Note: This postscript version is intended for those who rapidly want to see the differences between version 02 and version 03 of this Internet draft. It was produced with the comparison program Docucomp II followed by manual editing.

Notation:

underscore new text in version 03

~~overstrike~~ text from version 02 deleted or replaced in version 03

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Common Internet Message Attributes

Status of this Memo

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This memo provides information for the Internet community. This' memo does not specify an Internet standard of any kind, since this document is mainly a compilation of information taken from other RFC-s.. Distribution of this memo is unlimited.

Abstract

This memo contains a table of commonly occurring attributes in headings and on envelopes of e-mail messages. The document compiles information from other RFC-s such as RFC 821, RFC 822, RFC 1036, RFC 1123, RFC 1327, RFC 1496, RFC 1521, RFC 1766 and ~~X.400.~~ RFC 1806. A few commonly occurring attributes which are not defined in RFC-s are also included. For each attribute, the memo gives a short description and a reference to the RFC, in which the attribute is defined. The postscript version of this memo shows the changes as compared to version 02.

Table of contents

1. Introduction

Many different Internet standards and RFC-s define attributes which may occur on Internet Mail Messages and Network News Articles. The intention of this document is to list all such attributes in one document as an aid to people developing message systems or interested in Internet Mail standards.

The document contains all heading attributes which the author has found in the following Internet standards: RFC 821 [1], RFC 822 [2], RFC 1036 [3], RFC 1123 [5], RFC 1327 [7], RFC 1496 [8], RFC 1521 [11], RFC 1766 [12] and RFC 1806 [14]. Note in particular that heading attributes defined in RFC 1421-1424, "Privacy Enhancement for Internet Electronic Mail", are not included. A few additional attributes which often can be found in e-mail headings but are not part of any Internet standard are also included.

For each heading attribute, the document gives a short description and a reference to the Internet standard or RFC, in which they are defined.

2. Use of gatewaying attributes

RFC 1327 defines a number of new attributes in Internet mail, which are defined to map attributes which X.400 has but which were previously not standardized in Internet mail. The fact that an attribute occurs in RFC 1327 indicates that it is recommended for use in gatewaying messages between X.400 and Internet mail, but does not mean that the attribute is recommended for messages wholly within Internet mail. Some of these attributes may eventually get accepted also for usage within Internet mail, but they are, when this is written (July 1995) not recommended for such usage.

Fields defined in RFC 1036 for use in Usenet News sometimes appear in mail messages, either because the messages have been gatewayed from Usenet News to e-mail, or because the messages were written in combined clients supporting both e-mail and Usenet News in the same client. These fields are however not standardized for use in Internet e-mail and should be handled with caution.

Fields are given here in the spelling used in e-mail headers. This may sometimes be English, sometimes American spelling. One attribute, "Organisation/Organization" occurs in e-mail headers sometimes with English, sometimes with American spelling.

3. Table of attributes

3.1 Phrases used in the tables

"not for general usage"	Used to mark attributes which are defined in RFC 1327 for use in messages from or to Internet mail/X.400 gateways. These attributes have not been standardized for general usage in the exchange of messages between Internet mail-based systems.
"not standardized for use in e-mail"	Used to mark attributes defined only in RFC 1036 for use in Usenet News. These attributes have no standard meaning when appearing in e-mail, some of them may even be used in different ways by different software. When appearing in e-mail, they should be handled with caution. Note that RFC 1036, although generally used as a standard for Usenet News, is not an accepted IETF standard or on the IETF standards track.
"non-standard"	This attribute is not specified in any of those referenced RFC-s which are Internet standards, draft standards or proposed standards. The attribute appears here because it is common in e-mail or Usenet News headers. Usage of these attributes is not in general recommended.
"discouraged"	This attribute, which is non-standard, is known to create problems and should not be generated. Handling of such attributes in incoming mail should be done with great caution.
"controversial"	The meaning and usage of this attribute is controversial, i.e. different implementors have chosen to implement the attribute in different ways. Because of this, such attributes should be handled with caution and understanding of the different possible interpretations.

