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The IMAP APPENDLIMIT Extension
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Abstract

This memo defines an extension to the IMAP service whereby a server can advertise its capability, to support maximum mail upload size using CAPABILITY, STATUS and LIST commands.

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[1. Introduction](#)

Several IMAP server have limitation for mail upload size which is not published to the email client. When email client APPEND a mail with huge attachments, it fails due to size restriction set by the IMAP server. This results in unnecessary resource usage. Especially in the mobile device environment, appending mail with huge attachment consumes device resources like device battery power and mobile data.

The IMAP APPENDLIMIT extension provides an ability to advertise maximum upload size allowed by the IMAP server, so that email client knows the size limitation beforehand. By implementing this extension, IMAP server side processing of huge attachments above the maximum upload size can be avoided.

[1.1. Conventions and Terminology](#)

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](#)].

Example lines prefaced by "C:" are sent by the client and ones prefaced by "S:" by the server. The five characters [...] means that something has been elided.

2. APPENDLIMIT Extension

An IMAP server that supports APPENDLIMIT extension advertises this by including the name APPENDLIMIT in its capability list. IMAP server MAY advertise this capability after user has logged in. IMAP server can publish the APPENDLIMIT capability in two formats.

(a) APPENDLIMIT=<number>

This indicates that the IMAP server has the same upload limit for all the mailboxes. The following example, demonstrates the APPENDLIMIT capability with same upload limit for all mailboxes.

```
C: t1 CAPABILITY
S: * CAPABILITY IMAP4rev1 ID APPENDLIMIT=257890
S: t1 OK foo
```

(b) APPENDLIMIT

APPENDLIMIT capability without any value indicates that the IMAP server has specific upload limit for different mailboxes. The following example, demonstrates the APPENDLIMIT capability without any value.

```
C: t1 CAPABILITY
S: * CAPABILITY IMAP4rev1 ID APPENDLIMIT
S: t1 OK foo
```

In this case the client SHOULD get APPENDLIMIT value by issuing STATUS or LIST command. New response code APPENDLIMIT is added to get the mailbox specific limit. Refer [section 5](#) for response code syntax.

IMAP client SHOULD be able to parse both kind of formats. By looking at the upload size advertised by the IMAP server, client MUST NOT try to APPEND mail more than advertised limit.

3. Mailbox specific APPENDLIMIT

IMAP server can have mailbox specific APPENDLIMIT value, which will not be advertised as part of CAPABILITY response. In this case, client can issue STATUS or LIST in combination with STATUS command, if the server supports LIST-STATUS capability, to get the per mailbox specific limit.

3.1 STATUS response

A new attribute APPENDLIMIT is added to get the limit set by the server for a mailbox as part of STATUS command. IMAP client should issue STATUS command with APPENDLIMIT item to get the mailbox specific upload value. The following example, demonstrates its usage.

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```
C: t1 STATUS INBOX (APPENDLIMIT)
S: * STATUS INBOX (APPENDLIMIT 257890)
S: t1 OK STATUS completed
```

IMAP server MUST return the mailbox name that matches the STATUS specification and the requested mailbox status information.

In the above example, APPENDLIMIT represents the maximum upload size for INBOX.

[3.2](#) LIST-STATUS response

IMAP client can issue LIST in combination with STATUS command to get the mailbox specific upload value, if the server supports LIST-STATUS extension. The following example, demonstrates its usage.

```
C: t1 LIST "" % RETURN (STATUS (APPENDLIMIT))
S: * LIST () "." "INBOX"
S: * STATUS "INBOX" (APPENDLIMIT 257890)
S: t1 OK List completed.
```

IMAP server MUST recognize an extra "RETURN (STATUS (APPENDLIMIT))" at the end of a LIST command and emit an extra STATUS response for each matching mailbox. Refer to [section 5](#) for the syntax. Refer [[RFC5819](#)] for the usage of LIST in combination with STATUS command.

If the server does not support this extension, then client should use STATUS command instead.

[4.](#) APPEND response

If client uploads a mail which exceeds the maximum upload size set to that mailbox, then server SHALL reject the APPEND command with a tagged TOOBIG response code. Refer [[RFC4469](#)] Section (4) for various APPEND response codes and its handling.

Client can avoid use of LITERAL+ [[RFC2088](#)], when maximum upload size supported by the IMAP server is unknown. Refer [[RFC4549](#)] [section 4.2.2.3](#) for usage of LITERAL+ and its risk for disconnected IMAP clients.

STATUS APPENDLIMIT is considered to be fast and there is no need to evaluate remaining quotas (if any) when returning APPENDLIMIT values. APPEND can still fail due to ACL and quota related issues, even if the message being appended is smaller than the APPENDLIMIT.

5. Formal syntax

The following syntax specification uses the Augmented Backus-Naur Form (ABNF) notation as specified in [RFC5234] including the core rules in [Appendix B.1. \[RFC3501\]](#) defines the non-terminals "capability", "resp-text-code" and "status-att".

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.

```
appendlimit-cap = "APPENDLIMIT" [ "=" number ]  
capability /= appendlimit-cap
```

```
appendlimit-respcode = "APPENDLIMIT" SP number  
resp-text-code /= appendlimit-respcode
```

```
appendlimit-status-att = "APPENDLIMIT"  
status-att /=appendlimit-status-att
```

A number indicating the fixed maximum message size in octets that the server will accept. APPENDLIMIT=0 indicates the server SHALL NOT accept APPEND command due to size restriction. The syntax of the parameter follows the augmented BNF notation of [RFC5234]. If this capability is omitted, no information is conveyed about the server's fixed maximum mail upload size.

6. Security Consideration

The IMAP APPENDLIMIT extension described in this document can conceivably be used to facilitate Denial-of-Service attacks. Specifically, the information contained in the APPENDLIMIT capability and use of the APPEND command make it somewhat quicker and easier to devise an efficacious Denial-of-Service attack. However, unless implementations are very weak, these extensions do not create any vulnerability that has not always existed with IMAP. In addition, no issues are addressed involving trusted systems and possible release of information via the mechanisms described in this document.

IMAP APPENDLIMIT extension doesn't add any new security considerations that are not already present in the base IMAP protocol [RFC3501].

7. 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/imap-capabilities>

This document requests that IANA adds "APPENDLIMIT" capability pointing to this document to the above registry.

8. References

8.1 Normative References

The following documents contain definitions or specifications that are necessary to understand this document properly

- [[RFC2119](#)] Bradner, "Key words for use in RFCs to Indicate Requirement Levels", Harvard University, March 1997.
- [RFC3501] Crispin, "INTERNET MESSAGE ACCESS PROTOCOL - VERSION 4rev1", University of Washington, March 2003
- [RFC5234] Crocker, Overell, "Augmented BNF for Syntax Specifications: ABNF", [RFC 5234](#), Brandenburg Internetworking, Demon Internet Ltd, January 2008
- [RFC5819] A. Melnikov, T. Sirainen, "IMAP4 Extension for Returning STATUS Information in Extended LIST", March 2010
- [RFC4469] P. Resnick, "Internet Message Access Protocol (IMAP) CATENATE Extension", April 2006
- [RFC2088] J. Myers, Carnegie Mellon, "IMAP4 non-synchronizing literals", January 1997

8. 2 Informative References

The following documents describe related protocols:

- [RFC4549] A. Melnikov, Ed. "Synchronization Operations for Disconnected IMAP4 Clients", June 2006

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