

pfSense - Bug #1629

invalid state table entries after WAN IP change

06/29/2011 11:01 AM - Eli Hunter

Status:	Resolved	Start date:	06/29/2011
Priority:	High	Due date:	
Assignee:	Chris Buechler	% Done:	100%
Category:	Rules/NAT	Estimated time:	0.00 hour
Target version:	2.2	Affected Architecture:	
Affected Version:	All		
Description			
We have an asterisk server behind pfsense 2.0-RC3 using a PPPoE DSL connection. Whenever our WAN IP changes the asterisk server cannot register to the providers. Flushing the state table allows asterisk to register again.			

Associated revisions

Revision 8ed47897 - 07/06/2011 04:50 PM - Ermal Luçi

Kill states from the previous ip the link had on all mpd consumers. Resolves #1629

Revision 0f2826c0 - 07/06/2011 04:50 PM - Ermal Luçi

Kill states from the previous ip the link had on all mpd consumers. Resolves #1629

Revision 06498591 - 08/29/2012 12:30 PM - Jim Pingle

Try to remove old states when a DHCP IP changes, might be related to ticket #1629 and also "unable to allocate linfo" messages from states through an old gateway.

Revision 096f2962 - 02/12/2013 06:01 AM - Ermal Luçi

Ticket #1629 Another round of fixes related to state clearing

Revision c59dd719 - 09/03/2013 02:05 PM - Ermal Luçi

Revert back the behaviour to cleanup all states for 2.1 Fixes #3181 and related to Ticket #1629. This commit is only for 2.1 since on master development will continue for better alternatives

Revision 5aa44e98 - 09/05/2013 07:24 AM - Ermal Luçi

Revert "Revert back the behaviour to cleanup all states for 2.1 Fixes #3181 and related to Ticket #1629. This commit is only for 2.1 since on master development will continue for better alternatives"

A bit too excessive need to get right.

This reverts commit c59dd719e0a6d9ee8deecaa7bff0d6ee8c76e4ca.

Revision 569e2fdf - 10/28/2014 01:31 PM - Chris Buechler

Add option to kill all states on IP change, currently a hidden option for more testing. ticket #1629

Revision 461eac09 - 10/30/2014 01:15 PM - Chris Buechler

only kill all states if the IP changed. ticket #1629

History

#1 - 07/02/2011 10:00 PM - Evgeny Yurchenko

Please provide state-table dump before IP change and after.

#2 - 07/05/2011 09:00 PM - Eli Hunter

- File *state_table.txt* added

Hopfully this is what you wanted.

My IP before the address changed was 76.254.18.100 and the new assigned address is 99.179.45.73

Bad entry in state table before resetting states

udp 10.0.4.3:5060 -> 76.254.18.100:13819 -> 67.215.241.250:5060 SINGLE:NO_TRAFFIC

I've attached a txt document with the state table info before and after flushing it.

#3 - 07/05/2011 09:13 PM - Chris Buechler

- Category set to PPP

- Priority changed from Normal to High

- Target version set to 2.0

- Affected Version set to 2.0

PPPoE is supposed to clear all states on that interface when an IP changes, that's not happening correctly.

#4 - 07/06/2011 04:50 PM - Ermal Luçi

- Status changed from New to Feedback

- % Done changed from 0 to 100

Applied in changeset [0f2826c03d3e3971f6d83041f9322737686846d9](#).

#5 - 07/06/2011 04:50 PM - Ermal Luçi

Applied in changeset [8ed478973f20678568f03f00309a5165aa48a1b3](#).

#6 - 07/07/2011 08:20 PM - Fábio Pinto Coelho

I'm still on 1.2.3 and the same problem happens on it.

As a workaround, you may check <http://forum.pfsense.org/index.php?topic=18053.5>

I use two VoIP providers, so I have modified the script to clear the states for both of them. If you need my updated script, or any help on implementing it, please let me know.

I can see Ermal Luçi has already released a fix, but I thought I'd just let you know...

#7 - 07/07/2011 08:26 PM - Chris Buechler

That's expected to happen in 1.2.3 (it has no provisions for dealing with that scenario, only 2.0 does).

#8 - 07/11/2011 05:04 PM - Ermal Luçi

Have you tested this on 2.0?

#9 - 07/11/2011 06:26 PM - Eli Hunter

I got the update installed last week but haven't had the IP change on me yet (surprisingly). I'll update this once the IP's changed.

#10 - 07/16/2011 04:57 PM - Matt Corallo

I have the same problem (after the fixes) with IPv6 tunneling, so this is not resolved.

#11 - 07/16/2011 05:33 PM - Chris Buechler

IPv6 is a completely different version, that's 2.1 not 2.0, post info to the IPv6 board on the forum.

#12 - 07/16/2011 08:53 PM - Matt Corallo

No, no, I'm not talking about IPv6 in pfSense, I'm talking about IPv6 NAT passthrough in the "System: Advanced: Networking" menu in 2.0, not 2.1. It's the same bug for the same reason.