"for limited use"	~~A~~ Attributes defined in a so-called "experimental" Internet standard. These should be used only if both parties agree.
"experimental"	This attribute is used for newly defined attributes, which are to be tried out before entering the IETF standards track.

3.2 Addressing information

Original sender. Should in Internet be empty ("MAIL FROM: <>") when sending notifications, and be the list administrator when forwarding from a distribution list. This value may for gatewayed messages contain a chain of hosts to be passed in sequence to reach the original sender (i.e. a relative address).	MAIL FROM	RFC 821, RFC 1123: 5.2.9.
Used to convey the information from the MAIL FROM envelope attribute when the message leaves the SMTP environment in which "MAIL FROM" is used.	Return-Path:	RFC 821, RFC 1123: 5.2.13.
Recipient to which message is to be delivered. Relative address was allowed in RFC 821, but later prohibited in RFC 1123.	RCPT TO	RFC 821, RFC 1123: 5.2.6.

3.3 Envelope and format information

All that is inside the envelope.	DATA	RFC 821, RFC 1123: 5.2.8.

Trace of MTA-s which a message has passed.	Received:	RFC 822: 4.3.2, RFC 1123: 5.2.8.
An indicator that this message is formatted according to the MIME standard, and an indication of which version of MIME is utilized.	MIME-Version:	RFC 1521: 3.
List of MTA-s passed.	Path:	RFC 1036: 2.2.6, not standardized for use in e-mail.
Special Usenet News actions.	Control:	RFC 1036: 2.1.6, not standardized for use in e-mail.
Trace of distribution lists passed.	DL-Expansion-History-Indication	RFC 1327, not for general usage.
Which body part types occur in this message.	Original-Encoded-Information-Types:	RFC 1327, not for general usage.
Special informational message.	Message-Type: Delivery Report	RFC 1327, not for general usage.
Controls whether this message may be forwarded to alternate recipients such as a postmaster if delivery is not possible to the intended recipient. Default: Allowed.	Alternate-Recipient:	RFC 1327, not for general usage.

Whether recipients are to be told the names of other recipients of the same message. This is primarily an X.400 facility, such disclosure is in Internet mail done via the To:, Cc: and Bcc: heading fields.	Disclose-Recipients:	RFC 1327, not for general usage.
Whether a MIME body part is to be shown inline or is an attachment, can also indicate a suggested filename for use when saving an attachment to a file.	Content-Disposition:	RFC 1806, experimental

3.4 Sender and recipient indication

Author, approver	From:	RFC 822: 4.4.1, RFC 1123: 5.2.15-16, 5.3.7.
Moderator	Approved:	RFC 1036: 2.2.11, not standardized for use in e-mail.
Sender information inside the envelope.	Sender:	RFC 822: 4.4.2, RFC 1123: 5.2.15-16, 5.3.7.
Main recipients.	To:	RFC 822: 4.5.1, RFC 1123: 5.2.15-16, 5.3.7.
Additional recipients.	Cc:	RFC 822: 4.5.2, RFC 1123. 5.2.15-16, 5.3.7.
Recipients not shown to other recipients.	Bcc:	RFC 822: 4.5.3, RFC 1123: 5.2.15-16, 5.3.7.

In Usenet News: group to which this article was posted. Some systems provide this field also in e-mail although it is not standardized there. Unfortunately, the field can appear in e-mail with two different and contradictory meanings: (a) Indicates the newsgroup recipient of a message sent to both e-mail and Usenet News recipients. (b) In a personally addressed reply to a message in a news-group, indicate the newsgroup in which this discussion originated.	Newsgroups:	RFC 1036: 2.1.3, not standardized and controversial for use in e-mail.
Inserted by Sendmail when there is no "To:" recipient in the original message, listing recipients derived from the envelope into the message heading. This behavior is not quite proper, MTA-s should not modify headings (except inserting Received lines), and it can in some cases cause Bcc recipients to be wrongly divulged to non-Bcc recipients.	Apparently-To:	Non-standard, discouraged, mentioned in RFC 1211.
Limitation on where this message can be distributed.	Distribution:	RFC 1036: 2.2.7, not standardized for use in e-mail.
Fax number of the originator.	Fax:, Telefax:	Non-standard.
Phone number of the originator.	Phone:	Non-standard.

