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IMAP4 Extension for Returning Mailbox METADATA in Extended LIST

Abstract

   This document defines an extension to the to IMAP LIST command that
   allows the client to request mailbox annotations (metadata), along
   with other information typically returned by the LIST command.

Status of This Memo

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

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   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on 23 March 2023.

Table of Contents

1. Introduction

IMAP clients sometimes fetch mailbox metadata (e.g. color) to
augment the display of mailboxes to the logged-in user. In order to
do that, the client is forced to issue a LIST or LSUB command to
list all available mailboxes, followed by a GETMETADATA command for
each mailbox found. This document defines an extension to the to
IMAP LIST command that is identified by the capability string "LIST-
METADATA". The LIST-METADATA extension allows the client to request
annotations on available mailboxes, along with other information
typically returned by the LIST command.

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
[RFC2119].

3. METADATA Return Option to LIST Command

[RFC5464] defines the GETMETADATA command which is used by an IMAP
client to retrieve mailbox annotations. Sometimes, a client will
have to look up the metadata for some or all of the mailboxes
returned by the LIST command. Doing so in multiple GETMETADATA
commands wastes bandwidth and can degrade performance if the client
does not pipeline the requests.

This document extends the LIST command with a new return option,
"METADATA", which allows the client to request all of the desired
information in a single command. For each listable mailbox matching

the list pattern and selection options, the server MUST return an
untagged LIST response followed by one or more untagged METADATA
responses containing the mailbox annotations requested by the
client. The untagged METADATA responses to an extended LIST command
have the same syntax and semantics as those that would be returned
by GETMETADATA commands on the same set of listable mailboxes. As
per [RFC5464], the server may return all requested annotations in a
single METADATA response for each mailbox, or it may split the
requested annotations into multiple METADATA responses for each
mailbox, if it desires.

If the server is unable to look up the annotations for given
mailbox, it MAY drop the corresponding METADATA response. In such a
situation, the LIST command would still return a tagged OK reply.

4. Examples

Note that the line wrapping of the extended LIST commands below is
for editorial purposes only.

In this example:

   *The "color" annotation for the "foo" mailbox has not been set, so
    the METADATA response has a value of "NIL" (has no value).

   *The "bar" mailbox doesn't exist, so it has no METADATA response.

C: A01 LIST "" %
        RETURN (METADATA ("/shared/vendor/cmu/cyrus-imapd/color"))
S: * LIST () "." "INBOX"
S: * METADATA INBOX ("/shared/vendor/cmu/cyrus-imapd/color" "#b71c1c")
S: * LIST () "." "foo"
S: * METADATA "foo" ("/shared/vendor/cmu/cyrus-imapd/color" NIL)
S: * LIST (\NonExistent) "." "bar"
S: A01 OK List completed.

In this example the LIST response for the "foo" mailbox is returned
because it has matching children, but no METADATA response is
returned because "foo" itself doesn't match the selection criteria.

C: A02 LIST (SUBSCRIBED RECURSIVEMATCH) "" %
        RETURN (METADATA ("/shared/vendor/cmu/cyrus-imapd/color"))
S: * LIST (\Subscribed) "." "INBOX"
S: * METADATA INBOX ("/shared/vendor/cmu/cyrus-imapd/color" "#b71c1c")
S: * LIST () "." "foo" (CHILDINFO ("SUBSCRIBED"))
S: A02 OK List completed.

5. Formal Syntax

The following syntax specification uses the augmented Backus-Naur
Form (BNF) as described in [RFC5234]. Note that "return-option" is
defined in [RFC5258] and "entry" is defined in [RFC5464].

```
return-option =/ "METADATA" "(" entry *(SP entry) ")"
```

6. Security Considerations

This specification does not introduce any additional security
concerns beyond those described in [RFC5258].

7. Privacy Considerations

This specification does not introduce any additional privacy
concerns beyond those described in [RFC5464].

8. IANA Considerations

8.1. Registration of IMAP capability LIST-METADATA

This document defines the "LIST-METADATA" IMAP capability to be
added to the registry defined in Section 12 of [RFC3501].

8.2. Registration of LIST-EXTENDED option METADATA

This section registers the "METADATA" option to be added to the
registry defined in Section 9 of [RFC5258].

LIST-EXTENDED option name:
   METADATA

LIST-EXTENDED option type:
   RETURN

LIST-EXTENDED option description:
   Causes the LIST command to return METADATA responses in addition
   to LIST responses.

Published specification:
   RFC XXXX, [Section 3](#)

Security considerations:
   RFC XXXX, [Section 6](#)

Intended usage:
   COMMON

Person and email address to contact for further information:
   Kenneth Murchison <murch@fastmailteam.com>, Bron Gondwana
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Owner/Change controller:
   IESG <iesg@ietf.org>

9. References

9.1. Normative References

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