draft-happel-structured-email–trust-00

IETF 118

Scope

- Security and trust considerations for processing structured email
  - I.e., mainly addressing any sort of recipient-side MUA!?
- Topic of debate on the mailing list
  - Mostly addressing email in general
  - Does SML change existing or enable new attack vectors compare to regular email?

Status quo

- How is structured email currently processed?
- Large ISPs (Gmail, Yahoo, 1&1, …)
  - Manual sender approval / white listing
  - Require DKIM/SPF/…
- Open source tools
  - KMail and Nextcloud: no restrictions
  - Roundcube plugin: reusing “trusted sender” (special address book) feature used for remote images
- M3AAWG BCP forthcoming

Types of security concerns

- Formal representation of data (beyond human-readable text)
  - Privacy issue: data easier to analyze in storage / transit
  - Probably comparable to structured MIME attachments (flight tickets, barcodes)
- Possible divergence between structured and human-readable data
  - Same issue exists already for text/plain / text/html?
- Automated processing
  - Structured email may afford MUAs to offer automated actions (similar to Sieve filter rules)
- External references
  - Similar to external images referenced in HTML email
- More types?

Mechanisms

- Content encryption
  - Full message?
  - Structured data only?

- Trust
  - Trusted senders (e.g., address book)
  - Sender signatures (e.g., PGP, SMIME)
  - Domain signatures (e.g., DKIM)
  - Transaction identifiers

Differentiate by use cases?

- “Neutral” structured data
  - E.g., shared news article
- Structured data with personal information
  - E.g., flight reservation

Implementation guidelines

- Processing structured data
  - Only if the sender is trusted
  - Otherwise: fall back to text/html or text/plain

- Inlining data (e.g. images)
  - Avoids privacy issues on receiver side

Next steps

- Request WG adoption

- Reference implementation
  - Plugin for Roundcube Webmail
  - Currently re-using “trusted sender” (in address book) feature for remote images