

OCF 2.3 (“Cleveland”) – Clarification on CoAP native Cloud spec – CTWG CR 2528

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****Change 1: Modify Reference Sections ****

5.3.2 Mediator registration with the OCF Cloud

See Sections 8.1.2.2, 8.1.2.3

5.3.4 Device Registration with the OCF Cloud

See Sections 8.1.3, 8.1.4; see also OCF Security Specification Sections 10.4, 13.10, 13.11

5.3.6 Publishing Links to the OCF Cloud RD

See Section 8.2; see also OCF Security Specification Section 10.4, Core Specification Section 11.3.6

5.3.7 Client to Server communication through the OCF Cloud

See Sections 8.3, 8.4; see also OCF Security Specification Section 10.4

****Change 2: Remove duplicated Figure 2 ****

5.3.10 Deregistering from the OCF Cloud

To connect to the OCF Cloud again, the Device has to re-follow the flow starting with Mediator provisioning (see Section 5.3.3).

Figure 2 Overall Operational State Machine captures the state machine that is described by the informative operation flow provided in Section 5.3

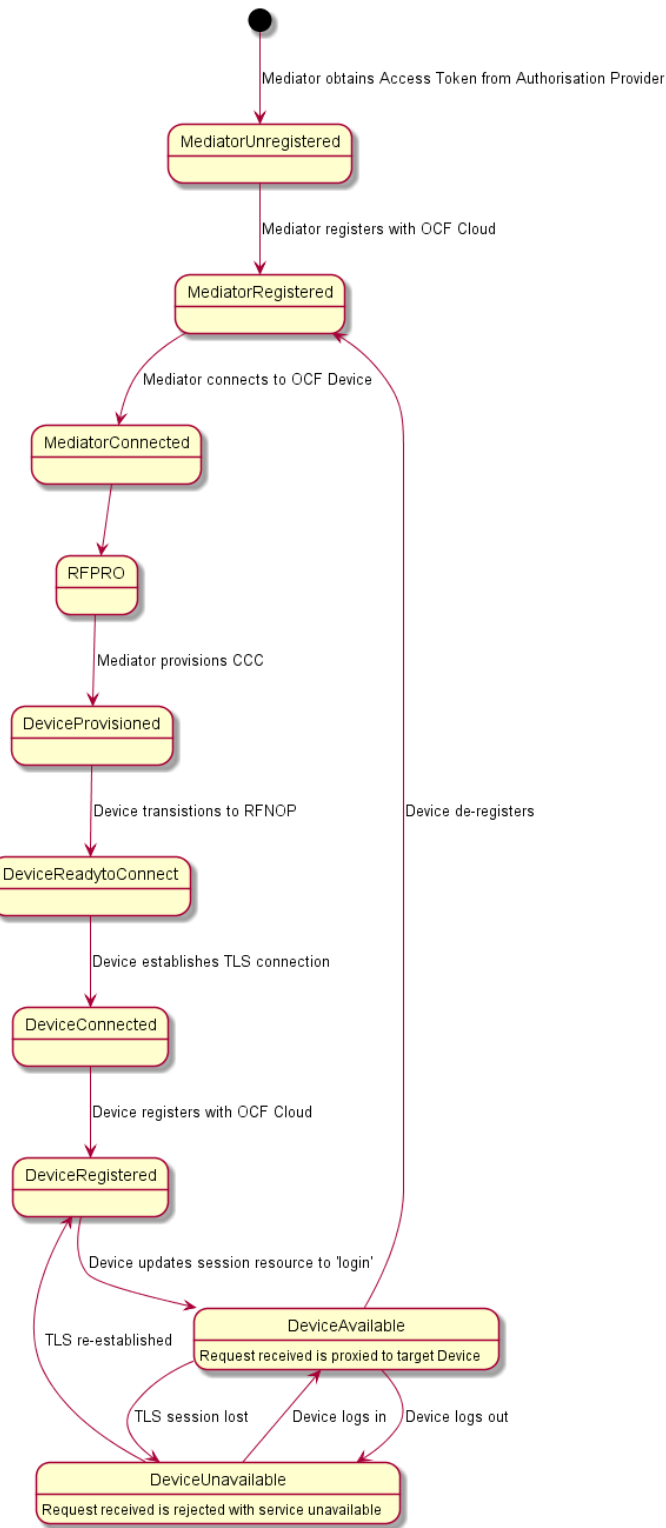


Figure 1 Overall Operational State Machine

