IMAP4 non-synchronizing literals

Status of this Memo

1.   Abstract

The Internet Message Access Protocol [IMAP4] contains the "literal"
syntactic construct for communicating strings. When sending a
literal from client to server, IMAP4 requires the client to wait for
the server to send a command continuation request between sending the
octet count and the string data. This document specifies an
alternate form of literal which does not require this network round
trip.

2.   Conventions Used in this Document

In examples, "C:" and "S:" indicate lines sent by the client and
server respectively.

3.   Specification

The non-synchronizing literal is added an alternate form of literal,
and may appear in communication from client to server instead of the
IMAP4 form of literal. The IMAP4 form of literal, used in
communication from client to server, is referred to as a
synchronizing literal.

Non-synchronizing literals may be used with any IMAP4 server
implementation which returns "LITERAL+" as one of the supported
capabilities to the CAPABILITY command. If the server does not
advertise the LITERAL+ capability, the client must use synchronizing
literals instead.

The non-synchronizing literal is distinguished from the original
synchronizing literal by having a plus ('+') between the octet count
and the closing brace ('}'). The server does not generate a command
continuation request in response to a non-synchronizing literal, and

clients are not required to wait before sending the octets of a non-
synchronizing literal.

The protocol receiver of an IMAP4 server must check the end of every
received line for an open brace ('{') followed by an octet count, a
plus ('+'), and a close brace ('}') immediately preceeding the CRLF.
If it finds this sequence, it is the octet count of a non-
synchronizing literal and the server MUST treat the specified number
of following octets and the following line as part of the same
command. A server MAY still process commands and reject errors on a
line-by-line basis, as long as it checks for non-synchronizing
literals at the end of each line.

    Example: C: A001 LOGIN {11+}
                C: FRED FOOBAR {7+}
                C: fat man
                S: A001 OK LOGIN completed

4.   Formal Syntax

The following syntax specification uses the augmented Backus-Naur
Form (BNF) notation as specified in [RFC-822] as modified by [IMAP4].
Non-terminals referenced but not defined below are as defined by
[IMAP4].

    literal   ::= "{" number ["+"] "}" CRLF *CHAR8
                         ;; Number represents the number of CHAR8 octets

6.   References

[IMAP4] Crispin, M., "Internet Message Access Protocol - Version 4",
draft-crispin-imap-base-XX.txt, University of Washington, April 1996.

[RFC-822] Crocker, D., "Standard for the Format of ARPA Internet Text
Messages", STD 11, RFC 822.

7.   Security Considerations

There are no known security issues with this extension.

8.   Author's Address

John G. Myers
Carnegie-Mellon University
5000 Forbes Ave.
Pittsburgh PA, 15213-3890

Email: jgm+@cmu.edu