Legal Disclaimer

****** Change #1 (changed text) ******

7.6.3 OCF Interface methods

7.6.3.1 Overview

The defined OCF Interfaces are listed in the table below:

Table 1. OCF standard OCF Interfaces

OCF Interface	Name	Applicable Operations	Description
baseline	“oic.if.baseline”	RETRIEVE, NOTIFY, UPDATE	The baseline OCF Interface defines a view into all Properties of a Resource including the Meta Properties. This OCF Interface is used to operate on the full Representation of a Resource.
links list	“oic.if.ll”	RETRIEVE, NOTIFY	The links list OCF Interface provides a view into Links in a Collection (Resource). Since Links represent relationships to other Resources, the links list OCF Interfaces may be used to discover Resources with respect to a context. The discovery is done by retrieving Links to these Resources. For example: the Core Resource “/oic/res” uses this OCF Interface to allow discovery of Resource “hosted” on a Device.
batch	“oic.if.b”	RETRIEVE, NOTIFY, UPDATE	The batch OCF Interface is used to interact with a collection of Resources at the same time. This also removes the need for the Client to first discover the Resources it is manipulating – the Server forwards the requests and aggregates the responses
read-only	“oic.if.r”	RETRIEVE NOTIFY	The read-only OCF Interface exposes the Properties of a Resource that may be ‘read’. This OCF Interface does not provide methods to update Properties or a Resource and so can only be used to ‘read’ Property values.
read-write	“oic.if.rw”	RETRIEVE, NOTIFY, UPDATE	The read-write OCF Interface exposes only those Properties that may be both ‘read’ and “written” and provides methods to read and write the Properties of a Resource.
actuator	“oic.if.a”	RETRIEVE, NOTIFY, UPDATE	The actuator OCF Interface is used to read or write the Properties of an actuator Resource.
sensor	“oic.if.s”	RETRIEVE, NOTIFY	The sensor OCF Interface is used to read the Properties of a sensor Resource.
property start-up	"oic.if.startup"	RETRIEVE, UPDATE	The property start-up OCF Interface is used to set the default values of Properties on a Resource that will be applied on power-up of the Device hosting the Resource
property revert	"oic.if.startup.revert"	RETRIEVE, UPDATE	The property revert OCF Interface is used to establish a revert state on a Resource such that on a power-up of the Device hosting the Resource the target Properties are populated with the values to which they were set prior to the power-down.

****** Change #2 (new text) ******

7.6.3.9 Property Start-up and Property Revert OCF Interfaces

7.6.3.9.1 Overview

The Property start-up and Property revert OCF Interfaces allow a Client to determine the values that will be set on a Resource following power-up of the Device. The Property start-up OCF Interface allows for the establishment of a specific value that will be set on power-up. The Property revert OCF Interface allows for the Property value on power-up to be the same as the value last set before power-down.

7.6.3.9.2 Support on a Device

A Device shall only expose "oic.if.startup" as part of the "if" Link Parameter or "if" Common Property for a Resource if that Resource also supports either the "oic.if.a" or "oic.if.rw" OCF Interfaces.

A Device shall only expose "oic.if.startup.revert" as part of the "if" Link Parameter or "if" Common Property for a Resource if that Resource also supports either the "oic.if.a" or "oic.if.rw" OCF Interfaces.

Neither the "oic.if.startup" OCF Interface nor the "oic.if.startup.revert" OCF Interface shall be exposed for a Resource that is an Atomic Measurement or that follows the Collection pattern.

7.6.3.9.3 Governing State Machine

Figure XX illustrates the state machine supported by all Resources that exposes both the "oic.if.startup" and "oic.if.startup.revert" OCF Interfaces. A Device that supports only one of the defined OCF Interfaces will support only the state transitions appropriate to the OCF Interface that is supported. A Client needs to have an observe relationship established using both the "oic.if.startup" and "oic.if.startup.revert" OCF Interfaces for it to be fully aware of all state transitions that are defined. Note that the entry point into the state machine may be any of the supported states depending on the initial values supported by an implementation (see clause 7.6.3.9.4).

```
@startuml
[*] --> NormalOperation
NormalOperation --> StartupDefaultsSetOperation : UPDATE via oic.if.startup
NormalOperation --> RevertSetOperation : UPDATE via oic.if.startup.revert
StartupDefaultsSetOperation --> RevertSetOperation : UPDATE via oic.if.startup.revert
RevertSetOperation --> StartupDefaultsSetOperation : UPDATE via oic.if.startup
NormalOperation --> NormalOperation : "normal" UPDATE
StartupDefaultsSetOperation --> StartupDefaultsSetOperation : "normal" UPDATE
RevertSetOperation --> RevertSetOperation : "normal" UPDATE
@enduml
```

