Server-Oriented Ranges v0.1
(draft-kfall-httpbis-server-ranges-00)

Kevin Fall
Qualcomm Technologies
kfall@qti.qualcomm.com
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”:

\[ \text{A --- B === C} \]

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

• Declares server can respond with [c-d] where
  – Client requests [a-b] and c != a, d != 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)