

**IMAP ANNOTATEMORE Extension**  
**draft-daboo-imap-annotatemore-07**

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Abstract

The ANNOTATEMORE extension to the Internet Message Access Protocol permits clients and servers to maintain "metadata" on IMAP servers. It is possible to store data on a per-mailbox basis or on the server as a whole.

Change History (to be removed prior to publication as an RFC)

Changes from -06 to -07:

1. Reworded /checkperiod item.
2. Clarified unsolicited response behaviour.

Changes from -05 to -06:

1. Removed 'modifiedsince' attribute as there is currently no use for it.
2. Added content-language attribute.
3. Changed access to allow .priv and .shared on any mailbox returned by LIST/LSUB.
4. Added IANA registrations for items defined in this document.
5. Added latest IPR statement.
6. Updated references.

Changes from -04 to -05:

1. Fix for valid IMAP state of commands.
2. Fix formatting, ID nits etc.

Changes from -03 to -04:

1. Allow retrieval of shared annotations for READ-ONLY mailbox.
2. Clarification of annotation loss on implicit removal of \Noselect mailboxes.
3. Now requires roll-back of all changes to matching mailboxes if there is a partial failure in SETANNOTATION.

Changes from -02 to -03:

1. Reworked entry naming scheme to split out mailbox name and use empty string for server items.

Changes from -01 to -02:

1. SETANNOTATION lists use (..).
2. Explicitly state behaviour of unsolicited responses.
3. Adding SHOULD behaviour for rename/delete of mailboxes.
4. Added statement about supporting annotations on \Noselect mailboxes.
5. Cleaned up formal syntax to use IMAP string type for entry and attributes, with requirements on how the string is formatted.
6. Use of ACAP vendor subtree registry for vendor tokens.

Changes from -00 to -01:

1. Multiple entry-att responses are now simply delimited by spaces in line with ANNOTATE spec. Adjusted examples to match.
2. Fixed entry-list formal syntax item to account for unsolicited parenthesised list of entries.
3. Removed setentries formal syntax item for simplicity since its only used once.
4. Removed reference to 'message annotation' in [section 5.1](#).
5. Changed formal syntax to restrict top level entries to /server and /mailbox/{...} only. Re-arranged entry names section to



account for this change.

6. Added comment and example for ANNOTATION response to allow servers to return separate responses for each entry if desired.

## Table of Contents

<a href="#">1.</a>	Introduction and Overview . . . . .	<a href="#">4</a>
<a href="#">2.</a>	Data Model . . . . .	<a href="#">4</a>
<a href="#">2.1</a>	Overview . . . . .	<a href="#">4</a>
<a href="#">2.2</a>	Namespace of entries and attributes . . . . .	<a href="#">5</a>
<a href="#">2.2.1</a>	Entry Names . . . . .	<a href="#">5</a>
<a href="#">2.2.2</a>	Attribute Names . . . . .	<a href="#">7</a>
<a href="#">2.3</a>	Private versus Shared and Access Control . . . . .	<a href="#">7</a>
<a href="#">3.</a>	IMAP Protocol Changes . . . . .	<a href="#">8</a>
<a href="#">3.1</a>	General Considerations . . . . .	<a href="#">8</a>
<a href="#">3.2</a>	GETANNOTATION Command . . . . .	<a href="#">8</a>
<a href="#">3.3</a>	SETANNOTATION Command . . . . .	<a href="#">10</a>
<a href="#">3.4</a>	ANNOTATION Response . . . . .	<a href="#">12</a>
<a href="#">3.4.1</a>	ANNOTATION response with attributes and values . . . . .	<a href="#">13</a>
3.4.2	Unsolicited ANNOTATION response without attributes and values . . . . .	<a href="#">14</a>
<a href="#">4.</a>	Formal Syntax . . . . .	<a href="#">15</a>
<a href="#">5.</a>	IANA Considerations . . . . .	<a href="#">16</a>
<a href="#">5.1</a>	Entry and Attribute Registration Template . . . . .	<a href="#">17</a>
<a href="#">5.2</a>	Server Entry Registrations . . . . .	<a href="#">17</a>
<a href="#">5.2.1</a>	/comment . . . . .	<a href="#">17</a>
<a href="#">5.2.2</a>	/modt . . . . .	<a href="#">18</a>
<a href="#">5.2.3</a>	/admin . . . . .	<a href="#">18</a>
<a href="#">5.3</a>	Mailbox Entry Registrations . . . . .	<a href="#">18</a>
<a href="#">5.3.1</a>	/comment . . . . .	<a href="#">19</a>
<a href="#">5.3.2</a>	/sort . . . . .	<a href="#">19</a>
<a href="#">5.3.3</a>	/thread . . . . .	<a href="#">20</a>
<a href="#">5.3.4</a>	/check . . . . .	<a href="#">20</a>
<a href="#">5.3.5</a>	/checkperiod . . . . .	<a href="#">21</a>
<a href="#">5.4</a>	Attribute Registrations . . . . .	<a href="#">21</a>
<a href="#">5.4.1</a>	value . . . . .	<a href="#">21</a>
<a href="#">5.4.2</a>	size . . . . .	<a href="#">22</a>
<a href="#">5.4.3</a>	content-type . . . . .	<a href="#">22</a>
<a href="#">5.4.4</a>	content-language . . . . .	<a href="#">23</a>
<a href="#">6.</a>	Security Considerations . . . . .	<a href="#">23</a>
<a href="#">7.</a>	References . . . . .	<a href="#">23</a>
<a href="#">7.1</a>	Normative References . . . . .	<a href="#">23</a>
<a href="#">7.2</a>	Informative References . . . . .	<a href="#">24</a>
	Author's Address . . . . .	<a href="#">24</a>
<a href="#">A.</a>	Acknowledgments . . . . .	<a href="#">24</a>
	Intellectual Property and Copyright Statements . . . . .	<a href="#">25</a>



