A BCP for MTAs

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draft-kucheraw-y-mta-malformed

- SMTP, IMF, MIME, etc., all specify how to format and transport a message
- Lots of support in the ABNF for obsolete formats
- The old Postelism, “Be liberal in what you accept, conservative in what you send”, has been and still is extensively applied in mail software development
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• What the RFCs don’t do is provide solid guidance on what to do with a message that is non-conformant in terms of format or transport
  – And maybe explain what pain will be suffered if one doesn’t do so
• The default is generally to accept the malformed message or transport anyway and make a best effort at delivery
• This leads to a bunch of bad things
  – Inconsistent user experience, where one service provider or software package delivers or renders “properly” a piece of email while others reject or get it wrong
  – Exploitable code, where a spam or virus filter fails to catch something because it can’t anticipate malformations that other agents will forgive in an effort to be “helpful”
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• And some other bad things
  – We specify what things like IDNs are supposed to look like, but people still send UTF-8 URLs and the browsers happily do the intended thing even though they’re not “legal” on numerous levels
  – “The great thing about standards is that there are so many to choose from.”
• There is by now lots of distributed wisdom about how to handle common malformations for security and performance reasons
• We should collect it, write it down, and make it available to implementers so they don’t have to re-learn it all on their own
  – That’s what this effort is about
• Several implementers have been polled to ask what they do so that a consensus can be published, but more should participate
• Scenario #1: Invalid header line
  – Consensus is to act like the body starts at line 4.

  From: user@example.com
  To: userpal@example.net
  Subject: This is your reminder about the football game tonight
  Date: Wed, 20 Oct 2010 20:53:35 -0400

  Don't forget to meet us for the tailgate party!
• Scenario #2: Unusual extra spaces
  – Consensus is to modify the message outbound to correct unusual spacing

From: user@example.com
To: userpal@example.net
Subject: This is your reminder
MIME-Version : 1.0
Content-Type: text/plain
Date: Wed, 20 Oct 2010 20:53:35 -0400

Don't forget to meet us for the tailgate party!
• Scenario #3: Weakly-enforced rules
  – Section 3.6 of RFC5322 says, among other things, that a message must have exactly one From: field, but several implementations forgive this
  – Leads to one part of a system (e.g., a filter) keying off the first while others (e.g., an MUA) key off some other one
  – Consensus appears to be take some corrective action, whether that’s removing all but one or rejecting the message outright
• Scenario #4: More weakly-enforced rules
  – RFC2045 says a message isn’t MIME unless it has a MIME-Version field, but there’s lots of mail intended to contain MIME parts that lacks a MIME-Version field
  – Consensus appears to be to act as if MIME-Version is there if the message otherwise appears to have MIME structure
• Probably many other cases that should be discussed with preferred solutions published
• You’re all invited to read the draft and propose other scenarios and recommended practices
• When we have enough we can seek publication
• Discussion?