

CoAP: Non-traditional response forms

draft-bormann-core-responses-01

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A history of ... relevant things

RFC7252 simplest case Single request, single response¹

RFC7252 multicast Single request, different responses with different source addresses

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

core-responses-00 Configured requests, Response-For

RFC9177 Responding with multiple blocks

core-groupcomm-proxy Multicast-Timeout

...all on the same token.

¹Retransmits are not necessarily identical, but either way the client usually only processes one.

A history of non-traditional responses

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...which can all be described with common terminology.

²The retransmits, even when changed, are barely not considered nontraditional.

Defining non-traditional responses

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

One response is non-traditional \Rightarrow all responses are non-traditional ... but often, only one is “matching”.

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Non-matching response: A response that has properties (typically options) that make it incompatible with the original request, and thus in particular unsuitable as a cached response to that request (but possibly suitable to populate the cache for a similar request).

What to do with it?

- Provide terminology and general concepts usable for other specifications.
groupcomm-proxy and multicast-notifications are concrete candidates.
- Provide terminology and general concepts usable for implementers.
Ongoing experimentation in Python and Rust implementations.
- Provide concepts usable for applications.
Statically configured requests.
(Dynamic configured requests can follow multicast-notifications pattern.)
- Provide options usable for generic applications (Response-For, Respond-To, Leisure-Time).
Can double as examples for further specifications.

Next steps

- Is the working group interested in general work on non-traditional responses?
- Is the working group interested in this document for...
 - ▶ ...its taxonomy?
 - ▶ ...its concrete options?
- Are there any conflicts with existing concepts?
- Any other feedback?