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N. Freed
Sun Microsystems
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Sieve Email Filtering: Delivery Status Notifications Extension
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Abstract

This document describes the "envelope-dsn" and "redirect-dsn" extensions to the Sieve email filtering language. The "envelope-dsn" extension provides access to additional envelope information provided

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by the delivery status notification extension to SMTP defined in [RFC 3461](#). The "redirect-dsn" extension extends Sieve's redirect action to provide control over delivery status notification parameters.

Change History (to be removed prior to publication as an RFC)

Fixed several typos.

Changed name of extension from notary to envelope-dsn.

Added the redirect-dsn extension.

Updated references.

Added a note about the use of ADDRESS-PART arguments with the new envelope-part strings defined by the envelope-dsn extension.

Fleshed out the redirect-dsn extension.

Changed document title to agree with new extension names.

Added some examples.

Fixed more typos.

Changed dsn-envelope and dsn-redirect to envelope-dsn and redirect-dsn, respectively.

Added a redirect-dsn example.

1. Introduction

Sieve [[RFC5228](#)] is a language for filtering email messages at or around the time of final delivery. It is designed to be implementable on either a mail client or mail server. It is suitable for running on a mail server where users may not be allowed to execute arbitrary programs, such as on black box Internet Message Access Protocol [[RFC3501](#)] servers, as it has no user-controlled loops or the ability to run external programs.

The base sieve specification defines the envelope extension and test to access information in the message envelope. Only information

available in regular SMTP is provided; additional information added to the SMTP envelope by SMTP extensions cannot be accessed. The "envelope-dsn" extension extends the envelope test to allow access to the additional envelope fields defined by the SMTP extension for delivery status notification specified in [RFC 3461](#) [[RFC3461](#)].

The base sieve specification also defines the redirect action which sends the message to a different address. Redirect only allows specification of the new recipient address. The "redirect-dsn" extension extends redirect to allow specification of some fields defined by the delivery status notification SMTP extension.

[2.](#) Conventions used in this document

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 [[RFC2119](#)].

The terms used to describe the various components of the Sieve language are taken from [Section 1.1 of \[RFC5228\]](#).

This document uses the ABNF notation specified in [[RFC5234](#)] and refers to the ABNF production notify-esmtp-value defined in [Section 4.1 of \[RFC3461\]](#).

[3.](#) Capability Identifier

The capability strings associated with the extensions defined in this document are "envelope-dsn" and "redirect-dsn".

[4.](#) envelope-dsn extension

The "envelope-dsn" extension does not define any new tests or actions, rather, it adds four values to the list of possible (case-insensitive) envelope-part strings defined in [Section 5.4 of \[RFC5228\]](#):

notify Match the list of notification conditions, or NOTIFY values, associated with TO address used in the SMTP RCPT TO command that

resulted in this message getting delivered to this user. More than one notification condition can be in effect at once; each condition that is in effect is tested separately and any match causes the text to succeed. The syntax and semantics of the NOTIFY parameter are defined in [RFC 3461 \[RFC3461\] section 4.1](#). Currently the possible notification condition values are "NEVER", "SUCCESS", "FAILURE" and "DELAY". Note that the value "NEVER" cannot be combined with any other value.

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orcpt Match the original recipient, or ORCPT, value in decoded form associated with the TO address used in the SMTP RCPT TO command that resulted in this message getting delivered to this user. The syntax and semantics of the ORCPT parameter are defined in [Section 2.2 of RFC 3461 \[RFC3461\]](#).

ret Match the return of content, or RET, value given in the SMTP MAIL FROM command. The syntax and semantics of the RET parameter are defined in [RFC 3461 \[RFC3461\] section 4.3](#). Currently the possible return of content values are "FULL" and "HDRS".

envid Match the envelope identifier, or ENVID, value in decoded form given in the SMTP MAIL FROM command. The syntax and semantics of the ENVID parameter are defined in [Section 4.4 of RFC 3461 \[RFC3461\]](#).

All of these tests fail unconditionally if the specified envelope parameter does not exist for the current message or recipient.

The envelope test's ADDRESS-PART argument assumes the string being tested has the syntax of an email address. None of the new envelope parts defined here have address syntax, accordingly, it is an error to specify an ADDRESS-PART argument in conjunction with these new envelope parts.

The "relational" extension [\[RFC5231\]](#) adds a match type called ":count". The count of an envelope test of with an envelope-part of "orcpt", "ret", and "envid" is 1 if the corresponding SMTP parameter is present and 0 otherwise. The count of an envelope test with an

envelope-part of "notify" is equal to the number of notification conditions specified and 0 if the NOTIFY parameter is not present.