#13 - 07/18/2011 11:19 AM - Eli Hunter

I had it reset again this weekend which took the asterisk server down again. Unfortunately I wasn't near a computer and had to get things up and running for them quickly so I used my phone to reset the state table. This got their phones working again but I wasn't able to get a copy of any logs. I'm going to assume this isn't fixed yet but it's probably good to wait until it happens again so I can make sure it's still a problem.

#14 - 07/26/2011 08:49 PM - Eli Hunter

It's still happening.

Again here's a relevant section. Our Asterisk server at 10.0.4.3 is still trying to use the old gateway address of 99.58.29.27. Our server at 10.0.4.100 is using the correct gateway at 99.169.80.219

I can attach the full state table again if it helps.

```
udp 10.0.4.3:5060 -> 99.58.29.27:37488 -> 209.62.1.2:5060 MULTIPLE:MULTIPLE
tcp 10.0.4.100:55507 -> 99.169.80.219:46579 -> 216.52.233.157:443 ESTABLISHED:ESTABLISHED
```

#15 - 07/28/2011 03:47 PM - Ermal Luçi

Can you post system log with state table as well?

#16 - 08/02/2011 08:32 PM - Eli Hunter

- *File log.txt added*

I just copied the system log page and state table in attached document.

Would collecting the data with a syslog server help? I can get it setup if it helps track this down.

#17 - 08/15/2011 03:44 PM - Ermal Luçi

From the attached:

- What is the old gateway?
- What is the new gateway?
- What is the wrong entry?

#18 - 09/12/2011 08:39 PM - Chris Buechler

- Target version changed from 2.0 to 2.0.1

#19 - 09/20/2011 11:35 AM - Luke Hamburg

Hi- I've just experienced the exact same issue. pfSense 2.0(REL) running nanobsd-2g on a Netgate Hamakua. My WAN DHCP lease expired and when it renewed the IP had changed. My internal Asterisk server lost all trunk registrations and I had to manually reset the states to fix it.

Has there been any update on this problem - or is there a workaround that doesn't require manual intervention?

#20 - 09/29/2011 01:19 AM - Andrea Cutelle'

Hi, the same error in my installation. pfsense 2.0 rel running on jetway nc9c-550f. I have static public ip, when the connection change state up to down and then again up my asterisk server lost connection to the trunk with state request sent. resetting state work well again.

sorry for my english..

#21 - 11/07/2011 09:02 PM - Chris Buechler

- Target version deleted (2.0.1)

#22 - 11/15/2011 09:06 AM - Pho Bia

I also experience this with my SIP device (PAP2T). I thought my provider was to blame as changing the remote server usually got my phones back online.

I have a multiple WAN (3) setup.

Are you still looking for logs on this, or is the fix already known?

#23 - 11/15/2011 09:34 AM - Pho Bia

This is what my states look like for my effected device from Diagnostics --> States when my VoIP adapter shows offline (filtered for my PAP2T IP only) :

```
udp 64.120.22.242:5060 <- 192.168.0.100:5061 NO_TRAFFIC:SINGLE
udp 64.120.22.242:5060 <- 192.168.0.100:5060 NO_TRAFFIC:SINGLE
udp 192.168.0.100:5060 -> 64.231.21.117:52434 -> 64.120.22.242:5060 SINGLE:NO_TRAFFIC
udp 192.168.0.100:5061 -> 64.231.21.117:57887 -> 64.120.22.242:5060 SINGLE:NO_TRAFFIC
```

This is what it looks like after I reset states and my service goes back online :

```
udp 64.120.22.242:5060 <- 192.168.0.100:5061 MULTIPLE:MULTIPLE
udp 192.168.0.100:5061 > 64.231.160.191:46020 > 64.120.22.242:5060 MULTIPLE:MULTIPLE
udp 64.120.22.242:5060 <- 192.168.0.100:5060 MULTIPLE:MULTIPLE
udp 192.168.0.100:5060 -> 64.231.160.191:56285 -> 64.120.22.242:5060 MULTIPLE:MULTIPLE
```

#24 - 12/26/2011 10:05 AM - Christian Schwarz

Bug still present with 2.0.1.

This is not happening every time the IP changes. (Provider disconnects once a day) But after a few days our SIP-Registration is down. State table shows entry to SIP-Provider with old WAN-IP...

Flushing the states manually will bring the trunk up again. (Using Telekom Germany with Panasonic PBX)

#25 - 05/26/2012 10:44 AM - Akom Benevolent

Same deal, 2.0.1-RELEASE and this happens every so often, but not on every IP change. I can delete the 2 state entries for the old WAN IP, and then asterisk registers fine.

#26 - 06/23/2012 09:19 AM - Grant Emsley

I'm seeing the exact same behavior using a PPPOE internet connection, 2.0.1-RELEASE i386, and asterisk.

When my connection goes down, the states remain in the state table and the asterisk server is unable to register.

