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Sieve Email Filtering: Vacation Extension

Status of This Memo

This document specifies an Internet standards track protocol for the Internet community, and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STD 1) for the standardization state and status of this protocol. Distribution of this memo is unlimited.

Abstract

This document describes an extension to the Sieve email filtering language for an autoresponder similar to that of the Unix "vacation" command for replying to messages. Various safety features are included to prevent problems such as message loops.

Table of Contents

1.	Introduction	3
2.	Conventions Used in This Document	3
3.	Capability Identifier	3
4.	Vacation Action	3
4.1.	Days Parameter	3
4.2.	Previous Response Tracking	4
4.3.	Subject and From Parameters	6
4.4.	MIME Parameter	6
4.5.	Address Parameter and Limiting Replies to Personal Messages	7
4.6.	Restricting Replies to Automated Processes and Mailing Lists	8
4.7.	Interaction with Other Sieve Actions	8
4.8.	Examples	9
5.	Response Message Generation	9
5.1.	SMTP MAIL FROM Address	9
5.2.	Date	9
5.3.	Subject	10
5.4.	From	10
5.5.	To	10
5.6.	Auto-Submitted	10
5.7.	Message Body	10
5.8.	In-Reply-To and References	10
6.	Relationship to Recommendations for Automatic Responses to Electronic Mail	11
7.	Internationalization Considerations	11
8.	Security Considerations	12
9.	IANA Considerations	12
10.	References	13
10.1.	Normative References	13
10.2.	Informative References	13
Appendix A.	Acknowledgements	15

1. Introduction

This document defines an extension to the Sieve language defined in [RFC5228] for notification that messages to a particular recipient will not be answered immediately.

2. Conventions Used in This Document

Conventions for notations are as in [RFC5228] section 1.1.

The key words "MUST", "MUST NOT", "SHOULD", "SHOULD NOT", "REQUIRED", and "MAY" in this document are to be interpreted as defined in [RFC2119].

3. Capability Identifier

Sieve implementations that implement vacation have an identifier of "vacation" for use with the capability mechanism.

4. Vacation Action

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

The "vacation" action implements a vacation autoresponder similar to the vacation command available under many versions of Unix. Its purpose is to provide correspondents with notification that the user is away for an extended period of time and that they should not expect quick responses.

"Vacation" is used to respond to a message with another message. Vacation's messages are always addressed to the Return-Path address (that is, the envelope from address) of the message being responded to.

4.1. Days Parameter

The ":days" argument is used to specify the period in which addresses are kept and are not responded to, and is always specified in days. The minimum value used for this parameter is normally 1. Sites MAY define a different minimum value as long as the minimum is greater than 0. Sites MAY also define a maximum days value, which MUST be greater than 7, and SHOULD be greater than 30.

If ":days" is omitted, the default value is either 7 or the minimum value (as defined above), whichever is greater.

If the parameter given to `:days` is less than the minimum value, then the minimum value is used instead.

If `:days` exceeds the site-defined maximum, the site-defined maximum is used instead.

4.2. Previous Response Tracking

"Vacation" keeps track of all the responses it has sent to each address in some period (as specified by the `:days` optional argument). If vacation has not previously sent the response to this address within the given time period, it sends the "reason" argument to the SMTP MAIL FROM address [RFC2821] of the message that is being responded to. (The SMTP MAIL FROM address should be available in the `Return-path:` header field if Sieve processing occurs after final delivery.)

Tracking is not just per address, but must also take the vacation response itself into account. A script writer might, for example, have a vacation action that will send a general notice only once in any two-week period. However, even if a sender has received this general notice, it may be important to send a specific notice when a message about something timely or something specific has been detected.

A particular vacation response can be identified in one of two ways. The first way is via an explicit `:handle` argument, which attaches a name to the response. All vacation statements that use the same handle will be considered the same response for tracking purposes.

The second way is via a synthesis of the `:subject`, `:from`, `:mime`, and reason vacation command arguments. All vacation actions that do not contain an explicit handle and that use an identical combination of these arguments are considered the same for tracking purposes.