## **1. Introduction and Overview**

The ANNOTATEMORE extension is present in any IMAP [[RFC3501](#)] implementation which returns "ANNOTATEMORE" as one of the supported capabilities in the CAPABILITY command response.

The goal of ANNOTATEMORE is to provide a means for clients to store and retrieve "metadata" on an IMAP server. The metadata can be associated with specific mailboxes or the server as a whole.

The ANNOTATEMORE extension adds two new commands and one new untagged response to the IMAP base protocol.

This extension makes the following changes to the IMAP protocol:

- adds a new SETANNOTATION command
- adds a new GETANNOTATION command
- adds a new ANNOTATION untagged response
- adds a new ANNOTATEMORE response code

The data model used in ANNOTATEMORE is exactly the same as that used in the ANNOTATE [[ANNOTATE](#)] extension to IMAP. This is modeled after that of the Application Configuration Access Protocol [[RFC2244](#)] with the exception of inheritance which is not deemed necessary here.

The rest of this document describes the data model and protocol changes more rigorously.

## **2. Data Model**

### **2.1 Overview**

The data model used in ANNOTATEMORE is one of a uniquely named entry with a set of uniquely named attributes, each of which has a value. Annotations can be added to mailboxes when a mailbox name is provided as the first argument to the new commands, or to the server as a whole when the empty string is provided as the first argument to the new commands.

An annotation can contain multiple named entries. For example, a general comment being added to a mailbox may have an entry name of "/"comment". This entry could include named attributes such as "value", "size", "content-type" etc to represent properties and data associated with the entry.

The protocol changes to IMAP described below allow a client to access or change the values of any attributes in any entries in an annotation, assuming it has sufficient access rights to do so.



## **[2.2](#) Namespace of entries and attributes**

Each annotation is made up of a set of entries. Each entry has a hierarchical name in UTF-8, with each component of the name separated by a slash ("/").

Each entry is made up of a set of attributes. Each attribute has a hierarchical name in UTF-8, with each component of the name separated by a period (".").

The value of an attribute is NIL (has no value), or a string of zero or more octets.

Entry and attribute names are not permitted to contain asterisk ("\*") or percent ("%") characters and MUST be valid UTF-8 strings which do not contain NUL. Invalid entry or attribute names result in a BAD response in any IMAP commands where they are used.

Use of non-visible UTF-8 characters in entry and attribute names is discouraged.

