

OCF 2.0 – Actions on Device Reset – Core Technology WG CR 2363

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

11.5 Device management

11.5.1 Overview

Device Management includes the following functions:

- Diagnostics and maintenance
- Network Monitoring

11.5.2 Diagnostics and maintenance Resource Type

The Diagnostics and Maintenance Resource Type is intended to enable the resolution of issues encountered with the Devices while operating in the field. If diagnostics and maintenance is supported by a Device, the Core Resource “/oic/mnt” shall be supported as described in Table 29.

Table 1. Optional diagnostics and maintenance device management Core Resources

Pre-defined URI	Resource Type Title	Resource Type ID (“rt” value)	Interfaces	Description	Related Functional Interaction
“/oic/mnt”	Maintenance	“oic.wk.mnt”	“oic.if.rw”	The resource through which the device is maintained and can be used for diagnostic purposes. The Properties exposed by “/oic/mnt” are listed in Table 30.	Device Management

Table 30 defines the “oic.wk.mnt” Resource Type. At least one of the Factory_Reset, Reboot, or last error Properties shall be implemented.

Table 2. “oic.wk.mnt” Resource Type definition

Property title	Property name	Value type	Value rule	Unit	Access mode	Mandatory	Description
Factory_Reset	fr	boolean			R, W	no	When writing to this Property: false – No action (Default*) true – Start Factory Reset When reading this Property, a value of true indicates a pending factory reset. Once the factory reset has been completed, the Device shall set the value back to false. This Property is functionally equivalent to a transition to a state of Hard Reset as defined in the OCF Security Specification, Section 8.1
Reboot	rb	boolean			R, W	no	When writing to this Property: false – No action (Default) true – Start Reboot After Reboot, this value shall be changed back to the default value (i.e., false)

Last error	err	integer	HTTP error code		R	no	Last occurred error code, shall be cleared to 503 (service unavailable), when doing a Factory Reset or Reboot. All HTTP errors outside the 100, 200 or 300 range shall be stored.
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Note: * - Default indicates the value of this property as soon as the device is rebooted or factory reset

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

11.5.3 Core Behaviours on Device Maintenance State Changes

11.5.3.1 Overview

As defined in the OCF Security Specification a Device has a state machine through which it transitions during its operational lifetime.

The OCF Security Specification details actions on such state transitions for the Resources defined therein. This clause defines the actions to be taken on such state transitions for the Resources and functionality defined within this specification.

The state transitions to be considered are:

- RFNOP to Soft Reset
- RFNOP to Hard Reset
- RFNOP to RFPRO
- RFPRO to RFNOP

Table XX provides a summary of the actions to be taken in each case.

Table XX. Actions on Device State Change

	Soft Reset	Hard Reset	RFNOP -> RFPRO	RFPRO -> RFNOP
SVRs	As per OCF Security Specification section 8.5	As per OCF Security Specification section 8.1	As per OCF Security Specification section 8.3	As per OCF Security Specification section 8.4
Mandatory Core Resources	No change	Reset to defined defaults; see section 11.5.3.4	No change	No change
Optional Core Resources	No change	Reset to defined defaults; see section 11.5.3.4	No change	No change
Vertical Resources	No change	Reset to defined defaults; see	No change	No change

		section 11.5.3.4		
Created Resources	No change	Deleted	No change	No change
Observe Transactions	No change	Canceled; see section 11.5.3.3	No change	Re-evaluate ACL; see section 11.5.3.3
In Progress Transactions	Finalized; see section 11.5.3.2	Finalized; see section 11.5.3.2	Finalized; see section 11.5.3.2	N/A
RD: Published Links	No change	Deleted	No change	No change
Wi-Fi Easy Setup	No change	See section 11.5.3.5	No change	No change
OCF Cloud	No change	See section 11.5.3.6	No change	No change

11.5.3.2 Finalization of In Progress Transactions

In progress transactions are allowed to continue and handled by the application for the generation of a response; with no special additional actions to be taken due to any pending state change.

11.5.3.3 Handling of Observe Transactions

On a transition to hard reset all active Observe transactions shall be cancelled by the Server by sending a 'Service Unavailable' response on each active Observe transaction.

