Group Communication for the Constrained Application Protocol (CoAP)

draft-ietf-core-groupcomm-bis-05

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Goal

› Normative successor of experimental RFC 7390
  – Obsoletes RFC 7390, Updates RFC 7252 / 7641

› New standard reference for implementations now based on RFC 7390

› Scope
  – CoAP group communication, including latest features: Observe/Blockwise/Security …
  – Unsecured & group-OSCORE-secured
  – Definition of group types & Secure group configuration

Overview of -05 updates

› Removal of Multi-ETag Option → existing ETag Option seems ok & simpler

› Section added (1.3) to clarify in detail what is Updated / Obsoleted in former RFCs – was #20

› Detailed (2.2.1) how Application Group can be named in Group URI or in CoAP request #28 – pending WG review & approval!

Application Group Naming #28

› Application Group (AG) Name: any string, (integer) number, or URI

› MAY be encoded in Group URI

```
coap://[COAP_GROUP_ADDR]/g/Group1/light
```
→ **In path: RECOMMENDED**

```
coap://[COAP_GROUP_ADDR]/light?Group1
coap://[COAP_GROUP_ADDR]/light?g=Group1
coap://[COAP_GROUP_ADDR]/light?foo=bar&gp=Group1
```
→ **In query**

```
coap://Group1.example.com/light
```
→ **In host (part of CoAP Group)**

```
coap://[COAP_GROUP_ADDR]:43210/light
```
→ **In port (part of CoAP Group)**

```
coap://[COAP_GROUP_ADDR]/light
```
→ **Not in group URI: can be in a CoAP Option, or implicit**

Overview of -05 updates

› Detailed (2.2.3) what kinds of group discovery are possible using CoAP Discovery #29 – pending WG review & approval!

› Stronger advice (4 / 6.1: "NOT RECOMMENDED") on unsecured group communications – was #22 – ok for WG?

› Editorial improvements & fixes
(e.g. group relations fix, explain forward/backward security,
 6.3 amplification risk, ...)

Non-RD Group Discovery #29

› Discover all AGs part of a CoAP Group 'CG1' and CG1 members

    `coap://CG1/.well-known/core?href=/g/*`   **Example**

› Discover all realm-local members of AG 'Group1'

    `coap://[ff03::fd]/.well-known/core?href=/grp/Group1`   **Example**

› Discover all AGs of a particular type 'Type1' in the mesh and members

    `coap://[ff03::fd]/.well-known/core?rt=Type1`   **Example**

(One more example in the I-D. All this: application-specific, i.e. examples only.)

Next steps

› More reviews of the updated parts (diff)!

– If all's well we can close #28, #29

› More reviews of entire document? As part of WGLC?

– Promised @IETF 108: Christian, Francesca

› All review comments (John, Christian) now addressed

– Current version -05 may be ready for WGLC.

Thank you!

Comments/questions?

https://github.com/core-wg/groupcomm-bis/

Motivation (backup slide)

› RFC 7390 was published in 2014
  - CoAP functionalities available by then were covered
  - No group security solution was available to indicate
  - It is an Experimental document (started as Informational)

› What has changed?
  - More CoAP functionalities have been developed (Block-Wise, Observe)
  - RESTful interface for membership configuration is not really used
  - Group OSCORE provides group end-to-end security for CoAP

› Practical considerations
  - Group OSCORE clearly builds on RFC 7390 normatively
  - However, it can refer RFC 7390 only informationally