This specification defines an initial set of entry and attribute names available for use with mailbox and server annotations. In addition an extension mechanism is described to allow additional names to be added for extensibility.

### **[2.2.1](#) Entry Names**

Entry names MUST be specified in a standards track or IESG approved experimental RFC, or fall under the vendor namespace. See [Section 5.1](#) for the registration template. This specification only allows two top-level entry types for servers and mailboxes.

#### **[2.2.1.1](#) Server Entries**

These entries are used when the mailbox name argument to the new commands is the empty string.

/comment

Defines a comment or note associated with the server.

/motd

Defines a "message of the day" for the server. This entry is always read-only - clients cannot change it.

/admin

Indicates a method for contacting the server administrator. This may be a URI (e.g. a mailto URL) or other contact information,





such as a telephone number. This entry is always read-only - clients cannot change it.

#### `/vendor/<vendor-token>`

Defines the top-level of entries associated with the server as created by a particular product of some vendor. This entry can be used by vendors to provide server or client specific attributes. The vendor-token MUST be registered with IANA, using the ACAP [[RFC2244](#)] vendor subtree registry.

### **2.2.1.2 Mailbox Entries**

These entries are used when the mailbox name argument to the new commands is not the empty string.

#### `/comment`

Defines a comment or note associated with a mailbox.

#### `/sort`

Defines the default sort criteria [[SORT](#)] to use when first displaying the mailbox contents to the user, or NIL if sorting is not required.

#### `/thread`

Defines the default thread criteria [[SORT](#)] to use when first displaying the mailbox contents to the user, or NIL if threading is not required. If both sort and thread are not NIL, then threading should take precedence over sorting.

#### `/check`

Boolean value "true" or "false" that indicates whether this mailbox should be checked at regular intervals by the client. The interval in minutes is specified by the `/checkperiod` entry.

#### `/checkperiod`

Numeric value indicating a period of minutes that the client uses to determine the interval of regular 'new mail' checks for the corresponding mailbox.

#### `/vendor/<vendor-token>`

Defines the top-level of entries associated with a specific mailbox as created by a particular product of some vendor. This entry can be used by vendors to provide client specific attributes. The vendor-token MUST be registered with IANA, using the ACAP [[RFC2244](#)] vendor subtree registry.

### **2.2.2 Attribute Names**

Attribute names MUST be specified in a standards track or IESG approved experimental RFC, or fall under the vendor namespace. See [Section 5.1](#) for the registration template.

All attribute names implicitly have a ".priv" and a ".shared" suffix which maps to private and shared versions of the entry. Searching or fetching without using either suffix includes both. The client MUST specify either a ".priv" or ".shared" suffix when storing an annotation.

value

The data value of the attribute.

size

The size of the value, in octets. Set automatically by the server, read-only to clients.

content-type

A MIME [[RFC2046](#)] content type and subtype that describes the nature of the content of the "value" attribute.

content-language

Indicates the language used for the value. This follows the format described in [[RFC3282](#)]. Clients SHOULD set this value when storing an annotation that uses text that can be presented to the user. It is not required for enumerated or numeric values such as flags etc.

vendor.<vendor-token>

Defines an attribute associated with a particular product of some vendor. This attribute can be used by vendors to provide client specific attributes. The vendor-token MUST be registered with IANA, using the ACAP [[RFC2244](#)] vendor subtree registry.

## **2.3 Private versus Shared and Access Control**

As discussed in the ANNOTATE [[ANNOTATE](#)] extension there is a need to support both private and shared annotations. This document adopts the scheme used in [[ANNOTATE](#)] that adds two standard suffixes for all attributes: ".shared" and ".priv". A GETANNOTATION command which specifies neither uses both. SETANNOTATION commands MUST explicitly use .priv or .shared suffixes.

A user can only store and retrieve private or shared annotations on a mailbox which is returned to them via a LIST or LSUB command. If the client attempts to store or retrieve annotations on other mailboxes,



the MUST respond with a NO response

### **3. IMAP Protocol Changes**

#### **3.1 General Considerations**

The new commands and response each have a mailbox name argument, indicating that the annotations being referred to are attached to the specified mailbox. An empty string can be used for the mailbox name to signify server annotations.

