Network Working Group
Request for Comments: 4021
Category: Standards Track

G. Klyne
University of Oxford
J. Palme
Stockholm University/KT

March 2005

Registration of Mail and MIME Header Fields

Status of This Memo

Copyright Notice

Abstract

This document defines the initial IANA registration for permanent mail and MIME message header fields, per RFC 3864.

Table of Contents

1. Introduction

This document defines IANA registration for a number of mail message and MIME header fields, per registration procedures for message header fields [1].

The main body of this document is automatically generated from RDF/N3 data. Some experimental HTML registry pages have been prepared from the same data and can be found at [27].

1.1. Structure of This Document

Section 2.1 contains the templates for initial registration of mail message header fields.

Section 2.2 contains templates for initial registration of MIME header fields.

1.2. Document Terminology and Conventions

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 BCP 14, RFC 2119 [9].

2. Registration Templates

Header field registry entries are summarized in tabular form for convenience of reference and presented in full in the following sections.

2.1. Permanent Mail Header Field Registrations

Header name	Protocol	
Date	Mail	Message date and time
From	Mail	Mailbox of message author
Sender	Mail	Mailbox of message sender
Reply-To	Mail	Mailbox for replies to message
To	Mail	Primary recipient mailbox
Cc	Mail	Carbon-copy recipient mailbox
Bcc	Mail	Blind-carbon-copy recipient mailbox
Message-ID	Mail	Message identifier
In-Reply-To	Mail	Identify replied-to message(s)
References	Mail	Related message identifier(s)
Subject	Mail	Topic of message
Comments	Mail	Additional comments about the message
Keywords	Mail	Message key words and/or phrases
Resent-Date	Mail	Date and time message is resent
Resent-From	Mail	Mailbox of person for whom message is resent
Resent-Sender	Mail	Mailbox of person who actually resends the message
Resent-To	Mail	Mailbox to which message is resent
Resent-Cc	Mail	Mailbox(es) to which message is cc’ed on resend
Resent-Bcc	Mail	Mailbox(es) to which message is bcc’ed on resend
Resent-Reply-To	Mail	Resent reply-to
Resent-Message-ID	Mail	Message identifier for resent message

Return-Path	Mail	Message return path
Received	Mail	Mail transfer trace information
Encrypted	Mail	Message encryption information
Disposition-Notification-To	Mail	Mailbox for sending disposition notification
Disposition-Notification-Options	Mail	Disposition notification options
Accept-Language	Mail	Language(s) for auto-responses
Original-Message-ID	Mail	Original message identifier
PICS-Label	Mail	PICS rating label
Encoding	Mail	Message encoding and other information
List-Archive	Mail	URL of mailing list archive
List-Help	Mail	URL for mailing list information
List-ID	Mail	Mailing list identifier
List-Owner	Mail	URL for mailing list owner’s mailbox
List-Post	Mail	URL for mailing list posting
List-Subscribe	Mail	URL for mailing list subscription
List-Unsubscribe	Mail	URL for mailing list unsubscription
Message-Context	Mail	Type or context of message
DL-Expansion-History	Mail	Trace of distribution lists passed
Alternate-Recipient	Mail	Controls forwarding to alternate recipients
Original-Encoded-Information-Types	Mail	Body part types in message
Content-Return	Mail	Return content on non-delivery?
Generate-Delivery-Report	Mail	Request delivery report generation
Prevent-NonDelivery-Report	Mail	Non-delivery report required?
Obsoletes	Mail	Reference message to be replaced
Supersedes	Mail	Reference message to be replaced
Content-Identifier	Mail	Message content identifier
Delivery-Date	Mail	Message delivery time
Expiry-Date	Mail	Message expiry time
Expires	Mail	Message expiry time
Reply-By	Mail	Time by which a reply is requested
Importance	Mail	Message importance
Incomplete-Copy	Mail	Body parts are missing
Priority	Mail	Message priority
Sensitivity	Mail	Message content sensitivity
Language	Mail	X.400 message content language
Conversion	Mail	Conversion allowed?