#27 - 06/24/2012 04:35 PM - Nicklas Blidmo

Same issue with WAN DHCP, 2.0.1-RELEASE (i386) (nanobsd)

#28 - 06/24/2012 08:59 PM - Chris Buechler

- Category changed from PPP to Rules/NAT

- Status changed from Feedback to New

- Target version set to 2.1

- Affected Version changed from 2.0 to All

#29 - 06/26/2012 02:10 PM - Grant Emsley

I don't know if it will help, but I noticed it happens much more frequently when my internet connection is flaky. It happened almost every time when my PPPOE connection was dropping every 2-5 minutes due to a loose cable.

#30 - 11/28/2012 04:21 AM - fos4X fos4X

I can confirm that this problem still exists in 2.0.1-RELEASE (amd64) built on Mon Dec 12 18:16:13 EST 2011 using PPPoE with static IP (but 24h disconnects)

#31 - 11/28/2012 06:04 AM - Jim Pingle

- Status changed from New to Feedback

Some fixes for this have gone into 2.1 over the past few months. Try a 2.1-BETA snapshot and see if it's repeatable there.

#32 - 11/30/2012 05:41 AM - fos4X fos4X

Confirmed to still be an issue in 2.1-BETA0 (amd64) built on Wed Nov 28 15:23:39 EST 2012

A reconnect of PPPoE WAN (manual or 24h) leads to asterisk being unable to Register, it hangs at "Request Sent".

Could be related to [#2700](#) but if older revisions are any indication, removing the /32 from \$3/32 will not help either.

I would be willing to test any suggested (hot)fixes.

I read elsewhere that a `pfctl -b <gw>` in `ppp_linkup` (UP!!!!) helps, have not tried it yet though (every trial means disconnecting my colleagues from the web for a few minutes)

#33 - 11/30/2012 08:02 AM - pierre mayer

still not working with 2.1Beta0(i386)built pfSense-memstick-2.1-BETA0-i386-20121128-1058.img

need to reset state table to make freepbx working

#34 - 01/24/2013 05:52 AM - Ermal Luçi

- Target version changed from 2.1 to 2.2

The only real solution to this is to switch to if-bound states for many reasons.
That is a bit more involved changed for 2.1

#35 - 01/24/2013 08:58 PM - Chris Buechler

- Status changed from Feedback to New

- Target version changed from 2.2 to 2.1

we at least need the option to wipe the entire state table upon IP change.

#36 - 01/30/2013 04:23 AM - Ermal Luçi

- Status changed from New to Feedback

Ok i went and did another implementation fix for this.
Can you please try with later 2.1 snapshots and see if it behaves correctly?

#37 - 02/03/2013 05:15 AM - Tobias Wigand

Does not work for me.

Correct me if I'm mistaken here, but can

pfctl -i

work without binding states to interfaces?

One of my external interfaces is em1, but

pfctl -i em1 -ss

does not show anything. Although I have a working VoIP state in the table going out on that interface.

#38 - 02/04/2013 08:45 AM - Ermal Luçi

Check with later coming snapshot there was a problem with the patch that has been corrected.

#39 - 02/06/2013 07:10 AM - Tobias Wigand

Does not work, sorry. Only the "Out" states are flushed. The "In" states persist and seem to remember their gateway. After some time the "Out" states are coming back with the non-existent / down gateway. You can see this in the long pftop view. The debug.rules are correct, but they are never used because of the persisting "In" states. Or do I need to use floating rules do use this, will they behave differently?

#40 - 02/10/2013 08:44 AM - Matthias Dilbert

This problem also affects me. I've upgraded to Snapshot "built on Sat Feb 9 23:46:16 EST 2013". I will look for the problem to reoccur.

#41 - 02/11/2013 03:11 AM - Matthias Dilbert

Today the problem occurred again. So it was not fixed yet.

#42 - 02/12/2013 05:26 AM - Ermal Luçi

I just pushed another change to reset states with certain gateways set.
It should behave even better than previously, since it will send a RST for tcp states getting killed belonging to a certain gateway.

UPDATE for later: Probably a more through way of chained dependency of state need to be implemented with -Fs option.
As if you kill a state belonging to an interface try to find the correlated state on any other interface if present, especially on non-pfSense originated traffic.
That is a bit more involved and more careful checks of not corrupting the table needs to be done but for now this should work correctly.

#43 - 02/13/2013 09:58 AM - Tobias Wigand

Thanks, it works with my VoIP device now. The states get killed correctly.

#44 - 02/13/2013 05:32 PM - Dim Hatz

Ermal, testing this feature on a pfsense box with a WAN interface that gets via DHCP an IP in a /24 subnet (i.e. it's not PPPoE), it won't kill pf states that originate from the LAN to any host in that /24 subnet (which includes the gwip). Connections beyond the WAN subnet seem to get killed, but the LAN states don't.

