EXTRA
Internet-Draft
Updates: 5230, 5435 (if approved)
Intended status: Standards Track
Expires: February 13, 2019

K. Murchison
B. Gondwana
FastMail

August 12, 2018

Sieve Extension: File Carbon Copy (Fcc)
draft-ietf-extra-sieve-fcc-04

Abstract

The Sieve Email Filtering Language provides a number of action commands, some of which can generate additional messages on behalf of the user. This document defines an extension to such commands to allow a copy of any generated message to be filed into a target mailbox.

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 February 13, 2019.

Copyright Notice

Copyright (c) 2018 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. Conventions Used in This Document 3
3. Tagged Argument ":fcc" 3
3.1. Format of Filed Messages 3
3.2. Interaction with the Vacation Action 4
3.3. Interaction with the Notify Action 5
3.3.1. Notification-Capability "fcc" 5
3.4. Compatibility with Other Actions 6
3.5. Interaction with Fileinto Extensions 6
3.5.1. Imap4flags Extension 6
3.5.2. Mailbox Extension 7
3.5.3. Special-Use Extension 7
3.5.4. Extended Example 7
4. Implementation Status 8
5. Security Considerations 8
6. IANA Considerations 8
6.1. Registration of Sieve Extension 8
6.2. Registration of Notification-Capability Parameter 9
7. Acknowledgments 9
8. References 9
8.1. Normative References 9
8.2. Informative References 11
8.3. URIs 11
Appendix A. Change History (To be removed by RFC Editor before publication) 12
Authors' Addresses 13

1. Introduction

The Sieve Email Filtering Language [RFC5228] provides a number of action commands, some of which can generate additional messages on behalf of the user. It is sometimes desirable to have an archive of the messages generated by these commands.

This extension defines a new optional tagged argument ":fcc" to action commands which generate additional messages to allow a copy of the generated message to be filed into a target mailbox.

The capability string associated with this extension is "fcc".

Each action that generates additional messages will need to specify how it interfacts with :fcc. This document also specifies the

interaction of :fcc with the Vacation [RFC5230] and Notify [RFC5435] extensions.

2. Conventions Used in This Document

Conventions for notations are as in Section 1.1 of [RFC5228], including use of the "Usage:" label for the definition of action and tagged arguments syntax.

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 [1] [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

3. Tagged Argument ":fcc"

For convenience, the "FCC" syntax element is defined here using ABNF [RFC4234] so that it can be augmented by other extensions.

FCC = ":fcc" <mailbox: string>

If the optional ":fcc" argument is specified with an action that generates an additional message, it instructs the Sieve interpreter to file a copy of the generated message into the target mailbox. The syntax and semantics of the mailbox argument MUST match those of the mailbox argument to the "fileinto" action specified in Section 4.1 of [RFC5228]. If the specified mailbox doesn't exist, the implementation MAY treat it as an error, create the mailbox, or file the message into an implementation-defined mailbox.

3.1. Format of Filed Messages

Copies of messages filed into a mailbox via this extension are REQUIRED to be in Internet Message Format [RFC5322]. Some messages generated by Sieve actions might already conform to this format and MAY be filed without modification. Messages generated in other formats MUST be encapsulated using constructs from [RFC5322] and MIME ([RFC2045], [RFC2046], [RFC2047]).

The general requirements for encapsulating the copies of messages to be filed are the following:

- Date: The Date header field is REQUIRED and SHOULD be set to the date and time when the message was generated.

- From: The From header field is REQUIRED and SHOULD be set to the email address of the owner of the Sieve script, unless explicitly overridden by rules for encapsulating a particular message type.

- To: The To header field is OPTIONAL and MAY be set to the email address of the recipient of the generated message, if available.

- Subject: The Subject header field is OPTIONAL and MAY be generated as follows: The subject is set to the characters "Fcc: " followed by the subject of the message being processed by the Sieve interpreter.

- In-Reply-To: The In-Reply-To header field is OPTIONAL and MAY be set to the Message-ID of the message being processed by the Sieve interpreter.

- Message Body: The body of the filed message is REQUIRED and is composed of one or more MIME-parts containing the generated message and any related metadata. The Content-Type header field(s) MUST be set to the appropriate MIME types. If any of the MIME-parts include 8-bit or binary data, the Content-Transfer-Encoding header field(s) MUST be set accordingly.

