

EAI: Simplified POP/IMAP downgrading
[draft-ietf-eai-simpliedowngrade-03.txt](#)

Status of this Memo

This Internet-Draft is submitted to IETF in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Copyright (c) 2012 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF), its areas, and its working groups. Note that other groups may also distribute working documents as Internet-Drafts.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

The list of current Internet-Drafts can be accessed at <http://www.ietf.org/ietf/lid-abstracts.txt>. The list of Internet-Draft Shadow Directories can be accessed at <http://www.ietf.org/shadow.html>.

This Internet-Draft expires in September 2012.

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

```
"fred@EXAMPLE.com" <invalid@internationalized-address.invalid>
Fred Foo <invalid@internationalized.invalid>
internationalized-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=F00
```

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.

When an IMAP server carries out downgrading as part of generating FETCH responses, it reports which messages were synthesised using a response code and attendant UID set. This can be helpful to humans debugging the server and/or client.

```
C: a UID FETCH 1:* BODY.PEEK[HEADER.FIELDS(...)]
S: 42 FETCH (UID 65 [...])
S: a OK [DOWNGRADED 70,105,108,109] Done
```

The message-set argument to DOWNGRADED contains UIDs.

Note that DOWNGRADED may not necessarily mention all the internationalized messages in the mailbox. If the server doesn't need to downgrade anything in order to generate the FETCH response for a particular message, it also doesn't need to report that message in the OK [DOWNGRADED ...] response.

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, Alexey Melnikov, 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. IANA Considerations

The IANA is requested to add DOWNGRADED to the IMAP response code registry.

(RFC editor: Please remove this paragraph. I can't remember the URL of the registry, but it's the one specified in [RFC 5530](#).)

8. Normative References

- [RFC1939] Myers, J and M. Rose, "Post Office Protocol - Version 3", [RFC 1939](#), Carnegie Mellon, May 1996.
- [RFC2045] Freed, N. and N. Borenstein, "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies", [RFC 2045](#), November 1996.
- [RFC2047] Moore, "MIME (Multipurpose Internet Mail Extensions) Part Three: Message Header Extensions for Non-ASCII Text", [RFC 2047](#), University of Tennessee, November 1996.
- [RFC2606] Eastlake, D. and A. Panitz, "Reserved Top Level DNS Names", [BCP 32](#), [RFC 2606](#), June 1999.
- [RFC3501] Crispin, "Internet Message Access Protocol - Version 4rev1", [RFC 3501](#), University of Washington, June 2003.

9. Informative References

- [RFC5721] Gellens, R.. and C. Newman, "POP3 Support for UTF-8", [RFC 5721](#), Qualcomm Incorporated, February 2010.
- [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.

10. Author's Address

Arnt Gulbrandsen
Schweppermannstr. 8
D-81671 Muenchen
Germany

Fax: +49 89 4502 9758

Email: arnt@gulbrandsen.priv.no

(RFC Editor: Please delete everything after this point)

Open Issues

Whether to modify Subject to tell the end user. Alexey is in favour, Barry and myself against.

The name of DOWNGRADED. SYNTHESIZED?

Should Kazunori Fujiwara's downgrade document also mention DOWNGRADED?

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.

<http://rant.gulbrandsen.priv.no/good-bad-rfc> fwiw

Changes since -02

Added the DOWNGRADED response code, since both Barry and Alexey wants it.