E.g. I establish an ssh connection from 192.168.100.12 to aa.bb.40.155, then manually flushed states using:
pfctl -i em0 -Fs -G gwip

After doing it 3 times, I get:

```
pfctl ss | fgrep 40.155
em1 tcp aa.bb.40.155:22 <- 192.168.100.12:3131 ESTABLISHED:ESTABLISHED
em1 tcp aa.bb.40.155:22 <- 192.168.100.12:3590 ESTABLISHED:ESTABLISHED
em1 tcp aa.bb.40.155:22 <- 192.168.100.12:3595 ESTABLISHED:ESTABLISHED
em1 tcp aa.bb.40.155:22 <- 192.168.100.12:3597 ESTABLISHED:ESTABLISHED
em0 tcp 192.168.100.12:3597 -> xxx.yyy.1.201:65161 -> aa.bb.40.155:22 ESTABLISHED:ESTABLISHED
```

```
em0 WAN - xxx.yyy.1.201
em1 LAN - 192.168.100.1
remote ssh server - aa.bb.40.155
```

PS: Running latest 2.1-BETA snapshot (12-Feb 08:58)
MD5 (/sbin/pfctl) = af1a7f62f1ae26958ba050f6c6f418a6

#45 - 02/15/2013 01:37 PM - Dim Hatz

To followup my previous post, I have verified that the WAN (em0) states are indeed flushed, however their corresponding LAN (em1) states linger on.

#46 - 02/17/2013 07:37 AM - Renato Botelho

- Status changed from Feedback to New
- % Done changed from 100 to 50

#47 - 03/06/2013 04:29 PM - Matthias Dilbert

I've upgraded to the latest beta, but the problem still persists. Even when the modem is restarted and I don't get a new IP, the states go wrong.

#48 - 03/07/2013 01:57 AM - Sebastian Chrostek

Same Problem here with 2.1 Beta (built on Fri Mar 1 21:17:31 EST 2013)

It seems that also states without the old IP in it make problems with SIP.

In my case this two states:

```
udp 212.227.18.199:5060 <- 172.17.0.1:5060 MULTIPLE:MULTIPLE
udp 172.17.0.1:5060 -> 212.227.18.199:5060 SINGLE:NO_TRAFFIC
```

for my VoIP connection to "1und1" prevent asterisk from getting a connection.
if I clear only these two states, asterisk gets a connection only a few seconds later.

I use a PPPOE WAN

#49 - 05/17/2013 11:15 AM - Tom De Coninck

I also have the same issues and following this issue. Maybe I can provide some extra information, sorry if it's double

I started using pfSense since version 2.0, now running the latest 2.0.3 on an Alix board.

I was using a PPTP VDSL connection, and I am now using a cable WAN connection. There was no difference for Asterisk. When the WAN IP changed, the UDP state with the old WAN IP address stayed alive. With the different WAN connections the bad UDP state stayed alive.

When the WAN IP changed into a new address, the state stayed alive with the old WAN IP address

```
udp LOCALASTERISKIP:5060 -> WANIPOLD:17205 -> SIPPROVIDER:5060 MULTIPLE:MULTIPLE
instead of
udp LOCALASTERISKIP:5060 -> WANIPNEW:17205 -> SIPPROVIDER:5060 MULTIPLE:MULTIPLE
```

I was able to kill the state using
pfctl -k LOCALASTERISKIP -k SIPPROVIDER

So to fix my issue I had to run this command every time the WAN IP address changes.

I created this script with info I found in the internet

```
create /usr/local/bin/reset_states.sh
```

```
#!/bin/sh
# Kill Udp Sip States after new wan IP
echo "Killing States from ASTERISKIP to SIPPROVIDER" |logger;
/sbin/pfctl -k ASTERISKIP -k SIPPROVIDER
```

Change file permissions

```
chmod 755 /usr/local/bin/reset_states.sh
```

Edit config file /conf/config.xml

```
<system>
...
<afterfilterchangeshellcmd>/usr/local/bin/reset_states.sh</afterfilterchangeshellcmd>
</system>
```

Asterisk configuration

```
#pctl -st
```

```
udp.first          60s
udp.single         30s
udp.multiple       60s
```

Running the command shows me that the states die after 60s of inactivity.

To keep the state alive, keep the qualify under 60s, in my case 30s (30000)

```
; SIPPRODER_SIPPHONENUMBER
[SIP-PROVIDER-13764962994f4fdde1430ba]
qualify=30000
```

This works for me , hope it helps anyone.. and looking forward to a permanent fix

my compliments for the pfsense programmers, i am a very happy user, and i will promote it.

#50 - 05/20/2013 02:42 AM - Tom De Coninck

When we have a state like this :

```
udp LOCALASTERISKIP:5060 -> WANIPOLD:17205 -> SIPPROVIDER:5060 MULTIPLE:MULTIPLE
```

Is it possible to kill states based on WANIPOLD with pfctl ?

#51 - 07/05/2013 09:18 AM - Martin Oosterheert

I am also affected by this bug in 2.0.3.

In my case not a changed ipadres on my WAN, but a dual Wan setup with failover in which i simulate a failed WANlink

PfSense registers in a few seconds that the failed WAN is down and websitebrowsing recontinues after a few seconds on the other WAN, but VoIP can take 5 - 10 minutes with my TCP SIP account or 20 or so minutes with the standard (and preferred) UDP SIP account.