For instance, if `coyote@desert.example.org` sends mail to `roadrunner@acme.example.com` twice, once with the subject "Cyrus bug" and once with the subject "come over for dinner", and `roadrunner@acme.example.com` has the script shown below, `coyote@desert.example.org` would receive two responses, one with the first message, one with the second.

```
require "vacation";
if header :contains "subject" "cyrus" {
    vacation "I'm out -- send mail to cyrus-bugs";
} else {
    vacation "I'm out -- call me at +1 304 555 0123";
}
```

In the above example, `coyote@desert.example.org` gets the second message despite having gotten the first one because separate vacation responses have been triggered. This behavior is REQUIRED.

There is one important exception to this rule, however. If the Sieve variables extension [RFC5229] is used, the arguments MUST NOT have undergone variable expansion prior to their use in response tracking. This is so that examples like the following script will only generate a single response to each incoming message with a different subject line.

```
require ["vacation", "variables"];
if header :matches "subject" "*" {
    vacation :subject "Automatic response to: ${1}"
              "I'm away -- send mail to foo in my absence";
}
```

As noted above, the optional `:handle` parameter can be used to tell the Sieve interpreter to treat two vacation actions with different arguments as the same command for purposes of response tracking. The argument to `:handle` is a string that identifies the type of response being sent. For instance, if `tweety@cage.example.org` sends mail to `spike@doghouse.example.com` twice, one with the subject "lunch?" and once with the subject "dinner?", and `spike@doghouse.example.com` has the script shown below, `tweety@cage.example.org` will only receive a single response. (Which response is sent depends on the order in which the messages are processed.)

```
require "vacation";
if header :contains "subject" "lunch" {
    vacation :handle "ran-away" "I'm out and can't meet for lunch";
} else {
    vacation :handle "ran-away" "I'm out";
}
```

NOTE: One way to implement the necessary mechanism here is to store a hash of either the current handle and the recipient address or, if no handle is provided, a hash of the vacation action parameters specifying the message content and the recipient address. If a script is changed, implementations MAY reset the records of who has been responded to and when they have been responded to.

IMPLEMENTATION NOTE: Care must be taken in constructing a hash of vacation action parameters. In particular, since most parameters are optional, it is important not to let the same string used as the value for different parameters produce the same hash value. One

possible way to accomplish this is to apply the hash to a series of counted or null terminated strings, one for each possible parameter in particular order.

Implementations are free to limit the number of remembered responses; however, the limit MUST NOT be less than 1000. When limiting the number of tracked responses, implementations SHOULD discard the oldest ones first.

4.3. Subject and From Parameters

The ":subject" parameter specifies a subject line to attach to any vacation response that is generated. UTF-8 characters can be used in the string argument; implementations MUST convert the string to [RFC2047] encoded words if and only if non-ASCII characters are present. Implementations MUST generate an appropriate default subject line as specified below if no :subject parameter is specified.

A ":from" parameter may be used to specify an alternate address to use in the From field of vacation messages. The string must specify a valid [RFC2822] mailbox-list. Implementations SHOULD check the syntax and generate an error when a syntactically invalid ":from" parameter is specified. Implementations MAY also impose restrictions on what addresses can be specified in a ":from" parameter; it is suggested that values that fail such a validity check simply be ignored rather than cause the vacation action to fail.

4.4. MIME Parameter

The ":mime" parameter, if supplied, specifies that the reason string is, in fact, a MIME entity as defined in [RFC2045] section 2.4, including both MIME headers and content.