Both "\*" and "%" list wildcard characters MAY be used in the mailbox name argument to commands to match all possible occurrences of a mailbox name pattern. However, "\*" or "%" by themselves MUST NOT match the empty string (server) entries. Server entries can only be accessed by explicitly using the empty string as the mailbox name.

Servers SHOULD ensure that mailbox annotations are automatically moved when the mailbox they refer to is renamed, i.e. the annotations follow the mailbox. Servers SHOULD delete annotations for a mailbox when the mailbox is deleted, so that a mailbox created with the same name as a previously existing mailbox does not inherit the old mailbox annotations. Servers SHOULD allow annotations on all 'types' of mailbox, including ones reporting \Noselect for their LIST response. Servers can implicitly remove \Noselect mailboxes when all child mailboxes are removed, and as such any annotations associated with the \Noselect mailbox SHOULD be removed.

The server is allowed to impose limitations on the size of any one annotation or the total number of annotations for a single mailbox or for the server as a whole. However, the server MUST accept a minimum annotation data size of at least 1024 bytes, and a minimum annotation count per server or mailbox of at least 10.

#### **3.2 GETANNOTATION Command**

This extension adds the GETANNOTATION command. This allows clients to retrieve annotations.

This command is only available in authenticated or selected state [[RFC3501](#)].

Arguments: mailbox-name  
entry-specifier  
attribute-specifier

Responses: required ANNOTATION response

Result: OK - command completed  
NO - command failure: can't access annotations on that mailbox  
BAD - command unknown or arguments invalid

The mailbox-name argument MUST be a valid mailbox name or the empty string. In the later case, the annotations being referred to are the ones for the server as a whole.

Example:

```
C: a GETANNOTATION "" "/"comment" "value.priv"
S: * ANNOTATION "" "/"comment" ("value.priv" "My comment")
S: a OK GETANNOTATION complete
```

In the above example, the contents of the "value" attribute for the "/"comment" server entry is requested by the client and returned by the server.

"\*" and "%" wildcard characters can be used in either specifier to match one or more characters at that position, with the exception that "%" does not match the hierarchy delimiter for the specifier it appears in (i.e. "/" for an entry specifier or "." for an attribute specifier). Thus an entry specifier of "/"%" would match entries such as "/"comment" and "/"version", but not "/"comment/note".

Example:

```
C: a GETANNOTATION "" "/"*" "value.priv"
S: * ANNOTATION "" "/"comment" ("value.priv" "My comment")
    "/"version" ("value.priv" "1.1")
    "/"motd/today" ("value.priv" "Closed at 1 pm")
S: a OK GETANNOTATION complete
```

In the above example, the contents of the "value" attributes for any server entries are requested by the client and returned by the server.

Example:

```
C: a GETANNOTATION "" "/" "value"
S: * ANNOTATION "/comment" ("value.priv" "My comment")
      ("value.shared" "Your comment")
      "/motd" ("value.priv" "Its sunny outside!"
      ("value.shared" "Today is a Holiday")
S: a OK GETANNOTATION complete
```

In the above example, the contents of the "value" attributes for server entries at the top level of the entry hierarchy only, are requested by the client and returned by the server. Both the .priv and .shared values are returned, as neither were explicitly requested.

Entry and attribute specifiers can be lists of atomic specifiers, so that multiple items of each type may be returned in a single GETANNOTATION command.

Example:

```
C: a GETANNOTATION "" ("/comment" "/motd") "value.priv"
S: * ANNOTATION "" "/comment" ("value.priv" "My comment")
      "/motd" ("value.priv" "Its sunny outside!")
S: a OK GETANNOTATION complete
```

In the above example, the contents of the "value" attributes for the two server entries "/comment" and "/motd" are requested by the client and returned by the server.

Example:

```
C: a GETANNOTATION "" "/comment" ("value.priv" "content-type.priv")
S: * ANNOTATION "" "/comment" ("value.priv" "My comment"
      "content-type.priv" "text/plain")
S: a OK GETANNOTATION complete
```

In the above example, the contents of the "value" and "content-type" attributes for the "/comment" server entry are requested by the client and returned by the server.

### **3.3 SETANNOTATION Command**

This extension adds the SETANNOTATION command. This allows clients to set annotations.