Each time the states table shows entries like:

```
udp INTERNALASTERISKIP:5060 <- PUBLICASTERISKIP:5060 <- SIPPROVIDERIP:5060 MULTIPLE:MULTIPLE
udp SIPPROVIDERIP:5060 -> PUBLICASTERISKIP:5060 MULTIPLE:MULTIPLE
```

(i have a 1:1 nat between my local asterisk ip (192.168.1.23) and a public ip 109.x.x.x)

Resetting the states resolves the problem at once.

Since this is a case of interface failing a pfctl -i fxp0(or whichever interfacename) seems appropriate and does solve my problem.

However thats not very practical in a business setup...

I hope this info helps !

#52 - 07/19/2013 04:02 AM - Hannes Meer

I'm facing the samem problem with latest 2.1-RC. Anything we can do to get a solution?

#53 - 09/03/2013 01:44 PM - Renato Botelho

- Target version changed from 2.1 to 2.2

[#3181](#) is a band-aid for 2.1, this will need to wait 2.2

#54 - 01/29/2014 03:10 PM - Eric Jacksch

Still a significant issue - causing random VoIP outages. Would be great to get this fixed.

#55 - 01/31/2014 09:52 AM - Dim Hatz

It seems that in recent weeks there have been several related commits in 10-STABLE, e.g.

<http://lists.freebsd.org/pipermail/svn-src-all/2014-January/079820.html>

<http://lists.freebsd.org/pipermail/svn-src-all/2014-January/079821.html>

as well as several bugfixes, which apparently didn't make it into 10.0 RELEASE ...

#56 - 04/07/2014 07:00 PM - Andy Lawson

I'm still experiencing this issue with pfsense 2.1 on an ALIX platform and an Cisco SPA112 ATA.
pfsense is configured with a single ADSL/PPPoE WAN, but does not clear the state entry for this device on WAN IP change.
This issue doesn't get mentioned in the release notes for pfsense 2.1.1 (out today) so I assume it's not resolved there.

#57 - 04/10/2014 07:58 AM - Tom De Coninck

Friends, Developers

i have been doing some extensive testing on this issue yesterday evening.. yes i know ...get a life! :)

My wan connection is DHCP, but I always get the same ip address. Before i had a DSL connection with DHCP and every 3 days a new ip address.
Even with this fixed IP, the issue unfortunately remains with the states ..

i have a theory about this, maybe facts , please correct me where i'm wrong

From what i gatherd, these asterisk parameters are causing the states

qualifyfreq = 30

when the provider is reachable, asterisk send '102 OPTIONS' message every 30 seconds)

-> My advice, keep this UNDER 60 which is the life of udp state in pfsense. This keeps the state stays alive, we don't have to open ports in the firewall

qualify = 5000

When the provider is unreachable, asterisk send '102 OPTIONS' message every 1 second for 5 seconds (5000ms), then it waits 10 seconds to start over(in default compilations of asterisk)

-> I cannot give good advice about this one. This parameter in combination with pfsense gives us troubles :)

defaultexpiry=180

reregisters the provider every 180 seconds

-> My advice, keep this above 60 which is the life of udp state in pfsense

registertimeout=120

When the provide is unreachable, asterisk tries to register every 120 seconds

-> My advice, keep this above 60 which is the life of udp state in pfsense

When the WAN connection is down, asterisk will start the next qualify after max 30 seconds and asterisk will detect the provider is unreachable . Then the qualify starts to send the 'OPTIONS' for 5 seconds

Everybody thinks that that the states aren't killed, but i think pfsense did kill them. I think after the wan failure, it created new states.

Afther the wan failure i noticed 2 states in pfsense 2.1.1

```
#pfctl -ss | grep 85.119.188.3
vr0_vlan10 udp 85.119.188.3:5060 <- 192.168.150.80:5060 NO_TRAFFIC:SINGLE
lo0 udp 192.168.150.80:5060 -> 85.119.188.3:5060 SINGLE:NO_TRAFFIC
```

When the wan interface comes back the sip provider stays unreachable. It keeps sending qualify messages , but i think it stays in the loopback interface

it this normal behaviour ?

thanks,
Tom

#58 - 04/18/2014 07:38 AM - Tom De Coninck

This week i have done some more testing on this issue nr [#1629](#).

Everybody in that issue is talking that the states do not get killed. I have been testing this manually, even if the state gets killed, the issue remains.

