

Survey: How many nics per ESX Host does...



[westforsyth1](#) 1 posts since

Sep 10, 2007

We have several engineers at my company that feel that 2 nics on a production ESX host are sufficient for the production network. I was wondering what others are using out there.



[sleibel](#) 1 posts since

May 15, 2008 1. **Re: Survey: How many nics per ESX Host does everyone use?** Apr 5, 2009 5:36 AM

My feeling (And way of work) is to have a minimum of 4 ports, And usually 6 (2 ports are internal, and 2 X Dual-Port Nics. You can use Quad-Port but for greater redundancy + Price I use Dual-Port).

I usually have 2 Ports for SC on the MNG network, 4 for VMs and 2 for VMKernel storage & Vmotion. If no iSCSI or NFS is needed, I add the bandwidth to the VMs.

This also allows you greater flexibility (Put some NICs for failover), Higher bandwidth, Greater configuration options, separation of networks (Security) and separation of VSwitches (Bandwidth), and so forth.

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Also, Remember the 32 Ports limit (If you ever reach it... but worth mentioning it)

-Sharon



[Stefan Nguyen](#) 3 posts since

Jan 15, 2008 2. Re: **Survey: How many nics per ESX Host does everyone use?** Apr 8, 2009 1:27 PM

 in response to: [sleibel](#)

Hi,

I'm not sure who are those engineers mentioned 2 NICs for production ESX is enough? My home workstation 2 NICs wouldn't be enough for what I've trying to learn in a lab.

You're talking about enterprise solutions here, so exchange, sql, web, citrix virtual machines here? How would you run those with 2 NICs?

That would depends on the environment that your ESX 3.5 host is built? If its for enterprise and large datacenters, which often has many different networks and storage involves. These will usually runs between 8 - 10 NICs for example:

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1. 2 NICs on board
2. 2 x quad ports NICs

You can have the following combinations:

1. NIC01->on board use for Service Console
2. NIC03->Intel 4 ports NIC ->VMotion
3. NIC02->on board use for VMotion 2
4. NIC04->Intel 4 ports NIC->Service Console 2
5. NIC05-06 ->Production Network
6. NIC07-08->iSCSI/Backup/DMZ Networks
7. NIC09-10->Use for spare or any network replacement.

For general purpose, 6 NICs is fine but for more complex environment you would see 8-12 NICs as well.



[Sudharsan](#) 1 posts since

Apr 1, 2008 3. **Re: Survey: How many nics per ESX Host does everyone use?** Apr 10, 2009 6:08 PM

Discussions and best practices apart , Practically also one needs to analyse .

Say you go with Recommendations of 6 -1 2 NICs . Consider 2 years down the line . Whne the number of ESX Server grows upto 50 (For Example) in a large organization

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Will you be able to provide that many NIC ports from the Switches ?

50 ESX * 10 NICs = 500 NIC Ports

In a DC rack , if you accommodate 10 ESX Servers you will need to vae60 ports

which i think is practically not possible .

Thats the reason we go with 4 NICs per ESX Server

Thanks

Sudharsan

VCP, MCTS (Server Virtualization)



[Thad Molling](#) 1 posts since

Apr 13, 2009 4. **Re: Survey: How many nics per ESX Host does everyone use?** Apr 13, 2009 8:17 AM

in response to: [Sudharsan](#)

We use 15 per host because we're not VLAN tagging, support 12 VLANS including multiple DMZ's. Looking forward to the Cisco 1000V switch which should resolve the issue of having so many NICs. 15 CAT6 cables along with KVM and fiber is difficult to manage.



[Stefan Nguyen](#) 3 posts since

Jan 15, 2008 5. **Re: Survey: How many nics per ESX Host does everyone use?** Apr 13, 2009 9:18 AM

in response to: [Thad Molling](#)

There are advantages and disadvantages using VLANs and you chose not to use VLANs so it requires extra NICs and 15 pNICs is very well architected with complexity involve,

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but I hope you will utilize VLANs if you're out of PCI slots 😊 Anyways, with Nexus v1000 switches, things can change the way we design our virtual networks and matter of fact, a Cisco engineer just have to take care virtual networking configurations for ESX architect so we don't have to manage it them than 😊 that would make life easier.

For large enterprises, its worth the money spend on these NICs because it provide redundancy and enough throughput and security concerns. If you're design for large enterprise systems with 4 pNICs and their fine with it than its okay, but for my clients it not sufficient but could be doable even with 2 pNICs but you have to decide the risks involved.



Satish 2 posts since

Nov 7, 2007 6. **Re: Survey: How many nics per ESX Host does everyone use?** Apr 13, 2009 11:49 PM

For normal functioning of ESX, 2 nics are enough. If you are running any test machines on the ESX host, I think 2 nics will be fine. But for the production utilities and for using the VMware functionalities like VMotion, DRS and HA, you need to have a separate NIC for the VMotion fuctionality. The more number of NICs you have, the better will be the the functioning of the VMs with regard to the network. Its up to you to decide where you are using the ESX host, whether in test environment or in production environment.



Ryan Kelley 1 posts since

Mar 12, 2009 7. **Re: Survey: How many nics per ESX Host does everyone use?** Apr 14, 2009 12:34 PM

I don't agree with 2 nics being enough for a scalable cluster, we have 8 per host. BUT 4 of those are due to old security restrictions that certian subnet's have to have a dedicated NIC, vlan trunking was not enough. That being said we have 6 different vlans running into 2 nics, iscsi using 2 nics with etherchannel. the rest have the standard config.


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But as with anything depends on your needs, but with trunking and etherchannel, 4 is a good number.



[William Morton](#) *12 posts since*

Mar 24, 2008 8. **Re: Survey: How many nics per ESX Host does everyone use?** Apr 14, 2009 12:49 PM

 in response to: [Ryan Kelley](#)

6-8 ports / ESX box.

4 is a minimum even with trunking and etherchannel.