Subject: Re: Problem with bonding, vlan, bridge, veth
Posted by kfh on Wed, 15 Nov 2006 10:35:53 GMT
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> Hi list,
Hi list, will reply myelf :-)

> I have a bonding/vlan/bridge/veth problem.
> Sometimes a bridge think a veth device move to another port.
> If I remove a physical interface from bond, the bridge behaves normally.
>
> Kernel 2.6.16 + openvz test020
> VE0 Ubuntu dapper/6.06LTS, IP 172.31.1.26 on VLAN 254
> VE1028 Debian stable/sarge/3.1, IP 10.1.28.12 on VLAN 28
>
> I have a server (vs5, VE0) using eth0 and eth1 in a bonding interface
> bond0. bond0 is on tagged vlan.
> I create a vlan device vlan254 on vlan 254. This is VE0 IP.
> For each VE (XX) I do
> create a vlan device vlanXX on vlan XX.
> create a bridge bvXX and add vlanXX to it.
> create a VE (VE10XX) using veth.
> VETH="ve10XX.0,aa:00:04:56:YY:ZZ,eth0,aa:00:04:57:YY:ZZ"
> add ve10XX.0 to the bridge.
> YY and ZZ are calculated from VEID number (VLAN + 1000)
>
> eth0 eth1
> \ /
> bond0
> / \ veth
> vlan254 vlanXX ve10XX.0 -- eth0 (ve10XX)
> VE0 \ /
> bvXX (bridge)
>

The drawing above is correct, but the part not drawed
is the important one.

eth0 and eth1 are each connected to a switch.
These are connected by trunk ports 1 and 2.
The bond interface (eth0 + eth1) is in active/backup mode.

When I ping 10.1.28.101 in vlan28 from ve1028 (10.1.28.12),
it sends the following arp request:
aa:00:04:57:04:04 > ff:ff:ff:ff:ff:ff arp who-has 10.1.28.101 tell 10.1.28.12

The request will go from eth0 (VE1028) to ve1028.0 -> bv28 -> vlan28 ->

bond0 -> eth0 -> SW1port16 -> SW1 ALL ports but 16 -> including SW2port1/2 ->
SW2 ALL ports but 1/2 -> including target and eth1 -> bond0 -> vlan28 ->
bv28 -> ve1028.0 -> eth0

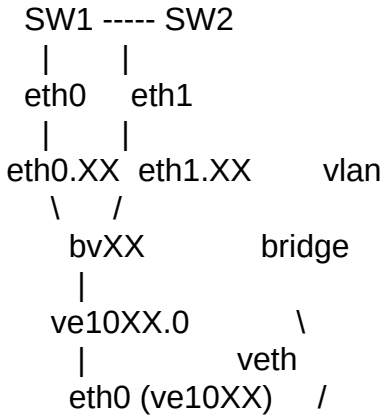
The target 10.28.1.101, receives the request through SW2 port 6.
The switches/bridges gets updated as follows:
 bv28 know aa:00:04:57:04:04 is at port 2 (ve1028.0)
 SW1 know aa:00:04:57:04:04 is at port 16
 SW2 know aa:00:04:57:04:04 is at port 1/2
 bv28 know aa:00:04:57:04:04 is at port 1 (vlan28)
Note bv28 gets updated twice.

The target replies:
00:03:fa:0f:a3:a7 > aa:00:04:57:04:04 arp reply 10.1.28.101 is-at ...:0f:a3:a7

The arp reply will go from SW2port6 -> SW2port1/2 -> SW1port1/2 ->
SW1port16 -> eth0 -> bond0 -> vlan28 -> bv28 -> NULL
As bv28 received the arp request from "aa:00:04:57:04:04" on port 1 (vlan28)
it will not forward the arp reply to port 2 (ve1028.0), therefore eth0 in
VE1028 never receives the arp reply... No communication.

So the problem is bridging over bonding.
The backup interface receives broadcast frames and forwards them to the bridge
which updates its mac table.

I will test the following.



I just have to make sure to use spanning tree.
The linux box should be in blocking mode.

Comments?

Regards,
Kristian.