Digest Proposal Summary Table

	RFC3230	Option 1: Update 3230 and Content-Digest	Option 2: Update 3230 and introduce new Digest SF	Option 3: leave RFC3230 behind and introduce new Digest SF	Option 4: Update 3230 and move everything to SF
Digest	**inconsistent with httpbis**	Consistent with httpbis Syntax backward compatible with RFC3230 to support current implementers (OpenBankingEurope, EU cross-border transactions) Signature guidance **No SF**	Consistent with httpbis Syntax backward compatible with RFC3230 to support current implementers Current implementers can plan a transition to representation-digest	**Inconsistent with httpbis** **Current implementers will stay inconsistent with httpbis** **No signature guidance**	Consistent with httpbis **Current implementers will need to plan the upgrade - non backward compatible** Use SF (List or Dictionary)
Want-Digest					
Content-Digest	Content-MD5		Use SF (List or Dictionary) New implementers will adopt Representation-Digest	Use SF (List or Dictionary) New implementers will adopt Representation-Digest	Use SF (List or Dictionary)
Want-Content-Digest	X				
Representation-Digest	X	X			X
Want-Representation-Digest	x	X			X

Mail for the WG

Hi folks,

You might recall that the Digest Headers draft WGLC concluded in December. We had some feed that we've been digesting (pun intended) and wanted to bring some of our ideas on next steps back to the WG for input. There's a few options here and we'd appreciate feedback so that we can whittle them down.

The crux of the issue is that this draft relates to updating the Digest and Want-Digest HTTP fields. These use a "custom" list format based on the #rule ABNF extension [1]. This is more-or-less unchanged in the draft. List items are of the form "key=value". This format is very similar to Structured Fields (SF) Dictionary but not exactly the same. It supports a set of characters that do not match SF's set , and it allows for duplicate entries in the list (handling of duplicate entries is a bit under-defined, we'll come on to that). In 2021 we added the Content-Digest and Want-Content-Digest headers. These use the same format as Digest and Want-Digest for consistency.

A few people have expressed that they'd really like to find a way for Digest headers to work with SF. That seems to be the direction of travel for new HTTP fields. Digest synergizes with another WG item - Signature, and it's unfortunate that there's a bit of friction between the two due to formats. But we're also updating an old draft and need to be mindful of existing deployments that use Digest. The catalyst for starting the Digest work was to replace "Instance" with "Representation" and other modern HTTP semantic terms so that implementers had a clearer understanding how to use Digest as intended.

We've been noodling on things in the background and think we have 3 candidate options for consideration:

Option 1: Status Quo. The I-D continues to update RFC 3230 terms, and has a light touch on Digest. New Content-Digest uses legacy list format. This addresses the initial goal and accommodates the simpler content use case that came up during standardization.

Option 2: "Three headers". Update RFC 3230 terms and light touch on Digest. New Representation-Digest and Content-Digest headers use an SF Dictionary format. Digest and Representation-Digest act similarly but use different wire formats and have different parsing rules around duplicates; new headers are RECOMMENDED over old. See the proposal PR at https://github.com/httpwg/http-extensions/pull/1893; diff at https://www.ietf.org/rfcdiff?url1=https://httpwg.github.io/http-extensions/draft-ietf-httpbis-digest-headers.txt&url2=https://httpwg.github.io/http-extensions/structured-digest2-and-content-digest/draft-ietf-httpbis-digest-headers.txt

Option 3: "Two headers". Leave RFC 3230 alone. New Representation-Digest and Content-Digest headers use an SF Dictionary format. Digest and Representation-Digest act similarly but use different wire formats and have different parsing rules around duplicates; new headers are RECOMMENDED over old. See the proposal PR at https://github.com/httpwg/http-extensions/pull/1894; diff at https://www.ietf.org/rfcdiff?url1=https://httpwg.github.io/http-extensions/draft-ietf-httpbis-digest-headers.txt&url2=https://httpwg.github.io/http-extensions/structured-digest2-and-content-digest-no-rfc3230/draft-ietf-httpbis-digest-headers.txt

A comparative table of the proposal is available here [2].

Note that the proposal PRs are a bit rough. There are more there to give a shape of what the differences would look like. We can probably wordsmith them, and bikeshed on whether to use sf-dictionary or sf-list. But the important thing is to agree on what to do first. So feedback is appreciated.

Cheers
Lucas & Roberto
Digest editors

[1] https://datatracker.ietf.org/doc/html/draft-ietf-httpbis-semantics-19#section-5.6.1
[2] https://docs.google.com/document/d/1wC2E42dCSrmh3nDnUL-rItzvr09kFcltBs_jWvJPfjl