Header Protection (HP) Use Cases / Requirements

LAMPS @ IETF-106 / Monday, 18 Nov 2019

draft-ietf-lamps-header-protection-requirements-01

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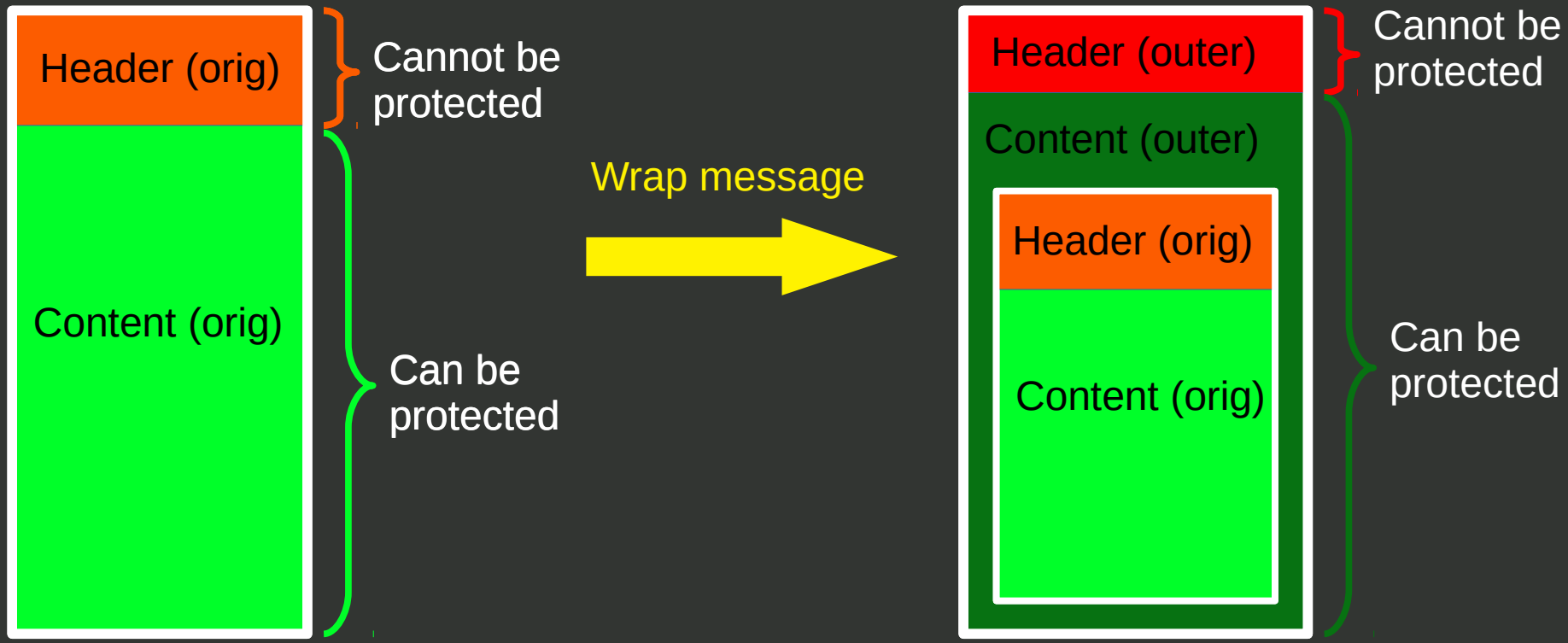
HP in S/MIME since version 3.1



draft-ietf-lamps-header-protection-requirements-01 (changes to -00)

- Moved Implementation Considerations to Appendix
- Simplified GS3 (Header Fields not to include in clear text)
- Added GR3 ('encryption only' on receiving side)
- Added example for Option 2.1 (pEp)
- Added more information on Bcc (feedback IETF-105)
- Shortened abstract
- More editorial changes

Open Issues

1) Confirm we are not addressing ‘encryption only’ on sending side (i.e. document receiving side only)
2) Should G3 remain in the document (single format that covers all protection levels)?
3) To what extent are we addressing Backward Compatibility?
4) Any further issues / comments (or is this the set of requirements are we going to address in LAMPs)?
   - Completeness
   - Adjustments (as needed)

Solution Considerations: “Weird artifacts”

- How to deal with rendering issues at receiving side “Weird artifacts”?
  - Mitigate confusion of receiving users
  - Help broken clients that do not handle encapsulated (and forwarded) messages correctly
- Observations in the past:
  - Rendered as empty message with attachment
  - Attachment (inner message) cannot be opened

Solution Considerations: “Work-around”

- **Fix broken implementations** (in code of receiving side) **as opposed to “work-around”** (to standard)
- “Work-around” suggests to add new MIME node (containing protected headers)
  - Legacy Display: draft-autocrypt-lamps-protected-headers-01
  - Deviation from current S/MIME standards
- More research needed, in particular on receiving side
  - Impact of “work-around” on existing implementations
    - Adverse side effects (e.g. MIME libraries)
    - Newly introduced “weird artifacts” on receiving side (by suggested “work-around”)
  - Update existing research on “weird artifacts”

