

Server-Oriented Ranges v0.1

(draft-kfall-httpbis-server-ranges-00)

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Setting

- HTTP ranges today are ‘client driven’:
 - Client asks for [a-b] or [a-b],[c-d]
 - Server responds with [a-b] or [a-b],[c-d] and 206
 - Multiple ranges only ok if multiple requested
 - Response code 206 is “Partial Content”
 - De facto the client ‘gets what it asks for’
- No way to express ‘give me what you have’
 - Client may ask for anything in [0-] or [a-b]
 - How can server respond with [c-d] (e.g., $c > a; d < b$)?

Why is this Needed?

- Consider the following “network”:

A --- B === C

--- HTTP; === is broadcast and lossy

B may be holding ‘out of order data’

- A wishes to get whatever B has
 - Or some subset of [0-] or [a-b] or even [a1-b1],[a2-b2]
 - Example: continuous media segments (uses HTTP)
- Specs appear to allow ‘server’ ranges to be returned
 - Return 206 if server has “fulfilled” client’s request
 - RFC2616 and draft-ietf-httpbis-p5 are the same
 - But not returning what’s asked for seems bad (?)

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- Declares server can respond with [c-d] where
 - Client requests [a-b] and $c \neq a$, $d \neq b$ (or multi)
 - Uses 206 response code
 - Makes no syntactic change to HTTP
 - Doesn't appear to violate RFC2616
- Other possibilities
 - Have duplicates (e.g., [0-],[0-]) indicate client's understanding of server ranges
 - Use a new response code (should be 2xx?)

Way Forward

- Agree server oriented ranges are useful
- Determine how to support this
 - A “different” mode of HTTP?
 - If so, maybe special request and response code
 - Part of existing range capability
 - Then just an agreement on semantics
 - Clarify any issues wrt caching
- Applicable to HTTP/1.1 and/or HTTP/2.0?

(thanks, kfall@qti.qualcomm.com)