Information about the client software of the originator.	Mail-System-Version:, Mailer:, Originating-Client:	Non-standard.

3.5 Response control

This heading field is meant to indicate where the sender wants replies to go. Unfortunately, this is ambiguous, since there are different kinds of replies, which the sender may wish to go to different addresses. In particular, there are personal replies intended for only one person, and group replies, intended for the whole group of people who read the replied-to message (often a mailing list). There has been various suggestions to differentiate between these two uses of "Reply-To", with new header fields names "Personal-Reply-To", "Group-Reply-To" or "Wide-Reply-To". None of these proposals have been accepted. In practice, "Reply-To" is often used to indicate a neater format for the e-mail address of the sender than that given in the "From" field. In this case, it would be better to put the neater format directly in the "From" field.	Reply-To:	RFC 822: 4.4.3, controversial.

A well-known mailing list software will optionally insert "Reply-To" with the name of the list into messages distributed by the list.		
The opinion of the author of this RFC is that you should avoid using "Reply-To" until IETF has defined less ambiguous constructs. This opinion is however also controversial and not shared by everyone.		
Used in Usenet News to indicate that future discussions (=follow-up) on an article should go to a different set of newsgroups than the replied-to article. The most common usage is when an article is posted to several newsgroups, and further discussions is to take place in only one of them.	Followup-To:	RFC 1036: 2.2.3, not standardized for use in e-mail.
In e-mail, this heading field is used in a message which is sent to both e-mail and Usenet News, to show where follow-up in Usenet news is wanted. The field does not say anything about where follow-up in e-mail is to be sent.		

Address to which notifications are to be sent and a request to get delivery notifications. Internet standards recommend, however, the use of RCPT TO and Return-Path, not Errors-To, for where delivery notifications are to be sent, and a new standard ~~under development~~ for delivery notifications specifies how requests for notifications are specified by a new parameter "NOTIFY" to the "RCPT TO" SMTP command.	Errors-To:, Return-Receipt-To:	Non-standard, discouraged.
An IETF group is working on a standard for receipt notifications (note that this is not the same as delivery notifications). This group is discussing this new heading field, but no agreement has been reached yet.	Disposition-Notification-To:	Do not use until the proposal from this IETF group is ready and accepted by IETF.
Whether non-delivery report is wanted at delivery error. Default is to want such a report.	Prevent-NonDelivery-Report:	RFC 1327, not for general usage.
Whether a delivery report is wanted at successful delivery. Default is not to generate such a report.	Generate-Delivery-Report:	RFC 1327, not for general usage.
Indicates whether the content of a message is to be returned with non-delivery notifications.	Content-Return	RFC 1327, not for general usage.
Indicates whether the content of a message is to be returned with non-delivery notifications.	RET in DRPT SMTP extension	In forthcoming new Internet standard.

3.6 Message identification and referral attributes

Unique ID of this message.	Message-ID:	RFC 822: 4.6.1.
Unique ID of one body part of the content of a message.	Content-ID:	RFC 1521: 6.1.
Reference to message which this message is a reply to.	In-Reply-To:	RFC 822: 4.6.2.
Reference to other related messages.	References:	RFC 822: 4.6.3.
Reference to previous message being corrected and replaced.	Obsoletes:	RFC 1327, not for general usage.
Used in Usenet News in similar ways to the "Obsoletes" attribute described ~~earlier in this document.~~ above.	Supersedes:	Non-standard.

3.7 Other textual attributes

Search keys for data base retrieval.	Keywords:	RFC 822: 4.7.1.
Title, heading, subject.	Subject:	RFC 822: 4.7.1.
Comments on a message.	Comments:	RFC 822: 4.7.2.
Description of a particular body part of a message.	Content-description:	RFC 1521: 6.2.

