SIEVE Email Filtering: Include Extension
draft-daboo-sieve-include-02

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Abstract

The SIEVE Email Filtering "include" extension permits users to
include one SIEVE script inside another. This can make managing

large scripts or multiple sets of scripts much easier, as well as
supporting common 'libraries' of scripts. Users are able to include
their own personal scripts or site-wide scripts provided by the local
SIEVE implementation.

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

   Changes from -01 to -02:

   a. Minor formatting changes only - refreshing expired draft.

   Changes from -00 to -01:
   a. Added IPR boiler plate.
   b. Re-ordered sections at start to conform to RFC style.
   c. Moved recursion comment into General Considerations section.
   d. Switched to using optional parameter to indicate personal vs
       global.
   e. Explicitly state that an error occurs when a missing script is
       included.

Table of Contents

1. Introduction and Overview

Its convenient to be able to break SIEVE [RFC3028] scripts down into smaller components which can be reused in a variety of different circumstances. For example, users may want to have a default script and a special 'vacation' script, the later being activated when the user goes on vacation. In that case the default actions should continue to be run, but a vacation command should be executed first. One option is to edit the default script to add or remove the vacation command as needed. Another is to have a vacation script that simply has a vacation command and then includes the default script.

2. Conventions Used in This Document

Conventions for notations are as in [RFC3028] section 1.1, including use of [RFC2119].

3. SIEVE Include Extension

3.1 General Considerations

SIEVE implementations that implement the "include" and "return" control structures described below have an identifier of "include" for use with the capability mechanism. If either of the "include" or "return" control structures are used in a script, the "include" capability MUST be listed in the "require" statement in that script.

SIEVE implementations must track the use of actions in included scripts so that implicit "keep" behaviour can be properly determined based on whether any actions have executed in any script.

SIEVE implementations are allowed to limit the total number of nested included scripts, but MUST provide for a total of at least three levels of nested scripts including the top-level script. An error MUST be generated either when the script is uploaded to the SIEVE repository, or when the script is executed, if any nesting limit is exceeded. If such an error is detected whilst processing a SIEVE script, an implicit "keep" action MUST be executed to prevent loss of any messages.

SIEVE implementations MUST ensure that recursive includes are not possible. i.e. if script "A" includes script "B", and script "B" includes script "A" an error MUST be generated either when the script is uploaded to the SIEVE repository, or when the script is executed. If such an error is detected whilst processing a SIEVE script, an implicit "keep" action MUST be executed to prevent loss of any messages.

SIEVE implementations MUST handle missing scripts being referenced via an includes in an existing script. An error MUST be generated when a missing included script is descovered during execution. If such an error is detected an implicit "keep" action MUST be executed to prevent loss of any messages.

[3.2](#) **Control Structure Include**

        Syntax: include [[LOCATION](#)] <value: string>

The "include" control structure includes an optional parameter, and a single string argument representing the name of the script to include in the main script at that point.

[LOCATION] is an optional parameter that has one of two values:

        Syntax: ":personal" / ":global"

If the [[LOCATION](#)] parameter is not present, the location defaults to :personal.

The location has the following meanings:

    :personal

        Indicates that the named script is stored in the user's own personal (private) SIEVE repository.

    :global

        Indicates that the named script is stored in a site-wide SIEVE repository, accessible to all users of the SIEVE system.

The included script MUST be a valid SIEVE script, including having necessary "require" statements for all optional capabilities used by the script. The scope of a "require" statement in an included script is for that script only, not the including script. e.g. if script

"A" includes script "B", and script "B" uses the "fileinto"
extension, script "B" must have a "require" statement for "fileinto",
irrespective of whether script "A" has one. In addition, if script
"A" does not have a "require" statement for "fileinto", "fileinto"
cannot be used anywhere in script "A", even after inclusion of script
"B".

