                Registration Procedures for Message Header Fields

Status of this Memo

   This document specifies an Internet Best Current Practices for the
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   improvements. Distribution of this memo is unlimited.

Copyright Notice

Abstract

   This specification defines registration procedures for the message
   header fields used by Internet mail, HTTP, Netnews and other
   applications.

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1. Introduction

   This specification defines registration procedures for the message
   header field names used by Internet mail, HTTP, newsgroup feeds and
   other Internet applications. It is not intended to be a replacement
   for protocol-specific registries, such as the SIP registry [30].

   Benefits of a central registry for message header field names
   include:

   o providing a single point of reference for standardized and
      widely-used header field names;

   o providing a central point of discovery for established header
      fields, and easy location of their defining documents;

o discouraging multiple definitions of a header field name for
   different purposes;

o helping those proposing new header fields discern established
   trends and conventions, and avoid names that might be confused
   with existing ones;

o encouraging convergence of header field name usage across multiple
   applications and protocols.

The primary specification for Internet message header fields in email
is the Internet mail message format specification, RFC 2822 [4].
HTTP/1.0 [10] and HTTP/1.1 [24] define message header fields
(respectively, the HTTP-header and message-header protocol elements)
for use with HTTP. RFC 1036 [5] defines message header elements for
use with Netnews feeds. These specifications also define a number of
header fields, and provide for extension through the use of new
field-names.

There are many other Internet standards track documents that define
additional header fields for use within the same namespaces, notably
MIME [11] and related specifications. Other Internet applications
that use MIME, such as SIP (RFC 3261 [30]) may also use many of the
same header fields (but note that IANA maintains a separate registry
of header fields used with SIP).

Although in principle each application defines its own set of valid
header fields, exchange of messages between applications (e.g., mail
to Netnews gateways), common use of MIME encapsulation, and the
possibility of common processing for various message types (e.g., a
common message archive and retrieval facility) makes it desirable to
have a common point of reference for standardized and proposed header
fields. Listing header fields together reduces the chance of an
accidental collision, and helps implementers find relevant
information. The message header field registries defined here serve
that purpose.

1.1. Structure of this Document

Section 2 discusses the purpose of this specification, and indicates
some sources of information about defined message header fields.

Section 4 defines the message header field name repositories, and
sets out requirements and procedures for creating entries in them.

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 [2].

2. Message Header Fields

2.1. Permanent and Provisional Header Fields

   Many message header fields are defined in standards-track documents,
   which means they have been subjected to a process of community review
   and achieved consensus that they provide a useful and well-founded
   capability, or represent a widespread use of which developers should
   be aware. Some are defined for experimental use, typically
   indicating consensus regarding their purpose but not necessarily
   concerning their technical details. Many others have been defined
   and adopted ad-hoc to address a locally occurring requirement; some
   of these have found widespread use.

   The catalogues defined here are intended to cater for all of these
   header fields, while maintaining a clear distinction and status for
   those which have community consensus. To this end, two repositories
   are defined:

   o A Permanent Message Header Field Registry, intended for headers
      defined in IETF standards-track documents, those that have
      achieved a comparable level of community review, or are generally
      recognized to be in widespread use. The assignment policy for
      such registration is "Specification Required", as defined by RFC
      2434 [3], where the specification must be published in an RFC
      (standards-track, experimental, informational or historic), or as
      an "Open Standard" in the sense of RFC 2026, section 7 [1].

   o A Provisional Message Header Field Repository, intended for any
      header field proposed by any developer, without making any claim
      about its usefulness or the quality of its definition. The policy
      for recording these is "Private Use", per RFC 2434 [3].

   Neither repository tracks the syntax, semantics or type of field-
   values. Only the field-names, applicable protocols and status are
   registered; all other details are specified in the defining documents
   referenced by repository entries. Significant updates to such
   references (e.g., the replacement of a Proposed Standard RFC by a
   Draft Standard RFC, but not necessarily the revision of an Internet-
   draft) SHOULD be accompanied by updates to the corresponding
   repository entries.