This command is only available in authenticated or selected state [[RFC3501](#)].

Arguments: mailbox-name  
entry  
attribute-value  
list of entry, attribute-values

Responses: no specific responses for this command

Result: OK - command completed  
NO - command failure: can't set annotations,  
or annotation too big or too many  
BAD - command unknown or arguments invalid

Sets the specified list of entries by adding or replacing the specified attributes with the values provided. Clients can use NIL for values of attributes it wants to remove from entries. The server MAY return an ANNOTATION response containing the updated annotation data. Clients MUST NOT assume that an ANNOTATION response will be sent, and MUST assume that if the command succeeds then the annotation has been changed.

If the server is unable to store an annotation because the size of its value is too large, the server MUST return a tagged NO response with a "[ANNOTATEMORE TOOBIG]" response code.

If the server is unable to store a new annotation because the maximum number of allowed annotations has already been reached, the server MUST return a tagged NO response with a "[ANNOTATEMORE TOOMANY]" response code.

If the server is unable to store the annotations for one or more mailboxes matching the mailbox-name pattern, then the SETANNOTATION command MUST fail and there MUST NOT be any changes to any of the matching mailboxes, even those for which annotations could have been changed successfully.

Example:

```
C: a SETANNOTATION "INBOX" "/"comment" ("value.priv" "My new
comment")
S: a OK SETANNOTATION complete
```

In the above example, the entry "/"comment" for the mailbox "INBOX" is created (if not already present) and the private attribute "value" with data set to "My new comment" is created if not already present, or replaced if it previously exists.

Example:

```
C: a SETANNOTATION "INBOX" "/"comment" ("value.priv" NIL)
```





S: a OK SETANNOTATION complete

In the above example, the private "value" attribute of the entry "/comment" is removed from the mailbox "INBOX".

Multiple entries can be set in a single SETANNOTATION command by listing entry-attribute-value pairs in the list.

Example:

C: a SETANNOTATION "INBOX.%" "/comment" ("value.priv" "My new comment")

S: a OK SETANNOTATION complete

In the above example, the entry "/comment" for all mailboxes at the top-level of the "INBOX" hierarchy are created (if not already present) and the private and shared attributes "value" are created respectively for each entry if not already present, or replaced if they previously existed.

Multiple attributes can be set in a single SETANNOTATION command by listing multiple attribute-value pairs in the entry list.

Example:

C: a SETANNOTATION "INBOX" "/comment"  
("value.priv" "My new comment"  
"vendor.foobar.bloop.priv" "foo's bar")  
S: a OK SETANNOTATION complete

In the above example, the entry "/comment" for the mailbox "INBOX" is created (if not already present) and the private attributes "value" and "vendor.foobar.bloop" are created if not already present, or replaced if they previously existed.

Example:

C: a SETANNOTATION "INBOX" "/comment" ("value.priv" "My new comment")  
S: a NO [ANNOTATEMORE TOOMANY] SETANNOTATION failed

In the above example, the server is unable to store the requested (new) annotation as it has reached the limit on the number of annotations it can support on the specified mailbox.

### **3.4 ANNOTATION Response**

The ANNOTATION response displays results of a GETANNOTATION command, or can be returned as a unsolicited response at anytime by the server in response to a change in an annotation.

Daboo

Expires August 2, 2005

[Page 12]

Servers SHOULD send unsolicited ANNOTATION responses if mailbox or server annotations are changed by a third-party, allowing servers to keep clients updated with changes. Unsolicited mailbox annotations MUST only be returned for the currently selected mailbox.

Unsolicited ANNOTATION responses MUST only contain entry names, not the attributes and values. If the client wants to update any cached values it must explicitly retrieve those using a GETANNOTATION command.

Separate ANNOTATION responses MUST be used when more than one mailbox matches the mailbox name argument pattern to the command.

The ANNOTATION response can contain multiple entries in a single response, but the server is free to return multiple responses for each entry or group of entries if it desires.

This response is only available in authenticated state [[RFC3501](#)].

#### **3.4.1 ANNOTATION response with attributes and values**

The response consists of a list of entries each of which has a list of attribute-value pairs.

