

Network Working Group
Internet-Draft
Intended status: Experimental
Expires: September 10, 2021

D. Crocker
Brandenburg InternetWorking
March 9, 2021

Email Author Header Field
draft-crocker-email-author-02

Abstract

Internet mail defines the From: field to indicate the author of the message's content and the Sender: field to indicate who initially handled the message, on the author's behalf. The Sender: field is optional, if it has the same information as the From: field. This was not a problem, until development of stringent protections on use of the From: field. It has prompted Mediators, such as mailing lists, to modify the From: field, to circumvent mail rejection caused by those protections. In effect, the From: field has become dominated by its role as a handling identifier. The current specification augments the altered use of the From: field, by specifying the Author: field, which ensures identification of the original author of the message and is not subject to modification by Mediators.

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <https://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on September 10, 2021.

Copyright Notice

Copyright (c) 2021 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<https://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Table of Contents

- [1.](#) Introduction [2](#)
- [2.](#) Terminology [4](#)
- [3.](#) Author Header Field [4](#)
- [4.](#) Discussion [5](#)
- [5.](#) Security Considerations [5](#)
- [6.](#) IANA Considerations [6](#)
- [7.](#) Experimental Goals [6](#)
- [8.](#) References [7](#)
 - [8.1.](#) Normative References [7](#)
 - [8.2.](#) Informative References [7](#)
- [Appendix A.](#) Acknowledgements [7](#)
- Author's Address [8](#)

1. Introduction

Internet mail conducts asynchronous communication from an author to one or more recipients, and is used for ongoing dialogue amongst them. Email has a long history of serving a wide range of human uses and styles, within that simple framework, and the mechanisms for making email robust and safe serve that sole purpose.

Internet mail defines the content header's From: field to indicate the author of the message and the Sender: field to indicate who initially handled the message, on the author's behalf. [[Mail-Fmt](#)] The Sender: field is optional, if it has the same information as the From: field. That is, when the Sender: field is absent, the From: field has conflated semantics, as both a handling identifier and a content creator identifier. These fields were initially defined in [[RFC733](#)] and making the redundant Sender: field optional was a small, obvious optimization, in the days of slower communications, expensive storage and less powerful computers.

The dual semantics was not a problem, until development of stringent protections on use of the From: field. It has prompted Mediators, such as mailing lists, to modify the From: field, to circumvent receiver mail rejection, caused by those protections. This affects

Crocker

Expires September 10, 2021

[Page 2]

end-to-end usability of email, between the author and the final recipients, because mail received from the same author is treated differently by the recipient's software, depending on what path the message followed.

By way of example, mail from

Example User <user@example.com>

which is sent directly to a recipient, will show the author's display name correctly and can correctly analyze, filter and aggregate mail from the author, based on their email address. However if the author sends through a mailing list, and the mailing list conducts a common form of From: modification, needed to bypass enforcement of stringent authentication policies, then the received message might have a From: field along the lines of:

Example User via Example List <listname@list.example.org>

The change inserts an operational address, for the Mediator, into the From: field, and distorts the field's display-name, as a means of recording the modification.

In terms of email identification semantics, this is a profound change:

- o The result is that the recipient's software will see the message as being from an entirely different author and will handle it separately, such as for sorting or filtering. In effect, the recipient's software will see the same person's email as being from a different address, for the person's actual address and each of the mailing lists that person's mail transits.
- o Mediators might create a Reply-To: field, with the original From: field email address. This facilitates getting replies back to the original author, but it does nothing to aid other processing done by the recipient's MUA based on what it believes is the author's address or original display-name. This Reply-To action represents another knock-on collateral damage, by distorting the meaning of the field, as well as creating an issue if the field already existed.

In effect, the From: field has become dominated by its role as a handling identifier. The current specification augments this altered use of the From: field, by specifying the Author: field, which identifies the original author of the message and is not subject to modification by Mediators.

While it might be cleanest to move towards more reliable use of the Sender: field and then to target it as the focus of authentication concerns, enhancement of standards works best with incremental additions, rather than efforts at replacement. To that end, this specification provides a means of supplying author information that is not subject to modification by processes seeking to enforce stringent authentication.

2. Terminology

Terminology and architectural details in this document are incorporated from [[Mail-Arch](#)].

Normative language, per [[RFC8174](#)]:

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [BCP 14](#) [[RFC2119](#)] [[RFC8174](#)] when, and only when, they appear in all capitals, as shown here.

RFC EDITOR: Please remove for publication:

Discussion of this draft is directed to the ietf-822@ietf.org mailing list.

3. Author Header Field

A new message header field is defined: Author:. It has the same syntax as From: [[Mail-Fmt](#)]. As with the original and primary intent for the From: header field, the Author: header field is to contain the email address of the author of the message content. It also can contain the displayable human name of the author.

The [[ABNF](#)] for the field's syntax is:

```
author = "Author:" mailbox-list CRLF
```

which echos the syntax for the From: field.

This header field can be added as part of the original message creation process, or it can be added later, by a Mediator, to preserve the original author information from the From: field.