If the optional :mime parameter is not supplied, the reason string is considered a UTF-8 string.

```
require "vacation";
vacation :mime text:
Content-Type: multipart/alternative; boundary=foo

--foo

I'm at the beach relaxing.  Mmmm, surf...

--foo
Content-Type: text/html; charset=us-ascii

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN"
 "http://www.w3.org/TR/REC-html40/strict.dtd">
<HTML><HEAD><TITLE>How to relax</TITLE>
<BASE HREF="http://home.example.com/pictures/"></HEAD>
<BODY><P>I'm at the <A HREF="beach.gif">beach</A> relaxing.
Mmmm, <A HREF="ocean.gif">surf</A>...
</BODY></HTML>

--foo--
.
```

4.5. Address Parameter and Limiting Replies to Personal Messages

"Vacation" MUST NOT respond to a message unless the recipient user's email address is in a "To", "Cc", "Bcc", "Resent-To", "Resent-Cc", or "Resent-Bcc" line of the original message. An email address is considered to belong to the recipient if it is one of:

1. an email address known by the implementation to be associated with the recipient,
2. the final envelope recipient address if it's available to the implementation, or
3. an address specified by the script writer via the ":addresses" argument described in the next paragraph.

Users can supply additional mail addresses that are theirs with the ":addresses" argument, which takes a string-list listing additional addresses that a user might have. These addresses are considered to belong to the recipient user in addition to the addresses known to the implementation.

4.6. Restricting Replies to Automated Processes and Mailing Lists

Implementations MAY refuse to send a vacation response to a message that contains any header or content that makes it appear that a response would not be appropriate.

Implementations MUST have a list of addresses that "vacation" MUST NOT send mail to. However, the contents of this list are implementation defined. The purpose of this list is to stop mail from going to addresses used by system daemons that would not care if the user is actually reading her mail.

Implementations are encouraged, however, to include well-known addresses like "MAILER-DAEMON", "LISTSERV", "majordomo", and other addresses typically used only by automated systems. Additionally, addresses ending in "-request" or beginning in "owner-", i.e., reserved for mailing list software, are also suggested.

Implementors may take guidance from [RFC2142], but should be careful. Some addresses, like "POSTMASTER", are generally actually managed by people, and people do care if the user is going to be unavailable.

Implementations SHOULD NOT respond to any message that contains a "List-Id" [RFC2919], "List-Help", "List-Subscribe", "List-Unsubscribe", "List-Post", "List-Owner", or "List-Archive" [RFC2369] header field.

Implementations SHOULD NOT respond to any message that has an "Auto-submitted" header field with a value other than "no". This header field is described in [RFC3834].

4.7. Interaction with Other Sieve Actions

Vacation does not affect Sieve's implicit keep action.

Vacation can only be executed once per script. A script MUST fail with an appropriate error if it attempts to execute two or more vacation actions.

Implementations MUST NOT consider vacation used with discard, keep, fileinto, or redirect an error. The vacation action is incompatible with the Sieve reject and refuse actions [REJECT].

4.8. Examples

Here is a simple use of vacation.

```
require "vacation";
vacation :days 23 :addresses ["tjs@example.edu",
                              "ts4z@landru.example.edu"]

"I'm away until October 19.
If it's an emergency, call 911, I guess." ;
```

By mingling vacation with other rules, users can do something more selective.

```
require "vacation";
if header :contains "from" "boss@example.edu" {
    redirect "pleeb@isp.example.org";
} else {
    vacation "Sorry, I'm away, I'll read your
message when I get around to it.";
}
```

5. Response Message Generation

This section details the requirements for the generated response message.

It is worth noting that the input message and arguments may be in UTF-8, and that implementations MUST deal with UTF-8 input, although implementations MAY transcode to other character sets as regional taste dictates. When :mime is used, the reason argument also contains MIME header information. The headers must conform to MIME conventions; in particular, 8bit text is not allowed. Implementations SHOULD reject vacation :mime actions containing 8bit header material.

5.1. SMTP MAIL FROM Address

The SMTP MAIL FROM address of the message envelope SHOULD be set to <>. NOTIFY=NEVER SHOULD also be set in the RCPT TO line during the SMTP transaction if the NOTARY SMTP extension [RFC3461] is available.

5.2. Date

The Date field SHOULD be set to the date and time when the vacation response was generated. Note that this may not be the same as the time the message was delivered to the user.

5.3. Subject

Users can specify the Subject of the reply with the `:subject` parameter. If the `:subject` parameter is not supplied, then the subject is generated as follows: The subject is set to the characters `"Auto: "` followed by the original subject. An appropriate fixed Subject, such as `"Automated reply"`, SHOULD be used in the event that `:subject` isn't specified and the original message doesn't contain a Subject field.