Conversion-With-Loss	Mail	Lossy conversion allowed?
Message-Type	Mail	Message type: delivery report?
Autosubmitted	Mail	Automatically submitted indicator
Autoforwarded	Mail	Automatically forwarded indicator
Discarded-X400-IPMS-Extensions	Mail	X.400 IPM extensions discarded
Discarded-X400-MTS-Extensions	Mail	X.400 MTS extensions discarded
Disclose-Recipients	Mail	Disclose names of other recipients?
Deferred-Delivery	Mail	Deferred delivery information
Latest-Delivery-Time	Mail	Latest delivery time requested
Originator-Return-Address	Mail	Originator return address
X400-Content-Identifier	Mail	Message content identifier
X400-Content-Return	Mail	Return content on non-delivery?
X400-Content-Type	Mail	X400 content type
X400-MTS-Identifier	Mail	X400 MTS-Identifier
X400-Originator	Mail	X400 Originator
X400-Received	Mail	X400 Received
X400-Recipients	Mail	X400 Recipients
X400-Trace	Mail	X400 Trace

2.1.1. Header Field: Date

Description:
Message date and time

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.1)

Related information:
Specifies the date and time at which the creator of the message indicated that the message was complete and ready to enter the mail delivery system. Defined as standard by RFC 822.

2.1.2. Header Field: From

Description:
Mailbox of message author

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.2)

Related information:
Specifies the author(s) of the message; that is, the mailbox(es) of the person(s) or system(s) responsible for the writing of the message. Defined as standard by RFC 822.

2.1.3. Header Field: Sender

Description:
Mailbox of message sender

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.2)

Related information:
Specifies the mailbox of the agent responsible for the actual transmission of the message. Defined as standard by RFC 822.

2.1.4. Header Field: Reply-To

Description:
Mailbox for replies to message

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org) Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.2)

Related information:
When the "Reply-To:" field is present, it indicates the mailbox(es) to which the author of the message suggests that replies be sent. Defined as standard by RFC 822.

2.1.5. Header Field: To

Description:
Primary recipient mailbox

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.3)

Related information:
Contains the address(es) of the primary recipient(s) of the message. Defined as standard by RFC 822.

2.1.6. Header Field: Cc

Description:
Carbon-copy recipient mailbox

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.3)

Related information:
Contains the addresses of others who are to receive the message, though the content of the message may not be directed at them. Defined as standard by RFC 822.

2.1.7. Header Field: Bcc

Description:
Blind-carbon-copy recipient mailbox

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.3)

Related information:
Contains addresses of recipients of the message whose addresses are not to be revealed to other recipients of the message. Defined as standard by RFC 822.

2.1.8. Header Field: Message-ID

Description:
Message identifier

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.4)

Related information:
Contains a single unique message identifier that refers to a particular version of a particular message. If the message is resent without changes, the original Message-ID is retained. Defined as standard by RFC 822.

2.1.9. Header Field: In-Reply-To

Description:
Identify replied-to message(s)

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.4)

Related information:
The message identifier(s) of the original message(s) to which the current message is a reply. Defined as standard by RFC 822.

2.1.10. Header Field: References

Description:
Related message identifier(s)

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.4)

Related information:
The message identifier(s) of other message(s) to which the current message may be related. In RFC 2822, the definition was changed to say that this header field contains a list of all Message-IDs of messages in the preceding reply chain. Defined as standard by RFC 822.

2.1.11. Header Field: Subject

Description:
Topic of message

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.5)

Related information:
Contains a short string identifying the topic of the message. Defined as standard by RFC 822.

2.1.12. Header Field: Comments

Description:
Additional comments about the message

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.5)

Related information:
Contains any additional comments on the text of the body of the message. Warning: Some mailers will not show this field to recipients. Defined as standard by RFC 822.