The goal of the Author: field is to reflect information about the original author. However it is possible that the author's MUA or MSA will not create it, but that a Mediator might know that it will be modifying the From: field and wish to preserve author information.

Crocker

Expires September 10, 2021

[Page 4]

Hence it needs to be allowed to create the Author: field for this, if the field does not already exist.

Processing of the Author: field follows these rules:

- o If an Author: field already exists, a new one MUST NOT be created
- o An author's MUA or MSA MAY create an Author: field, and its value MUST be identical to the value in the From: field
- o A Mediator MAY create an Author: field, if an one does not already exist, and this new field's value MUST be identical to the value of the From: field, at the time the Mediator received the message (and before the Mediator causes any changes to the From: field)

4. Discussion

The Author: header field, here, is intended for creation during message generation or during mediation. It is intended for use by recipient MUAs, as they typically use the From: field. In that regard, it would be reasonable for an MUA that would normally organize, filter, or display information based on the From: field to give the Author: header field preference.

Original-From: is a similar header field, referenced in [[RFC5703](#)]. It is registered with IANA, which cites [RFC5703](#) as the controlling source for the entry. However that document only has a minimal definition for the field. Lastly, the field is solely intended for use by Mediators, to preserve information from a modified From:. The current specification can be used either during origination or during mediation.

While the basic model of email header fields is highly extensible, there well might be implementation and usability considerations for carrying this field through to end-users, such as via [[IMAP](#)].

Obviously any security-related processing of a message needs to distinguish From: from Author: and treat their information accordingly.

5. Security Considerations

Any header field containing identification information is a source of security and privacy concerns, especially one pertaining to content authorship. Generally, the handling of the Author: header field needs to receive scrutiny and care comparable to that given to the From: header field, but preferably not in a way that defeats its utility.

Given the semantics of this field, it is easy to believe that use of this field will create a new attack vector for tricking end-users. However, for all of the real and serious demonstration of users' being tricked by deceptive or false content in a message, there is no evidence that problematic content in a field providing information about message's author directly contributes to differential and problematic behavior by the end user.

6. IANA Considerations

The IANA is request to register the Author header field, per [\[RFC3864\]](#)

Header field name: Author

Applicable protocol: mail

Status: Experimental

Author/Change controller: Dave Crocker <dcrocker@bbiw.net>

Specification document(s): *** This document ***

7. Experimental Goals

Given that the semantics of this field echo the long-standing From: field, the basic mechanics of the field's creation and use are well understood. Points of concern, therefore, are with possible interactions with the existing From: field, with anti-abuse systems, and with MUA behavior, along with basic market acceptance. So the questions to answer, while the header field has experimental status are:

- o Is there demonstrated interest by MUA developers?
- o If MUA developers add this capability, is it used by authors?
- o Does the presence of the Author field, in combination with the From field, create any operational problems, especially for recipients?
- o Does the presence of the Author field demonstrate additional security issues?
- o Does the presence of the Author field engender problematic behavior by anti-abuse software, such as defeating its utility?

Crocker

Expires September 10, 2021

[Page 6]

8. References

8.1. Normative References

- [ABNF] Dave, D., Ed. and P. Paul, "Augmented BNF for Syntax Specifications: ABNF", [RFC 5234](#), January 2008.
- [Mail-Arch] Crocker, D., "Internet Mail Architecture", [RFC 5598](#), July 2009.
- [Mail-Fmt] Resnick, P., Ed., "Internet Message Format", [RFC 5322](#), October 2008.
- [RFC3864] Klyne, G., Nottingham, M., and J. Mogul, "Registration Procedures for Message Header Fields", [BCP 90](#), [RFC 3864](#), DOI 10.17487/RFC3864, September 2004, <<https://www.rfc-editor.org/info/rfc3864>>.
- [RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in [RFC 2119](#) Key Words", [BCP 14](#), [RFC 8174](#), DOI 10.17487/RFC8174, May 2017, <<https://www.rfc-editor.org/info/rfc8174>>.

8.2. Informative References

- [IMAP] Crispin, M., "INTERNET MESSAGE ACCESS PROTOCOL - VERSION 4rev1", [RFC 3501](#), DOI 10.17487/RFC3501, March 2003, <<https://www.rfc-editor.org/info/rfc3501>>.
- [RFC5703] Hansen, T. and C. Daboo, "Sieve Email Filtering: MIME Part Tests, Iteration, Extraction, Replacement, and Enclosure", [RFC 5703](#), October 2009.
- [RFC733] Crocker, D., Vittal, J., Pogran, K., and D. Henderson, "Standard for the Format of ARPA Network Text Messages", [RFC 733](#), November 1977.

Appendix A. Acknowledgements

The idea for this field was prompted by discussions in the IETF's DMARC working group, with participation including: Benny Lyne Amorsen, Kurt Anderson, Laura Atkins, Adrian Farrel, Murray S. Kucherawy, Mike Hammer, John Levine, Alexey Melnikov, Jesse Thompson, Alessandro Vesely.

Author's Address

Dave Crocker
Brandenburg InternetWorking

Email: dcrocker@bbiw.net