pfSense - Bug #8273

IPv6 GRE tunnel over PPPoE fails on startup

01/11/2018 09:16 AM - Wagner Sartori Junior

Status:	New		**Start date:**	01/11/2018
Priority:	Normal		**Due date:**	
Assignee:			**% Done:**	0%
Category:	Interfaces		**Estimated time:**	0.00 hour
Target version:	2.5.0			
Affected Version:	2.4.x		**Affected Architecture:**	

Description

I have a XS4ALL FTTH pppoe connection that provides IPv6. IPv6 works perfectly, however GRE doesn't during initialization.

My PPPoE interface configuration have:

- Request a IPv6 prefix/information through the IPv4 connectivity link
- Request only an IPv6 prefix
- DHCPv6 Prefix Delegation size: /48
- Do not allow PD/Address release

LAN interface track PPPoE with a prefix ID I have chosen.

I created an IPv6 GRE tunnel on my LAN interface (to use the LAN address).

After pfsense is up, I have (note the lack of the tunnel line):

```
gre2: flags=8051<UP,POINTOPOINT,RUNNING,MULTICAST> metric 0 mtu 1374
    options=80000<LINKSTATE>
    inet6 fd7c:d51:b33e:efd5::12a --> fd7c:d51:b33e:efd5::129  prefixlen 128
    inet6 fe80::ae1f:6bff:fe00:25c0%gre2 prefixlen 64 scopeid 0x12
    nd6 options=21<PERFORMNUD,AUTO_LINKLOCAL>
    groups: gre
```

My manual workaround is to go to the GRE interface on the web interface, edit and save. Everything starts working fine after that:

```
gre2: flags=8051<UP,POINTOPOINT,RUNNING,MULTICAST> metric 0 mtu 1374
    options=80000<LINKSTATE>
    tunnel inet6 2001:?:?::5 --> 2001:?:?::2
    inet6 fd7c:d51:b33e:efd5::12a --> fd7c:d51:b33e:efd5::129  prefixlen 128
    inet6 fe80::ae1f:6bff:fe00:25c0%gre2 prefixlen 64 scopeid 0x12
    nd6 options=21<PERFORMNUD,AUTO_LINKLOCAL>
    groups: gre
```

History

#1 - 01/13/2018 07:37 PM - Jim Thompson

- Assignee set to Jim Pingle

#2 - 01/22/2018 09:56 AM - Jim Pingle

- Assignee deleted (Jim Pingle)

- Target version changed from 2.4.3 to 2.4.4

I don't have a means to test IPv6 over PPPoE, but I tried this with DHCPv6 with LAN set to track and the same behavior happens there. The tunnel line with the external addresses is not in ifconfig at boot time.

Looking at the logs, this appears to be due to the tracked LAN address being empty when the first GRE pass is done:

```
Jan 22 10:42:12 clara php-cgi: rc.bootup: The command '/sbin/ifconfig gre0 inet6 tunnel  '2001:db8:1:deb0::1''
 returned exit code '1', the output was 'ifconfig: 'tunnel' requires 2 arguments'
```

The argument shown there is the remote endpoint, the local endpoint is missing.

The code is doing things in the proper order. The track interface is setup before the GRE interface is attempted. It could be a timing issue, but if that's the case there may not be a good way around that other than attempting to (re)configure interfaces like GRE which depend on the tracked address when it appears.

I don't see any easy fix for this at the moment, any changes to interface configuration timing in that area will need more time/testing than we'll have before 2.4.3 needs to be out.

#3 - 05/07/2018 12:50 PM - Wagner Sartori Junior

As we're not having traction here, is there a way to manually trigger the GRE interface restart from the command line (emulate clicking SAVE on GRE interface configuration) ?

I will add something to CRON.

#4 - 05/18/2018 10:53 AM - Mickaël FALCK

I've stumbled onto a similar problem in my unrelenting quest to get IPv6 to work (but in DHCPv6+PD on WAN + VIP): the script doesn't know the local endpoint because the virtual IP hasn't been initialized yet.

I've (shamefully) worked it around by installing the "shellcmd" package and adding the following command:

- Command: ifconfig gre1 inet6 tunnel <LOCAL_ENDPOINT> <REMOTE_ENDPOINT>
- Shellcmd type: shellcmd

Of course, make sure to replace LOCAL/REMOTE_ENDPOINT with the IPv6 addresses you need.
Hopefully this will help you out.

#5 - 08/14/2018 01:59 PM - Steve Beaver

- Target version changed from 2.4.4 to 48

#6 - 03/12/2019 10:54 AM - Jim Pingle

- Target version changed from 48 to 2.5.0