Example:

```
C: a GETANNOTATION "" "/"comment" "value.priv"
S: * ANNOTATION "" "/"comment" ("value.priv" "My comment")
S: a OK GETANNOTATION complete
```

In the above example, a single entry with a single attribute-value pair is returned by the server.

Example:

```
C: a GETANNOTATION "" ("/comment" "/motd") "value.priv"
S: * ANNOTATION "" "/"comment" ("value.priv" "My comment")
      "/"motd" ("value.priv" "Its sunny outside!")
S: a OK GETANNOTATION complete
```

In the above example, two entries each with a single attribute-value pair is returned by the server.

Example:

```
C: a GETANNOTATION "" ("/comment" "/motd") "value.priv"
S: * ANNOTATION "" "/"comment" ("value.priv" "My comment")
S: * ANNOTATION "" "/"motd" ("value.priv" "Its sunny outside!")
```



```
S: a OK GETANNOTATION complete
```

In the above example, the server returns two separate responses for each of the two entries requested.

Example:

```
C: a GETANNOTATION "" "/comment" ("value.priv" "size.priv")
S: * ANNOTATION "" "/comment" ("value.priv" "My comment"
                                "size.priv" "10")
S: a OK GETANNOTATION complete
```

In the above example, a single entry with two attribute-value pairs is returned by the server.

Example:

```
C: a GETANNOTATION "INBOX.%" "/comment" "value.priv"
S: * ANNOTATION "INBOX.1" "/comment" ("value.priv" "My comment for
1")
S: * ANNOTATION "INBOX.2" "/comment" ("value.priv" "My comment for
2")
S: * ANNOTATION "INBOX.3" "/comment" ("value.priv" "My comment for
3")
S: a OK GETANNOTATION complete
```

In the above example, separate responses are returned for each matching mailbox, each containing a single entry with a single attribute-value pair.

### **3.4.2 Unsolicited ANNOTATION response without attributes and values**

The response consists of a parenthesised list of entries, each of which have changed on the server.

Example:

```
C: a NOOP
S: * ANNOTATION "" ("/comment")
S: a OK NOOP complete
```

In the above example, the server indicates that the "/comment" server entry has been changed.

Example:

```
C: a NOOP
S: * ANNOTATION "" ("/comment" "/motd")
S: a OK NOOP complete
```

Daboo

Expires August 2, 2005

[Page 14]

In the above example, the server indicates a change to two server entries.

Example:

```
C: a NOOP
S: * ANNOTATION "" ("/motd")
S: * ANNOTATION "INBOX" ("/comment")
S: a OK NOOP complete
```

In the above example, the server indicates a change to a server entry, and to the an entry for the currently selected mailbox.

#### 4. Formal Syntax

The following syntax specification uses the Augmented Backus-Naur Form (ABNF) notation as specified in [\[RFC2234\]](#).

Non-terminals referenced but not defined below are as defined by [\[RFC3501\]](#).

Except as noted otherwise, all alphabetic characters are case-insensitive. The use of upper or lower case characters to define token strings is for editorial clarity only. Implementations MUST accept these strings in a case-insensitive fashion.

annotate-data	= "ANNOTATION" SP mailbox SP entry-list ; empty string for mailbox implies ; server annotation.
att-value	= attrib SP value
attrib	= string ; dot-separated attribute name ; MUST NOT contain "*" or "%"
attrib-match	= string ; dot-separated attribute name ; MAY contain "*" or "%" for use as wildcards
attribs ")"	= attrib-match / "(" attrib-match *(SP attrib-match)  ; attribute specifiers that can include wildcards
command-auth	/= setannotation / getannotation ; adds to original IMAP command
entries	= entry-match / "(" entry-match *(SP entry-match) ")" ; entry specifiers that can include wildcards