2.1.13. Header Field: Keywords

Description:
Message key words and/or phrases

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.5)

Related information:
Contains a comma-separated list of important words and phrases that might be useful for the recipient. Defined as standard by RFC 822.

2.1.14. Header Field: Resent-Date

Description:
Date and time message is resent

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.6)

Related information:
Contains the date and time that a message is reintroduced into the message transfer system. Defined as standard by RFC 822.

2.1.15. Header Field: Resent-From

Description:
Mailbox of person for whom message is resent

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.6)

Related information:
Contains the mailbox of the agent who has reintroduced the message into the message transfer system, or on whose behalf the message has been resent. Defined as standard by RFC 822.

2.1.16. Header Field: Resent-Sender

Description:
Mailbox of person who actually resends the message

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.6)

Related information:
Contains the mailbox of the agent who has reintroduced the message into the message transfer system, if this is different from the Resent-From value. Defined as standard by RFC 822.

2.1.17. Header Field: Resent-To

Description:
Mailbox to which message is resent

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.6)

Related information:
Contains the mailbox(es) to which the message has been resent. Defined as standard by RFC 822.

2.1.18. Header Field: Resent-Cc

Description:
Mailbox(es) to which message is cc'ed on resend

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.6)

Related information:
Contains the mailbox(es) to which message is cc'ed on resend.
Defined as standard by RFC 822.

2.1.19. Header Field: Resent-Bcc

Description:
Mailbox(es) to which message is bcc'ed on resend

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.6)

Related information:
Contains the mailbox(es) to which message is bcc'ed on resend.
Defined as standard by RFC 822.

2.1.20. Header Field: Resent-Reply-To

Description:
Resent reply-to

Applicable protocol: Mail [18]

Status: obsolete

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18]

Related information:
Resent Reply-to. Defined by RFC 822, obsoleted by RFC 2822.

2.1.21. Header Field: Resent-Message-ID

Description:
Message identifier for resent message

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.6)

Related information:
Contains a message identifier for a resent message. Defined as standard by RFC 822.

2.1.22. Header Field: Return-Path

Description:
Message return path

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.7)

Related information:
Return path for message response diagnostics. See also RFC 2821 [17]. Defined as standard by RFC 822.

2.1.23. Header Field: Received

Description:
Mail transfer trace information

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2822 [18] (section 3.6.7)

Related information:
Contains information about receipt of the current message by a mail transfer agent on the transfer path. See also RFC 2821 [17]. Defined as standard by RFC 822.

2.1.24. Header Field: Encrypted

Description:
Message encryption information

Applicable protocol: Mail [18]

Status: obsolete

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 822 [2]

Related information:
Defined by RFC 822, but was found to be inadequately specified, was not widely implemented, and was removed in RFC 2822. Current practice is to use separate encryption, such as S/MIME or OpenPGP, possibly in conjunction with RFC 1847 MIME security multiparts.

2.1.25. Header Field: Disposition-Notification-To

Description:
Mailbox for sending disposition notification

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2298 [12]

Related information:
Indicates that the sender wants a disposition notification when this message is received (read, processed, etc.) by its recipients.

2.1.26. Header Field: Disposition-Notification-Options

Description:
Disposition notification options

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2298 [12]

Related information:
For optional modifiers on disposition notification requests.

2.1.27. Header Field: Accept-Language

Description:
Language(s) for auto-responses

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 3282 [21]

Related information:
Indicates a language that the message sender requests to be used for responses. Accept-language was not designed for email but has been considered useful as input to the generation of automatic replies. Some problems have been noted concerning its use with email, including but not limited to determination of the email address to which it refers; cost and lack of effective internationalization of email responses; interpretation of language subtags; and determining what character set encoding should be used.

2.1.28. Header Field: Original-Message-ID

Description:
Original message identifier

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 3297 [22]

Related information:
Original message identifier used with resend of message with alternative content format; identifies the original message data to which it corresponds.

