

IMAP4 SEARCHM Command for Multiple Mailboxes

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A revised version of this draft document will be submitted to the RFC editor as an Proposed Standard for the Internet Community.

Discussion and suggestions for improvement are requested, and should be sent to ietf-imapext@imc.org. This document will expire before 30 September 2003. Distribution of this memo is unlimited.

1. Abstract

The IMAP4 specification allows the searching only of the selected mailbox. A user often wants to search multiple mailboxes, and a client that wishes to support this must issue a series of SELECT and SEARCH commands, waiting for each to complete before moving on to the next. This extension allows a client to search multiple mailboxes with one command, limiting the round-trips and waiting for various searches to complete. This also introduces named searches, allowing a client to pipeline the searches if it chooses.

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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 words "MUST", "MUST NOT", "SHOULD", "SHOULD NOT", and "MAY" are used in this document as specified in [RFC 2119](#) [Keywords].

3. The SEARCHM command

The basic syntax if the SEARCHM command (see the formal grammar for the exact syntax) is

tag SEARCHM "search-name" (options) (list of mailbox URLs)
(search criteria)

The mailbox URLs MUST be relative URLs that point to IMAP mailboxes on this server; this command does not do referrals. The URLs MAY

contain the IMAP mailbox wildcard characters. The search criteria are the same as those specified in [IMAP].

The search name is used to related the SEARCHM responses to the search performed, allowing the client to send multiple SEARCHM commands without having to wait for all responses. The server MAY perform those searches in parallel; it MAY instead serialize them. The options control the operation of the SEARCHM command. There is one option defined by this document: "depth". The option "depth(n)" causes the SEARCHM command to traverse the hierarchy "n" levels down (including the current level). Thus, "xyz*" with depth(2) and "xyz/*" with depth(1) will both match child mailboxes of "xyz", but will not match child mailboxes of those children (of course, the former will also match "xyzabc", while the latter will not).

Other options may be defined by extensions.

The server returns one untagged SEARCHM response for each mailbox that matches one or more of the URLs and that has messages that match the search criteria. The server MUST NOT return a SEARCHM response that lists no message numbers. There are also no errors that come from unmatched mailbox URLs.

The command "UID SEARCHM" behaves in an analogous way to "UID SEARCH" (see [IMAP]), returning UIDs instead of message numbers.

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[4.](#) Example

```
C: tag1 SEARCHM "unseen" (depth(1)) ("folder1" "folder2/*") (unseen)
C: tag2 SEARCHM "chad" () ("folder1" "folder2/*") (subject "chad")
S: * SEARCHM "unseen" "folder1" (1 3 5 7 9)
S: * SEARCHM "chad" "folder1" (1 2 3 4 8)
S: * SEARCHM "unseen" "folder2/banana" (2 4)
S: * SEARCHM "unseen" "folder2/peach" (691)
S: tag1 OK done
S: * SEARCHM "chad" "folder2/dubya" (3 6 9 12)
S: tag2 OK done
```

[5.](#) Formal Grammar

Items not defined here are defined in the formal grammar of [IMAP].

```
mailbox_list    ::= 1#mailbox_URL
mailbox_URL     ::= ???
                ;; relative URL -- see [IMAPURL]
                ;; may contain list_wildcards
searchm         ::= "SEARCHM" SPACE search_name
                  SPACE "(" search_options ")"
                  SPACE "(" mailbox_list ")"
                  SPACE "(" search_criteria ")"
search_criteria ::= ["CHARSET" SPACE astring SPACE] 1#search_key
search_name     ::= string
search_option   ::= "DEPTH(" number ")"
search_options  ::= 0#search_option
                ;; a given option may only appear once
```

6. Security Considerations

This document describes an IMAP4 command similar to the SEARCH command, and has the same security considerations as that command. Those considerations are described in [IMAP].

7. References

[IMAP]; Crispin, M.; "Internet Message Access Protocol - Version 4rev1"; [RFC 2060](#); University of Washington; December 1996.

[IMAPURL]; Newman, C.; "IMAP URL Scheme"; [RFC 2192](#); Innosoft; September 1997.

[Keywords]; Bradner, S.; "Key words for use in RFCs to Indicate

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Requirement Levels"; [RFC 2119](#); Harvard University; March 1997.

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