

CoAP: Non-traditional response forms

bormann-core-responses-06

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Terminology introduced

Non-traditional response

A response that is not the single response generated for a request received on the same transport.

Generalization issue

	Observe	Non-traditional responses
Send	notifications	more responses
If	Observe option	some Proxy-Unsafe option
Until	no Observe option is in	depends on ↑

Generalization issue

becomes orthogonality issue

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If	Observe option	some Proxy-Unsafe option
Until	no Observe option is in	depends on ↑
Flow control	follow CoAP	follow CoAP

Generalization issue

becomes orthogonality issue

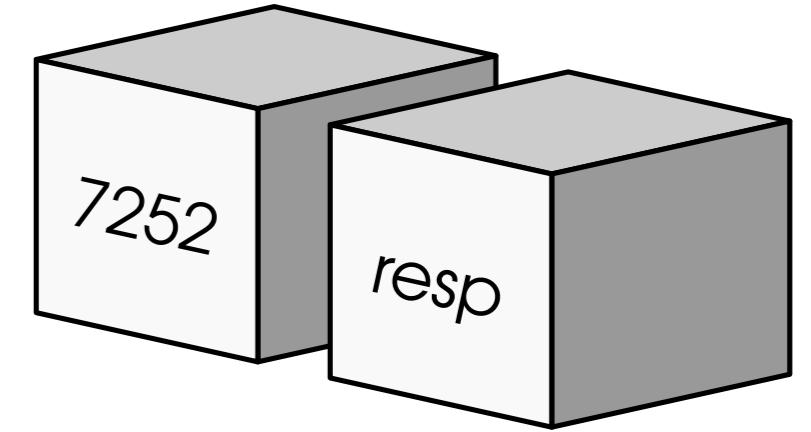
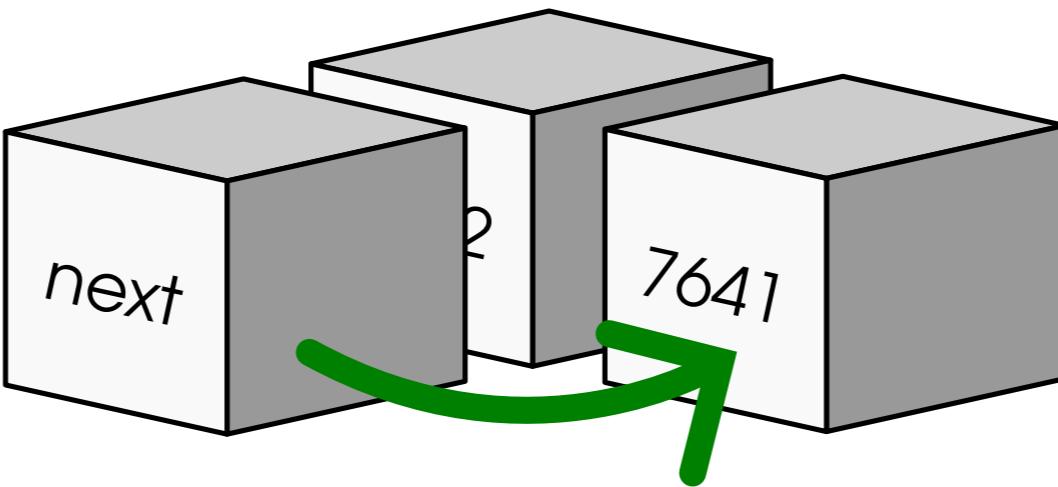
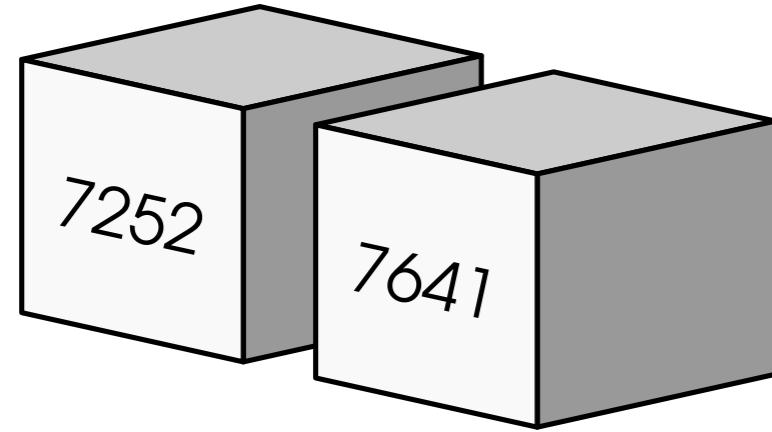
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Flow control	follow CoAP	follow CoAP
OSCORE	as per RFC 8613	