2.1.29. Header Field: PICS-Label

Description:
PICS rating label

Applicable protocol: Mail [18]

Status: standard

Author/change controller:
W3C (mailto:web-human@w3.org)
World Wide Web Consortium

Specification document(s):
PICS-labels [24]

Related information:
Ratings label to control selection (filtering) of messages according to the PICS protocol. Specified for general use with RFC 822 message format, with HTTP-specific extensions.

2.1.30. Header Field: Encoding

Description:
Message encoding and other information

Applicable protocol: Mail [18]

Status: experimental

Author/change controller:
Albert K. Costanzo (mailto:AL@AKC.COM)
AKC Consulting Inc.

Specification document(s):
RFC 1505 [4]

Related information:
Used in several different ways by different mail systems. Some use it for a kind of content-type information, some for encoding and length information, some for a kind of boundary information, and some in other ways.

2.1.31. Header Field: List-Archive

Description:
URL of mailing list archive

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2369 [13]

Related information:
Contains the URL to use to browse the archives of the mailing list from which this message was relayed.

2.1.32. Header Field: List-Help

Description:
URL for mailing list information

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2369 [13]

Related information:
Contains the URL to use to get information about the mailing list from which this message was relayed.

2.1.33. Header Field: List-ID

Description:
Mailing list identifier

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2919 [20]

Related information:
Stores an identification of the mailing list through which this message was distributed.

2.1.34. Header Field: List-Owner

Description:
URL for mailing list owner's mailbox

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2369 [13]

Related information:
Contains the URL to send e-mail to the owner of the mailing list from which this message was relayed.

2.1.35. Header Field: List-Post

Description:
URL for mailing list posting

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2369 [13]

Related information:
Contains the URL to use to send contributions to the mailing list from which this message was relayed.

2.1.36. Header Field: List-Subscribe

Description:
URL for mailing list subscription

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2369 [13]

Related information:
Contains the URL to use to get a subscription to the mailing list from which this message was relayed.

2.1.37. Header Field: List-Unsubscribe

Description:
URL for mailing list unsubscription

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2369 [13]

Related information:
Contains the URL to use to unsubscribe the mailing list from which this message was relayed.

2.1.38. Header Field: Message-Context

Description:
Type or context of message

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 3458 [23]

Related information:
Provides information about the context and presentation characteristics of a message. Can have the values 'voice-message', 'fax-message', 'pager-message', 'multimedia-message', 'text-message', or 'none'.

2.1.39. Header Field: DL-Expansion-History

Description:
Trace of distribution lists passed

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Trace of distribution lists passed. (MIXER X.400 mapping; not for general use.)

2.1.40. Header Field: Alternate-Recipient

Description:
Controls forwarding to alternate recipients

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Controls whether this message may be forwarded to an alternate recipient, such as a postmaster, if delivery to the intended recipient is not possible. Default: Allowed. RFC 2156 (MIXER), not for general use.

2.1.41. Header Field: Original-Encoded-Information-Types

Description:
Body part types in message

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Which body part types occur in this message. RFC 2156 (MIXER); not for general use.

2.1.42. Header Field: Content-Return

Description:
Return content on non-delivery?

Applicable protocol: Mail [18]

Status: obsolete

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 1327 [3]

Related information:
Indicates whether the content of a message is to be returned with non-delivery notifications. Introduced by RFC 1327 and subsequently changed by RFC 2156 to avoid confusion with MIME defined fields.

2.1.43. Header Field: Generate-Delivery-Report

Description:
Request delivery report generation

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Indicates whether a delivery report is wanted at successful delivery. Default is not to generate such a report. RFC 2156 (MIXER); not for general use.

2.1.44. Header Field: Prevent-NonDelivery-Report

Description:
Non-delivery report required?

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Indicates whether a non-delivery report is wanted on delivery error. Default is to generate such a report. RFC 2156 (MIXER); not for general use.

