

pfSense - Bug #6768

DNS Resolver entry for DHCPv6 static mapping has wrong IP address

09/05/2016 07:40 PM - Michael Virgilio

Status:	Resolved	Start date:	09/05/2016
Priority:	Normal	Due date:	
Assignee:	Renato Botelho	% Done:	100%
Category:	DHCP (IPv6)	Estimated time:	0.00 hour
Target version:	2.3.3	Affected Architecture:	
Affected Version:	2.3.2		

Description

I have added two DHCPv6 static mappings for two hosts on my network. But when resolving the hostname to IP address, the address returned by unbound is not correct.

Example:

xps-desktop has static mapping of ::3001 (prefix is xxxx:yyyy:zzzz:*7a71*::)

```
nslookup xps-desktop
```

Server: gw

Address: [LAN int address]

Name: xps-desktop.home

Addresses: xxxx:yyyy:zzzz:*7a70*::3001

192.168.1.55

The same happens for the other static DHCPv6 entry that I have as well.

As I believe the functionality for static DHCPv6 with a Track Interface prefix was added in 2.3, this likely affects all 2.3.x versions, but I only have 2.3.2 running, so I've selected that as the affected version.

Associated revisions

Revision e89a17fb - 09/11/2016 08:20 PM - Phillip Davis

Fix #6768 IPv6 static mapping on delegated prefixes

For example, WAN receives a /48 delegated from the upstream (ISP...), e.g. "2001:470:abcd::" pfSense then uses this as a starting point to calculate the addresses on LAN, OPT1, OPT2 etc where they have been specified as a "track interface WAN".

Actually each local interface gets just a /64 taken out of the /48, using the chunk specified by "IPv6 Prefix Id" for that local interface.

e.g. if "IPv6 Prefix Id" is set to "a1" on LAN, then the LAN would be: 2001:470:abcd:00a1::/64

Then when we specify a static-mapped address in LAN, or other things that live in LAN, e.g. "::4242" we mean 4242 on from the base LAN address, so "2001:470:abcd:00a1::4242"

i.e. we always have a CIDR of 64 when calculating this stuff. We do not want the logic that was in this code that was using the upstream prefix delegation size (like /48).

Note: The code in services.inc "worked" because var \$ifname was not set, and so \$trackifname was blank, \$trackcfg was blank, and so the attempted calculation of \$pdlen always came out as 64 anyway. That tricked me for a while trying to understand why the use in service.inc worked. system.inc did not work, because it actually calculated \$pdlen and got a number like 48 - which actually we do not want here.

Revision 786d411d - 09/13/2016 01:36 PM - Phillip Davis

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(cherry picked from commit e89a17fbf04aae89f60f13baf293f397ca21c303)

History

#1 - 09/05/2016 07:42 PM - Michael Virgilio

No, the asterisks aren't part of the address. Apparently bold text isn't supported here, despite the button above the edit field.

#2 - 09/07/2016 08:37 PM - Michael Virgilio

Likely reason for this is because in entering the DHCPv6 static mapping, you're entering ONLY the host portion of the address. But in creating the DNS entry, it appears as though the prefix appended to the host portion is the base (0) prefix, not the proper prefix for the interface that the static entry is being configured on.

#3 - 09/09/2016 03:25 AM - Phillip Davis

I tried this in a VM. I delegated a /56 (out of the /48 I have from he.net) from my real router to the WAN of the VM (sitting in my real LAN). Then set the LAN of the VM to Track Interface with "IPv6 Prefix ID" set to "a1" (just to give a recognizable offset).

LAN ends up with an IPv6 subnet like 2001:1111:2222:ffa1::/64 ("1111" and "2222" are not the real public IP values:) - so the "a1" bit is correctly being calculated there.

I added a static mapped IP ::4242

In /var/dhcpd/etc/dhcpdv6.conf I get good-looking stuff:

```
subnet6 2001:1111:2222:ffa1::/64 {
range6 2001:1111:2222:ffa1::1000 2001:1111:2222:ffa1::2000;
do-forward-updates false;
option dhcp6.name-servers 2001:1111:2222:ffa1:a00:27ff:fe03:8b36;

}
host s_lan_0 {
host-identifier option dhcp6.client-id ADUID;
fixed-address6 2001:1111:2222:ffa1::4242;
option host-name teststaticipv6;
}
```

Can you post more detail on how this happens - WAN and LAN settings, and content from /var/dhcpd/etc/dhcpdv6.conf ?

#4 - 09/09/2016 08:09 AM - Michael Virgilio

The issue isn't with DHCP... it's with DNS (unbound, in my case) resolution of a DHCPv6 static mapping.

Looking in /var/unbound/host_entries.conf, it looks like the entries are not being added with the right address.

```
/var/dhcpd/etc/dhcpdv6.conf:
host s_lan_1 {
host-identifier option dhcp6.client-id 00:01:00:01:xx:xx:xx:yy:yy:zz:zz:zz:d7;
fixed-address6 2601:xxx:yyy:7a71::3001;
option host-name xps-desktop;
}
```

```
/var/unbound/host_entries.conf:
...
local-data-ptr: "2601:xxx:yyy:7a70::3001 xps-desktop.home"
local-data: "xps-desktop.home AAAA 2601:xxx:yyy:7a70::3001"
local-data: "xps-desktop AAAA 2601:xxx:yyy:7a70::3001"
```

#5 - 09/11/2016 08:24 PM - Phillip Davis

Pull request: <https://github.com/pfsense/pfsense/pull/3135>

#6 - 09/13/2016 01:37 PM - Renato Botelho

- Assignee set to Renato Botelho

- Target version set to 2.4.0

#7 - 09/13/2016 01:50 PM - Phillip Davis

- Status changed from New to Feedback

- % Done changed from 0 to 100

Applied in changeset [e89a17fbf04aae89f60f13baf293f397ca21c303](#).

#8 - 02/10/2017 10:37 AM - Jim Pingle

- Target version changed from 2.4.0 to 2.3.3

#9 - 02/10/2017 12:53 PM - Renato Botelho

- Status changed from Feedback to Resolved

works

#10 - 02/10/2017 12:53 PM - Renato Botelho

- Status changed from Resolved to Feedback

ops, untested yet

#11 - 02/10/2017 02:11 PM - Jim Pingle

- Status changed from Feedback to Resolved

Tested 2.3.3 and 2.4, correct subnet is used.