A "stop" control statement in an included script MUST stop all script
processing, including the processing of the scripts that include the
current one. The "return" control statement (described below) stops
processing of the current script only, and allows the scripts that

   include it to continue.

   Examples:

   In the examples below, script content is indicated by a '|' as the
   first non-space character on a line for clarity. The '|' characters
   are not part of the script itself.

   The user has four scripts stored in their personal repository:

   "default"

      This is the default active script that includes several others.


```
            |    require ["include"];
         |
            |    include :personal "always_allow";
            |    include :global "spam_tests";
            |    include :personal "my_spam_tests";
            |    include :personal "mailing_lists";
```

   "always_allow"

      This script special cases some correspondent email addresses and
      makes sure any message containing those addresses are always kept.


```
            |    if header :is "From" "boss@example.com"
            |    {
            |        keep;
            |    }
            |    elsif header :is "From" "ceo@example.com"
            |    {
            |        keep;
            |    }
```

   "my_spam_tests"

       This script does some user-specific spam tests to catch spam

messages not caught by the site-wide spam tests.

```
         |   require ["reject"];
      |
         |   if header :contains "Subject" "XXXX"
         |   {
         |       reject;
         |   }
         |   elsif header :is "From" "money@example.com"
         |   {
```

```
             |       reject;
             |    }
```

   "mailing_lists"

      This script looks for messages from different mailing lists and
      files each into a mailbox specific to the mailing list.

```
             |    require ["fileinto"];
        |
             |    if header :is "Sender" "owner-ietf-mta-filters@imc.org"
             |    {
             |        fileinto "lists.sieve";
             |    }
             |    elsif header :is "Sender" "owner-ietf-imapext@imc.org"
             |    {
             |        fileinto "lists.imapext";
             |    }
```

   There is one script stored in the global repository:

   "spam_tests"

      This script does some site-wide spam tests which any user at the
      site can include in their own scripts at a suitable point. The
      script content is kept up to date by the site administrator.

```
             |    require ["reject"];
        |
             |    if anyof (header :contains "Subject" "$$",
             |              header :contains "Subject" "Make money")
             |    {
             |        reject;
             |    }
```

   The "include" control structure may appear anywhere in the script
   where a control structure is legal.

   Example:

```
|   require ["include"];
|
|   if anyof (header :contains "Subject" "$$",
|              header :contains "Subject" "Make money")
|   {
|       include "my_reject_script";
|   }
```

3.3 Control Structure Return

           Syntax: return

   The "return" control structure stops processing of the currently
   included script only and returns processing control to the script
   which includes it. If used in the main script (i.e. not in an
   included script), it has the same effect as the "stop" control
   structure, including the appropriate "keep" action if no other
   actions have been executed up to that point.

4. Security Considerations

   SIEVE implementations MUST ensure adequate security for the global
   script repository to prevent unauthorized changes to global scripts.

   Beyond that, the "include" extension does not raise any security
   considerations that are not present in the base SIEVE protocol, and
   these issues are discussed in SIEVE.

5. IANA Considerations

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

5.1 include registration

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

      Capability name: include
      Capability keyword: include
      Capability arguments: N/A
      Standards Track/IESG-approved experimental RFC number: this RFC
      Person and email address to contact for further information:

        Cyrus Daboo
        ISAMET, Inc.

5001 Baum Blvd., Suite 650,
        Pittsburgh, PA 15213
        U.S.A.

        <mailto:daboo@isamet.com>

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

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6 Normative References

[RFC2119]   Bradner, S., "Key words for use in RFCs to Indicate
            Requirement Levels", BCP 14, RFC 2119, March 1997.

[RFC3028]   Showalter, T., "Sieve: A Mail Filtering Language", RFC
            3028, January 2001.

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Appendix A. Acknowledgments

Thanks to Ken Murchison, Rob Siemborski, Alexey Melnikov, Marc Mutz
and Kjetil Torgrim Homme for comments and corrections.

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