2.1.45. Header Field: Obsoletes

Description:
Reference message to be replaced

Applicable protocol: Mail [18]

Status: obsolete

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 1327 [3]

Related information:
Reference to a previous message being corrected and replaced. Compare to 'Supersedes:',f used in Usenet News. Introduced by RFC 1327 and subsequently renamed by RFC 2156 to 'Supersedes'.

2.1.46. Header Field: Supersedes

Description:
Reference message to be replaced

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Reference to a previous message being corrected and replaced. Renamed version of obsolete 'Obsoletes' header field. RFC 2156 (MIXER); not for general use.

2.1.47. Header Field: Content-Identifier

Description:
Message content identifier

Applicable protocol: Mail [18]

Status: obsolete

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 1327 [3]

Related information:
A text string that identifies the content of a message. Introduced by RFC 1327 and subsequently changed by RFC 2156 to avoid confusion with MIME defined fields. Gateways that reverse map may support the old field.

2.1.48. Header Field: Delivery-Date

Description:
Message delivery time

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
The time when a message was delivered to its recipient. RFC 2156 (MIXER); not for general use.

2.1.49. Header Field: Expiry-Date

Description:
Message expiry time

Applicable protocol: Mail [18]

Status: obsolete

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 1327 [3]

Related information:
Time at which a message loses its validity. Introduced by RFC 1327 and subsequently changed by RFC 2156 to 'Expires:'.

2.1.50. Header Field: Expires

Description:
Message expiry time

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Time at which a message loses its validity. Renamed version of obsolete Expiry-Date header field. RFC 2156 (MIXER), not for general use.

2.1.51. Header Field: Reply-By

Description:
Time by which a reply is requested

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Latest time by which a reply is requested (not demanded). RFC 2156 (MIXER); not for general use.

2.1.52. Header Field: Importance

Description:
Message importance

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
A hint from the originator to the recipients about how important a message is. Values: High, normal, or low. Not used to control transmission speed. Proposed for use with RFC 2156 (MIXER) [10] and RFC 3801 (VPIM) [14].

2.1.53. Header Field: Incomplete-Copy

Description:
Body parts are missing

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Body parts are missing. RFC 2156 (MIXER); not for general use.

2.1.54. Header Field: Priority

Description:
Message priority

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Can be 'normal', 'urgent', or 'non-urgent' and can influence transmission speed and delivery. RFC 2156 (MIXER); not for general use.

2.1.55. Header Field: Sensitivity

Description:
Message content sensitivity

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
How sensitive it is to disclose this message to people other than the specified recipients. Values: Personal, private, and company confidential. The absence of this header field in messages gatewayed from X.400 indicates that the message is not sensitive. Proposed for use with RFC 2156 (MIXER) [10] and RFC 3801 (VPIM) [14].

2.1.56. Header Field: Language

Description:
X.400 message content language

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Can include a code for the natural language used in a message; e.g., 'en' for English. See also 'Content-Language'. RFC 2156 (MIXER); not for general use.

2.1.57. Header Field: Conversion

Description:
Conversion allowed?

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
The body of this message may not be converted from one character set to another. Values: prohibited and allowed. RFC 2156 (MIXER); not for general use.

2.1.58. Header Field: Conversion-With-Loss

Description:
Lossy conversion allowed?

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
The body of this message may not be converted from one character set to another if information will be lost. Values: prohibited and allowed. RFC 2156 (MIXER); not for general use.

2.1.59. Header Field: Message-Type

Description:
Message type: delivery report?

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Only used with the value 'Delivery Report' to indicate that this is a delivery report gatewayed from X.400. RFC 2156 (MIXER); not for general use.

2.1.60. Header Field: Autosubmitted

Description:
Automatically submitted indicator

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Has been automatically submitted. RFC 2156 (MIXER); not for general use.

2.1.61. Header Field: Autoforwarded

Description:
Automatically forwarded indicator

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Has been automatically forwarded. RFC 2156 (MIXER), not for general use.