2.2. Definitions of Message Header Fields

   RFC 2822 [4] defines a general syntax for message headers, and also
   defines a number of fields for use with Internet mail. HTTP/1.0 [10]
   and HTTP/1.1 [24] do likewise for HTTP. Additional field names are
   defined in a variety of standards-track RFC documents, including: RFC
   1036 [5], RFC 1496 [6], RFC 1505 [7], RFC 1864 [9], RFC 2156 [14],
   RFC 2183 [15], RFC 2045 [11], RFC 2046 [12], RFC 2557 [23], RFC 2227
   [16], RFC 2231 [17], RFC 2298 [18], RFC 2369 [19], RFC 2421 [21], RFC
   2518 [22], RFC 2617 [25], RFC 2821 [26], RFC 2912 [27], RFC 2919
   [28], RFC 2965 [29], and RFC 3282 [31].

2.2.1. Application-specific Message Header Fields

   Internet applications that use similar message headers include
   Internet mail [26] [4], NNTP newsgroup feeds [5], HTTP web access
   [24] and any other that uses MIME [11] encapsulation of message
   content.

   In some cases (notably HTTP [24]), the header syntax and usage is
   redefined for the specific application. This registration is
   concerned only with the allocation and specification of field names,
   and not with the details of header implementation in specific
   protocols.

   In some cases, the same field name may be specified differently (by
   different documents) for use with different application protocols;
   e.g., The Date: header field used with HTTP has a different syntax
   than the Date: used with Internet mail. In other cases, a field name
   may have a common specification across multiple protocols (ignoring
   protocol-specific lexical and character set conventions); e.g., this
   is generally the case for MIME header fields with names of the form
   'Content-*'.

   Thus, we need to accommodate application-specific fields, while
   wishing to recognize and promote (where appropriate) commonality of
   other fields across multiple applications. Common repositories are
   used for all applications, and each registered header field specifies
   the application protocol for which the corresponding definition
   applies. A given field name may have multiple registry entries for
   different protocols; in the Permanent Message Header Field registry,
   a given header field name may be registered only once for any given
   protocol. (In some cases, the registration may reference several
   defining documents.)

2.2.2. MIME Header Fields

   Some header fields with names of the form Content-* are associated
   with the MIME data object encapsulation and labelling framework.
   These header fields can meaningfully be applied to a data object
   separately from the protocol used to carry it.

   MIME is used with email messages and other protocols that specify a
   MIME-based data object format. MIME header fields used with such
   protocols are defined in the registry with the protocol "mime", and
   as such are presumed to be usable in conjunction with any protocol
   that conveys MIME objects.

   Other protocols do not convey MIME objects, but define a number of
   header fields with similar names and functions to MIME. Notably,
   HTTP defines a number of entity header fields that serve a purpose in
   HTTP similar to MIME header fields in email. Some of these header
   fields have the same names and similar functions to their MIME
   counterparts (though there are some variations). Such header fields
   must be registered separately for any non-MIME-carrying protocol with
   which they may be used.

   It is poor practice to reuse a header field name from another
   protocol simply because the fields have similar (even "very similar")
   meanings. Protocols should share header field names only when their
   meanings are identical in all foreseeable circumstances. In
   particular, new header field names of the form Content-* should not
   be defined for non-MIME-carrying protocols unless their specification
   is exactly the same as in MIME.

3. Registry Usage Requirements

   RFCs defining new header fields for Internet mail, HTTP, or MIME MUST
   include appropriate header registration template(s) (as given in
   Section 4.2) for all headers defined in the document in their IANA
   considerations section. Use of the header registry MAY be mandated
   by other protocol specifications, however, in the absence of such a
   mandate use of the registry is not required.

4. Registration Procedure

   The procedure for registering a message header field is:

   1. Construct a header field specification

   2. Prepare a registration template

   3. Submit the registration template

4.1. Header Field Specification

   Registration of a new message header field starts with construction
   of a proposal that describes the syntax, semantics and intended use
   of the field. For entries in the Permanent Message Header Field
   Registry, this proposal MUST be published as an RFC, or as an Open
   Standard in the sense described by RFC 2026, section 7 [1].

   A registered field name SHOULD conform at least to the syntax defined
   by RFC 2822 [4], section 3.6.8.

   Further, the "." character is reserved to indicate a naming sub-
   structure and MUST NOT be included in any registered field name.
   Currently, no specific sub-structure is defined; if used, any such
   structure MUST be defined by a standards track RFC document.

   Header field names may sometimes be used in URIs, URNs and/or XML.
   To comply with the syntactic constraints of these forms, it is
   recommended that characters in a registered field name are restricted
   to those that can be used without escaping in a URI [20] or URN [13],
   and that are also legal in XML [32] element names.