Next steps

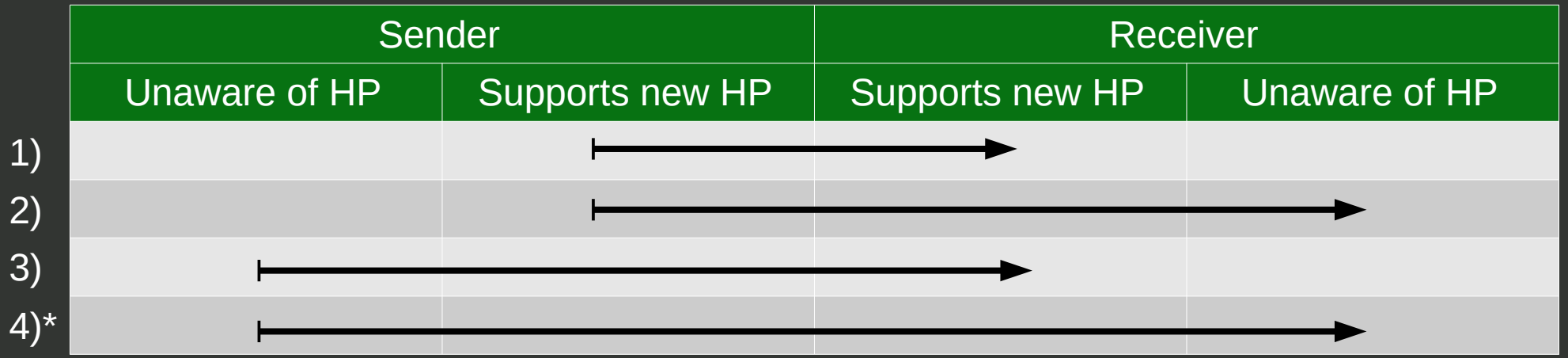
- Close open issues
- Confirm the set requirements on mailing list
- Reach out to implementers of clients and libraries to gain feedback
- Update requirements I-D
- More research on “weird artifacts”
- Start new I-D on solutions

Questions / Discussion

Backup Slides

Interaction Cases (1/3)

- Which interaction cases are in scope?



* trivial case

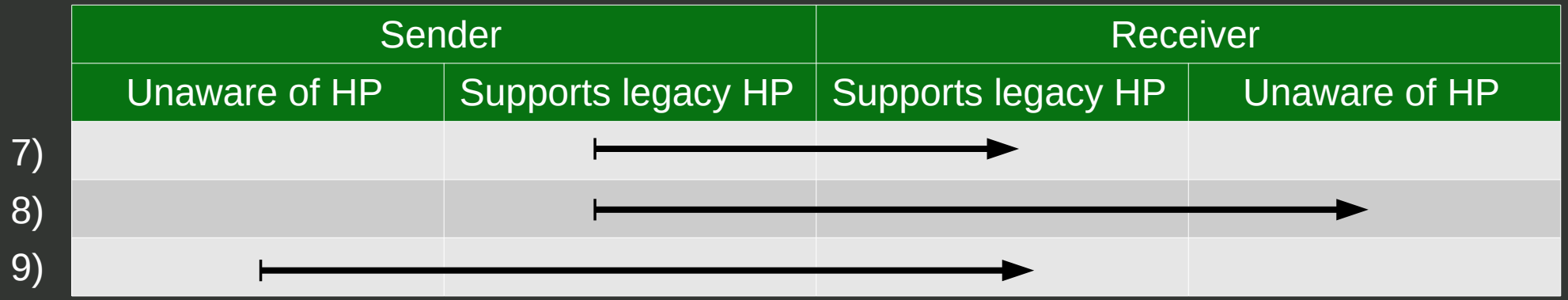
Interaction Cases (2/3)

- Which interaction cases for interoperability with legacy HP are in scope?
  - S/MIME HP since version 3.1
  - Other implementations (incl. PGP)?

	Sender		Receiver	
	Supports legacy HP	Supports new HP	Supports new HP	Supports legacy HP
5)		←	→	
6)	←		→	

Interaction Cases (3/3)

- Interactions between clients not supporting new HP
  - Probably out-of-scope
  - Though, may need to be documented



General Requirements (High Level)

- G1: Format (MIME structure, Content Type, etc.)
- G2: Easily implementable
- G3: Only one format for all protection levels
- G4: Mitigation of MITM (incl. downgrade) attacks

Requirements Sender (High Level)

- GS1: Which Header Fields (HF) to protect [signature case]
- GS2: Which HF to send in clear [encryption case]
- GS3: Which HF to not to send in clear (Data Minimization) [encryption case]
- GS4: Which HF to not to include to any HP part (e.g. Bcc)

Requirements Receiver (High Level)

- GR1: Conflicting information between protected and unprotected HF?
  What to present to the user?
- GR2: Detection of MITM (incl. downgrade) attacks
- GR3: how to treat 'encryption only' on receiving side

Requirements Backward Compatibility

General:

- B1: Distinguish between forwarded and wrapped messages

Sender:

- BS1: Indicate full HP support
- BS2: Define how full HP support of the receiver can be detected or guessed.
- BS3: Ensure Subject HF can be displayed to users of HP unaware clients

Receiver:

- BR1: Detection for support of new HP