2.1.62. Header Field: Discarded-X400-IPMS-Extensions

Description:
X.400 IPM extensions discarded

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Can be used in Internet mail to indicate X.400 IPM extensions that could not be mapped to Internet mail format. RFC 2156 (MIXER); not for general use.

2.1.63. Header Field: Discarded-X400-MTS-Extensions

Description:
X.400 MTS extensions discarded

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Can be used in Internet mail to indicate X.400 MTS extensions that could not be mapped to Internet mail format. RFC 2156 (MIXER); not for general use.

2.1.64. Header Field: Disclose-Recipients

Description:
Disclose names of other recipients?

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Tells whether recipients are to be told the names of other recipients of the same message. This is primarily an X.400 facility. In X.400, this is an envelope attribute and refers to disclosure of the envelope recipient list. Disclosure of other recipients is done in Internet mail via the To:, cc:, and bcc: header fields. Not for general use.

2.1.65. Header Field: Deferred-Delivery

Description:
Deferred delivery information

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Provides information about deferred delivery service to the recipient. RFC 2156 (MIXER); not for general use.

2.1.66. Header Field: Latest-Delivery-Time

Description:
Latest delivery time requested

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Provides the recipient with information about requested delivery but will not be acted on by the SMTP infrastructure. RFC 2156 (MIXER); not for general use.

2.1.67. Header Field: Originator-Return-Address

Description:
Originator return address

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Originator return address. RFC 2156 (MIXER); not for general use.

2.1.68. Header Field: X400-Content-Identifier

Description:
Message content identifier

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
A text string that identifies the content of a message. Renamed version of obsolete Content-Identifier field. RFC 2156 (MIXER); not for general use.

2.1.69. Header Field: X400-Content-Return

Description:
Return content on non-delivery?

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
Indicates whether the content of a message is to be returned with non-delivery notifications. Renamed version of obsolete Content-Return field. RFC 2156 (MIXER); not for general use.

2.1.70. Header Field: X400-Content-Type

Description:
X400 content type

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
X400 content type. RFC 2156 (MIXER); not for general use.

2.1.71. Header Field: X400-MTS-Identifier

Description:
X400 MTS-Identifier

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
X400 MTS-Identifier. RFC 2156 (MIXER); not for general use.

2.1.72. Header Field: X400-Originator

Description:
X400 Originator

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
X400 Originator. RFC 2156 (MIXER); not for general use.

2.1.73. Header Field: X400-Received

Description:
X400 Received

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
X400 Received. RFC 2156 (MIXER); not for general use.

2.1.74. Header Field: X400-Recipients

Description:
X400 Recipients

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
X400 Recipients. RFC 2156 (MIXER); not for general use.

2.1.75. Header Field: X400-Trace

Description:
X400 Trace

Applicable protocol: Mail [18]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2156 [10]

Related information:
X400 Trace. RFC 2156 (MIXER), not for general use.

2.2. Permanent MIME Header Field Registrations

Header name	Protocol	
MIME-Version	MIME	MIME version number
Content-ID	MIME	Identify content body part
Content-Description	MIME	Description of message body part
Content-Transfer-Encoding	MIME	Content transfer encoding applied
Content-Type	MIME	MIME content type
Content-Base	MIME	Base to be used for resolving relative URIs within this content part
Content-Location	MIME	URI for retrieving a body part
Content-features	MIME	Indicates content features of a MIME body part
Content-Disposition	MIME	Intended content disposition and file name
Content-Language	MIME	Language of message content
Content-Alternative	MIME	Alternative content available
Content-MD5	MIME	MD5 checksum of content
Content-Duration	MIME	Time duration of content

2.2.1. Header Field: MIME-Version

Description:
MIME version number

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2045 [7] (section 4)

Related information:
An indicator that this message is formatted according to the MIME standard, and an indication of which version of MIME is used.

2.2.2. Header Field: Content-ID

Description:
Identify content body part

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2045 [7] (section 7)

Related information:
Specifies a Unique ID for one MIME body part of the content of a message.