I did it manually :

1. Kill all states when WAN is down

-> every state is killed

```
[2.1.2-RELEASE][root@pfsense.nlight.local]/root(3): pfctl -k 192.168.150.80 -k 85.119.188.3
```

killed 2 states from 1 sources and 1 destinations

```
[2.1.2-RELEASE][root@pfsense.nlight.local]/root(4): pfctl -ss | grep 85.119.188.3
```

```
[2.1.2-RELEASE][root@pfsense.nlight.local]/root(5):
```

2. After a while, i notice that asterisk creates new states

```
#pfctl ss | grep 85.119
```

```
vr0_vlan10 udp 85.119.188.3:5060 <- 192.168.150.80:5060 NO_TRAFFIC:SINGLE
```

```
lo0 udp 192.168.150.80:5060 -> 85.119.188.3:5060 SINGLE:NO_TRAFFIC
```

3. When wan comes up again asterisk cannot connect

Please notice that there is a state created on the loopback interface. When i kill that state, asterisk is reconnecting to the provider.

I'm not seure, Is it possible to not create states on a loobpack interface? maybe that could be the fix?

Hope you can do sometihng with this info

thanks for the great pfsense software!

#59 - 04/22/2014 11:01 AM - Tom De Coninck

sorry for spamming...yet another update..

Today there were troubles with the Wan provider. In pfsense the gateway went down and i received this WAN ip address 192.168.100.10 . I have seen this behaviour before after these Docsis cable modems.

But when WAN came back up, these states remains

```
vr0_vlan10 udp 85.119.188.3:5060 <- 192.168.150.80:5060 NO_TRAFFIC:SINGLE
```

```
vr1 udp 192.168.150.80:5060 -> 192.168.100.10:23920 -> 85.119.188.3:5060 SINGLE:NO_TRAFFIC
```

I think this proves that pfsense not only needs to kill states on 'WAN DOWN' , but also on 'WAN UP'. I can't see how it could work otherwise

cu

#60 - 06/15/2014 09:26 PM - Jim Thompson

- Assignee set to Ermal Luçi

assigned to Ermal, either fix this or push it to 2.3

#61 - 10/24/2014 11:24 PM - Chris Buechler

- Status changed from New to Feedback

- Assignee changed from Ermal Luçi to Chris Buechler

- Affected Documentation 1 added

#62 - 10/28/2014 01:32 PM - Chris Buechler

I committed a change to add a new option that kills all states upon IP change. That's going to be the answer for those who need to work around long-lived UDP connections like in this thread. This will be in 2.2 snapshots on the 29th and newer.

To enable this option (for now), manually edit your config, and above the `</system>` line, add:

```
<ip_change_kill_states/>
```

After doing that, when your IP changes, you'll see a system log entry like:

```
php-fpm[288]: /rc.newwanip: Killing all states post-IP change.
```

and the entire state table will be wiped. It's more excessive than ideally you'd want, but there isn't a good way to kill only states on one particular WAN at this time.

If this tests out OK, we'll add an option under System>Advanced to enable/disable this option.

#63 - 10/30/2014 05:03 PM - Chris Buechler

- Status changed from Feedback to Resolved

- % Done changed from 50 to 100

this is fixed. The states of the former WAN IP are now killed post-IP change, which should resolve nearly all cases where this is an issue.

I left the non-default option `<ip_change_kill_states/>` in there, so if there are circumstances where the `'pfctl -k $oldip'` doesn't suffice, that can be set to wipe the entire state table. It didn't prove necessary in my test setup, where I have a SIP phone registering through the system, and a DHCP WAN with a short lease time, changing the IP it's assigned every few minutes, and it always got a proper new NAT state with the new WAN IP.

#64 - 11/03/2014 06:36 AM - Tobias Wigand

I'm on

2.2-BETA (amd64)
built on Sat Nov 01 21:36:28 CDT 2014

something might be wrong with the 'pfctl -k \$oldip' mechanism or the discovery of gateway IPs. I found this in my log and the IP 192.168.xxx.28 has never been a gateway. The gateway has always been 192.168.xxx.1

```
/rc.newwanip: IP has changed, killing states on former IP 192.168.xxx.28
```

Maybe this is related as pftop quite often shows the wrong gateway on my test machine, mostly when my secondary WAN is used:
<https://forum.pfsense.org/index.php?topic=83663.0>

#65 - 11/03/2014 10:30 AM - Chris Buechler

It's not the gateway that needs states killed, it's the old WAN IP.

#66 - 12/07/2014 12:36 PM - Luke Hamburg

So is this change going in to 2.2? Will the state killing be triggered in a gateway group failover event that is typical for a 1LAN+2WAN setup?

#67 - 03/19/2015 09:26 PM - saqi b

I have been hit by this bug as well. so I updated to 2.2 and it didnt take long for the ip to change and my iax2 trunk went into request sent state.

