

SMTP over Bundle Protocol

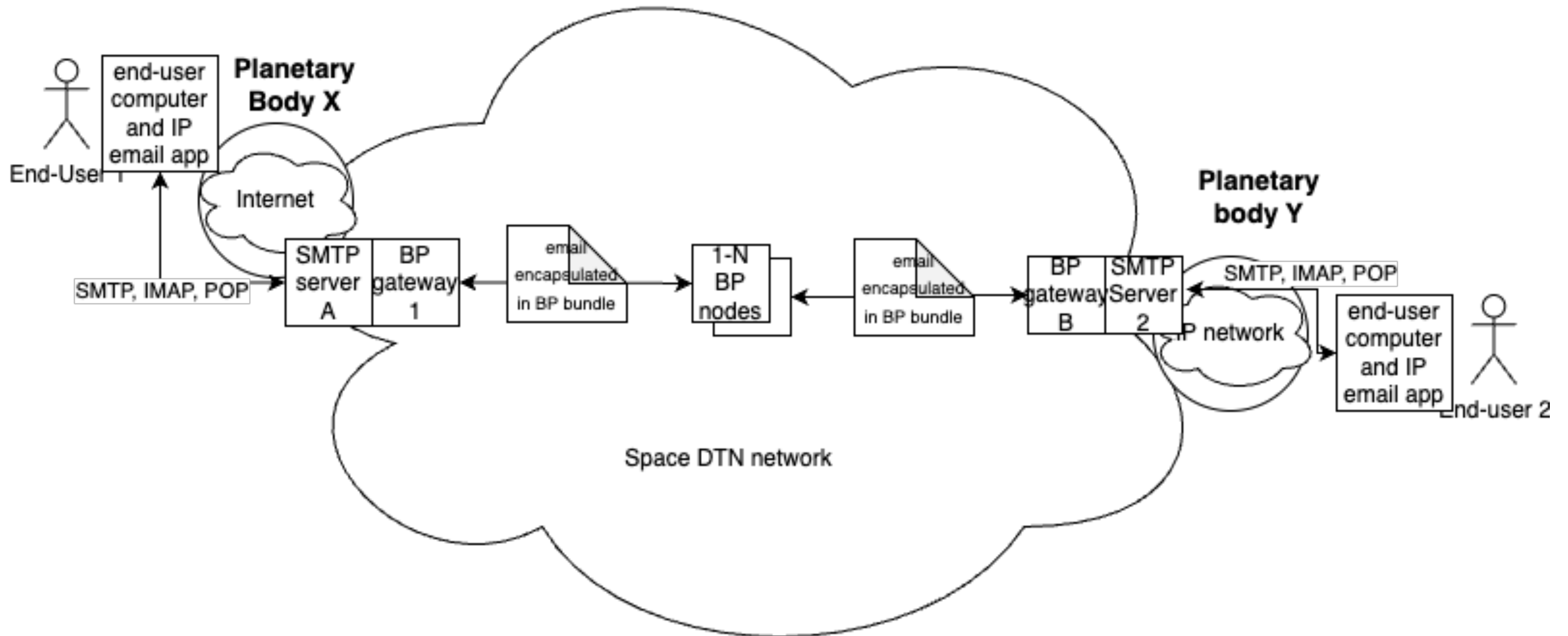
draft-blanchet-dtn-email-over-bp

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Rationale

- Motivation: run applications over BP. Let's start with email.
- Send email from/to/between planetary bodies
- Bundle Protocol used between planetary bodies (and also on)
- IP network on planetary bodies (see various space agencies architecture documents)
- Instead of inventing a new Email protocol (and applications) over BP, then re-use Internet Email (protocol and applications) but encapsulate into BP.
- Both sides are using « regular » Internet Email software and protocols

An example



Email Encapsulation into BP

- SMTP is chatty: many back and forth between MTAs. Make no sense to encapsulate every exchange. Instead put the whole email including headers in a single bundle.
- -00: encapsulate [RFC5322]. Comments from Card, Resnick and Levine: RFC5322 does not include the envelope. Use instead Batch SMTP [RFC2443]
- -01 encapsulate [RFC2443]

Considerations

- If email is « big » (including media or else), use bundle fragmentation.
- Not doing the SMTP « chat » means that both ends know each other « feature set »: no negotiation. (Extensions are pretty stable). If not, then « just » gets an error message back.
- Request IANA BP service number assignment (25 would be cool).
- Degenerated case: a spacecraft is a BP node. The Mail server, the BP node, the mail client may all be on the same host.
- Operations of IP networks and domain name infrastructure: yes, there are operational considerations on running DNS (and IP network in general) on planetary body: out of scope of this document but it is being worked on.

Next Steps

- WG Adoption
- Working on an implementation using Postfix and uD3TN (AAP is simple and easy for quick implementation). When done, will post so people can join and try.
- If you plan to implement, please send me a note so we can arrange some interop testing.
- Specification: [draft-blanchet-dtn-email-over-bp](#)
- Looking for more comments
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