2.2.3. Header Field: Content-Description

Description:
Description of message body part

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2045 [7] (section 8)

Related information:
Description of a particular body part of a message; for example, a caption for an image body part.

2.2.4. Header Field: Content-Transfer-Encoding

Description:
Content transfer encoding applied

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2045 [7] (section 6)

Related information:
Coding method used in a MIME message body part.

2.2.5. Header Field: Content-Type

Description:
MIME content type

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2045 [7] (section 5)

Related information:
Format of content (character set, etc.) Note that the values for this header field are defined in different ways in RFC 1049 and in MIME (RFC 2045). The 'MIME-version' header field will show whether Content-Type is to be interpreted according to RFC 1049 or according to MIME. The MIME definition should be used in generating mail. RFC 1049 has 'historic' status. RFC 1766 [5] defines a parameter 'difference' to this header field. Various other Content-Type define various additional parameters. For example, the parameter 'charset' is mandatory for all textual Content-Types. See also RFC 1049, RFC 1123: 5.2.13, and RFC 1766: 4.1.

2.2.6. Header Field: Content-Base

Description:
Base to be used for resolving relative URIs within this content part.

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2110 [8]

Related information:
Base to be used for resolving relative URIs within this content part. See also Content-Location. This header was included in the first version of MHTML and HTTP 1.1 but removed in the second version (RFC 2557).

2.2.7. Header Field: Content-Location

Description:
URI for retrieving a body part

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2557 [16]

Related information:
URI using which the content of this body-part part was retrieved, might be retrievable, or which otherwise gives a globally unique identification of the content.

2.2.8. Header Field: Content-features

Description:
Indicates content features of a MIME body part

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2912 [19] (section 3)

Related information:
The 'Content-features:' header can be used to annotate a MIME body part with a media feature expression, to indicate features of the body part content. See also RFC 2533, RFC 2506, and RFC 2045.

2.2.9. Header Field: Content-Disposition

Description:
Intended content disposition and file name

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2183 [11]

Related information:
Indicates 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.

2.2.10. Header Field: Content-Language

Description:
Language of message content

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 3282 [21]

Related information:
Can include a code for the natural language used in a message; e.g., 'en' for English. Can also contain a list of languages for a message containing more than one language.

2.2.11. Header Field: Content-Alternative

Description:
Alternative content available

Applicable protocol: MIME [7]

Status: work-in-progress

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 3297 [22]

Related information:
Information about the media features of alternative content formats available for the current message.

2.2.12. Header Field: Content-MD5

Description:
MD5 checksum of content

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 1864 [6]

Related information:
Checksum of content to ensure that it has not been modified.

2.2.13. Header Field: Content-Duration

Description:
Time duration of content

Applicable protocol: MIME [7]

Status: standards-track

Author/change controller:
IETF (mailto:iesg@ietf.org)
Internet Engineering Task Force

Specification document(s):
RFC 2424 [15]

Related information:
Time duration of body part content, in seconds (e.g., for audio message).

3. IANA Considerations

Section 2 of this specification provides initial registrations of mail and MIME header fields in the "Permanent Message Header Field Registry", defined by registration procedures for message header fields [1].

4. Security Considerations

No security considerations are introduced by this registration document beyond those already inherent in use of the mail message header fields referenced.

5. Acknowledgements

Most of the information in this document has been derived from Jacob Palme's work in RFC 2076 [25] and subsequent updates [26]. The authors also gratefully acknowledge contributions and constructive input from Mark Nottingham, Bruce Lilly, Keith Moore, and Charles Lindsey (the mention of whom is not intended to imply their unqualified support for material herein).

6. References

6.1. Normative References

[1] Klyne, G., Nottingham, M., and J. Mogul, "Registration Procedures for Message Header Fields", BCP 90, RFC 3864, September 2004.

[2] Crocker, D., "Standard for the format of ARPA Internet text messages", STD 11, RFC 822, August 1982.