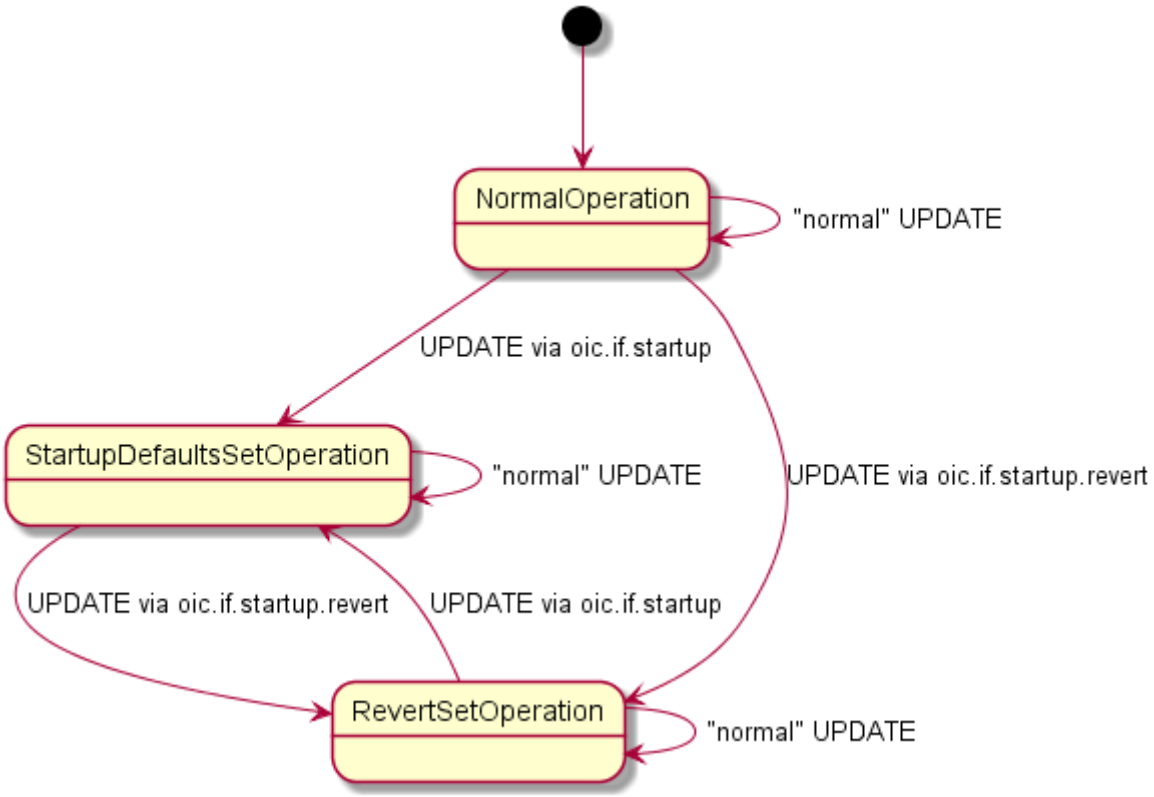

Figure XX. Property Start-up Defaults/Revert State Machine

Thus on a power cycle:

- If in "NormalOperation' Property values are implementation dependent.
- If in "StartupDefaultsSetOperation' Property Values shall be those set via the last UPDATE operation using an OCF Interface of "oic.if.startup"; values for Properties that are not included in the UPDATE operation are implementation dependent.
- If in "RevertSetOperation" Property Values shall be those prior to the power cycle.
- In all cases, the state of the Device shall be persisted across the power cycle

7.6.3.9.4 Use of RETRIEVE

A Device that supports the "oic.if.startup" or "oic.if.startup.revert" OCF Interfaces may have initial Property values for a Resource for either of these OCF Interfaces, and is thus in either the StartupDefaultsSetOperation or RevertSetOperation state from the point of initial power-up.

If the Device is in StartupDefaultsSetOperation state as defined in clause 7.6.3.9.3, then on reception of a RETRIEVE using the "oic.if.startup" OCF Interface the Device shall respond with success response and a payload containing the currently set default values for the Resource. On reception of a RETRIEVE using the "oic.if.startup" OCF Interface when not in the StartupDefaultsSetOperation state the Device shall respond with a failure response (e.g. service unavailable).

If the Device is in RevertSetOperation state as defined in clause 7.6.3.9.3 then on reception of a RETRIEVE using the "oic.if.startup.revert" OCF Interface the Device shall respond with a "Valid" response with no payload. On reception of a RETRIEVE using the "oic.if.startup.revert" OCF Interface

when not in the RevertSetOperation state the Device shall respond with a failure response (e.g. service unavailable).

7.6.3.9.5 Use of UPDATE and Property Start-up Interface

When a Device receives an UPDATE that uses the "oic.if.startup" OCF Interface, the Device shall set the start-up default values for all Properties that are in the payload to be those provided in the payload, the Device shall not change current values of the Resource.

Further, reception of such an UPDATE also moves the Resource into the StartupDefaultsSetOperation state as defined in clause 7.6.3.9.3; such that on completion of a power cycle the Resource shall be populated with the values that were set as defaults, for those Properties that weren't explicitly set by such an UPDATE, their value is implementation dependent.

7.6.3.9.6 Use of UPDATE and Property Revert Interface

When a Device receives an UPDATE that uses the "oic.if.startup.revert" OCF Interface, the Device shall set the current value for all Properties that are in the payload to be those provided in the payload and moves the Resource into the RevertSetOPeration state as defined in clause 7.6.3.9.3; such that on completion of a power cycle the Resource shall be populated with the values that were present prior to the initiation of the power cycle.

7.6.3.9.7 Observability of Property Defaults and Property Revert Interfaces

A Client may Observe a Resource using either of the "oic.if.startup" or "oic.if.startup.revert" OCF Interfaces.

When Observing using "oic.if.startup" then the Server shall send a NOTIFICATION whenever there is a change to the Resource using the "oic.if.startup" OCF Interface.

When Observing using "oic.if.startup.revert" the Server shall send a NOTIFICATION whenever there is any change to the Resource as the revert behaviour in essence is a tracker for the currently set Property value(s).