****Change 3: Add Explanation of Step 1 of Figure 3 ****

8.1.1 Overview

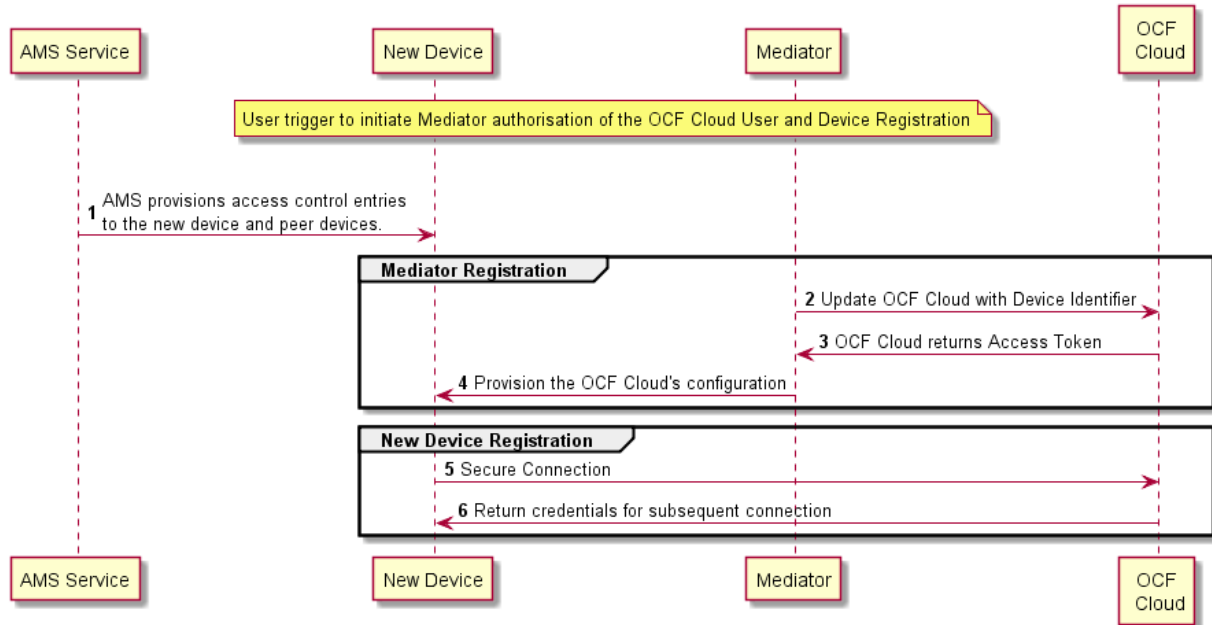


Figure 2 Registration with OCF Cloud

Steps	Description
1	AMS provisions access control entries to the new device and peer devices.
2-3	Mediator obtains the OCF Cloud User's information and authorisation.
4	Mediator provisions the credentials for the Device to connect to the OCF Cloud
5-6	Device connects to the OCF Cloud using manufacturer certificate. The OCF Cloud returns credentials to the Device, used for subsequent connection to the OCF Cloud.

Table 1 Device - OCF Cloud Registration Flow

****Change 4: Add a parameter (“sid”) to request****

8.1.2.3 Device Provisioning by the Mediator

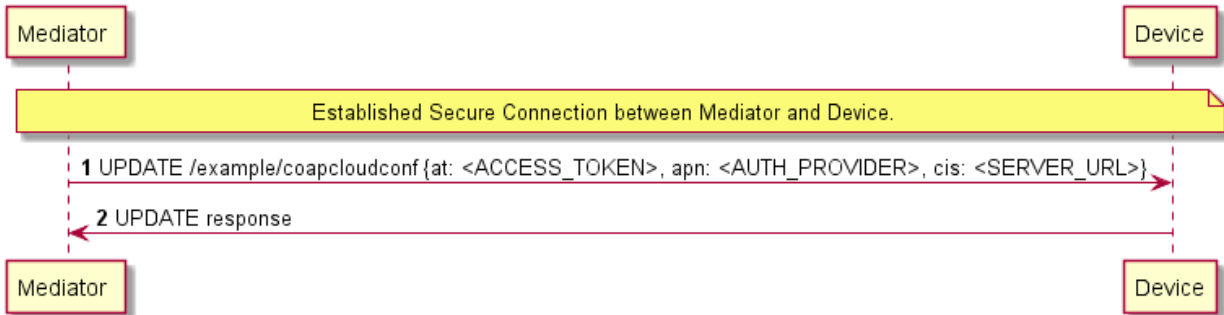


Figure 3 Device Provisioning by the Mediator

```

@startuml
autonumber

participant Mediator as MD
participant Device as ND

note over MD, ND
Established Secure Connection between Mediator and Device.
end note

MD->>ND: UPDATE/example/coapcloudconf {at:<ACCESS_TOKEN>, apn:<AUTH_PROVIDER>, \n
cis:<SERVER_URL>, sid:<OCF_CLOUD_UUID>}
ND->>MD: UPDATE response

@enduml
  
