Sieve Extension: File Carbon Copy (Fcc)
draft-ietf-extra-sieve-fcc-02

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.

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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. Two such commands are defined by the Vacation
   [RFC5230] and Notify [RFC5435] extensions. 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".

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 [RFC2119].

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. 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:

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

o 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.

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

o 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.

o 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.

o 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.

3.4. Compatibility with the Reject and Extended Reject Actions

"fcc" MUST be incompatible with the "reject" and "ereject" [RFC5429]
actions. Making "fcc" compatible with these actions violates the
SMTP [RFC5321] principle that a message is either delivered or
bounced back to the sender. Namely, the saved copy of the rejection
message will contain the original message.

It is an error for a script to use the ":fcc" tagged argument with
either "reject" or "ereject".

3.5. 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.

3.6. 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.

3.6.1. 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.

3.6.2. 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.

3.6.3. 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.

3.6.4. 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. Security Considerations

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

5. IANA Considerations

5.1. 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. 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.

7. References

7.1. 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>.

7.2. 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>.

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

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

   o Added text discussing how to handle generated messages that are
      not in MIME format.

   o Adjusted ABNF so that tagged arguments that supplement :fcc no
      longer appear as positional.

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

   o Updated abstract with text from Ned.

   o Added support for :fcc to notify extension.

   o Prohibit use of :fcc with reject and ereject extensions.

   o Added registration of the extension with IANA.

   o Added Acknowledgments.

   o Minor editorial changes.

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