Request for Comment 7233:

Hypertext Transfer Protocol: Range Request

Hypertext Transfer Protocol (HTTP) clients encounters interruption of data transfers that tends to cancellation of request and dropping of connections. When the client has been stored partial presentation, it is necessary to request a remainder from the presentation in a following request rather than transferring the entire presentation because are some devices which has only limited local storage and these devices may benefit from requesting only a subset of the entire presentation.

**Range Unit**

Range Unit is the partitioned presentation according to the various structural units. It is used in Accept-ranges in which response header fields to support for a range request, the Range request header field to describe the parts of a presentation that are being requested and there is also the Content- Range a payload header field that tends to describe in which part of the presentation is transferred.

**Range Request**

The Range header field in the Get request tends to modify the method semantics to transfer the request of only one or more subranges of the selected presentation data, rather than the entire presentation data.

* The serve may ignore the range header field because it ought to support byte ranges if possible.
* The server must also ignore the range header field which contains a range unit that it does not understand.

The If-Range is used when the precondition fails the user agent would have to make a second request in order to obtain the entire presentation. If-Range header field allows a user agent to “short circuit the second request.

**Responses to a Request**

* **206 Partial Content is** a status code which indicate that the server is effectively fulfilling the range request for the resource by transferring some parts of the selected presentation.
* **Content-Range** header field is sent in a single part response which tells the partial range of the selected presentation which is enclosed with message as the payload, and sent in each part of the multipart 206 response in order to tell that the range is enclosed within the body part, and also sent it to 416 responses in order to provide information about the chosen presentation.
* **Combining Ranges** is the way of combing the ranges of the same presentation in which may transfers have occur and the client have received several ranges in that presentation. The ranges can be strongly combined when it has a common the same strong validators.
* **416 Range Not Justifiable** is a status code which indicates that none of the ranges in the request’s Range header field overlaps the current level of the selected resource or the set of ranges that is requested has been rejected because of the invalid ranges or there is an excessive request of small or overlapping ranges.

**Denial-of-Service Attacks Using Range**

Denial-of-Service attacks happens when unconsidered multiple range request are susceptible because of the effort required to request many overlapping ranges of the same data is tiny compared to the time, memory, and bandwidth consumed by which of attempting to serve the requested data in many parts.