

Ruby - Bug #14612

IPv6 address inconsistency (downcase vs. upcase)

03/17/2018 11:52 PM - chucked (Tiago Cardoso)

Status:	Closed	Backport: 2.3: UNKNOWN, 2.4: UNKNOWN, 2.5: UNKNOWN
Priority:	Normal	
Assignee:	akr (Akira Tanaka)	
Target version:		
ruby -v:	2.5.0	
Description		
I've noticed that sometimes ip addresses re shown using a-f characters in downcase, other times upcase. Here is a small script to show results: <pre>require "resolv" require "socket" puts TCPSocket.getaddress("nhttp2.org") #=> "2400:8902::f03c:91ff:fe69:a454" puts Resolv.getaddresses("nhttp2.org") #=> ["139.162.123.134", "2400:8902::F03C:91FF:FE69:A454"]</pre>		
Results might be system-dependent (I'm using Mac OS High Sierra). This makes compare operations a bit harder.		

Associated revisions

Revision 1da3a31a5f0211db121e0df4ca456838a437537f - 07/30/2019 02:59 AM - akr (Akira Tanaka)

Use lowercase letters for IPv6 addresses.

Reported by chucked (Tiago Cardoso).

Patch by jeremyevans0 (Jeremy Evans).

[Bug #14612]

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Patch by jeremyevans0 (Jeremy Evans).

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History

#1 - 03/18/2018 01:35 AM - shevegen (Robert A. Heiler)

Is there a standard that mandates or prefers either variant?

If not then perhaps ruby should decide on which variant to prefer.

#2 - 03/21/2018 02:29 PM - hugopeixoto (Hugo Peixoto)

- File resolv-ipv6-to_s.patch added

shevegen (Robert A. Heiler) wrote:

Is there a standard that mandates or prefers either variant?

RFC 5952 recommends the usage of lower case letters: <https://tools.ietf.org/html/rfc5952#section-4.3>

The Resolv module seems to be formatting the addresses in uppercase:

```
Resolv::IPv6.create("2400:8902::f03c:91ff:fe69:a454").to_s #=> "2400:8902::F03C:91FF:FE69:A454"
```

After the patch, Resolv#getaddresses now formats addresses in lowercase:

```
Resolv.getaddresses("nghttp2.org") #=> ["139.162.123.134", "2400:8902::f03c:91ff:fe69:a454"]
```

I noticed there's an ipaddr module that handles formatting as well, so in the attached patch I am using IPAddr#new to reuse the existing code. I also added some tests.

I am not sure if adding the dependency here is the right way to do it.

#3 - 06/20/2019 06:00 PM - jeremyevans0 (Jeremy Evans)

- File resolv-ipv6-lowercase.patch added
- Status changed from Open to Assigned
- Assignee set to akr (Akira Tanaka)

I agree that Ruby should consistently use lowercase for IPv6 addresses. However, I don't think we should introduce a dependency on ipaddr to resolv. For one, it changes how the IPv6 addresses with noncontiguous 0 components are displayed. Attached a simpler patch that just uses %x instead of %X in sprintf.

#4 - 07/30/2019 03:01 AM - akr (Akira Tanaka)

- Status changed from Assigned to Closed

Applied in changeset [git|1da3a31a5f0211db121e0df4ca456838a437537f](https://github.com/ruby/ruby/commit/1da3a31a5f0211db121e0df4ca456838a437537f).

Use lowercase letters for IPv6 addresses.

Reported by chucke (Tiago Cardoso).
Patch by jeremyevans0 (Jeremy Evans).
[Bug [#14612](#)]

Files

resolv-ipv6-to_s.patch	1.48 KB	03/21/2018	hugopeixoto (Hugo Peixoto)
resolv-ipv6-lowercase.patch	1.82 KB	06/20/2019	jeremyevans0 (Jeremy Evans)