Organization to which the sender of this message belongs.	Organization:	RFC 1036: 2.2.8, not standardized for use in e-mail.
See Organization above.	Organisation:	Non-standard.
Short text describing a longer message. <u>Warning: Some mail systems will not display this text to the recipient. Because of this, do not use this field for text which you want to ensure that the recipient gets.</u>	Summary:	RFC 1036: 2.2.10, not standardized for use in e-mail, <u>discouraged</u>.
A text string which identifies the content of a message.	Content-identifier:	RFC 1327, not for general usage.

3.8 Attributes containing dates and times

The time when a message was delivered to its recipient.	Delivery-Date:	RFC 1327, not for general usage.
In Internet, the date when a message was written, in X.400, the time a message was submitted.	Date:	RFC 822: 5.1, RFC 1123: 5.2.14.
A suggested expiration date. Can be used both to limit the time of an article which is not meaningful after a certain date, and to extend the storage of important articles.	Expires:	RFC 1036: 2.2.4, not standardized for use in e-mail.
Time at which a message loses its validity.	Expiry-Date:	RFC 1327, not for general usage.

Latest time at which a reply is requested (not demanded).	Reply-By:	RFC 1327, not for general usage.

3.9 Quality information

Can be "normal", "urgent" or "non-urgent" and can influence transmission speed and delivery.	Priority:	RFC 1327, not for general usage.
Sometimes used as a priority value which can influence transmission speed and delivery. Common values are "bulk" and "first-class". Other uses is to control automatic replies and to control return-of-content facilities, and to stop mailing list loops.	Precedence:	Non-standard, controversial, discouraged.
Can be high, normal or low and is only used in the recipient client (UA).	Importance:	RFC 1327, not for general usage.
Can be personal, private, company confidential or absent.	Sensitivity:	RFC 1327, not for general usage.
Body parts are missing.	Incomplete-Copy:	RFC 1327, not for general usage.

3.10 Language information

Can include a code for the natural language used in a message, e.g. "en" for English.	Language:	RFC 1327, not for general usage.
Can include a code for the natural language used in a message, e.g. "en" for English.	Content-Language:	RFC 1766, proposed standard.

3.11 Size information

Inserted by certain mailers to indicate the size in bytes of the message text. Can cause several robustness and interoperability problems and is not recommended.	Content-length:	Non-standard, discouraged.
Size of the message.	Lines:	RFC 1036: 2.2.12, not standardized for use in e-mail.

3.12 Conversion control

The body of this message may not be converted from one character set to another.	Conversion:	RFC 1327, not for general usage.
The body of this message may not be converted from one character set to another if information will be lost.	Conversion-With-Loss:	RFC 1327, not for general usage.

3.13 Encoding information

Format of content (character set etc.) Note that the values for this field ~~is~~ <u>are</u> defined in different ways in RFC 1049 and in MIME (RFC 1521), look for the "MIME-version" heading field to understand if Content-Type is to be interpreted according to RFC 1049 or according to MIME. The MIME definition should be used in generating mail.	Content-Type:	RFC 1049, RFC 1123: 5.2.13, RFC 1521: 4.
Coding method used in content.	Content-Transfer-Encoding	RFC 1521: 5.

Coding method used in content.	Encoding:	RFC 1154, RFC 1505, for limited use.

3.14 Resent-attributes

When manually forwarding a message, attributes referring to the forwarding, not to the original message. Note: MIME specifies another way of resending messages, using the "Message" Content-Type.	Resent-Reply-To:, Resent-From:, Resent-Sender:, Resent-From:, Resent-Date:, Resent-To:, Resent-cc:, Resent-bcc:, Resent-Message-ID:	RFC 822: C.3.3.

3.15 Miscellaneous

Name of file in which a copy of this message is stored.	Fcc:	Non-standard.
Has been automatically forwarded.	Auto-Forwarded:	RFC 1327, not for general usage.
Can be used in Internet mail to indicate X.400 extensions which could not be mapped to Internet mail format.	Discarded-X400-IPMS-Extensions:	RFC 1327, not for general usage.
Can be used in Internet mail to indicate X.400 extensions which could not be mapped to Internet mail format.	Discarded-X400-MTS-Extensions:	RFC 1327, not for general usage.

4. Acknowledgments

Harald Tveit Alvestrand, Keith Moore, Nick Smith and several other people have helped me with compiling this list. I alone take responsibility for any errors which may still be in the list.