3.2. Interaction with the Vacation Action

This document extends the "vacation" [RFC5230] action (see also "vacation-seconds" [RFC6131]) to optionally store a copy of the auto-reply messages into a target mailbox.

```
Usage:   vacation [FCC]
                  [":days" number | ":seconds" number]
                  [":subject" string]
                  [":from" string]
                  [":addresses" string-list]
                  [":mime"]
                  [":handle" string]
                  <reason: string>
```

Example:

```
require ["vacation", "fcc"];

vacation :days 7
         :from "hemingway@example.com" "Gone Fishin'"
         :fcc "INBOX.Sent";
```

Vacation auto-reply messages are MIME-compliant and MAY be filed into the target mailbox without modification.

3.3. Interaction with the Notify Action

This document extends the "notify" [RFC5435] action to optionally store a copy of the notification messages into a target mailbox.

```
Usage:   notify [FCC]
                [":from" string]
                [":importance" <"1" / "2" / "3">]
                [":options" string-list]
                [":message" string]
                <method: string>
```

Example:

```
require ["enotify", "fcc"];

notify :fcc "INBOX.Sent"
       :message "You got mail!"
       "mailto:ken@example.com";
```

Messages generated using the "mailto" [RFC5436] notification method are MIME-compliant and MAY be filed into the target mailbox without modification.

Messages generated by other notification methods (e.g. "xmpp" [RFC5437]) MUST be encapsulated per Section 3.1 before being filed. The body of the filed message MUST include the :message parameter and MAY include one or more of the :from, :importance, or :options parameters. The MIME-type(s) of the body part(s) used to encapsulate the parameters is an implementation decision.

An implementation MAY only support :fcc in conjunction with a subset of the notification methods it supports. An error occurs if :fcc is combined with a notification method that doesn't support it. Notification methods that support :fcc can be discovered at run-time using the mechanism described below (Section 3.3.1).

3.3.1. Notification-Capability "fcc"

This document defines a new notification-capability value "fcc" for use with the notify_method_capability test (see Section 5 of [RFC5435]. For the "fcc" notification-capability, the notify_method_capability test can match one of the following key-list values:

yes A copy of the notification message sent using the method identified by the notification-uri can be filed into a target mailbox.

no A copy of the notification message sent using the method identified by the notification-uri can not be filed into a target mailbox.

Example:

```
require ["enotify", "fcc"];

if notify_method_capability "xmpp:" "Fcc" "yes" {
    notify :fcc "INBOX.Sent"
           :message "You got mail"
           "xmpp:ken@example.com?message;subject=SIEVE";
} else {
    notify :fcc "INBOX.Sent"
           :message "You got mail!"
           "mailto:ken@example.com";
}
```

3.4. Compatibility with Other Actions

The "fcc" extension is not compatible with any Sieve action that does not generate an additional message on behalf of the user. It is an error for a script to use the ":fcc" tagged argument with any such action.

Future extensions that define actions that generate additional messages on behalf of the user should describe their compatibility with ":fcc", and how to MIME-encapsulate the message, if required.

3.5. Interaction with Fileinto Extensions

The "fcc" extension can be used with some tagged arguments defined in extensions to the "fileinto" action. The sections below describe its interaction with currently defined extensions. Tagged arguments in future extensions to the "fileinto" command should describe their interaction with ":fcc", if any.

When any "fileinto" extension arguments are used with ":fcc", the MUST have the same syntax and semantics as they do with "fileinto".

3.5.1. Imap4flags Extension

This document extends the definition of the ":flags" [RFC5232] tagged argument so that it can optionally be used with the ":fcc" argument.

```
FCC =/ [":flags" <list-of-flags: string-list>]
```

If the optional ":flags" argument is specified with ":fcc", it instructs the Sieve interpreter to set the IMAP4 flags provided in the subsequent argument when the generated message is filed into the target mailbox.

3.5.2. Mailbox Extension

This document extends the definition of the ":create" [RFC5490] tagged argument so that it can optionally be used with the ":fcc" argument.

FCC =/ [":create"]

If the optional ":create" argument is specified with ":fcc", it instructs the Sieve interpreter to create the target mailbox, if needed, before attempting to file the generated message into the target mailbox.

3.5.3. Special-Use Extension

This document extends the definition of the ":specialuse" [I-D.ietf-extra-sieve-special-use] tagged argument so that it can optionally be used with the ":fcc" argument.

