OCF "Essen" – Partition clause 10.4 into text on CoAP multicast and text specific to multicast to /oic/res – Core Technology WG CR 2759

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<mark><Delete clause 10.4, fix cross-reference in clause 11.3.4, & new clause 11.3.7></mark>

10 Functional interactions

10.1 Introduction
<mark><Existing text to end of clause></mark>

10.2 Onboarding, Provisioning and Configuration
<mark><Existing text to end of clause></mark>

10.3 Resource discovery

████████ Introduction
<mark><Existing text to end of clause></mark>

10.3.2 Resource based discovery: mechanisms
<mark><Existing text to end of clause></mark>

████████ Resource based discovery: Information publication process
<mark><Existing text to end of clause></mark>

████████ Resource based discovery: Finding information
<mark><Existing text prior to here in this clause></mark>

A Device shall support CoAP based discovery as the baseline discovery mechanism (see 11.3.7).

The "/oic/res" shall list all Resources that are indicated as discoverable (see 11.3). Also the following architecture Resource Types shall be listed:

<mark><Existing text to end of clause></mark>

████████ Resource discovery using "/oic/res"
<mark><Existing text to end of clause></mark>

████████ Resource Directory (RD) based discovery
<mark><Existing text to end of clause></mark>

<mark><New clause 11.3.7></mark>

████████ Multicast discovery using "/oic/res"

Generic requirements for use of CoAP multicast are provided in clause 12.2.9. Devices shall support use of CoAP multicast to allow retrieving the "/oic/res" Resource from an unsecured OCF Endpoint on the Device. Clients may support use of CoAP multicast to retrieve the

"/oic/res" Resource from other Devices. The CoAP multicast retrieval of "/oic/res" supports filtering Links based on the "rt" Property in the Links:

– If the discovery request is intended for a specific Resource Type including as part of a multi-value Resource Type, the query parameter "rt" shall be included in the request (see 6.2.2) with its value set to the desired Resource Type. Only Devices hosting the Resource Type shall respond to the discovery request.

– When the "rt" query parameter is omitted, all Devices shall respond to the discovery request.

<End of change>

<New clause 12.2.9>

11.2.9 Generic requirements for CoAP multicast

A Client may use CoAP multicast to retrieve a target Resource with a fixed local path from multiple other Devices. This clause provides generic requirements for this mechanism.

– Devices shall join the All OCF Nodes multicast groups (as defined in [IANA IPv6 Multicast Address Space Registry]) with scopes 2, 3, and 5 (i.e., ff02::158, ff03::158 and ff05::158) and shall listen on the port 5683. For compliance to IETF RFC 7252 a Device may additionally join the All CoAP Nodes multicast groups.

– Clients intending to discover Resources shall join the multicast groups as defined in the first bullet.

– Clients shall send multicast requests to the All OCF Nodes multicast group address with scope 2 ("ff02::158") at port "5683". The requested URI shall be the fixed local path of the target Resource optionally followed by query parameters. For compliance to IETF RFC 7252 a Client may additionally send to the All CoAP Nodes multicast groups.

– The multicast request shall be permitted by matching the request to an ACE which permits unauthenticated access to the target Resource as described in ISO/IEC 30118-2:2018.

– Handling of multicast requests shall be as described in clause 8 of IETF RFC 7252 and clause 4.1 in IETF RFC 6690.

– Devices which receive the request shall respond, subject to query parameter processing specific to the requested Resource.