An earlier version of this list has been published as part of [13].

5. References

Ref.	Author, title	IETF status (July 1995)
[1]	J. Postel: "Simple Mail Transfer Protocol", STD 10, RFC 821, August 1982.	Standard, Recommended.
[2]	D. Crocker: "Standard for the format of ARPA Internet text messages." STD 11, RFC 822, August 1982.	Standard, Recommended.
[3]	M.R. Horton, R. Adams: "Standard for interchange of USENET messages", RFC 1036, December 1987.	~~Non-standard (but still widely used)~~ Not an official IETF standard, but in reality a de-facto standard for Usenet News.
[4]	M. Sirbu: "A Content-Type header field for internet messages", RFC 1049, March 1988.	Standard, Recommended.
[5]	R. Braden (editor): "Requirements for Internet Hosts -- Application and Support", STD-3, RFC 1123, October 1989.	Standard, Required.

[6]	D. Robinson, R. Ullman: "Encoding Header Field for Internet Messages", RFC 1154, April 1990.	Non-standard.
[7]	S. Hardcastle-Kille: "Mapping between X.400(1988) / ISO 10021 and RFC 822", RFC 1327 May 1992.	Proposed standard, elective.
[8]	H. Alvestrand & J. Romaguera: "Rules for Downgrading Messages from X.400/88 to X.400/84 When MIME Content-Types are Present in the Messages", RFC 1496, August 1993.	Proposed standard, elective.
[9]	A. Costanzo: "Encoding Header Field for Internet Messages", RFC 1154, April 1990.	Non-standard.
[10]	A. Costanzo, D. Robinson: "Encoding Header Field for Internet Messages", RFC 1505, August 1993.	Experimental.
[11]	N. Borenstein & N. Freed: "MIME (Multipurpose Internet Mail Extensions) Part One: Mechanisms for Specifying and Describing the Format of Internet Message Bodies", RFC 1521, Sept 1993.	Draft Standard, elective.
[12]	H. Alvestrand: "Tags for the Identification of Languages", RFC 1766, February 1995.	Proposed standard, elective.
[13]	J. Palme: "Electronic Mail", Artech House publishers, London-Boston January 1995.	Non-standard.
[14]	R. Troost, S. Dorner: "Communicating Presentation Information in Internet Messages: The Content-Disposition Header", RFC 1806, June 1995.	Experimental.

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Appendix A:
Attributes sorted by Internet RFC document in which they appear.

RFC 821

DATA
MAIL FROM
RCPT TO

RFC 822

Bcc
Cc
Comments
Date
From
In-Reply-To
Keywords
Message-ID
Received
References
Reply-To
Resent-
Resent-bcc
Resent-Date
Resent-From
Resent-From
Resent-Message-ID
Resent-Reply-To
Resent-ToResent-cc
Return-Path
Sender
Sender
Subject
To

RFC 1036

Approved
Control
Distribution
Expires
Followup-To
Lines
Newsgroups
Organization
Path

Summary

RFC 1049

Content-Type

RFC 1327

Alternate-recipient
Auto-Forwarded
Autoforwarded
Content-identifier
Content-Return
Conversion
Conversion-With-Loss
Delivery-Date
Discarded-X400-IPMS-Extensions
Discarded-X400-MTS-Extensions
Disclose-Recipients
DL-Expansion-History
Expiry-Date
Generate-Delivery-Report
Importance
Incomplete-Copy
Language
Message-Type Delivery
Obsoletes
Original-Encoded-Information-Types
Prevent-NonDelivery-Report
Priority
Reply-By
Report
Sensitivity

RFC 1505

Encoding

RFC 1521

~~Content-description~~
Content-Description
Content-ID
Content-Transfer-Encoding
Content-Type
MIME-Version

RFC 1806

Content-Disposition

Not Internet standard

Apparently-to
Content-length

Encoding
Errors-To
Return-Receipt-To
Fax
Telefax
Fcc
Mail-System-Version
Mailer
Organisation
Originating-Client
Phone
Supersedes

Appendix B:
Alphabetical index