On a state transition that allows for modification of the access controls that exist against a Resource (such as from RFPRO to RFNOP) it is possible that the access controls themselves as defined within the OCF Security Specification are changed such that the original RETRIEVE that established the Observe would not have been allowed. In such instances the Server shall cancel the Observe by sending a 'Service Unavailable' response on the Observe transaction.

11.5.3.4 Reset of Resource Properties to Defined Defaults

11.5.3.4.1 Overview

On a hard or factory reset Resource Properties are reset to default values. These are commonly referred to as 'manufacturer defaults' however it is not possible in all instances to revert to such values as they may not be known or be practicable.

The following sections detail the default values to be applied for the mandatory and optional Core Resources, plus any Vertical Resources.

11.5.3.4.2 Defaults for Mandatory Core Resources

Tables YY and ZZ capture default values that shall be set for mandatory Properties of the mandatory Core Resources where those Resources contain Properties that can be changed by a Client. Note that this excludes '/oic/res' as that has no mutable Properties.

Table YY. Default Values for /oic/d

Property	Default	Notes
n	""	Empty string if /oic/con is also exposed, otherwise not mutable
di	Temporary not repeated value	See OCF Security Specification requirements
icv	Unchanged	Not mutable
dmv	Unchanged	Not mutable
piid	Temporary not repeated value	See OCF Security Specification requirements

Table ZZ. Default Values for /oic/p

Property	Default	Notes
pi	Temporary not repeated value	See OCF Security Specification requirements
mnmn	Unchanged	Not mutable

11.5.3.4.3 Defaults for Optional Core Resources

This section details the actions to be taken with respect to the optional Core Resources.

The icon Resource ("oic.r.icon") has no mutable Properties, so no action is to be taken.

The network monitoring Resource ("oic.wk.nmon") shall have all Properties reset (i.e. action as if an UPDATE with the "reset" Property set to 'true' had been received). The "col" Property shall be set to "false".

Any Resources that were added to an instance of a Collection or a specialisation of a Collection (e.g. Scene List ("oic.wk.scenelist") or Scene Collection ("oic.wk.scenecollection")) by a Client shall be deleted.

Where a Server hosts an instance of "/oic/rd" all Links that were published to that instance shall be deleted.

The device configuration Resource ("oic.wk.con") shall be modified in accordance with Table AA for those Properties that are implemented

Table AA. Default Values for device configuration Resource

Property	Default	Notes
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loc	[0.0,0.0]	
locn	""	Empty string
c	""	Empty string
r	""	Empty string
ln	[{}]	One item array with an empty object
dl	Defined by the manufacturer	Recommend the primary language tag for the region into which the Device is marketed (e.g. "en" for primarily English speaking countries).

The platform configuration Resource ("oic.wk.con.p") shall be modified in accordance with Table BB

Table BB. Default Values for platform configuration resource

Property	Default	Notes
mnpn	[{}]	One item array with an empty object

11.5.3.4.4 Defaults for Vertical Resources

Default values for any Vertical Resources exposed by a Device are up to the implementation.

11.5.3.5 Handling of Wi-Fi Easy Setup

On a hard reset the following actions take place:

- The Soft AP shall be disabled if it is currently enabled (i.e. Easy Setup was not performed since unboxing the New Device or after last factory reset).
- Any provisioned information in all of the Resources present in the Easy Setup collection shall be deleted.

Please also refer to the requirements for easy setup that are captured in the OCF Security Specification, clause 13.16.

11.5.3.6 Handling of OCF Cloud

On a hard reset the Device if registered to an OCF Cloud shall de-register from the OCF Cloud in accordance with the procedures in the OCF Security Specification, clause 13.10.

Further, on a hard reset the CoAPCloudConf Resource ("oic.r.coapcloudconf") shall be modified in accordance with Table BB for those Properties that are implemented

Table BB. Default Values for CoAPCloudConf Resource

Property	Default	Notes
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apn	""	Empty string
cis	"coaps+tcp://127.0.0.1"	Or other valid but non-resolving URI
at	""	Empty string
sid	Temporary not repeated value or "00000000-0000-0000- 0000-000000000000"	
clec	0	No Error

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