Version 2.2.1-RELEASE (amd64)
built on Fri Mar 13 08:16:49 CDT 2015
FreeBSD 10.1-RELEASE-p6

```
----- system log -----
Mar 19 21:54:58 php-fpm78159: /rc.newwanip: IP has changed, killing states on former IP 174.95.68.17.
Mar 19 21:54:58 php-fpm78159: /rc.newwanip: ROUTING: setting default route to 10.11.2.169
Mar 19 21:55:00 php-fpm78159: /rc.newwanip: Forcefully reloading IPsec
Mar 19 21:55:00 php-fpm78159: /rc.newwanip: Resyncing OpenVPN instances for interface WAN.
Mar 19 21:55:00 kernel: ovpn1: link state changed to DOWN
Mar 19 21:55:00 check_reload_status: Reloading filter
Mar 19 21:55:00 check_reload_status: Reloading filter
Mar 19 21:55:00 php-fpm78159: /rc.newwanip: Creating rrd update script
Mar 19 21:55:00 kernel: ovpn1: link state changed to UP
Mar 19 21:55:00 check_reload_status: rc.newwanip starting ovpn1
Mar 19 21:55:02 php-fpm18855: /rc.newwanip: rc.newwanip: Info: starting on ovpn1.
Mar 19 21:55:02 php-fpm18855: /rc.newwanip: rc.newwanip: on (IP address: 10.10.2.1) (interface: []) (real interface: ovpn1).
Mar 19 21:55:02 check_reload_status: Reloading filter
Mar 19 21:55:02 php-fpm18855: /rc.newwanip: pfSense package system has detected an IP change or dynamic WAN reconnection - -> 10.10.2.1 -
Restarting packages.
Mar 19 21:55:02 check_reload_status: Starting packages
Mar 19 21:55:02 php-fpm78159: /rc.newwanip: pfSense package system has detected an IP change or dynamic WAN reconnection - 174.95.68.17 ->
74.12.29.91 - Restarting packages.
Mar 19 21:55:02 check_reload_status: Starting packages
```

Mar 19 21:55:03 php-fpm¹⁸⁸⁵⁵: /rc.start_packages: Restarting/Starting all packages.
Mar 19 21:55:04 php-fpm¹⁸⁸⁵⁵: /rc.start_packages: Restarting/Starting all packages.

----- end of system log -----

----- states table for port 4569 -----

```
LAN udp 209.217.xx.xx:4569 <- 192.168.2.6:4569 MULTIPLE:MULTIPLE
LAN udp 209.217.xx.xx:4569 <- 192.168.2.6:4569 MULTIPLE:MULTIPLE
WAN udp 74.12.81.71:8292 (192.168.2.6:4569) -> 209.217.xx.xx:4569 MULTIPLE:MULTIPLE
WAN udp 74.12.81.71:28476 (192.168.2.6:4569) -> 209.217.xx.xx:4569 MULTIPLE:MULTIPLE
```

----- end of states table for port 4569 -----

Current WAN IP: 74.12.29.91

#68 - 03/21/2015 12:30 AM - Chris Buechler

saqi: where your IP changes multiple times in a very short period, as it did there, it'll miss killing states for some of the old IPs because it's changing so quickly. You'll need to enable the `ip_change_kill_states` option so all states get wiped on IP change where your IP changes that quickly. Go to `Diag>Command`, and in the PHP execute box, paste in:

```
$config['system']['ip_change_kill_states'] = true;
write_config();
```

If you have any further questions on it, please follow up @ forum.pfsense.org.

#69 - 04/18/2015 01:50 AM - Andy Lawson

Just got hit by this issue again, in v2.2 on alix.
Are you able to confirm what release will finally kill this bug?

Thanks.

#70 - 05/02/2015 10:09 PM - Daniel Haid

- *File states-bug.patch added*

I have the same issue with a SIP client. It seems that the SIP client creates a new entry in the short time after flushing the table, but before the firewall is updated. My patch reverses the order of these operations, but I do not know whether this is the correct way to do this.

Even with the patch, for some reason I need `$config['system']['ip_change_kill_states'] = true;` for it to work!

#71 - 05/03/2015 07:19 PM - Daniel Haid

I have checked again, with the patch, it seems to work even without ip_change_kill_states. I do not know whether I saw it wrong last time or there may be still be some race condition even with the patch.

#72 - 05/04/2015 12:14 AM - Chris Buechler

taking out the filter reload doesn't influence this, and will break things in a number of circumstances. There seemingly is a race condition if your IP changes twice in a very short period, where you need to kill all states. That should probably have its own ticket as this is full of unrelated history.