   Thus, for maximum flexibility, header field names SHOULD further be
   restricted to just letters, digits, hyphen ('-') and underscore ('_')
   characters, with the first character being a letter or underscore.

4.2. Registration Templates

   The registration template for a message header field may be contained
   in the defining document, or prepared separately.

4.2.1. Permanent Message Header Field Registration Template

   A header registered in the Permanent Message Header Field Registry
   MUST be published as an RFC or as an "Open Standard" in the sense
   described by RFC 2026, section 7 [1], and MUST have a name which is
   unique among all the registered permanent field names that may be
   used with the same application protocol.

   The registration template has the following form.

   PERMANENT MESSAGE HEADER FIELD REGISTRATION TEMPLATE:

   Header field name:
      The name requested for the new header field. This MUST conform to
      the header field specification details noted in Section 4.1.

Applicable protocol:
    Specify "mail" (RFC 2822), "mime" (RFC 2045), "http" (RFC 2616),
    "netnews" (RFC 1036), or cite any other standards-track RFC
    defining the protocol with which the header is intended to be
    used.

Status:
    Specify "standard", "experimental", "informational", "historic",
    "obsoleted", or some other appropriate value according to the type
    and status of the primary document in which it is defined. For
    non-IETF specifications, those formally approved by other
    standards bodies should be labelled as "standard"; others may be
    "informational" or "deprecated" depending on the reason for
    registration.

Author/Change controller:
    For Internet standards-track, state "IETF". For other open
    standards, give the name of the publishing body (e.g., ANSI, ISO,
    ITU, W3C, etc.). For other specifications, give the name, email
    address, and organization name of the primary specification
    author. A postal address, home page URI, telephone and fax
    numbers may also be included.

Specification document(s):
    Reference to document that specifies the header for use with the
    indicated protocol, preferably including a URI that can be used to
    retrieve a copy of the document. An indication of the relevant
    sections MAY also be included, but is not required.

Related information:
    Optionally, citations to additional documents containing further
    relevant information. (This part of the registry may also be used
    for IESG comments.) Where a primary specification refers to
    another document for substantial technical detail, the referenced
    document is usefully mentioned here.

4.2.2. Provisional Message Header Field Submission Template

   Registration as a Provisional Message Header Field does not imply any
   kind of endorsement by the IETF, IANA or any other body.

   The main requirements for a header field to be included in the
   provisional repository are that it MUST have a citable specification,
   and there MUST NOT be a corresponding entry (with same field name and
   protocol) in the permanent header field registry.

The specification SHOULD indicate an email address for sending
technical comments and discussion of the proposed message header.

The submission template has the following form.

PROVISIONAL MESSAGE HEADER FIELD SUBMISSION TEMPLATE:

Header field name:
   The name proposed for the new header field. This SHOULD conform
   to the field name specification details noted in Section 4.1.

Applicable protocol:
   Specify "mail" (RFC 2822), "mime" (RFC 2045), "http" (RFC 2616),
   "netnews" (RFC 1036), or cite any other standards-track RFC
   defining the protocol with which the header is intended to be
   used.

Status:
   Specify: "provisional". This will be updated if and when the
   header registration is subsequently moved to the permanent
   registry.

Author/Change controller:
   The name, email address, and organization name of the submission
   author, who may authorize changes to or retraction of the
   repository entry. A postal address, home page URI, telephone and
   fax numbers may also be included.
   If the proposal comes from a standards body working group, give
   the name and home page URI of the working group, and an email
   address for discussion of or comments on the specification.

Specification document(s):
   Reference to document that specifies the header for use with the
   indicated protocol. The document MUST be an RFC, a current
   Internet-draft or the URL of a publicly accessible document (so
   IANA can verify availability of the specification). An indication
   of the relevant sections MAY also be included, but is not
   required.

      NOTE: if the specification is available in printed form only,
      then an Internet draft containing full reference to the paper
      document should be published and cited in the registration
      template. The paper specification MAY be cited under related
      information.

Related information:
   Optionally, citations to additional documents containing further
   relevant information.

4.3. Submission of Registration

   The registration template is submitted for incorporation in one of
   the IANA message header field repositories by one of the following
   methods:

   o An IANA considerations section in a defining RFC, calling for
      registration of the message header and referencing information as
      required by the registration template within the same document.
      Registration of the header is then processed as part of the RFC
      publication process.

   o Send a copy of the template to the designated email discussion
      list [33] [34]. Allow a reasonable period – at least 2 weeks –
      for discussion and comments, then send the template to IANA at the
      designated email address [35]. IANA will publish the template
      information if the requested name and the specification document
      meet the criteria noted in Section 4.1 and Section 4.2.2, unless
      the IESG or their designated expert have requested that it not be
      published (see Section 4.4). IESG's designated expert should
      confirm to IANA that the registration criteria have been
      satisfied.

