          Internet Message Access Protocol (IMAP) - SAVEDATE Extension

Abstract

   This document adds a new capability called "SAVEDATE" to the Internet
   Message Access Protocol (IMAP). It defines a new IMAP message
   attribute called "save date" that, unlike the existing "internal
   date" attribute, always indicates the moment at which the message was
   saved in its current mailbox. The SAVEDATE capability extends the
   FETCH command with the means to retrieve the save date attribute and
   extends the SEARCH command to allow using the save date attribute in
   searching criteria.

Status of This Memo

   This is an Internet Standards Track document.

   This document is a product of the Internet Engineering Task Force
   (IETF). It represents the consensus of the IETF community. It has
   received public review and has been approved for publication by the
   Internet Engineering Steering Group (IESG). Further information on
   Internet Standards is available in Section 2 of RFC 7841.

   Information about the current status of this document, any errata,
   and how to provide feedback on it may be obtained at
   https://www.rfc-editor.org/info/rfc8514.

Table of Contents

1. Introduction

   This document extends the Internet Message Access Protocol (IMAP)
   [IMAP4rev1] with a new capability called "SAVEDATE". This capability
   adds a new IMAP message attribute called "save date". The save date
   is the date and time at which a message was saved in the mailbox in
   which it currently resides. The save date is similar to the existing
   "internal date" attribute in that it is set at the time of delivery.
   However, the internal date attribute can be set to an arbitrary value
   for messages delivered to the mailbox using the APPEND command and is
   usually copied from the source message for messages delivered using
   the COPY command. In contrast, the save date attribute is always set
   to the current date and time at the moment the message is saved in
   the mailbox, irrespective of how the message is delivered and from
   where it originates.

   The save date attribute is useful for implementing automated removal
   of messages from a mailbox after a configured amount of time. For
   that application, it is necessary to know when the message was saved
   in the mailbox, which cannot be reliably determined using the
   internal date attribute.

   For example, a common client usage pattern is to move deleted
   messages to a Trash mailbox. These messages are considered "deleted"
   at the time they are moved to the Trash mailbox. In an effort to
   limit the size of the Trash mailbox, a client may subsequently desire
   to permanently remove (expunge) all messages in that Trash mailbox
   deleted before a certain time (e.g., a configurable expiration
   interval). In that case, the internal date attribute cannot be used
   since it likely refers to the time at which the message was
   originally received. The proper time comparison attribute should

instead be the time at which the message was saved to the Trash
mailbox. Similar usage patterns can be observed for archiving
solutions.

The SAVEDATE capability extends the FETCH command and response to
allow retrieving the date and time at which a message was saved.
Also, the SAVEDATE capability extends the SEARCH command to allow
searching messages with criteria based on when they were saved in the
mailbox.

2. Conventions Used in This Document

In examples, "C:" indicates lines sent by a client that is connected
to a server. "S:" indicates lines sent by the server to the client.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
"SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and
"OPTIONAL" in this document are to be interpreted as described in
BCP 14 [KEYWORDS] [KEYWORDS-UPD] when, and only when, they appear in
all capitals, as shown here.

3. Save Date Message Attribute

The save date message attribute is the date and time at which the
message was saved in the mailbox it is now located in. Unlike the
internal date message attribute defined by [IMAP4rev1], this date and
time value cannot be set arbitrarily when a message is delivered by
the IMAP APPEND command. Also, when a message is delivered to the
mailbox by the IMAP COPY command [IMAP4rev1] or the IMAP MOVE command
[IMAP-MOVE], the save date attribute is not copied from the source
message. Instead, the current date and time at which the message is
delivered to a mailbox MUST be used to set the save date attribute.
Once calculated, the save date attribute MUST NOT change as long as
the message is contained within the same mailbox.

This means that when the message is copied to another mailbox, the
save date of the message in the source mailbox remains unaffected;
only the new copy of the message gets a new save date. Consequently,
when the message is moved to another mailbox, either using the MOVE
command or a command sequence involving the COPY command [IMAP-MOVE],
the message always gets a new save date in the destination mailbox.

For some specific mailboxes, the underlying storage may not support
the save date attribute. The handling of this situation is described
in detail in the next section for each involved IMAP command.

4. IMAP Protocol Changes

4.1. CAPABILITY Identification

   IMAP servers that support this extension MUST include "SAVEDATE" in
   the response list to the CAPABILITY command.

4.2. FETCH Command and Response Extensions

   This extension defines one new data item for the FETCH command:

   SAVEDATE
      The save date of the message.

   This extension defines one new data item for the FETCH response:

   SAVEDATE
      A string representing the save date of the message. However, if
      the underlying mailbox storage does not support the save date
      message attribute, the value returned for the SAVEDATE item is
      always NIL, rather than a string.

   Example:

          C: A101 FETCH 998 (SAVEDATE)
          S: * 998 FETCH (SAVEDATE "01-Jan-2015 18:50:53 +0100")
          S: A101 OK Fetch completed.

4.3. SEARCH Command Extension

   This extension defines four new search keys for the SEARCH command:

   SAVEDBEFORE <date>
      Messages whose save date (disregarding time and timezone) is
      earlier than the specified date.

   SAVEDON <date>
      Messages whose save date (disregarding time and timezone) is
      within the specified date.

   SAVEDSINCE <date>
      Messages whose save date (disregarding time and timezone) is
      within or later than the specified date.

SAVEDATESUPPORTED
   Matches all messages in the mailbox when the underlying storage of
   that mailbox supports the save date attribute. Conversely, it
   matches no messages in the mailbox when the save date attribute is
   not supported.

When the underlying storage of a mailbox does not support the save
date attribute, the SAVEDBEFORE, SAVEDON, and SAVEDSINCE search keys
MUST use the internal date attribute instead. In the context of the
IMAP Multimailbox SEARCH Extension [MULTISEARCH], this fallback
behavior MUST apply to each mailbox individually, meaning that only
the mailboxes that lack support for the save date attribute use the
internal date attribute instead.

Example:

        C: A102 SEARCH SAVEDON 28-Dec-2014
        S: * SEARCH 993 994
        S: A102 OK Search completed.
        C: A103 SEARCH SAVEDSINCE 28-Dec-2014
        S: * SEARCH 993 994 995 996 997 998 999 1000 1001
        S: A103 OK Search completed.

5. Formal Syntax

The following syntax specification augments the grammar specified in
[IMAP4rev1]. It uses the Augmented Backus-Naur Form (ABNF) notation
as specified in [ABNF]. Elements not defined here are taken from
[IMAP4rev1].

capability   =/ "SAVEDATE"

fetch-att   =/ "SAVEDATE"

msg-att-static =/ "SAVEDATE" SP (date-time / nil)

search-key   =/ "SAVEDBEFORE" SP date /
                  "SAVEDON" SP date /
                  "SAVEDSINCE" SP date /
                  "SAVEDATESUPPORTED"

6. Security Considerations

There are no known additional security issues with this extension
beyond those described in the base protocol described in [IMAP4rev1].

7. IANA Considerations

   IANA has added "SAVEDATE" to the "IMAP Capabilities" registry located
   at <https://www.iana.org/assignments/imap-capabilities>.

8. Normative References

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Acknowledgements

Author's Address

   Stephan Bosch
   Open Xchange Oy
   Lars Sonckin kaari 12
   Espoo 02600
   Finland

   Email: stephan.bosch@open-xchange.com