Generalization issue

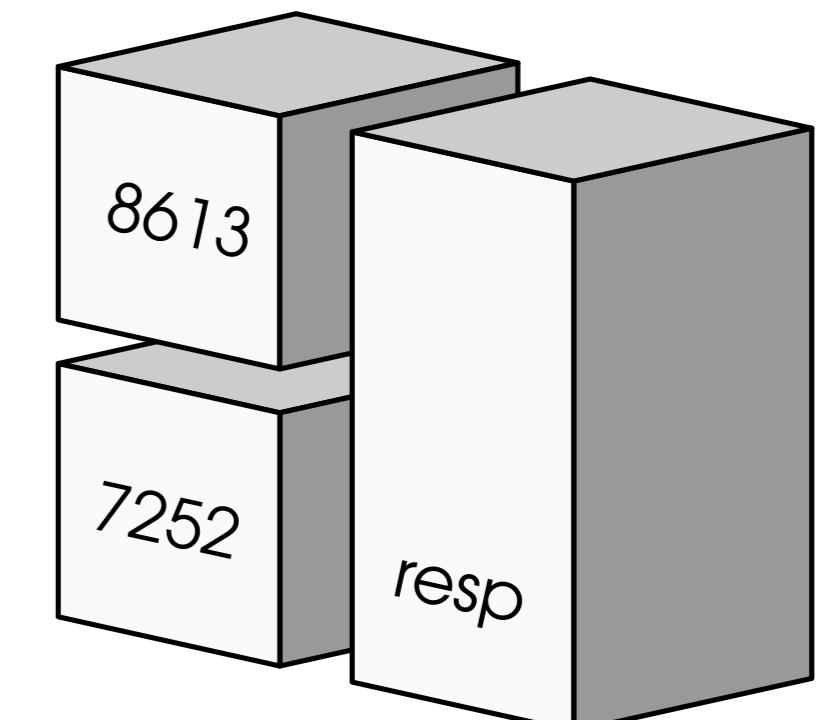
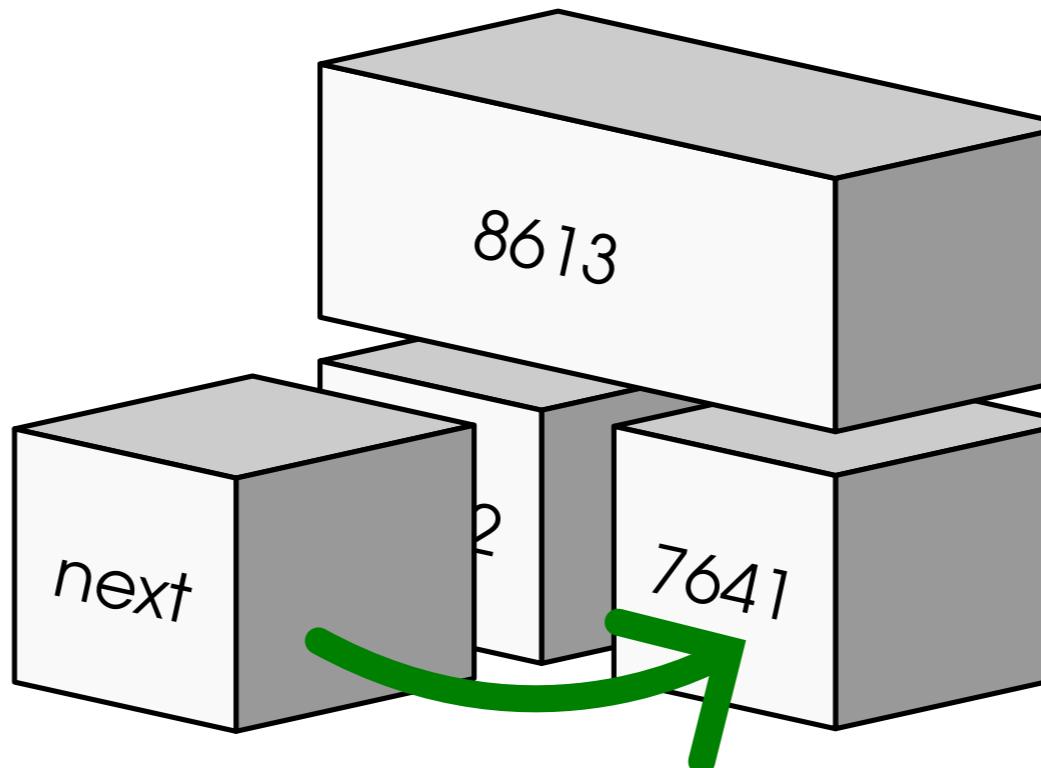
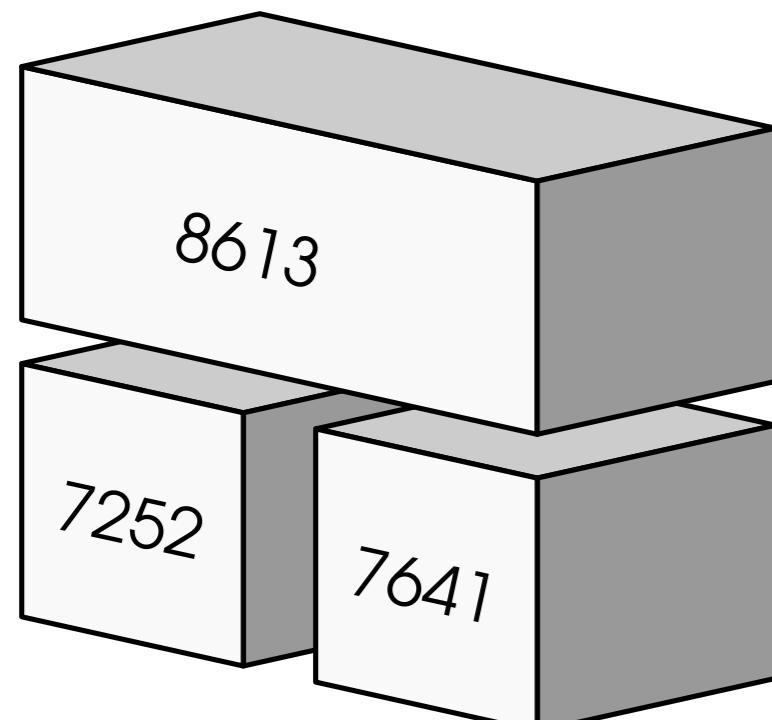
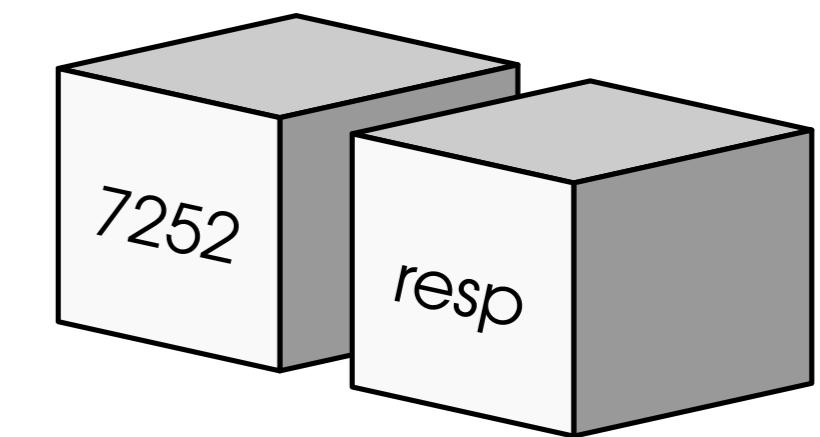
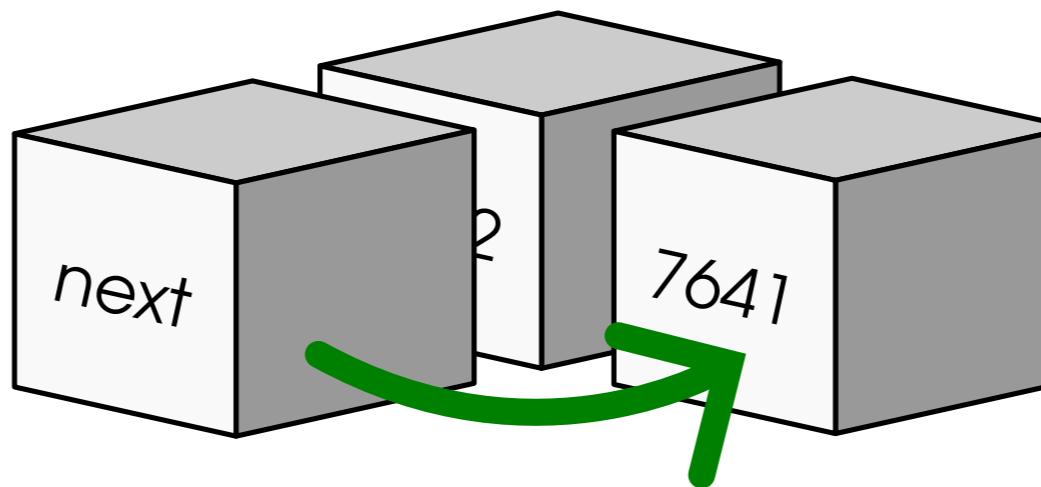
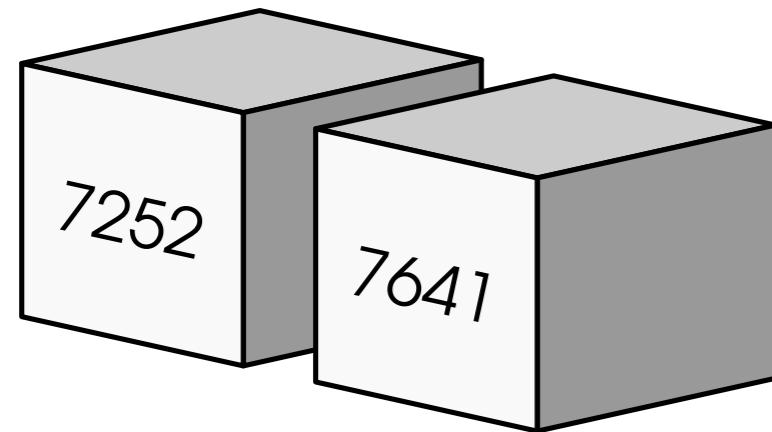
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OSCORE	as per RFC 8613	generalizing RFC8613

Generalization issue



Orthogonality issue



Behavior definition: OSCORE

Generalized from Observe behavior

- Explicit request or not: Request needs sender and sequence number.
- Request nonce can only be used in one response.
- If order matters, responses are ordered by sequence number.
- If replaying matters, responses are subjected to the replay window.
- If follow-up requests were made, transiently tolerate erroneous responses.

Potential users

Adapted from IETF113 slide set

- RFC7641** Observe notifications come in until further notice
- core-coap-sms** Response-To-Uri-Host/-Port – triangular requests
- core-coap-endpoint-id** Observations across server address changes
- RFC8613** Explicit wording for Observe
- RFC9177** Responding with multiple blocks
- groupcomm-bis** Single request, different responses with different source addresses
 - ← informative reference
- oscore-capable-proxies** to facilitate core-groupcomm-proxy's Multicast-Timeout
 - ← TBD reference

More in this document

- Define behavior of non-traditional responses in general
- Define new versatile non-traditional responses:
 - ▶ Response-For
 - ▶ Leisure-For-Responses
 - ▶ Respond-To

Next steps

- New options: illustrative or practical? (#4)
- Future in the WG?