FCC =/ [":specialuse" <special-use-flag: string>]

If the optional ":specialuse" argument is specified with ":fcc", it instructs the Sieve interpreter to check whether a mailbox exists with the specific special-use flag assigned to it. If such a mailbox exists, the generated message is filed into the special-use mailbox. Otherwise, the generated message is filed into the target mailbox.

If both the optional ":specialuse" and ":create" arguments are specified with ":fcc", the Sieve interpreter is instructed to create the target mailbox per Section 4.1 of [I-D.ietf-extra-sieve-special-use], if needed.

3.5.4. Extended Example

```
require ["vacation", "fcc", "mailbox", "special-use", "imap4flags"];

vacation :days 7
         :from "hemingway@example.com" "Gone Fishin'"
         :fcc "INBOX.Sent" :specialuse "\\Sent" :create :flags ["\\Seen"];
```

4. Implementation Status

< RFC Editor: before publication please remove this section and the reference to [RFC7942] >

This section records the status of known implementations of the protocol defined by this specification at the time of posting of this Internet-Draft, and is based on a proposal described in [RFC7942]. The description of implementations in this section is intended to assist the IETF in its decision processes in progressing drafts to RFCs. Please note that the listing of any individual implementation here does not imply endorsement by the IETF. Furthermore, no effort has been spent to verify the information presented here that was supplied by IETF contributors. This is not intended as, and must not be construed to be, a catalog of available implementations or their features. Readers are advised to note that other implementations may exist.

According to [RFC7942], "this will allow reviewers and working groups to assign due consideration to documents that have the benefit of running code, which may serve as evidence of valuable experimentation and feedback that have made the implemented protocols more mature. It is up to the individual working groups to use this information as they see fit".

4.1. Cyrus Server

The open source Cyrus Server [2] project is a highly scalable enterprise mail system which supports Sieve email filtering at the point of final delivery. This production level Sieve implementation supports all of the requirements described in this document. This implementation is freely distributable under a BSD style license from Computing Services at Carnegie Mellon University [3].

5. Security Considerations

The "fcc" extension does not raise any other security considerations that are not already present in [RFC5228], [RFC5230], [RFC5435], and [RFC6131].

6. IANA Considerations

6.1. Registration of Sieve Extension

To: iana@iana.org

Subject: Registration of new Sieve extension

Capability name: fcc

Description: Adds the ":fcc" parameter to Sieve action commands that generate additional messages.

RFC number: RFC XXXX

Contact address: The Sieve discussion list <sieve@ietf.org>

6.2. Registration of Notification-Capability Parameter

To: iana@iana.org

Subject: Registration of a new notification-capability parameter

Capability name: fcc

Description: Returns whether a copy of the notification message sent using the method identified by the notification-uri parameter to the notify_method_capability test can be filed into a target mailbox.

Syntax: Can contain one of two values: "yes" or "no". Values MUST be in lowercase.

Permanent and readily available reference(s): This RFC

Contact information: The Sieve discussion list <ietf-mta-filters@imc.org>

7. Acknowledgments

The authors would like to thank the following individuals for contributing their ideas and support for writing this specification: Ned Freed, Stan Kalisch, and Alexey Melnikov.

8. References

8.1. Normative References

[I-D.ietf-extra-sieve-special-use]
Bosch, S., "Sieve Email Filtering: Delivering to Special-Use Mailboxes", draft-ietf-extra-sieve-special-use-02 (work in progress), March 2018.

[RFC2045] Freed, N. and N. Borenstein, "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies", RFC 2045, DOI 10.17487/RFC2045, November 1996, <https://www.rfc-editor.org/info/rfc2045>.

[RFC2046] Freed, N. and N. Borenstein, "Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types", RFC 2046, DOI 10.17487/RFC2046, November 1996, <https://www.rfc-editor.org/info/rfc2046>.

[RFC2047] Moore, K., "MIME (Multipurpose Internet Mail Extensions) Part Three: Message Header Extensions for Non-ASCII Text", RFC 2047, DOI 10.17487/RFC2047, November 1996, <https://www.rfc-editor.org/info/rfc2047>.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/RFC2119, March 1997, <https://www.rfc-editor.org/info/rfc2119>.

[RFC4234] Crocker, D., Ed. and P. Overell, "Augmented BNF for Syntax Specifications: ABNF", RFC 4234, DOI 10.17487/RFC4234, October 2005, <https://www.rfc-editor.org/info/rfc4234>.

