<u>draft-melnikov-imap-content-location-00.txt</u> Expires: December 2002

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An extension to IMAP BODYSTRUCTURE for returning Content-Location information draft-melnikov-imap-content-location-00.txt

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<u>0.1</u>. Open issues

Other open issues are enclosed in << and >> in the relevant places of this document.

0.2. Change History

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<<To be completed later>>

<u>1</u>. Abstract

The [IMAP4] BODYSTRUCTURE FETCH data item allows a client to learn about the MIME structure of a message without the need to download the entire message.

This document extends the syntax of the [IMAP4] BODYSTRUCTURE FETCH

response data item to include information from the Content-Location header field described in [MHTML]. This extension helps MHTML-aware IMAP clients to save both the number of round trips and the amount of information sent across the network.

Fallback strategies are also discussed when an IMAP server doesn't support this extension.

2. Conventions Used in This Document

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 <u>RFC 2119</u> [<u>KEYWORDS</u>].

In examples, lines beginning with "S:" are sent by the IMAP server, and lines beginning with "C:" are sent by the client. Line breaks may appear in example commands solely for editorial clarity; when present in the actual message they are represented by "<CRLF>". Space character may be represented in examples as "<SPACE>".

The formal syntax is defined using ABNF [ABNF].

3. IMAP Protocol Changes

This document adds an additional element to the BODYSTRUCTURE FETCH response

described in 7.4.2 of [<u>IMAP4</u>].

The extension data of a multipart body part is extended to add a new element "body location" after the "body language":

body location A string giving the content location URI as specified in the Content-Location MIME header field [MHTML].

The extension data of a non-multipart body part is extended to add a new element "body location" after the "body language":

body location A string giving the content location URI as specified in Content-Location MIME header field [MHTML].

If the server doesn't return Content-Location information in a BODYSTRUCTURE FETCH response, the client should issue one or more FETCHes that contain "BODY.PEEK[HEADER.FIELDS (Content-Location)]" for the root part, "BODY.PEEK[<section#>.HEADER.FIELDS (Content-Location)]" for a MESSAGE/ **RFC822** part and "BODY.PEEK[<section#>.MIME]" for all other parts. Of course, "BODY.PEEK[<nnn>HEADER]" (or HEADER.FIELDS that includes Content-Location) can be use instead of "BODY.PEEK[<nnn>HEADER.FIELDS (Content-Location)]" if it is desired to get other header fields. C: A141 FETCH 1:* BODYSTRUCTURE Example: S: * 1 FETCH (BODYSTRUCTURE (("TEXT" "PLAIN" ("CHARSET" "usascii") <SPACE>NIL NIL "7BIT" 323 14 NIL NIL NIL)("TEXT" "HTML"<SPACE> ("CHARSET" "iso-8859-1") NIL NIL "QUOTED-PRINTABLE" 50578<SPACE> 1111 NIL NIL NIL) "MIXED"<SPACE> ("BOUNDARY" "-----8FC7BFAA529B4689FD642892")<SPACE> NIL NIL)) . . . S: A141 OK done! ;;; The server did not return a Content-Location in the BODYSTRUCTURE, so we ;;; must fetch it manually from the header field: C: A142 FETCH 1 (BODY.PEEK[HEADER.FIELDS (Content-Location)]<SPACE> BODY.PEEK[1.MIME] BODY.PEEK[2.MIME]) S: * 1 FETCH (BODY[HEADER.FIELDS (Content-Location)] {2} <CRLF><CRLF> <SPACE>BODY[1.MIME] {79}<CRLF> Content-Type: text/plain; charset=us-ascii Content-Transfer-Encoding: 7bit<CRLF> <SPACE>BODY[2.MIME] {182}<CRLF> Content-Type: text/html; charset=iso-8859-1 Content-Transfer-Encoding: quoted-printable Content-Base: "http://home.netscape.com/" Content-Location: "http://home.netscape.com/"<CRLF><CRLF>) S: A142 OK done!

A client must be able to deal with empty responses from "BODY[HEADER.FIELDS (Content-Location)]" and treat them as missing Content-Location header fields.

<u>4</u>. Formal Syntax

The following syntax specification uses the Augmented Backus-Naur Form (ABNF) notation as specified in [<u>ABNF</u>].

Non-terminals referenced but not defined below are as defined by

[<u>IMAP4</u>].

Except as noted otherwise, all alphabetic characters are caseinsensitive. 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.

body-ext-1part	<pre>= body-fld-md5 [SP body-fld-dsp [SP body-fld-lang [SP body-fld-loc *(SP body-extension)]]] ; MUST NOT be returned on non-extensible ; "BODY" fetch</pre>
body-ext-mpart	<pre>= body-fld-param [SP body-fld-dsp [SP body-fld-lang [SP body-fld-loc *(SP body-extension)]]]</pre>
body-fld-loc	<pre>= nstring ; NIL if Content-Location header is not present, ; has a syntax of URI otherwise</pre>

<u>5</u>. Security Considerations

This document doesn't raise any new security concernes not already discussed in [IMAP4] and [MHTML].

<u>6</u>. References

[ABNF] Crocker, Overell, "Augmented BNF for Syntax Specifications: ABNF", <u>RFC 2234</u>, Internet Mail Consortium, Demon Internet Ltd, November 1997.

[IMAP4] Crispin, M., "Internet Message Access Protocol - Version 4rev1", update to <u>RFC 2060</u> in progress, University of Washington.

[KEYWORDS] Bradner, "Key words for use in RFCs to Indicate Requirement Levels", <u>RFC 2119</u>, Harvard University, March 1997.

[MHTML] Palme, J., Hopmann, A., Shelness, N., "MIME Encapsulation of Aggregate Documents, such as HTML (MHTML)", <u>RFC 2557</u>, Stockholm University/KTH, Microsoft Corporation, Lotus Development Corporation, March 1999.

Acknowledgments

<<to be completed when appropriate>>

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