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WITHIN Search extension to the IMAP Protocol

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Abstract

WITHIN is an extension to [RFC3501] SEARCH which returns messages whose internal date is within or outside a specified interval and differs from SINCE in that an interval in days is specified instead of a date. WITHIN is expected to be most useful for persistent searches in combination with mobile devices.

Conventions used in this document

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

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

An implementation is not compliant if it fails to satisfy one or more of the MUST or REQUIRED level requirements for the protocol(s) it implements. An implementation that satisfies all the MUST or REQUIRED level and all the SHOULD level requirements for a protocol is said to be "unconditionally compliant" to that protocol; one that satisfies all the MUST level requirements but not all the SHOULD level requirements is said to be "conditionally compliant." When describing the general syntax, some definitions are omitted as they are defined in [RFC3501].

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1. Introduction

The WITHIN extension is present in any IMAP4 implementation which returns WITHIN as one of the supported capabilities in the CAPABILITY command.

The extension exposes two new search keys, YOUNGER and OLDER, each of which take a non-zero integer argument corresponding to an interval in days. YOUNGER returns messages deposited in the mailbox after the date calculated by subtracting the interval number of day from the server s current date. OLDER returns messages deposited before the date calculated as described above.

2. Formal Syntax

The following syntax specification uses the Augmented Backus-Naur Form (ABNF) notation. Elements not defined here can be found in the formal syntax of the [ABNF], [RFC3501], and [ABNFEXTEND].

The ABNF grammar in [RFC3501] is hereby modified with two new search keys: OLDER <interval days> and YOUNGER <interval days>

```
search-key /=  OLDER  nz-number /  YOUNGER  nz-number
                  ; search-key defined in [RFC3501]
```

3. Examples

```
C: a1 SEARCH UNSEEN YOUNGER 3
S: a1 * SEARCH 4 8 15 16 23 42
```

Search for all unseen messages within the past 3 days according to the server s current time.

Security Considerations

The WITHIN extension does not raise any security considerations which are not present in the base protocol. Considerations are the same as for IMAP [RFC 3501].

References

[ABNF] D. Crocker, et al. "Augmented BNF for Syntax Specifications: ABNF , RFC 2234, November 1997.
http://www.ietf.org/rfc/rfc2234

[ABNFEXTEND] Melnikov, A., and C. Daboo, "Collected extensions to IMAP4 ABNF", work in progress, draft-melnikov-imap-ext-abnf-XX.txt.

[RFC3501] Crispin, M. "IMAP4, Internet Message Access Protocol Version 4 rev1", RFC 3501, March 2003.
http://www.ietf.org/rfc/rfc3501

Future Work

[1] Decide whether other interval units are necessary.

Version History

Release 00
Initial release, separated from VFOLDER draft

Release 01
Incorporate feedback and suggestions received from Arnt Gulbrandsen.

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