Description

In a certain situation, Exception#cause can become an infinite list:

```ruby
def raise_errors
  begin
    raise "error 1"
  ensure
    orig_error = $!
    begin
      raise "error 2"
      rescue => err
        raise orig_error || err
      end
    end
  end
  x = nil
begin
  raise_errors
rescue
  x = $!
end
x.cause.cause.object_id == x.object_id
```

Note that this pattern happened during an HTTP request with net/http: see [https://github.com/ruby/ruby/blob/v2_3_1/lib/net/http/response.rb#L261](https://github.com/ruby/ruby/blob/v2_3_1/lib/net/http/response.rb#L261). I would expect that x would be "error 2", x.cause would be "error 1", and x.cause.cause would be nil. Instead an infinite loop forms, breaking error reporting code that loops over an exception’s cause.

Associated revisions

Revision 1729243b - 12/21/2016 11:12 AM - nobu (Nobuyoshi Nakada)
eval.c: fix circular cause
  • eval.c (exc_setup_cause): always set cause of cause to get rid of circular references. [ruby-core:78688] [Bug #13043]
  git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@57137 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 57137 - 12/21/2016 11:12 AM - nobu (Nobuyoshi Nakada)
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Revision 9d693b18 - 12/27/2016 11:39 AM - usa (Usaku NAKAMURA)
merge revision(s) 57137: [Backport #13043]
eval.c: fix circular cause

* eval.c (exc_setup_cause): always set cause of cause to get rid of circular references. [ruby-core:78688] [Bug #13043]

Revision 57222 - 12/27/2016 11:39 AM - usa (Usaku NAKAMURA)
merge revision(s) 57137: [Backport #13043]
eval.c: fix circular cause

* eval.c (exc_setup_cause): always set cause of cause to get rid of circular references. [ruby-core:78688] [Bug #13043]

Revision d785c36b - 12/28/2016 09:00 PM - usa (Usaku NAKAMURA)
merge revision(s) 57137: [Backport #13043]
eval.c: fix circular cause

* eval.c (exc_setup_cause): always set cause of cause to get rid of circular references. [ruby-core:78688] [Bug #13043]

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/branches/ruby_2_2@57229 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 57229 - 12/28/2016 09:00 PM - usa (Usaku NAKAMURA)
merge revision(s) 57137: [Backport #13043]
eval.c: fix circular cause

* eval.c (exc_setup_cause): always set cause of cause to get rid of circular references. [ruby-core:78688] [Bug #13043]

Revision ffb1a5d8 - 01/04/2017 02:02 AM - usa (Usaku NAKAMURA)
Revert r57229 and finally giving up backporting [Bug #13043]

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/branches/ruby_2_2@57263 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 57263 - 01/04/2017 02:02 AM - usa (Usaku NAKAMURA)
Revert r57229 and finally giving up backporting [Bug #13043]

History

#1 - 12/21/2016 11:04 AM - nobu (Nobuyoshi Nakada)
- Description updated
- Backport changed from 2.1: UNKNOWN, 2.2: UNKNOWN, 2.3: UNKNOWN to 2.1: REQUIRED, 2.2: REQUIRED, 2.3: REQUIRED
eval.c: fix circular cause

- eval.c (exc_setup_cause): always set cause of cause to get rid of circular references. [ruby-core:78688] [Bug #13043]

#3 - 12/27/2016 11:39 AM - usa (Usaku NAKAMURA)
- Backport changed from 2.1: REQUIRED, 2.2: REQUIRED, 2.3: REQUIRED to 2.1: REQUIRED, 2.2: DONE, 2.3: REQUIRED

ruby_2_2 r57222 merged revision(s) 57137.

#4 - 12/27/2016 03:01 PM - usa (Usaku NAKAMURA)
- Backport changed from 2.1: REQUIRED, 2.2: DONE, 2.3: REQUIRED to 2.1: REQUIRED, 2.2: REQUIRED, 2.3: REQUIRED

... but reverted in ruby_2_2 because it causes SEGV.

#5 - 12/28/2016 09:00 PM - usa (Usaku NAKAMURA)
- Backport changed from 2.1: REQUIRED, 2.2: REQUIRED, 2.3: REQUIRED to 2.1: REQUIRED, 2.2: DONE, 2.3: REQUIRED

ruby_2_2 r57229 merged revision(s) 57137.

#6 - 01/04/2017 02:05 AM - usa (Usaku NAKAMURA)
- Backport changed from 2.1: REQUIRED, 2.2: DONE, 2.3: REQUIRED to 2.1: WONTFIX, 2.2: WONTFIX, 2.3: REQUIRED

I've finally gave up to backport this into ruby_2_2, because of a test of rake failed.
I doubt that the test is nonsense, but a maintenance branch should be conservative about changing its behavior.