entry	= string ; slash-separated path to entry ; MUST NOT contain "*" or "%"
entry-att	= entry SP "(" att-value *(SP att-value) ")"
entry-list	= entry-att *(SP entry-att) / "(" entry *(SP entry) ")" ; entry attribute-value pairs list for ; GETANNOTATION response, or ; parenthesised entry list for unsolicited ; notification of annotation changes
entry-match	= string ; slash-separated path to entry ; MAY contain "*" or "%" for use as wildcards
getannotation attribs	= "GETANNOTATION" SP list-mailbox SP entries SP  ; empty string for list-mailbox implies ; server annotation.
response-data	/= "*" SP annotate-data CRLF ; adds to original IMAP data responses
resp-text-code	=/ "ANNOTATEMORE" SP "TOOBIG" / "ANNOTATEMORE" SP "TOOMANY" ; new response codes for SETANNOTATION failures
setannotation	= "SETANNOTATION" SP list-mailbox SP setentryatt ; empty string for list-mailbox implies ; server annotation.
setentryatt	= entry-att / "(" entry-att *(SP entry-att) ")"
value	= nstring

## 5. IANA Considerations

Both entry names and attribute names MUST be specified in a standards track or IESG approved experimental RFC, or fall under the vendor namespace.

### [5.1](#) Entry and Attribute Registration Template

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☐ Entry            ☐ Attribute  
☐ Mailbox         ☐ Server

Name: \_\_\_\_\_

Description: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contact person: \_\_\_\_\_

email: \_\_\_\_\_

### [5.2](#) Server Entry Registrations

The following templates specify the IANA registrations of annotation entries specified in this document.

#### [5.2.1](#) /comment

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☒ Entry            ☐ Attribute  
☐ Mailbox         ☒ Server

Name: /comment

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

### [5.2.2](#) /motd

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☒ Entry            ☐ Attribute

☐ Mailbox          ☒ Server

Name: /motd

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

### [5.2.3](#) /admin

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☒ Entry            ☐ Attribute

☐ Mailbox          ☒ Server

Name: /admin

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

## [5.3](#) Mailbox Entry Registrations

The following templates specify the IANA registrations of annotation entries specified in this document.

### [5.3.1](#) /comment

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☒ Entry            ☐ Attribute

☒ Mailbox          ☐ Server

Name: /comment

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

### [5.3.2](#) /sort

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☒ Entry            ☐ Attribute

☒ Mailbox          ☐ Server

Name: /sort

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

### [5.3.3](#) /thread

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☒ Entry            ☐ Attribute

☒ Mailbox          ☐ Server

Name: /thread

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

### [5.3.4](#) /check

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☒ Entry            ☐ Attribute

☒ Mailbox          ☐ Server

Name: /check

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

### [5.3.5](#) /checkperiod

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☒ Entry            ☐ Attribute  
☒ Mailbox         ☐ Server

Name: /checkperiod

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

## [5.4](#) Attribute Registrations

The following templates specify the IANA registrations of annotation attributes specified in this document.

### [5.4.1](#) value

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☐ Entry            ☒ Attribute  
☐ Mailbox         ☐ Server

Name: value

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

#### [5.4.2](#) size

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☐ Entry            ☒ Attribute

☐ Mailbox          ☐ Server

Name: size

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

#### [5.4.3](#) content-type

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☐ Entry            ☒ Attribute

☐ Mailbox          ☐ Server

Name: content-type

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com



#### [5.4.4](#) content-language

To: iana@iana.org  
Subject: IMAP ANNOTATEMORE Registration

Please register the following IMAP ANNOTATEMORE item:

☐ Entry            ☒ Attribute  
☐ Mailbox        ☐ Server

Name: content-language

Description: Defined in IMAP ANNOTATEMORE extension document.

Contact person: Cyrus Daboo

email: daboo@isamet.com

## 6. Security Considerations

Annotations whose values are intended to remain private MUST be stored in .priv values, and not .shared values which may be accessible to other users.

>Excluding the above issues the ANNOTATEMORE extension does not raise any security considerations that are not present in the base IMAP protocol, and these issues are discussed in [[RFC3501](#)].

## 7. References

### [7.1](#) Normative References

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[SORT] Crispin, M. and K. Murchison, "Internet Message Access Protocol - Sort and Thread Extension", [draft-ietf-imapext-sort-17.txt](#), May 2004.

## **[7.2](#) Informative References**

[ANNOTATE] Daboo, C. and R. Gellens, "IMAP ANNOTATE Extension", [draft-ietf-imapext-annotate-11.txt](#), October 2004.

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## **[Appendix A](#). Acknowledgments**

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