5.4. From

Unless explicitly overridden with a `:from` parameter, the From field SHOULD be set to the address of the owner of the Sieve script.

5.5. To

The To field SHOULD be set to the address of the recipient of the response.

5.6. Auto-Submitted

An Auto-Submitted field with a value of `"auto-replied"` SHOULD be included in the message header of any vacation message sent.

5.7. Message Body

The body of the message is taken from the reason string in the vacation command.

5.8. In-Reply-To and References

Replies MUST have the In-Reply-To field set to the Message-ID of the original message, and the References field SHOULD be updated with the Message-ID of the original message.

If the original message lacks a Message-ID, an In-Reply-To need not be generated, and References need not be changed.

Section 3.6.4 of [RFC2822] provides a complete description of how References fields should be generated.

6. Relationship to Recommendations for Automatic Responses to Electronic Mail

The vacation extension implements a "Personal Responder" in the terminology defined in [RFC3834]. Care has been taken in this specification to comply with the recommendations of [RFC3834] regarding how personal responders should behave.

7. Internationalization Considerations

Internationalization capabilities provided by the base Sieve language are discussed in [RFC5228]. However, the vacation extension is the first Sieve extension to be defined that is capable of creating entirely new messages. This section deals with internationalization issues raised by the use of the vacation extension.

Vacation messages are normally written using the UTF-8 charset, allowing text to be written in most of the world's languages. Additionally, the :mime parameter allows specification of arbitrary MIME content. In particular, this makes it possible to use multipart/alternative objects to specify vacation responses in multiple languages simultaneously.

The Sieve language itself allows a vacation response to be selected based on the content of the original message. For example, the Accept-Language or Content-Language header fields [RFC3282] could be checked and used to select appropriate text:

```
require "vacation";
if header :contains ["accept-language", "content-language"] "en"
{
    vacation "I am away this week.";
} else {
    vacation "Estoy ausente esta semana.";
}
```

Note that this rather simplistic test of the field values fails to take the structure of the fields into account and hence could be fooled by some more complex field values. A more elaborate test could be used to deal with this problem.

The approach of explicitly coding language selection criteria in scripts is preferred because in many cases language selection issues are conflated with other selection issues. For example, it may be appropriate to use informal text in one language for vacation responses sent to a fellow employee while using more formal text in a different language in a response sent to a total stranger outside the company:

```
require "vacation";
if address :matches "from" "@ourdivision.example.com"
{
    vacation :subject "Gone fishing"
              "Having lots of fun! Back in a day or two!";
} else {
    vacation :subject "Je suis parti cette semaine"
              "Je lirai votre message quand je retourne.";
}
```

IMPLEMENTATION NOTE: A graphical Sieve generation interface could in principle be used to hide the complexity of specifying response selection criteria from end users. Figuring out the right set of options to present in a graphical interface is likely a nontrivial proposition, but this is more because of the need to employ a variety of criteria to select different sorts of responses to send to different classes of people than because of the issues involved in selecting a response in an appropriate language.

8. Security Considerations

It is critical that implementations correctly implement the behavior and restrictions described throughout this document. Replies **MUST** NOT be sent out in response to messages not sent directly to the user, and replies **MUST NOT** be sent out more often than the `:days` argument states unless the script changes.

If mail is forwarded from a site that uses subaddressing, it may be impossible to list all recipient addresses with `:addresses`.

Security issues associated with mail auto-responders are fully discussed in the security considerations section of [RFC3834]. This document is believed not to introduce any additional security considerations in this general area.

9. IANA Considerations

The following template specifies the IANA registration of the vacation Sieve extension specified in this document:

To: iana@iana.org
Subject: Registration of new Sieve extension

Capability name: vacation
Description: adds an action for generating an auto-reply saying
that the original message will not be read or
answered immediately
RFC number: RFC 5230

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

This information has been added to the list of Sieve extensions given on <http://www.iana.org/assignments/sieve-extensions>.

10. References

10.1. Normative References

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Appendix A. Acknowledgements

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