#73 - 06/15/2015 08:50 AM - Kevin Trace

I have been hitting this issue for over a year. Finally getting tired of manually killing the stale UDP states. I am using a ALIX.2 on pfsense 2.2.2-RELEASE (i386). It just happened again and noticed the following the in the logs (IP Addresses have been masked):

```
Jun 15 08:52:54 php: rc.kill_states: rc.kill_states: Removing states for IP 104.247.***.***/32
Jun 15 08:52:55 check_reload_status: Rewriting resolv.conf
Jun 15 08:53:00 php-fpm42090: /rc.newwanipv6: rc.newwanipv6: Failed to update DSL[opt2] IPv6, restarting...
Jun 15 08:53:00 php-fpm44269: /rc.newwanip: IP has changed, killing states on former IP 0.0.0.0.
Jun 15 08:53:01 php-fpm44269: /rc.newwanip: ROUTING: setting default route to 206.248.154.***
Jun 15 08:53:05 php-fpm44269: /rc.newwanip: phpDynDNS: updating cache file /conf/dyndns_opt2custom"0.cache: 69.196.***.***
Jun 15 08:53:05 php-fpm44269: /rc.newwanip: phpDynDNS: (Success) IP Address Updated Successfully!
Jun 15 08:53:09 php-fpm44269: /rc.newwanip: phpDynDNS: updating cache file /conf/dyndns_opt2custom"1.cache: 69.196.***.***
Jun 15 08:53:09 php-fpm44269: /rc.newwanip: phpDynDNS: (Success) IP Address Updated Successfully!
Jun 15 08:53:11 php-fpm44269: /rc.newwanip: phpDynDNS: updating cache file /conf/dyndns_opt2custom"2.cache: 69.196.***.***
Jun 15 08:53:12 php-fpm44269: /rc.newwanip: phpDynDNS: (Success) IP Address Updated Successfully!
Jun 15 08:53:14 php-fpm44269: /rc.newwanip: phpDynDNS: updating cache file /conf/dyndns_opt2custom"3.cache: 69.196.***.***
Jun 15 08:53:15 php-fpm44269: /rc.newwanip: phpDynDNS: (Success) IP Address Updated Successfully!
Jun 15 08:53:17 php-fpm44269: /rc.newwanip: phpDynDNS: updating cache file /conf/dyndns_opt2custom"4.cache: 69.196.***.***
Jun 15 08:53:17 php-fpm44269: /rc.newwanip: phpDynDNS: (Success) IP Address Updated Successfully!
Jun 15 08:53:18 php-fpm44269: /rc.newwanip: Resyncing OpenVPN instances for interface DSL.
Jun 15 08:53:18 php-fpm44269: /rc.newwanip: Creating rrd update script
Jun 15 08:53:21 php-fpm44269: /rc.newwanip: pfSense package system has detected an IP change or dynamic WAN reconnection - 0.0.0.0 ->
69.196.182.116 - Restarting packages.
Jun 15 08:53:21 check_reload_status: Starting packages
Jun 15 08:53:23 php-fpm44269: /rc.start_packages: Restarting/Starting all packages.
```

The line that seems odd to me is "IP has changed, killing states on former IP 0.0.0.0.". Is this normal? I didn't have the ip_change_kill_states option enabled. I just enabled that now and will see if it helps for next time.

#74 - 06/15/2015 03:28 PM - Tom De Coninck

Hi Kevin,

when the cable modem does weird or reboots i have also seen this behaviour with the 0.0.0.0 address.

Its been a while since my ip address has changed so I'm not the best person to debug .. Anyway this is what i did, and i think it worked.

When you only have 1 Wan internet connection, I think its a good practice to disable the gateway monitoring at System -> Gateways
With this being disabled, pfsense doesnt do strange stuff with the states when the gateway can't be reached.

Another thing that was necessary in my pfsense configuration is not letting to get a 192.168.100 IP address from the cable modem.

Let me know if this works for you

cu
Tom

#75 - 07/13/2015 06:09 AM - frank br

I get the same behavior for my ipsec tunnels.

if my GW (cable modem giving dhcp to pfsense) "resets" itself i do not get a new ip address but my ipsec tunnels will stop working until i reset the states.

#76 - 07/13/2015 06:11 AM - frank br

I forgot to post that i am using 2.2.3 and using multiple GW's to internet.

#77 - 01/20/2016 03:10 AM - Andy Lawson

Apologies for becoming hyperbolic, but this is verging towards the absurd. The first post on this issue is over 4 years old, and yet I still need to purge my state table after a WAN IP change to allow my ATA to register with my ISP's SIP proxy.

Any news when this issue is going to be resolved?

Running 2.2.6-RELEASE as a virtual appliance.

Thanks for all your hard work.

#78 - 07/18/2016 09:15 AM - Luke Hamburg

I posted [over on the forum](#) but I am not sure who's subscribed so it might have gone unnoticed...

Is the following still necessary on 2.3.1_5 / 2.3.2 / 2.4+ if we want all states killed on failover/failback?

```
$config['system']['ip_change_kill_states'] = true;  
write_config();
```

#79 - 08/09/2016 09:40 AM - Luke Hamburg

I have observed that executing the following code does not seem to actually change anything in config.xml -- so I think wherever/whenever this option used to have an effect, it's been removed?? Can anyone confirm?

```
global $config;
$config = parse_config(true);
$config['system']['ip_change_kill_states'] = true;
write_config("Enable kill all states");
```

#80 - 02/18/2017 04:26 PM - Kill Bill

Luke Hamburg wrote:

it's been removed?? Can anyone confirm?

No, not removed. Adding a relevant PR link:

<https://github.com/pfsense/pfsense/pull/3535>

Files

state_table.txt	25.2 KB	07/06/2011	Eli Hunter
log.txt	20.6 KB	08/03/2011	Eli Hunter
states-bug.patch	1.22 KB	05/03/2015	Daniel Haid