[RFC5228] Guenther, P., Ed. and T. Showalter, Ed., "Sieve: An Email Filtering Language", RFC 5228, DOI 10.17487/RFC5228, January 2008, <https://www.rfc-editor.org/info/rfc5228>.

[RFC5230] Showalter, T. and N. Freed, Ed., "Sieve Email Filtering: Vacation Extension", RFC 5230, DOI 10.17487/RFC5230, January 2008, <https://www.rfc-editor.org/info/rfc5230>.

[RFC5232] Melnikov, A., "Sieve Email Filtering: Imap4flags Extension", RFC 5232, DOI 10.17487/RFC5232, January 2008, <https://www.rfc-editor.org/info/rfc5232>.

[RFC5322] Resnick, P., Ed., "Internet Message Format", RFC 5322, DOI 10.17487/RFC5322, October 2008, <https://www.rfc-editor.org/info/rfc5322>.

[RFC5435] Melnikov, A., Ed., Leiba, B., Ed., Segmuller, W., and T. Martin, "Sieve Email Filtering: Extension for Notifications", RFC 5435, DOI 10.17487/RFC5435, January 2009, <https://www.rfc-editor.org/info/rfc5435>.

[RFC5490] Melnikov, A., "The Sieve Mail-Filtering Language -- Extensions for Checking Mailbox Status and Accessing Mailbox Metadata", RFC 5490, DOI 10.17487/RFC5490, March 2009, <https://www.rfc-editor.org/info/rfc5490>.

[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

[RFC5321] Klensin, J., "Simple Mail Transfer Protocol", RFC 5321, DOI 10.17487/RFC5321, October 2008, <https://www.rfc-editor.org/info/rfc5321>.

[RFC5429] Stone, A., Ed., "Sieve Email Filtering: Reject and Extended Reject Extensions", RFC 5429, DOI 10.17487/RFC5429, March 2009, <https://www.rfc-editor.org/info/rfc5429>.

[RFC5436] Leiba, B. and M. Haardt, "Sieve Notification Mechanism: mailto", RFC 5436, DOI 10.17487/RFC5436, January 2009, <https://www.rfc-editor.org/info/rfc5436>.

[RFC5437] Saint-Andre, P. and A. Melnikov, "Sieve Notification Mechanism: Extensible Messaging and Presence Protocol (XMPP)", RFC 5437, DOI 10.17487/RFC5437, January 2009, <https://www.rfc-editor.org/info/rfc5437>.

[RFC6131] George, R. and B. Leiba, "Sieve Vacation Extension: "Seconds" Parameter", RFC 6131, DOI 10.17487/RFC6131, July 2011, <https://www.rfc-editor.org/info/rfc6131>.

[RFC7942] Sheffer, Y. and A. Farrel, "Improving Awareness of Running Code: The Implementation Status Section", BCP 205, RFC 7942, DOI 10.17487/RFC7942, July 2016, <https://www.rfc-editor.org/info/rfc7942>.

8.3. URIs

[1] https://tools.ietf.org/html/bcp14

[2] http://www.cyrusimap.org/

[3] http://www.cmu.edu/computing/

Appendix A. Change History (To be removed by RFC Editor before publication)

Changes since draft-ietf-extra-sieve-fcc-03:

- Fixed typo in ABNF.

Changes since draft-ietf-extra-sieve-fcc-02:

- Updated Keywords boilerplate.
- Noted that :fcc mailbox argument and any fileinto extension arguments used wth :fcc have the same syntax and semantics as they have with fileinto.
- Removed section on [e]Reject.
- Added "fcc" notification-capability.
- Added Implementation Status section.
- Editorial changes from Ned Freed.

Changes since draft-ietf-extra-sieve-fcc-01:

- Added text discussing how to handle generated messages that are not in MIME format.
- Adjusted ABNF so that tagged arguments that supplement :fcc no longer appear as positional.

Changes since draft-ietf-extra-sieve-fcc-00:

- Updated abstract with text from Ned.
- Added support for :fcc to notify extension.
- Prohibit use of :fcc with reject and ereject extensions.
- Added registration of the extension with IANA.
- Added Acknowledgments.
- Minor editorial changes.

Authors' Addresses

Kenneth Murchison
FastMail US LLC
1315 Walnut Street - Suite 320
Philadelphia, PA 19107
USA

Email: murch@fastmailteam.com

Bron Gondwana
FastMail Pty Ltd
Level 2, 114 William Street
Melbourne, VIC 3000
Australia

Email: brong@fastmailteam.com