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IMAP4 Multimapbox SEARCH Extension
draft-melnikov-imapext-multimapbox-search-03

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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 mailbox field in ESEARCH responses, allowing a client to pipeline the searches if it chooses.

Note

A revised version of this draft document will be submitted to the RFC editor as a Proposed Standard for the Internet Community. Discussion and suggestions for improvement are requested, and should be sent to ietf-imapext@imc.org.

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1. 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](#) [Kwds].

2. Extended SEARCH/UID SEARCH command

Arguments: OPTIONAL source options
OPTIONAL result options
OPTIONAL [\[CHARSET\]](#) specification
searching criteria (one or more)

Responses: REQUIRED untagged response: SEARCH or ESEARCH

Result: OK - search completed
NO - search error: cannot search that [\[CHARSET\]](#)
or criteria
BAD - command unknown or arguments invalid

This section further updates definition of the SEARCH command described in section 2.6.1 of [\[IMAPABNF\]](#) (initially described in [section 6.4.4 of \[RFC3501\]](#)).

The SEARCH command is extended to allow for optional source and result options. This document does not define any result options.

Unless specified otherwise by a description of a result option, presence of a search source option REQUIRES that the server returns ESEARCH responses instead of the corresponding SEARCH responses. Because message numbers are not useful for mailboxes which are not selected, each ESEARCH response MUST return information about UIDs and not message numbers (whether the SEARCH or the UID SEARCH command was issued), in particular it MUST contain the UID indicator.

Presence of a source option in absence of a result option implies the "ALL" result option (see [\[ESEARCH\]](#)).

[[anchor3: SEARCH with source options is allowed in authenticated state (and not just "selected")!!!!]]

Source options describe which mailboxes must be searched for messages. (Without the source options only the current mailbox is searched.) Note that a SEARCH/UID SEARCH command with source options doesn't affect which mailbox is currently selected and doesn't

require any mailbox to be selected. For each mailbox satisfying the source options, a single ESEARCH response MUST be returned. The ESEARCH response MUST contain the MAILBOX correlator in addition to the TAG correlator. Correlators allow clients to issue several SEARCH/UID SEARCH commands at once (pipelined). The server MAY perform those searches in parallel; or it MAY instead serialize them.

The source options, if present, MUST contain one or more mailbox list pattern, any one of them can contain the IMAP mailbox wildcard characters. The patterns can be optionally followed by other search source options. Only one such option is defined by this document: "DEPTH". The option "depth <n>" causes the SEARCH command to traverse the hierarchy "n" levels down (including the current level). Thus, mailbox pattern "xyz*" with "depth 2" and mailbox pattern "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).

If the server supports the ACL [\[ACL\]](#) extension, then the logged in user is required to have the 'r' right for each mailbox she wants to search. Mailboxes matching the source options for which the logged in user has no 'r' right MUST be ignored by a multimailbox search.

[[anchor4: Borrow syntax from the recent [draft-ietf-lemonade-imap-notify?](#)]]

[[anchor5: Interaction with CONTEXT ([draft-cridland-imap-context-05.txt](#)) needs to be defined. Also, UPDATE option [draft-ietf-lemonade-imap-notify](#) might have to be prohibited when both CONTEXT and this extension are used.]]

3. Example

```
C: tag1 SEARCH IN (("folder1" "folder2/*") (depth 1)) unseen
C: tag2 SEARCH IN (("folder1" "folder2/*")) subject "chad"
S: * ESEARCH (TAG "tag1" mailbox "folder1") UID ALL
4001,4003,4005,4007,4009
S: * ESEARCH (TAG "tag1" mailbox "folder1") UID ALL 195001:
195004,169788
S: * ESEARCH (TAG "tag1" mailbox "folder2/banana") UID ALL 3002,4004
S: * ESEARCH (TAG "tag1" mailbox "folder2/peach") UID ALL 921691
S: tag1 OK done
S: * ESEARCH (TAG "tag2" mailbox "folder2/dubya") UID ALL
50003,50006,50009,50012
S: tag2 OK done
```


4. Formal Syntax

The following syntax specification uses the augmented Backus-Naur Form (BNF) as described in [\[ABNF\]](#). Terms not defined here are taken from [\[RFC3501\]](#), [\[LISTEXT\]](#) or [\[IMAPABNF\]](#).

```
[[anchor7: Updates definition in RFC 4466 (added  
"[search-source-opts]"):]]
```

```
search = "SEARCH" [search-source-opts]  
        [search-return-opts] SP search-program
```

```
[[anchor8: Defined in RFC 4466 (updated to reference  
search-criteria):]]
```

```
search-program = ["CHARSET" SP charset SP]  
                search-criteria  
                ;; CHARSET argument to SEARCH MUST be  
                ;; registered with IANA.
```

```
search-source-opts = SP "IN" SP "(" mbox-or-pat [SP "(" scope-  
                options "]" "]"
```

```
scope-option = "DEPTH" SP number /  
              scope-option-ext
```

```
scope-options = scope-option *(SP scope-option)  
                ;; a given option may only appear once
```

```
scope-option-name = tagged-ext-label
```

```
scope-option-ext = scope-option-name [SP scope-option-value]
```

```
scope-option-value= tagged-ext-val  
                ;; This non-terminal shows recommended syntax  
                ;; for future extensions.
```

[[anchor9: Also defined in FILTERS:]]

search-criteria = search-key *(SP search-key)

[[anchor10: Redefining search-correlator from [RFC 4466](#):]]

search-correlator = SP "(" single-correlator *(SP single-correlator)
")"

[[anchor11: This is a new non-terminal:]]

single-correlator = "TAG" SP tag-string /
"MAILBOX" SP astring

[[anchor12: The following 2 are borrowed from LISTEXT:]]

mbox-or-pat = list-mailbox / patterns

patterns = "(" list-mailbox *(SP list-mailbox) ")"

5. Security Considerations

[[anchor13: TBD]]

6. IANA Considerations

IMAP4 capabilities are registered by publishing a standards track or IESG approved experimental RFC. The registry is currently located at:

<http://www.iana.org/assignments/imap4-capabilities>

This document defines the X-DRAFT-I03-MMBX [[anchor14: Note to RFC Editor: fix before publication]] IMAP capability. IANA is requested to add it to the registry.

7. Acknowledgements

The authors gratefully acknowledge feedback provided by Peter Coates

and Arnt Gulbrandsen.

8. Normative References

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