

pfSense - Bug #8611

unable to receive IPv6 RA's on SG-1000, default route lost

06/30/2018 04:44 PM - Anthony Roberts

Status:	New	Start date:	06/30/2018
Priority:	Normal	Due date:	
Assignee:	Luiz Souza	% Done:	0%
Category:	Interfaces	Estimated time:	0.00 hour
Target version:	2.5.0		
Affected Version:	2.4.3_1	Affected Architecture:	SG-1000

Description

expected behavior:

- IPv6 default route is stable indefinitely

actual behavior:

- IPv6 default route is lost a few minutes after release/renew
- WAN interface still has IPv6 address
- LAN interface still has /64
- pfsense router has no default route, so it is impossible to route IPv6 traffic

configuration:

- residential comcast connection
- SG-1000 running 2.4.3-RELEASE-1 (arm)
- WAN interface (cpsw0) configured for DHCPv4, DHCPv6-PD
- LAN interface (cpsw1) configured to track WAN for PD

investigation:

- attempted to run tcpdump on WAN interface
- tcpdump shows RAs received from ISP

```
21:04:22.040097 00:01:5c:7a:d0:46 > 33:33:00:00:00:01, ethertype IPv6 (0x86dd), length 198: fe80::201:5cff:fe7a:d046 > ff02::1: ICMP6, router advertisement, length 144
```

- RA dest IPv6 multicast address appears to be correct, MAC address appears to be correct for IPv6 multicast
- when running tcpdump, IPv6 default route is re-added to pfsense routing table

hypothesis:

- tcpdump places cpsw0 interface in promiscuous mode, and when in promiscuous mode, RA's are received
- when cpsw0 not in promiscuous mode, RA's are not received
- works temporarily on release/renew possibly because IPv4 DHCP client places interface in promiscuous mode temporarily when acquiring lease

experiment 1:

- "ifconfig cpsw0 promisc"
- result: IPv6 default route is stable over several days

experiment 2:

- "ifconfig cpsw0 -promisc; tcpdump -pni cpsw0"
- -p flag prevents tcpdump from placing interface in promiscuous mode
- result: ISP RAs are not seen

workaround:

- use shellcmd pkg to run "ifconfig cpsw0 promisc" on startup

History

#1 - 07/03/2018 02:49 PM - Jim Pingle

- Status changed from New to Feedback

Can you test this on a 2.4.4 snapshot? The base OS has been upgraded there, and most likely the behavior will be different.

#2 - 07/04/2018 12:27 PM - Anthony Roberts

Jim Pingle wrote:

Can you test this on a 2.4.4 snapshot? The base OS has been upgraded there, and most likely the behavior will be different.

Yup, I was able to reproto on July 3rd 2.4.4 snapshot after removing my workaround.

When I do a "tcpdump -pni cpsw0 icmp6" I get nothing, when I do "tcpdump -ni cpsw0 icmp6" I see Comcast's RAs every 4 seconds.

#3 - 07/04/2018 12:29 PM - Jim Pingle

- Status changed from Feedback to New

#4 - 08/14/2018 02:05 PM - Steve Beaver

- Assignee set to Luiz Souza

#5 - 08/18/2018 11:32 AM - Luiz Souza

- Subject changed from unable to receive IPv6 RA's on SG-1000, default route lost to unable to receive IPv6 RA's on SG-1000, default route lost

#6 - 09/06/2018 07:03 AM - Steve Beaver

- Target version changed from 2.4.4 to 48

#7 - 03/12/2019 10:54 AM - Jim Pingle

- Target version changed from 48 to 2.5.0