```

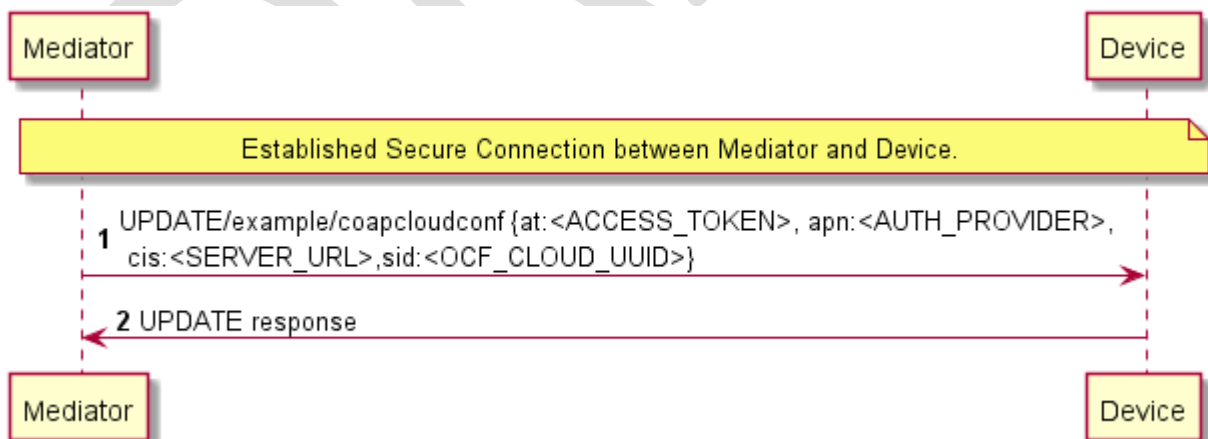


Figure 4 Device Provisioning by the Mediator

****Change 5: Modify paragraph format, Update additional texts on registered links & Remove a duplicated Figure 5 ****

8.2 Resource Publication

An OCF Cloud exposes a Resource Directory as defined in the OCF Core Specification Section 11.3.6. After a Device is registered with an OCF Cloud, the Device should publish its Resources to the OCF Cloud's Resource Directory following the procedures defined in the OCF Core Specification Section 11.3.6. The Device and OCF Cloud maintain a persistent TLS connection over which requests received by the OCF Cloud for the Device are routed.

The OCF Cloud maintains an internal association between the published Endpoint information from the Device and the Endpoint information that it (the OCF Cloud) exposes in the Links within the OCF Cloud's Resource Directory. The Endpoint exposed by the OCF Cloud for all Resources published to it is that of the OCF Cloud itself and not the publishing Device. These Endpoints use a scheme of "coaps+tcp". The Links within the OCF Cloud's Resource Directory are only identified by per OCF Cloud User Account (User ID). For example, the registered links are only returned to Client under same User ID with Server, and not returned to any other Client under different User ID with the Server.

There is potential ambiguity where different instances of Devices from the same vendor (e.g. multiple lights) publish their Resources; this is because the local 'href' Link Parameter that is provided to the RD is likely to be the same in each case. In order to avoid this ambiguity the Resource Directory prepends the 'href' that is published with the Device ID for the publishing Device. Thus ensuring that all requests received by the OCF Cloud have a unique URI per published Resource.

Figure 5 Resource publication to the OCF Cloud for an example showing the provided Device ID from the Device; Figure 6 Resource discovery through OCF Cloud shows the pre-pending of the Device ID to the 'href' Link Parameter in the Resource Directory itself.

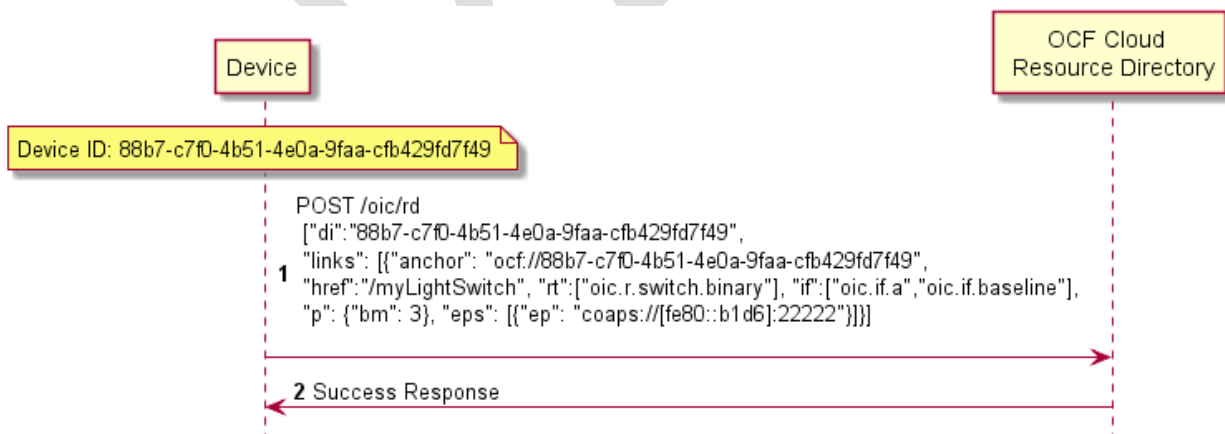


Figure 5 Resource publication to the OCF Cloud