

## Ruby - Feature #13097

### Deprecate Socket.gethostbyaddr and Socket.gethostbyname

01/03/2017 09:17 AM - vo.x (Vit Ondruch)

<b>Status:</b>	Closed
<b>Priority:</b>	Normal
<b>Assignee:</b>	
<b>Target version:</b>	
<b>Description</b>	
Is there a reason to keep these methods around? They were marked obsolete by POSIX.1-2001 and the POSIX.1-2008 removes the specifications of gethostbyname, gethostbyaddr recommending the use of getaddrinfo and getnameinfo instead. If they are kept because of Ruby backward compatibility, shouldn't they be re-implemented by these modern interfaces?	

#### Associated revisions

##### Revision b5c6fc85 - 10/21/2017 01:13 PM - akr (Akira Tanaka)

Deprecation document for gethostbyname, gethostbyaddr.

[Feature #13097]

I confirmed current ruby (Ruby 2.4 and trunk) uses gethostbyname() and gethostbyaddr().

Socket.gethostbyname uses getaddrinfo() and gethostbyname().  
Socket.gethostbyaddr uses gethostbyaddr().

Socket.gethostbyname uses gethostbyname() to obtain alias hostnames.

RFC 3493 defines getaddrinfo()/getnameinfo() and describes the problems of gethostbyname()/gethostbyaddr().  
The problems are difficult protocol handling and thread-unsafety.

Since Ruby has GVL, the thread-unsafety doesn't cause wrong result.  
But it may block other threads until finishing DNS query.

Socket.gethostbyname has the protocol handling problem.  
It returns only one address family:

```
% ruby -rpp -rsocket -e 'pp Socket.gethostbyname("www.wide.ad.jp")'  
["www.wide.ad.jp",  
 [],  
 10,  
  "\x01\x02\x00\r\xff\xff\xf1\x02\x16>\xff\xfeke\x1c",  
  "\xCB\xB2\x89:"]
```

[www.wide.ad.jp](http://www.wide.ad.jp) has one IPv6 address and one IPv4 address.  
But Socket.gethostbyname returns only one address family, 10 (AF\_INET6),  
which is the address family of the first address.

Also, Socket.gethostbyname and Socket.gethostbyaddr uses  
4-bytes binary IPv4 address and 16-bytes binary IPv6 address.  
This is not usual in other socket API in Ruby.  
(Most socket API uses binary sockaddr string or Addrinfo object)

I think Socket.gethostbyname and Socket.gethostbyaddr are too far  
from recommendable API.

So, I added deprecation description for documents for them.

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@60266 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

#### History

##### #1 - 01/03/2017 09:20 AM - vo.x (Vit Ondruch)

If nothing else, I would consider right if documentation discouraged their use ...

##### #2 - 01/03/2017 11:28 PM - shevegen (Robert A. Heiler)

I have no pro or con opinion, just adding links for people who just want to click on stuff for the corresponding docu:

<https://ruby-doc.org/stdlib-2.4.0/libdoc/socket/rdoc/Socket.html#method-c-gethostbyaddr>

<https://ruby-doc.org/stdlib-2.4.0/libdoc/socket/rdoc/Socket.html#method-c-gethostbyname>

**#3 - 01/04/2017 12:31 AM - normalperson (Eric Wong)**

[v.ondruch@tiscali.cz](mailto:v.ondruch@tiscali.cz) wrote:

If nothing else, I would consider right if documentation discouraged their use ...

I support documentation discouraging their use.

I'm against a warning message at runtime; that's just annoying to non-programmers. Let's not break existing code or try to force people into caring.

**#4 - 01/18/2017 10:33 AM - shyouhei (Shyouhei Urabe)**

- *Tracker changed from Bug to Feature*

**#5 - 02/05/2017 01:02 PM - nobu (Nobuyoshi Nakada)**

[https://github.com/ruby/ruby/compare/trunk...nobu:feature/deprecate\\_method](https://github.com/ruby/ruby/compare/trunk...nobu:feature/deprecate_method)

**#6 - 02/05/2017 02:45 PM - nobu (Nobuyoshi Nakada)**

```
$ ruby -rsocket -e 'host = "ci.ruby-lang.org"; ai = Addrinfo.ip(host); p Socket.gethostbyname(host), Socket.ge
taddrinfo(host, nil), ai, ai.canonname'
["ci.ruby-lang.org", [], 2, "4\xC0P\xDB"]
[["AF_INET", 0, "52.192.80.219", "52.192.80.219", 2, 2, 17], ["AF_INET", 0, "52.192.80.219", "52.192.80.219",
2, 1, 6]]
#<Addrinfo: 52.192.80.219 (ci.ruby-lang.org)>
nil
```

Socket.gethostbyname returns the hostname, but getaddrinfo not.

And Addrinfo#inspect shows the name but it provides canonname only.

Perhaps we need Addrinfo#inspectname or something, before deprecating Socket.gethostbyname?

**#7 - 02/22/2017 09:36 AM - matz (Yukihiro Matsumoto)**

I agree with Eric. Documentation deprecation is preferable.

Matz.

**#8 - 04/06/2017 03:21 AM - shyouhei (Shyouhei Urabe)**

Is it difficult to implement our Socket.gethostbyname on top of getaddrinfo(3) ? I see no need to use gethostbyname(3) directly to provide the feature. If that is possible, I think we don't need to deprecate.

**#9 - 10/21/2017 01:13 PM - akr (Akira Tanaka)**

- *Status changed from Open to Closed*

Applied in changeset trunk|r60266.

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