

## pfSense - Bug #10236

### Cannot add more than 2 VMXNET3 Adapters in vSphere

02/06/2020 03:31 PM - Patrick Sanderson

|                          |            |                               |            |
|--------------------------|------------|-------------------------------|------------|
| <b>Status:</b>           | Rejected   | <b>Start date:</b>            | 02/06/2020 |
| <b>Priority:</b>         | Normal     | <b>Due date:</b>              |            |
| <b>Assignee:</b>         | Luiz Souza | <b>% Done:</b>                | 0%         |
| <b>Category:</b>         | Interfaces | <b>Estimated time:</b>        | 0.00 hour  |
| <b>Target version:</b>   |            | <b>Affected Architecture:</b> | amd64      |
| <b>Affected Version:</b> | 2.4.4-p3   |                               |            |

#### Description

When adding a 3rd or more VMXNET3 interface in vSphere 6.7(vm version 14) and 6.7u2 (other versions not tested) the adapter installs then detaches immediately. After reboot only first two nics are still available, no entries in DMESG pertaining to VMX2, or in pciconf.

From DMESG when adding a 3rd NIC:

```
vmx2: <VMware VMXNET3 Ethernet Adapter> at device 0.0 on pci6
```

```
vmx2: Ethernet address: 00:50:56:9e:82:ac
```

```
vmx2: detached
```

```
pci6: detached
```

#### History

##### #1 - 03/04/2020 03:41 PM - Clinton Cory

- Assignee deleted (Patrick Sanderson)

##### #2 - 03/07/2020 04:03 AM - Tommy Kuhler

Upgraded 2.4.4-p3 to snapshot 2020-03-07 0136

I have 3 VMX connected and all seems to be working. No issues.

##### #3 - 03/09/2020 08:24 AM - Patrick Sanderson

I appear to have made a typo. It should be more than 3 adapters. I checked ran into it again a week or two ago, it was the same for E1000E also.

##### #4 - 04/27/2020 02:07 PM - Patrick Sanderson

I have run into this bug again with a VM and 2.4.5. I am unable to add a second interface at this point, they show up in messages as attached, then detached. I have preserved the VM and can supply credentials as necessary.

The VM was created with 5 VMXNET3 adapters successfully, but the ordering was wrong, so I removed 3. I then removed LAN from assigned interfaces in pfSense GUI and which point it dropped from the VM, any attempts to re-add any new NICs show attach/detach, reboot doesn't re-initialize any of the added nics.

##### #5 - 09/17/2020 12:22 PM - Patrick Sanderson

I believe this to be a bug in the vSphere HOST Web GUI. I have run into very similar problems with other hardware configuration steps and have had to remove the VM from inventory, delete the VMX and re-create the VM.

I will re-test at next opportunity.

**#6 - 10/06/2020 09:28 AM - Steve Beaver**

- Assignee set to Patrick Sanderson

Would you please verify of close?

**#7 - 10/14/2020 01:59 PM - Patrick Sanderson**

I've diff'd the VMX files between creating a VM with 2 nics (which works) and creating a VM with 1 NIC and attempting to add a second:

Created with 2 nics:

```
ethernet0.addressType = "generated"
ethernet0.generatedAddress = "00:0c:29:c8:07:35"
ethernet0.generatedAddressOffset = "0"
ethernet0.networkName = "MGMT - Production"
ethernet0.pciSlotNumber = "192"
ethernet0.present = "TRUE"
ethernet0.uptCompatibility = "TRUE"
ethernet0.virtualDev = "vmxnet3"
ethernet0.wakeOnPcktRcv = "FALSE"
ethernet1.addressType = "generated"
ethernet1.generatedAddress = "00:0c:29:c8:07:3f"
ethernet1.generatedAddressOffset = "10"
ethernet1.networkName = "pfSense sync"
ethernet1.pciSlotNumber = "224"
ethernet1.present = "TRUE"

ethernet1.uptCompatibility = "TRUE"
ethernet1.virtualDev = "vmxnet3"
ethernet1.wakeOnPcktRcv = "FALSE"
```

Created with 1 nic, add 1 nic:

```
ethernet0.addressType = "generated"
ethernet0.generatedAddress = "00:0c:29:93:35:d1"
ethernet0.generatedAddressOffset = "0"
ethernet0.networkName = "MGMT - Production"
ethernet0.pciSlotNumber = "192"
ethernet0.present = "TRUE"
ethernet0.uptCompatibility = "TRUE"
ethernet0.virtualDev = "vmxnet3"
ethernet0.wakeOnPcktRcv = "FALSE"
ethernet1.addressType = "generated"

ethernet1.generatedAddressOffset = "10"
ethernet1.networkName = "MGMT - Production"
ethernet1.pciSlotNumber = "-1"
ethernet1.present = "TRUE"
ethernet1.startConnected = "FALSE"
ethernet1.uptCompatibility = "TRUE"
ethernet1.virtualDev = "vmxnet3"
ethernet1.wakeOnPcktRcv = "FALSE"
```

The PCI slot number is -1 whether the system is running or not. In the running-add nic case, I had the pfSense installer running, and saw the same message as my original post, pci6: detached.

