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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**

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### 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 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 BCP 14 [[RFC2119](#)] [[RFC8174](#)] when, and only when, they appear in all capitals, as shown here.

### 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 12.1](#) of [[RFC9051](#)].

### 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:**

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## 9. References

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#### **Appendix A. Change History (To be removed by RFC Editor before publication)**

Changes from draft-murchison-imap-list-metadata-00:

\*Updated Keywords boilerplate.

\*Changed RFC 3501 reference to RFC 9051.

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