

## Ruby master - Feature #8368

### Socket.getifaddrs

05/04/2013 04:57 PM - akr (Akira Tanaka)

<b>Status:</b>	Closed
<b>Priority:</b>	Normal
<b>Assignee:</b>	
<b>Target version:</b>	2.1.0
<b>Description</b>	
I'd like to add a method: Socket.getifaddrs.	
This method is a wrapper to getifaddrs() function. The result is an array of instances of Socket::Ifaddr class as follows.	
<pre>% ./ruby -rpp -rsocket -e 'pp Socket.getifaddrs' [#, #, #, #, #, #, #, #]</pre>	
This method can be used to choose multicast-enabled interfaces. Multicast applications needs to identify a such interface to sending a multicast datagram.	
<pre>% ./ruby -rpp -rsocket -e ' pp Socket.getifaddrs.reject { ifaddr    ifaddr.addr.ip?    (ifaddr.flags &amp; Socket::IFF_MULTICAST == 0) }.map { ifaddr  [ifaddr.name, ifaddr.ifindex, ifaddr.addr]}' [["eth0", 2, #],  ["eth0", 2, #]]</pre>	
This method can be used to obtain broadcast addresses to send a broadcast messages. (use case: [ruby-talk:329921])	
Also, the broadcast addresses can be used to receive broadcast messages. (Programming UNIX Sockets in C: 4.12. How can I write a multi-homed server? <a href="http://www.faqs.org/faqs/unix-faq/socket/">http://www.faqs.org/faqs/unix-faq/socket/</a> )	
getifaddrs() is not standardized but many platforms have. BSDI, FreeBSD, NetBSD, OpenBSD, DragonFly, MirOS, GNU/Linux, MacOS X, SunOS 5.11 (OpenIndiana), Cygwin 1.7.15	
From Gnulib document, getifaddrs() is not exist on AIX 5.1, HP-UX 11, IRIX 6.5, OSF/1 5.1, Solaris 10, Cygwin 1.5.x, mingw, MSVC 9, Interix 3.5, BeOS. <a href="http://www.gnu.org/software/gnulib/manual/html_node/getifaddrs.html">http://www.gnu.org/software/gnulib/manual/html_node/getifaddrs.html</a>	
I implemented new Socket::Ifaddr class for return value of Socket.getifaddrs, instead of constructing the result from currentn data structures such as Array. This choice make us possible to implement Socket::Ifaddr#inspect to show flags as its names (UP,...). Also, struct getifaddrs contains Address-specific data, ifa_data which may be extended by platforms. When we find a way to extract some data from ifa_data, we can add a method for that.	
Socket::Ifaddr is different from Socket::Interface by <a href="http://bugs.ruby-lang.org/issues/8075">http://bugs.ruby-lang.org/issues/8075</a> . They have no one-to-one mapping. For example, Socket.getifaddrs returns two or more elements for one interface.	

#### Associated revisions

Revision b323d7d5 - 05/11/2013 08:32 AM - akr (Akira Tanaka)

- ext/socket: New method, Socket.getifaddrs, implemented. [ruby-core:54777] [Feature #8368]

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@40639 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

#### Revision 40639 - 05/11/2013 08:32 AM - akr (Akira Tanaka)

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## History

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### #1 - 05/06/2013 12:00 AM - naruse (Yui NARUSE)

- Target version set to 2.1.0

I'm for this method.

### #2 - 05/06/2013 01:23 AM - judofyr (Magnus Holm)

Shouldn't this be moved to CommonRuby?

### #3 - 05/06/2013 01:40 AM - naruse (Yui NARUSE)

judofyr (Magnus Holm) wrote:

Shouldn't this be moved to CommonRuby?

There's no such consensus yet, especially bundled libraries.

### #4 - 05/06/2013 08:33 PM - akr (Akira Tanaka)

- File *getifaddrs2.patch* added

I updated the patch to fix compile error on environments which has no getifaddrs(). Also I refined the result of Socket::ifaddrs#inspect.

```
% ./ruby -rsocket -rpp -e 'pp Socket.getifaddrs'  
[#,  
#,  
#,  
#,  
#,  
#,  
#]
```

### #5 - 05/11/2013 05:32 PM - akr (Akira Tanaka)

- Status changed from Open to Closed

- % Done changed from 0 to 100

This issue was solved with changeset r40639.  
Akira, thank you for reporting this issue.  
Your contribution to Ruby is greatly appreciated.  
May Ruby be with you.

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- ext/socket: New method, Socket.getifaddrs, implemented. [ruby-core:54777] [Feature [#8368](#)]

#### #6 - 05/11/2013 05:33 PM - akr (Akira Tanaka)

It seems no one against for this method and naruse-san (the release manager of Ruby 2.1.0) supported.  
I added Socket.getifaddrs.

#### Files

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getifaddrs.patch	31.6 KB	05/04/2013	akr (Akira Tanaka)
getifaddrs2.patch	32.7 KB	05/06/2013	akr (Akira Tanaka)