Ruby master - Bug #12678
No way to set a timeout for TLS handshake when using Net::SMTP

08/15/2016 10:21 PM - benweint (Ben Weintraub)

Status: Closed
Priority: Normal
Assignee: shugo (Shugo Maeda)
Target version:

<table>
<thead>
<tr>
<th>ruby -v:</th>
<th>Backport:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ruby 2.3.1p112 (2016-04-26 revision 54768) [x86_64-darwin15]</td>
<td>2.1: UNKNOWN, 2.2: UNKNOWN, 2.3: DONE</td>
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Description

When establishing a connection to an SMTP server, Net::SMTP doesn’t offer a way to specify a timeout for how long the TLS handshake should take.

In our production environment, this means we routinely see hangs under this callstack:

.../lib/ruby/2.1.0/net/smtp.rb:586:in `connect'
.../lib/ruby/2.1.0/net/smtp.rb:586:intlsconnect'
.../lib/ruby/2.1.0/net/smtp.rb:563:in `do_start'
.../lib/ruby/2.1.0/net/smtp.rb:520:in `start'
.../shared/bundle/ruby/2.1.0/gems/mail-2.5.4/lib/mail/network/delivery_methods/smtp.rb:112:in `deliver!'

The C-level backtrace here looks like this:

Thread 1 (Thread 0x7f7709587700 (LWP 30870)):
  #0 0x00007f77f85ea4b7 in ppoll () from /lib64/libc.so.6
  #1 0x00007f77f5719cd9 in rb_wait_for_single_fd (fd=, events=, tv=0x0) at thread.c:3675
  #2 0x00007f77f5719e32 in rb_thread_wait_fd_rw (fd=) at thread.c:3514
  #3 0x00007f77f571f3e5 in rb_thread_wait_fd (fd=) at thread.c:3525
  #4 0x00007f77f575f08b in rb_io_wait_readable (fd=34) at io.c:1094
  #5 0x00007f77f579aa8f4 in ossl_start_ssl (self=140149417009120, func=0x7f77f555570 , funcname=0x7f77f5c3ba7 "SSL_connect", nonblock=) at ossl_ssl.c:1282
  #6 0x00007f77f579f52a in vm_call_cfunc_with_frame (th=0x7f77f59585b0, reg_cfp=0x7f77f55350, cl=) at vm_insnhelper.c:1510
  #7 0x00007f77f579708e11 in vm_call_cfunc (th=0x7f77f59585b0, cfp=0x7f77f5953530, cl=) at vm_insnhelper.c:1510

You can replicate this behavior by starting a dummy server using ‘nc’ (netcat), and then running the attached ruby script to connect to it.

Steps to reproduce:

1. Start a netcat process listening on port 8888 ('nc -l 8888')
2. Run the attached net-smtp-connect-timeout.rb
3. Wait

Expected results:

The call to smtp.start should eventually time out.

Actual results:

The call to smtp.start hangs forever.

Notes:

Net::HTTP addresses this same issue by using a loop around SSLSocket.connect_nonblock:
https://github.com/ruby/ruby/blob/trunk/lib/http.rb#L934-L943

... seems like Net::SMTP should do the same.

We’re hitting this issue using Ruby 2.1.7 in production, but I’ve also verified that it happens on 2.3.1.
Related issues:
Has duplicate Ruby master - Bug #13429: Net::SMTP has no read timeout when co...
Closed

Associated revisions

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date/Time</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>73b3b10d</td>
<td>11/05/2016 06:47 AM</td>
<td>shugo</td>
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<td>56576</td>
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- lib/net/smtp.rb (tlsconnect): support timeout for TLS handshake.
  [ruby-core:76899] [Bug #12678]
- lib/net/protocol.rb (ssl_socket_connect): new method to implement timeout for TLS handshake.
- lib/net/http.rb (connect): use Net::Protocol#ssl_socket_connect.

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@56576 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 56576 - 11/05/2016 06:47 AM - shugo (Shugo Maeda)

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- lib/net/http.rb (connect): use Net::Protocol#ssl_socket_connect.

Revision 56623 - 11/06/2016 02:50 AM - shugo (Shugo Maeda)

- test/net/smtp/test_smtp.rb (test_tls_connect, test_tls_connect): use Socket.tcp_server_sockets in case localhost is resolved to ::1.

Revision 87cacf7e - 08/09/2017 08:10 AM - usa (Usaku NAKAMURA)
merge revision(s) 56576,56623: [Backport #12678] [Backport #13429]

* lib/net/smtp.rb (tlsconnect): support timeout for TLS handshake.
  [ruby-core:76893] [Bug #12678]

* lib/net/protocol.rb (ssl_socket_connect): new method to implement
timeout for TLS handshake.

* lib/net/http.rb (connect): use Net::Protocol#ssl_socket_connect.

* test/net/smtp/test_smtp.rb (test_tls_connect, test_tls_connect):
  use Socket.tcp_server_sockets in case localhost is resolved to ::1.

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/branches/ruby_2_3@59533 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 59533 - 08/09/2017 08:10 AM - usa (Usaku NAKAMURA)
merge revision(s) 56576,56623: [Backport #12678] [Backport #13429]

* lib/net/smtp.rb (tlsconnect): support timeout for TLS handshake.
  [ruby-core:76893] [Bug #12678]

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* lib/net/http.rb (connect): use Net::Protocol#ssl_socket_connect.

* test/net/smtp/test_smtp.rb (test_tls_connect, test_tls_connect):
  use Socket.tcp_server_sockets in case localhost is resolved to ::1.

History

#1 - 10/11/2016 07:32 AM - shyouhei (Shyouhei Urabe)
- Assignee set to shugo (Shugo Maeda)
- Status changed from Open to Assigned

#2 - 11/05/2016 06:47 AM - shugo (Shugo Maeda)
- Status changed from Assigned to Closed

Applied in changeset r56576.

- lib/net/smtp.rb (tlsconnect): support timeout for TLS handshake.
  [ruby-core:76893] [Bug #12678]

- lib/net/protocol.rb (ssl_socket_connect): new method to implement
timeout for TLS handshake.

- lib/net/http.rb (connect): use Net::Protocol#ssl_socket_connect.

#3 - 05/19/2017 07:37 AM - shugo (Shugo Maeda)
- Has duplicate Bug #13429: Net::SMTP has no read timeout when connexion over TLS added

#4 - 08/09/2017 08:10 AM - usa (Usaku NAKAMURA)
- Backport changed from 2.1: UNKNOWN, 2.2: UNKNOWN, 2.3: UNKNOWN to 2.1: UNKNOWN, 2.2: UNKNOWN, 2.3: DONE