Status

- **Scope:** Main specification for structured email → allow to describe content of email messages in a machine-readable format

- **Example implementation:**
  [https://github.com/audriga/roundcube-structured-email](https://github.com/audriga/roundcube-structured-email)

- **Updates since IETF 119**
  - Some minor editorial fixes/elaborations
  - Added “non-representation” case
  - Started “legacy structured email” survey
  - Started “multiparty/alternative” survey
“Legacy structured email” survey

● Goal: understand current usage of (legacy) structured email
● Problem: no public data sets (=need to crawl private accounts)

● Results (n=2; non Gmail/Yahoo/1&1 account)
  ○ Various different senders
    ■ Events (Eventbrite, Ticketmaster)
    ■ Other (Dropbox, Docusign, GitHub, Google Docs/Drive, Spotify)
    ■ Shops (Cyberport, eBay, Galaxus, Stripo)
    ■ Travel (Amtrak, Booking.com, Easyjet, HRS, Lufthansa, Lyft, Ryanair)
  ○ Mostly JSON-LD; but also Microdata

● Next steps
  ○ Publish example data
  ○ Provide tooling for crawling email accounts
“Multipart/alternative” survey

● Placement of structured data in the “full representation” case
  ○ Add “application/ld+json” to “multipart/alternative”
    ■ Pro: “clean”
  ○ Alternative: also embed JSON-LD in text/html SCRIPT-tag
    ■ Pro: More legacy software-friendly
  ○ See also: https://github.com/hhappel/draft-happel-structured-email/issues/3

● Problem: Three cases of API support for custom “multipart/alternative”
  ○ Easy
  ○ Difficult (Convenience methods for text+html; custom MIME handling for other)
  ○ Impossible (only supporting text/plain and text/html)

● Survey document: https://notes.ietf.org/1CMe390rT6CdhJp07z1qBA
Structured data across email messages: need more eyeballs

- Forwarding
- Replies
- Error replies
- Updates
Next steps

- Progress decisions on core representation issues
  - Continue with surveys (input appreciated)
  - Provide more examples/data

- Further aspects
  - Provenance?

- Further co-authors?
Backup
Structured data across email messages: Forwarding

● Treatment of structured data on (manual) forwarding
  ○ Keeping might be desired in many use cases (e.g., “share by email”)
  ○ Stripping might be desired in certain use cases
    ■ E.g. privacy issues in “on-representation” cases, where structured data is not obvious from HTML content (e.g., preemptive vacation notice)
  ○ No way to change behaviour of legacy email clients

● Any relation to automatic forwarding?

● See also https://github.com/hhappel/draft-happel-structured-email/issues/6
Structured data across email messages: Replies

- Structured email sent in response to a structured email
  - Based on “potentialAction”

- Capturing reply status
  - “\Answered” flag defined for conventional replies (RFC 9051)
  - Proposal: Adding $AnsweredStructured

- See also: https://github.com/hhappel/draft-happel-structured-email/issues/7
Structured data across email messages: Error replies

- An original sender may not assume that a structured email has been processed by a recipient.
- But: if a recipient answers with a structured email response, she may want to be informed if this response is invalid for some reason (in order to avoid the false assumption of a proper reply).

- Options
  - Define error based on DSN/MDN
  - Define structured data error type

- See also [https://github.com/hhappel/draft-happel-structured-email/issues/8](https://github.com/hhappel/draft-happel-structured-email/issues/8)
Structured data across email messages: Updates

- Human readable messages can be recalled/corrected by a follow-up human readable message
- How to recall/update structured information in a machine-readable way?

- Options
  - Use SUPERSEDES header (RFC4021)?

- Potential side issues (answered? forwarded? ...)
- See also https://github.com/hhappel/draft-happel-structured-email/issues/9