

While I am still in the process of working through this here are the steps I am taking to set up each machine.

- 1) Since each of my servers have multiple NIC ports I bond them together (see page 34 of the Administrators Guide) This is best done from the physical server and not via the console. If you do it remotely you will then have to reconfigure the management port before the next step. I think it is cleaner if you do not have to do that.
 - a. Shutdown all VM's (this is easy since I am pretty much a new installation)
 - i. `xe vm-list`
 - ii. `xe vm-shutdown uuid=`
 - b. Create the network (this is like a virtual switch), write down the first part of the UUID that is returned after this command since the next step may cause it to scroll off the page
 - i. `xe network-create name-label=bond0`
 - c. Create the actual bond (keep track of the uuid of this bond since it will be used in step 2)
 - i. `xe pif-list`
 - ii. `xe bond-create network-uuid=<UUID from above> pif-uuids=<UUID if the first interface from the last step>,<UUID if the second interface from the last step>`
 - d. Reconfigure the IP address info. I do not use DHCP for my servers so I make this static. Also, I do not know for sure how to enter multiple DNS servers. You may just separate them with a comma but I have not tested that yet. Finally, the case seems to be important here. I noticed it on the DNS keyword. If it is lowercase it does not seem to work.
 - i. `xe pif-reconfigure-ip uuid=<UUID of the bond created above> mode=static gateway=<GATEWAY> IP=<IP ADDRESS> netmask=<NETMASK> DNS=<DNS SERVER ADDRESS>`
- 2) Next for the VLAN work. First, of course, each NIC port must be on a trunked switch port. In our case, we forced the port encapsulation to dot1q and the mode to trunk with a native VLAN of 1. We did this using ranges so that we know everything is configured the same. I am not sure if allowing the ports to negotiate the encapsulation or making the trunk mode dynamic would have worked but, we were not taking any chances. This way we had two fewer things to troubleshoot if we had problems.
 - a. Create a new network. This will be like a VLAN specific switch for all of your DOM's
 - i. `xe network-create name-label=vlan103`
 - b. Next tie the network to the network interface on the physical server (in our case, the bonded interfaces) and specify the VLAN. Keep track of the UUID returned as you will need it when we create VIF's for the DOM's
 - i. `xe vlan-create network-uuid=<UUID from above> pif-uuid=<UUID of the bond in step 1.c.ii> vlan=103`
- 3) The next step is to get the management port back up and running. These are the same steps for setting up VIF's on other VM's.
 - a. get the UUID of DOM0
 - i. `xe vm-list`
 - b. create a VIF to tie DOM0 to the management VLAN (this is the VLAN I created above). In this case I had one interface (BOND0) so I set the device to 1. Keep track of this UUID as you will need it to configure the management interface.
 - i. `xe vif-create vm-uuid=<UUID of DOM0> network-uuid=<UUID of the network created just above in 2.b.i> device=1`
 - c. Configure IP information of the VIF. First run `ifconfig` to get the device and then run it again to configure it
 - i. `ifconfig`
 - ii. `ifconfig eth1 <IP ADDRESS> netmask <NETMASK>`
 - d. Configure it as the management interface

- i. `xe host-management-reconfigure pif-uuid=<UUID of the VIF created above>`
- e. Clean up after yourself. This will help to keep you from getting confused later when you look at the settings.
 - i. `xe pif-reconfigure-ip uuid=<old mgmt PIF UUID> mode=None`
- f. As long as a VM is not running, you can just start it and the new interface will be ready. For DOM0 we will have to plug it in.
 - i. `xe vif-plug uuid=<UUID of the VIF created above>`

Notes

- 1) The XenNetworking Wiki page helped me wrap my head around what was going on.
<http://wiki.xensource.com/xenwiki/XenNetworking>
- 2) I found this thread on the forums that basically became my template.
<http://forums.xensource.com/thread.jspa?messageID=15451㱛>
- 3) The above thread led me to the knowledge that there is more about VLANS in the admin guide than the index would have you believe. Page 33 – 34 tells you how to set them up. I hope that this omission can be fixed in the next document release.
- 4) I found that the UUID's work with tab completion. This may be obvious to everyone else but I never saw it mentioned in the manual (it may be there but I never saw it).
- 5) One problem I had with configuring bridges manually in Linux instead of doing it the Xensource way above, was that Xensource automatically removes interfaces it does not know about. Since I was not sure how to make it aware of things I had manually created, my interfaces and bridges would stay up for 30 – 60 seconds or so before being torn down.
- 6) Once you get the management interface setup, you can create links to other VLANS using the XenCenter and skip much of the above.
- 7) I have not tested yet but, my hope is that this information will travel to each of the other machines I add to the resource pool. That is why I took the above steps on the master server.
- 8) If you dig through these entire thread you will find a nugget of information that sounds like it could cause problems if set incorrectly. "The secret seems to be that the native VLAN on the trunkport must be 1 (which is the default)."
<http://forums.xensource.com/thread.jspa?messageID=15780>