   When a new entry is recorded in the permanent message header field
   registry, IANA will remove any corresponding entries (with the same
   field name and protocol) from the provisional registry.

4.4. Objections to Registration

   Listing of an entry in the provisional repository should not be
   lightly refused. An entry MAY be refused if there is some credible
   reason to believe that such registration will be harmful. In the
   absence of such objection, IANA SHOULD allow any registration that
   meets the criteria set out in Section 4.1 and Section 4.2.2. Some
   reasonable grounds for refusal might be:

   o There is IETF consensus that publication is considered likely to
      harm the Internet technical infrastructure in some way.

   o Disreputable or frivolous use of the registration facilities.

   o The proposal is sufficiently lacking in purpose, or misleading
      about its purpose, that it can be held to be a waste of time and
      effort.

   o Conflict with some current IETF activity.

Note that objections or disagreements about technical detail are not, of themselves, considered grounds to refuse listing in the provisional repository. After all, one of its purposes is to allow developers to communicate with a view to combining their ideas, expertise and energy to the maximum benefit of the Internet community.

Publication in an RFC or other form of Open Standard document (per RFC 2026 [1], section 7) is sufficient grounds for publication in the permanent registry.

To assist IANA in determining whether or not there is a sustainable objection to any registration, IESG nominates a designated expert to liaise with IANA about new registrations. For the most part, the designated expert's role is to confirm to IANA that the registration criteria have been satisfied.

The IESG or their designated expert MAY require any change or commentary to be attached to any registry entry.

The IESG is the final arbiter of any objection.

4.5. Change Control

Change control of a header field registration is subject to the same condition as the initial registration; i.e., publication (or reclassification) of an Open Standards specification for a Permanent Message Header Field, or on request of the indicated author/change controller for a Provisional Message Header (like the original submission, subject to review on the designated email discussion list [33].)

A change to a permanent message header field registration MAY be requested by the IESG.

A change to or retraction of any Provisional Message Header Field Repository entry MAY be requested by the IESG or designated expert.

IANA MAY remove any Provisional Message Header Field Repository entry whose corresponding specification document is no longer available (e.g., expired Internet-draft, or URL not resolvable). Anyone may notify IANA of any such cases by sending an email to the designated email address [35]. Before removing an entry for this reason, IANA SHOULD contact the registered Author/Change controller to determine whether a replacement for the specification document (consistent with the requirements of section Section 4.2.2) is available.

It is intended that entries in the Permanent Message Header Field
Registry may be used in the construction of URNs (per RFC 2141 [13])
which have particular requirements for uniqueness and persistence
(per RFC 1737 [8]). Therefore, once an entry is made in the
Permanent Message Header Registry, the combination of the header name
and applicable protocol MUST NOT subsequently be registered for any
other purpose. (This is not to preclude revision of the applicable
specification(s) within the appropriate IETF Consensus rules, and
corresponding updates to the specification citation in the header
registration.)

4.6. Comments on Header Definitions

   Comments on proposed registrations should be sent to the designated
   email discussion list [33].

4.7. Location of Header Field Registry

   The message header field registry is accessible from IANA's web site
   http://www.iana.org/assignments/message-headers/
   message-header-index.html

5. IANA Considerations

   This specification calls for:

   o A new IANA registry for permanent message header fields per
      Section 4 of this document. The policy for inclusion in this
      registry is described in Section 4.1 and Section 4.2.1.

   o A new IANA repository listing provisional message header fields
      per Section 4 of this document. The policy for inclusion in this
      registry is described in Section 4.1 and Section 4.2.2.

   o IESG appoints a designated expert to advise IANA whether
      registration criteria for proposed registrations have been
      satisfied.

   No initial registry entries are provided.

6. Security Considerations

   No security considerations are introduced by this specification
   beyond those already inherent in the use of message headers.

7. Acknowledgements

   The shape of the registries described here owes much to energetic
   discussion of previous versions by many denizens of the IETF-822
   mailing list.

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   Cotton.

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        Mail address: iana@iana.org

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