Network Working Group   Arnt Gulbrandsen
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Intended Status: Proposed Standard
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                  EAI: Simplified POP/IMAP downgrading
                  draft-ietf-eai-simpledowngrade-02.txt

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Abstract

   This document specifies a method for IMAP and POP servers to serve
   internationalized messages to conventional clients. The specification
   is simple, easy to implement and provides only rudimentary results.

[1]. Overview

   It may happen that a conventional IMAP or POP client opens a mailbox
   containing internationalized messages, or even attempt to read
   internationalized messages, for instance when a user has both
   internationalized and conventional MUAs.

   While the server can hide the existence of such messages entirely,
   doing that can be both tricky to implement and not very friendly to
   the user.

   This document specifies a way to present such messages to the client.
   It values simplicity of implementation over fidelity of
   representation, on the theory that anyone who wants accuracy should
   use an internationalized client, and that client implementers' time
   should be reserved for implementing [RFC6531], [RFC5738] and/or
   [RFC5721].

   The server is assumed to be internationalized internally. When it
   needs to present an internationalized message to a conventional
   client, it synthesizes a conventional message containing most of the
   information and presents that (the "synthetic message").

[2]. Information preserved and lost

   The synthetic message is intended to convey the most important
   information to the user. Where information is lost, the user should
   see the message as incomplete rather than modified.

   The synthetic message is not intended to convey any information to
   the MUA. Nothing parsable is added, not even a marker to say "this
   message has been downgraded".

   Upper case in examples represents non-ASCII. example.com is a plain
   domain, EXAMPLE.com represents a non-ASCII .com domain.

2.1 Email addresses

Each internationalized email address in the header fields listed
below is replaced with an invalid email address whose display-name
tells the user what happened.

The format of the display-name is explicitly unspecified. Anything
which tells the user what happened is good. Anything which produces
an email address which might belong to someone else is bad.

Given an internationalized address "Fred <fred@EXAMPLE.com>", an
implementation may choose to render it e.g. as these examples:

        "fred@EXAMPLE.com" <invalid@eai.invalid>
        Fred <invalid@eai.invalid>
        eai-address:;
        fred:;

(The .invalid top-level domain is reserved by [RFC2606], therefore
the first two examples are syntactically valid, but will never belong
to anyone. Note that the display-name often will need [RFC2047]
encoding.)

The affected header fields are Bcc, Cc, From, Reply-To, Resent-Bcc,
Resent-Cc, Resent-From, Resent-Sender, Resent-To, Return-Path, Sender
and To. Any addresses present in other header fields are not
regarded as addresses by this specification.

2.2 MIME parameters

Any MIME parameter [RFC2045] (whether in the message header or a
bodypart header) which cannot be presented as-is to the client is
silently excised.

Given a field such as

        Content-Disposition: attachment; filename=FOO

the field is presented as

        Content-Disposition: attachment

2.3 "Subject"

If the Subject field cannot be presented as-is, the server presents a
representation encoded as specified in [RFC2047].

2.4 Remaining header fields

Any header field which cannot be presented to the client even after
the modifications in sections 2.1-2.3 is silently excised.

3. IMAP-specific details

IMAP allows clients to retrieve the message size without downloading
it, using RFC822.SIZE, BODY.SIZE[] and so on. [RFC3501] requires that
the returned size be exact.

This specification relaxes that requirement: When a conventional
client requests size information for a message, the IMAP server is
permitted to return size information for the internationalized
message, even though the synthetic message's size differs.

4. POP-specific details

The number of lines specified in the TOP command (see [RFC1939])
refers to the synthetic message. The message size reported by e.g.
LIST may refer to either the internationalized or the synthetic
message.

5. Security Considerations

If the internationalized message contains signed body parts, the
synthetic message may contain an invalid signature.

If any excised information is significant, then that information does
not arrive at the recipient. Notably, the message-id, in-reference-to
and/or references fields may be excised, which might cause a lack of
context when the recipient reads the message.

6. Acknowledgements

Kazunori Fujiwara, Barry Leiba, John Levine, Chris Newman and Joseph
Yee helped with this document. I think someone else did too, but
cannot find the relevant mail. Speak up or be forgotten.

[7](). Normative References

[RFC1939]   Myers, J and M. Rose, "Post Office Protocol - Version 3",
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[RFC2045]   Freed, N. and N. Borenstein, "Multipurpose Internet Mail
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[RFC2047]   Moore, "MIME (Multipurpose Internet Mail Extensions) Part
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[RFC2606]   Eastlake, D. and A. Panitz, "Reserved Top Level DNS
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[RFC3501]   Crispin, "Internet Message Access Protocol - Version
            4rev1", [RFC 3501](), University of Washington, June 2003.

[8](). Informative References

[RFC5721]   Gellens, R.. and C. Newman, "POP3 Support for UTF-8", [RFC
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[RFC5738]   Resnick, P. and C. Newman, "IMAP Support for UTF-8", [RFC
            5738](), Qualcomm Incorporated, March 2010.

[RFC6531]   Yao, J. and W. Mao, "SMTP Extension for Internationalized
            Email", [RFC 6531](), CNNIC, February 2012.

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(RFC Editor: Please delete everything after this point)

IANA Considerations

   This document has no actions for IANA.

Open Issues

   Should the message be marked somehow? E.g. by adding a "owngraded"
   flag?

   I may have dropped two header fields on the floor during editing.
   Needs research.

Changes since -00

   Added a rule to handle Subject

   Removed the sentence about unknown:;

   Terminology fixes

Changes since -01

   Nits from Joseph Yee.

   Clarified the address rendering and added non-.invalid examples,
   based on suggestions from Kazunori Fujiwara.

   Many changes from Barry Leiba: Simplified and better terminology,
   reformatted examples, more references, etc.

   Specified POP TOP. A bit of a no-op specification.

   Mention BODY.SIZE[] as well as [RFC822].SIZE. Wave hands so
   BODY.SIZE[1] sneaks past.