Group Communication for the Constrained Application Protocol (CoAP)

draft-ietf-core-groupcomm-bis-02
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Goal

› Intended normative successor of experimental RFC 7390 (if approved)
  – As a Standards Track document
  – Obsoletes RFC 7390, Updates RFC 7252 and RFC 7641

› Be standard reference for implementations that are now based on RFC 7390, e.g.:
  – “Eclipse Californium 2.0.x” (Eclipse Foundation)
  – “Implementation of CoAP Server & Client in Go” (OCF)

› What’s in scope?
  – CoAP group communication over UDP/IP, including latest developments
    (Observe/Blockwise/Security …)
  – Unsecured CoAP or group-OSCORE-secured communication
  – Principles for secure group configuration
  – Use cases (appendix)
Overview of -02 updates

› Clarify messaging/endpoint model – server may respond from different UDP port #1

› Consistency requirement for response suppression updated – now based on response code class #2

› ‘Group definition’ 2.1 expanded into subsections; relations between group types detailed.
  – Encoding application group using ‘Uri-Host’ Option added #3
  – Best practices for application group inclusion in request added
Overview of -02 updates

› Included FETCH method in many places, where applicable. Also in Observe 2.3.5 and Block-Wise 2.3.6.

› Various enhancements & editorial
  – A few more Observe re-registration details
  – ...

Server response from different UDP port

- Issue #1, now closed
Next steps

› Move handling of multiple CoAP responses from CoAP layer to the application layer, in 2.3.1
  – based on Interop experience

› Extend proxy operation 2.3.3 with caching of responses
  – explore caching scenarios – can we suppress the sending of multicast request in certain cases? Can Proxy do cache-refresh?
Next steps

› More reviews would be good!
  – Promised @IETF 108: Christian, Francesca

› Test selected functions in CoAP implementations
  – E.g. “Observe + multicast” extension of RFC 7641
  – Report results
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