[3] Hardcastle-Kille, S., "Mapping between X.400(1988) / ISO 10021 and RFC 822", RFC 1327, May 1992.

[4] Costanzo, A., Robinson, D., and R. Ullmann, "Encoding Header Field for Internet Messages", RFC 1505, August 1993.

[5] Alvestrand, H., "Tags for the Identification of Languages", RFC 1766, March 1995.

[6] Myers, J. and M. Rose, "The Content-MD5 Header Field", RFC 1864, October 1995.

[7] Freed, N. and N. Borenstein, "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies", RFC 2045, November 1996.

[8] Palme, J. and A. Hopmann, "MIME E-mail Encapsulation of Aggregate Documents, such as HTML (MHTML)", RFC 2110, March 1997.

[9] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[10] Kille, S., "MIXER (Mime Internet X.400 Enhanced Relay): Mapping between X.400 and RFC 822/MIME", RFC 2156, January 1998.

[11] Troost, R., Dorner, S., and K. Moore, "Communicating Presentation Information in Internet Messages: The Content-Disposition Header Field", RFC 2183, August 1997.

[12] Hansen, T. and G. Vaudreuil, "Message Disposition Notification", RFC 3798, May 2004.

[13] Neufeld, G. and J. Baer, "The Use of URLs as Meta-Syntax for Core Mail List Commands and their Transport through Message Header Fields", RFC 2369, July 1998.

[14] Vaudreuil, G. and G. Parsons, "Voice Profile for Internet Mail - version 2 (VPIMv2)", RFC 3801, June 2004.

[15] Vaudreuil, G. and G. Parsons, "Content Duration MIME Header Definition", RFC 3803, June 2004.

[16] Palme, J., Hopmann, A., and N. Shelness, "MIME Encapsulation of Aggregate Documents, such as HTML (MHTML)", RFC 2557, March 1999.

[17] Klensin, J., "Simple Mail Transfer Protocol", RFC 2821, April 2001.

[18] Resnick, P., "Internet Message Format", RFC 2822, April 2001.

[19] Klyne, G., "Indicating Media Features for MIME Content", RFC 2912, September 2000.

[20] Chandhok, R. and G. Wenger, "List-Id: A Structured Field and Namespace for the Identification of Mailing Lists", RFC 2919, March 2001.

[21] Alvestrand, H., "Content Language Headers", RFC 3282, May 2002.

[22] Klyne, G., Iwazaki, R., and D. Crocker, "Content Negotiation for Messaging Services based on Email", RFC 3297, July 2002.

[23] Burger, E., Candell, E., Eliot, C., and G. Klyne, "Message Context for Internet Mail", RFC 3458, January 2003.

[24] Miller, J., Krauskopf, T., Resnick, P. and W. Treese, "PICS Label Distribution Label Syntax and Communication Protocols", W3C Recommendation REC-PICS-labels, October 1996, <http://www.w3.org/TR/REC-PICS-labels>.

6.2. Informative References

[25] Palme, J., "Common Internet Message Headers", RFC 2076, February 1997.

[26] Palme, J., "Common Internet Message Header Fields", Work in Progress.

URIs

[27] <http://www.ninebynine.org/IETF/Messaging/HdrRegistry/Intro.html>

Authors' Addresses

Graham Klyne
Image Bioinformatics Research Group
Department of Zoology, University of Oxford
South Parks Road, Oxford OX1 3PS, UK

Phone: +44-(0)1865-281991
Fax: +44-(0)1865-310447
EMail: GK-IETF@ninebynine.org

Jacob Palme
Stockholm University/KTH
Forum 100
Kista S-164 40
Sweden

Phone: +46-8-16 16 67
Fax: +46-8-783 08 29
EMail: jpalme@dsv.su.se

Full Copyright Statement

Intellectual Property

Acknowledgement

Funding for the RFC Editor function is currently provided by the Internet Society.