                 64bit body part and message sizes in IMAP4
                      draft-melnikov-imap-64bit-01.txt

Abstract

   This document defines an IMAPv4rev1 extension that extends the
   existing IMAPv4rev1 32 Bit message and body part sizes to 63 bit.

Status of This Memo

   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

   Internet-Drafts are working documents of the Internet Engineering
   Task Force (IETF). Note that other groups may also distribute
   working documents as Internet-Drafts. The list of current Internet-
   Drafts is at http://datatracker.ietf.org/drafts/current/.

   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."

   This Internet-Draft will expire on May 4, 2017.

Table of Contents

1. Introduction

IMAP [RFC3501] only allows body parts or message sizes which are 32
bit. This document introduces an IMAP extension that allows for
message and body part sizes to be 63 bit.

The client wishing to use this extension MUST issue ENABLE 64BIT.
Refer [RFC5161] for the usage of ENABLE command.

2. Requirements Notation

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
"SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this
document are to be interpreted as described in [RFC2119].

In examples, "C:" and "S:" indicate lines sent by the client and
server respectively. If a single "C:" or "S:" label applies to
multiple lines, then the line breaks between those lines are for
editorial clarity only and are not part of the actual protocol
exchange.

3. 64bit Extension

An IMAP server that supports the 64bit extension advertises this by
including the name 64BIT in its CAPABILITY list in the authenticated
state. The server may also advertise this extension before the user
has logged in. If this capability is omitted, no information is
conveyed about the server's status of supporting this extension.

IMAP server should respond with BAD response for the 64bit message
size messages sent by the IMAP client unless it issues "ENABLE 64BIT"
in the current connection.

4. IMAP Protocol Changes

TBD.

5. Examples

```
C: t1 CAPABILITY
S: * CAPABILITY IMAP4rev1 ID 64BIT
S: t1 OK foo
C: t2 ENABLE 64BIT
S: * ENABLED 64BIT
S: t2 OK foo
```

6. Formal Syntax

The following syntax specification uses the Augmented Backus-Naur
Form (ABNF) notation as specified in [ABNF].

Non-terminals referenced but not defined below are as defined by
[RFC3501].

All alphabetic characters are case-insensitive. The use of upper or
lower case characters to define token strings is for editorial
clarity only. Implementations MUST accept these strings in a case-
insensitive fashion.

```
   body-extension  =/ number64
            ; Alexey: I am not sure if this change is absolutely needed!

   body-fld-lines  = number64

   body-fld-octets = number64

   fetch-att       =/ "BODY" section ["<" number64 "." nz-number64 ">"] /
                      "BODY.PEEK" section ["<" number64 "." nz-number64 ">"]

   literal         = "{" number64 ["+"] "}" CRLF *CHAR8
                      ; number64 represents the number of CHAR8s.
                      ; NOTE: "+" can only present when LITERAL+/LITERAL-
                      ; is also advertised

   literal8        = "~{" number64 ["+"] "}" CRLF *OCTET
                      ;; Updating RFC 4466 version.
                      ;; A string that might contain NULs.
                      ;; <number> represents the number of OCTETs
                      ;; in the response string.
                      ;; The "+" is only allowed when both LITERAL+/LITERAL-
                      ;; and BINARY extensions are supported by the server
                      ;; [RFC2088] - needs to be updated on LITERAL-
                      ;; publication

   msg-att-static  =/ "RFC822.SIZE" SP number64

   search-key      =/ "LARGER" SP number64 / "SMALLER" SP number64

   number64    = 1*DIGIT
                ; Unsigned 63-bit integer
                ; (0 <= n <= 9,223,372,036,854,775,807)

   nz-number64 = digit-nz *DIGIT
                ; Unsigned 63-bit integer
                ; (0 < n <= 9,223,372,036,854,775,807)


   CHAR8    = <defined in RFC 3501>
```

7. Security Considerations

   TBD.

   This document doesn't raise any other security concerns not already
   raised by [RFC3501].

8. IANA Considerations

   IANA is asked to add "64BIT" to the IMAP Capabilities registry, using
   this document as its reference.

9. Acknowledgments

   TBD.

10. Normative References

   [ABNF]   Crocker, D. and P. Overell, "Augmented BNF for Syntax
               Specifications: ABNF", STD 68, RFC 5234, January 2008.

   [RFC2088]   Myers, J., "IMAP4 non-synchronizing literals", RFC 2088,
               DOI 10.17487/RFC2088, January 1997,
               <http://www.rfc-editor.org/info/rfc2088>.

   [RFC2119]   Bradner, S., "Key words for use in RFCs to Indicate
               Requirement Levels", BCP 14, RFC 2119,
               DOI 10.17487/RFC2119, March 1997,
               <http://www.rfc-editor.org/info/rfc2119>.

   [RFC3501]   Crispin, M., "INTERNET MESSAGE ACCESS PROTOCOL - VERSION
               4rev1", RFC 3501, DOI 10.17487/RFC3501, March 2003,
               <http://www.rfc-editor.org/info/rfc3501>.

   [RFC3516]   Nerenberg, L., "IMAP4 Binary Content Extension", RFC 3516,
               DOI 10.17487/RFC3516, April 2003,
               <http://www.rfc-editor.org/info/rfc3516>.

   [RFC4466]   Melnikov, A. and C. Daboo, "Collected Extensions to IMAP4
               ABNF", RFC 4466, DOI 10.17487/RFC4466, April 2006,
               <http://www.rfc-editor.org/info/rfc4466>.

   [RFC5161]   Gulbrandsen, A., Ed. and A. Melnikov, Ed., "The IMAP
               ENABLE Extension", RFC 5161, DOI 10.17487/RFC5161, March
               2008, <http://www.rfc-editor.org/info/rfc5161>.

Authors' Addresses

   Alexey Melnikov
   Isode Ltd
   14 Castle Mews
   Hampton, Middlesex TW12 2NP
   UK

   Email: Alexey.Melnikov@isode.com

Jayantheesh SrimushnamBoovaraghamoorthy
Samsung Electronics America
685 US Highway 202/206
Bridgewater, New Jersey 08807
USA

Email: jayantheesh.sb@gmail.com