[4.1.](#) Examples

The fact that the notify envelope-part operates on a list of values makes it easy to check to see if a given value is present without having to worry about other values:

```
require ["envelope", "envelope-dsn"];

# Check whether SUCCESS notifications were requested,
# irrespective of any other requests that were made
if envelope "notify" "SUCCESS"
{
    # do whatever
}
```

Checking to see if a given request is the only one present is a

little trickier, however:

```
require ["envelope", "envelope-dsn", "relational",
        "comparator-i;ascii-numeric"];

# Check whether only FAILURE notifications were requested
if allof ( envelope "notify" "FAILURE",
          envelope :comparator "i;ascii-numeric"
              :count "eq" "notify" "1"
        )
{
    # do whatever
}
```

The orcpt envelope-part contains an address type indicator in addition to an address, which must be taken into account:

```
require ["envelope", "envelope-dsn"];

# See if the orcpt is an RFC822 address in the example.com
# domain
if envelope :matches "orcpt" "rfc822.*@example.com"
```

```
{
    # do whatever
}
```

5. redirect-dsn extension

The "redirect-dsn" extension does not define any new tests or actions, rather, it adds two new arguments, NOTIFY and RET, to the redirect action defined in [Section 4.2 of \[RFC5228\]](#). This updates the usage description for redirect to:

Usage: redirect [NOTIFY] [RET] <address: string>

The syntax for the NOTIFY and RET arguments are:

```
NOTIFY = ":notify" notify-value
notify-value = DQUOTE notify-esmtp-value DQUOTE
```

```
RET = ":ret" ret-value
ret-value = DQUOTE ("FULL" / "HDRS") DQUOTE
```

The notify-esmtp-value production is defined in [Section 4.1 of \[RFC3461\]](#).

When these arguments are specified, they set the corresponding NOTIFY

ESMTP RCPT TO and RET ESMTP MAIL FROM parameters, respectively. These parameters are only available when the delivery status notification (DSN) ESMTP extension is available; they are simply ignored and MUST NOT cause an error if the DSN extension is unavailable.

5.1. Example

One possible use of :notify on redirect is to combine the copy extension [\[RFC3894\]](#) with the ability to suppress nondelivery notifications to generate a private copy of selected messages with no side effects or error notifications:

```
require ["copy", "redirect-dsn"];
```

```
# Make a private copy of messages from user@example.com
if address "from" "user@example.com"
{
    redirect :copy :notify "NEVER" "elsewhere@example.com";
}
```

6. Security Considerations

The envelope-dsn extension provides access to additional message envelope information. This is not believed to raise any additional security issues beyond those for the Sieve "envelope" test.

The redirect-dsn extension allows specification of the delivery status notification's NOTIFY parameter which can cause the generation of notification messages that might otherwise not be generated, especially if notification in the event of successful delivery is required. Sites which limit the ability to request success notifications will also need to restrict the ability to request them using the redirect-dsn extension.

All of the security considerations given in the base Sieve specification also apply to this extension.

7. IANA Considerations

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

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

Capability name: envelope-dsn
Description: The "envelope-dsn" extension extends the envelope test to allow checking of information associated with the DSN ESMTP extension defined in [RFC 3461](#).
RFC number: RFC XXXX
Contact address: Sieve discussion list <ietf-mta-filters@imc.org>

Capability name: redirect-dsn
Description: The "redirect-dsn" extension extends the redirect action to allow specification of the NOTIFY and RET ESMTP parameters associated with the DSN SMTP extension defined in [RFC 3461](#).
RFC number: RFC XXXX
Contact address: Sieve discussion list <ietf-mta-filters@imc.org>

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

[8.](#) References

[8.1.](#) Normative references

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [RFC3461] Moore, K., "Simple Mail Transfer Protocol (SMTP) Service Extension for Delivery Status Notifications (DSNs)", [RFC 3461](#), January 2003.
- [RFC5228] Guenther, P. and T. Showalter, "Sieve: An Email Filtering Language", [RFC 5228](#), January 2008.
- [RFC5231] Segmuller, W. and B. Leiba, "Sieve Email Filtering: Relational Extension", [RFC 5231](#), January 2008.
- [RFC5234] Crocker, D. and P. Overell, "Augmented BNF for Syntax Specifications: ABNF", STD 68, [RFC 5234](#), January 2008.

[8.2.](#) Informative references

- [RFC3501] Crispin, M., "INTERNET MESSAGE ACCESS PROTOCOL - VERSION 4rev1", [RFC 3501](#), March 2003.
- [RFC3894] Degener, J., "Sieve Extension: Copying Without Side Effects", [RFC 3894](#), October 2004.

[Appendix A](#). Acknowledgements

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Author's Address

Ned Freed
Sun Microsystems
800 Royal Oaks
Monrovia, CA 91016-6347
USA

Phone: +1 909 457 4293
Email: ned.freed@mrochek.com