## #8 - 10/14/2020 02:42 PM - Patrick Sanderson

With some more investigation I've found the following:

### Created a new single vmxnet3 nic VM.

```
ethernet0.virtualDev = "vmxnet3"  
ethernet0.networkName = "MGMT - Production"  
ethernet0.addressType = "generated"  
ethernet0.wakeOnPcktRcv = "FALSE"  
ethernet0.uptCompatibility = "TRUE"  
ethernet0.present = "TRUE"  
ethernet0.pciSlotNumber = "192"  
ethernet0.generatedAddress = "00:0c:29:67:40:61"  
ethernet0.generatedAddressOffset = "0"
```

### Boot VM

Add vmxnet3 nic.

```
ethernet0.virtualDev = "vmxnet3"  
ethernet0.networkName = "MGMT - Production"  
ethernet0.addressType = "generated"  
ethernet0.wakeOnPcktRcv = "FALSE"  
ethernet0.uptCompatibility = "TRUE"  
ethernet0.present = "TRUE"  
ethernet0.pciSlotNumber = "192"  
ethernet0.generatedAddress = "00:0c:29:67:40:61"  
ethernet0.generatedAddressOffset = "0"  
ethernet1.pciSlotNumber = "-1"  
ethernet1.virtualDev = "vmxnet3"  
ethernet1.networkName = "MGMT - Production"  
ethernet1.addressType = "generated"  
ethernet1.uptCompatibility = "TRUE"  
ethernet1.present = "FALSE"  
ethernet1.generatedAddress = "00:0c:29:67:40:6b"  
ethernet1.generatedAddressOffset = "10"
```

At this point, ethernet 0 and ethernet 1 are still in the VMX file, but vsphere host GUI only shows 1 NIC configured.

Power off VM, add add another vmxnet3 nic:

```
ethernet0.virtualDev = "vmxnet3"  
ethernet0.networkName = "MGMT - Production"  
ethernet0.addressType = "generated"  
ethernet0.wakeOnPcktRcv = "FALSE"  
ethernet0.uptCompatibility = "TRUE"  
ethernet0.present = "TRUE"  
ethernet0.generatedAddress = "00:0c:29:67:40:61"  
ethernet1.virtualDev = "vmxnet3"  
ethernet1.networkName = "MGMT - Production"  
ethernet1.addressType = "generated"  
ethernet1.uptCompatibility = "TRUE"  
ethernet1.present = "TRUE"  
ethernet1.wakeOnPcktRcv = "FALSE"  
ethernet0.pciSlotNumber = "192"  
ethernet0.generatedAddressOffset = "0"  
ethernet1.pciSlotNumber = "-1"  
ethernet1.generatedAddressOffset = "10"
```

Power on VM:

```
ethernet0.virtualDev = "vmxnet3"  
ethernet0.networkName = "MGMT - Production"  
ethernet0.addressType = "generated"  
ethernet0.wakeOnPcktRcv = "FALSE"  
ethernet0.uptCompatibility = "TRUE"
```

```
ethernet0.present = "TRUE"  
ethernet0.generatedAddress = "00:0c:29:67:40:61"  
ethernet1.virtualDev = "vmxnet3"  
ethernet1.networkName = "MGMT - Production"  
ethernet1.addressType = "generated"  
ethernet1.uptCompatibility = "TRUE"  
ethernet1.present = "TRUE"  
ethernet1.wakeOnPcktRcv = "FALSE"  
ethernet0.pciSlotNumber = "192"  
ethernet0.generatedAddressOffset = "0"  
ethernet1.pciSlotNumber = "224"  
ethernet1.generatedAddressOffset = "10"  
ethernet1.generatedAddress = "00:0c:29:67:40:6b"
```

Both VMX0 and VMX1 are available in the VM.

It seems at this point that adding NICs to running VMs is non-functional, in no combination of tests did a hot-add work, however powered-off VMs were able to add NICs in the above situations. In some cases, if a strict order of operations wasn't followed there ended up being situations when both hot-add and cold-add of additional nics would fail, with multiple orphaned ethernetX. entries in the vmx config.

It seems at this point that this is not clearly a bug with the vsphere web GUI, but possibly a bug relating the interaction between the host and VM. In all cases OpenVM tools is not installed, nor is an operating system, this was all repeated using the pfSense 2.4.5-p1 CE ISO installer and dropping to the rescue shell.

**#9 - 10/14/2020 02:47 PM - Steve Beaver**

- Assignee changed from Patrick Sanderson to Luiz Souza

**#10 - 10/19/2020 09:24 AM - Jim Pingle**

- Status changed from New to Rejected

- Target version deleted (2.5.0)

Adding NICs to a hot/running VM has never worked and isn't expected to work. Shut down the VM (power off, not warm boot), add the NICs, then boot the VM.

Anything beyond that appears to be a problem in ESX and not the guest OS.