Ruby master - Feature #17528

Make Addrinfo.getaddrinfo fall back to Timeout.timeout for :resolv_timeout

01/11/2021 08:53 PM - mohamedhafez (Mohamed Hafez)

Status: Open
Priority: Normal
Assignee:
Target version:

Description
Currently, Addrinfo.getaddrinfo ignores the :resolv_timeout option if we are on a system without getaddrinfo_a. It would be great if instead it would fall back to using Timeout.timeout.

That way, we could get rid of a lot of the usage of Timeout.timeout for systems that do have getaddrinfo_a. For example, for Net::HTTP#connect we could easily then do something like this:
https://github.com/ruby/ruby/compare/master...mohamedhafez:patch-3?diff=split.

The motivation for this is that the usage of Timeout.timeout is inherently unsafe, and it would be great to stop using it where we can (see https://www.mikeperham.com/2015/05/08/timeout-rubys-most-dangerous-api/ and http://blog.headius.com/2008/02/ruby-threadraise-threadkill-timeoutrb.html).

History

#1 - 01/12/2021 04:57 AM - akr (Akira Tanaka)
I think Timeout.timeout doesn't work for Addrinfo.getaddrinfo because Timeout.timeout cannot interrupt getaddrinfo function in C.

#2 - 01/13/2021 04:05 PM - mohamedhafez (Mohamed Hafez)
According to https://bugs.ruby-lang.org/issues/12435, the only reason we are using Timeout.timeout in Net::HTTP#connect instead of using nonblocking io and IO.select is so that we can place a timeout on the getaddrinfo function, normalperson (Eric Wong) can you clarify here?

#3 - 01/13/2021 05:50 PM - akr (Akira Tanaka)

How to test:
% vi /etc/resolv.conf        # specify non-existing nameserver
% time ./ruby -rtimeout -rsocket -e 'Timeout.timeout(2) { Addrinfo.getaddrinfo("www.ruby-lang.org",nil) }'
-e:1:in 'getaddrinfo': execution expired (Timeout::Error)
  from -e:1:in 'block in <main>'
  from /home/akr/o0/lib/ruby/3.1.0/timeout.rb:112:in 'timeout'
  from -e:1:in '<main>'
./ruby -rtimeout -rsocket -e 0.14s user 0.00s system 0% cpu 20.136 total

This needs 20 second instead of 2 second.

#4 - 01/13/2021 08:50 PM - mohamedhafez (Mohamed Hafez)
I was just doing a similar test actually, I think you're correct! I'll close this issue and re-submit a patch to Net::HTTP to replace Timeout::timeout there, since it's not doing anything for DNS lookups anyway. Thank you!