

<b>Virtual Machine Maximums</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
SCSI Controllers per virtual machine	4	4	4	4
Devices Per SCSI Controller	15	15	15	15
SCSI Devices Per Virtual Machine	60	60	60	60
Max Disk Size	2TB	2TB	2TB	2TB minus 512B
Number of Virtual CPU's per Virtual Machine	4	4	4	8
RAM per Virtual Machine	16GB	65GB	65GB	255GB
Number of NICs per Virtual Machine	4	4	4	10
Number of IDE Devices	4	4	4	4
Number of floppy devices per Virtual Machine	2	2	2	2
Number of Parallel ports per Virtual Machine	3	3	3	3
Sereial Ports per Virtual Machine	4	4	4	4
Virtual Machine Swap Size	16GB	65GB	65GB	255GB
Number of Virtual PCI Devices	6	6	6	
VMDirectPath PCI/PCIe devices per VM	NA	NA	NA	2
VMDirectPath SCSI targets per Virtual Machine	NA	NA	NA	60
Concurrent remote desktop sessions	10	10	10	40

<b>Storage Maximums</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Max I/O Size (Before Splits)		32MB	32MB	32MB
Raw device mapping size	2TB	2TB	2TB	2TB minus 512B
Hosts per volume	32	32	32	64
Hosts per cluster	32	32	32	32
Volimes per host	256	256	256	256
Extents per volume	32	32	32	32
Extent Size	2TB	2TB	2TB	2TB minus 512B
Virtual Machines per Volume				64
Number of HBA's of any type		16	16	
Number of targets per HBA (iSCSI HBA)		15 (64)	15 (64)	

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<b>VMFS-2 Maximums</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
MAX Volume Size	64TB	64TB	64TB	64TB minus 16K
File Size (block size = 1MB)	456GB	456GB	456GB	456GB
File Size (block size = 8MB)	2TB	2TB	2TB	2TB
File Size (block size = 64MB)	27TB	27TB	27TB	27TB
File Size (block size = 256MB)	64TB	64TB	64TB	64TB
Files Per volume	256 + (64 x extents)	256 + (64 x extents)	256 + (64 x extents)	256 + (64 x extents)

<b>VMFS-3 Maximums</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Volume (block size = 1MB)	~16TB-4GB	~50TB	~50TB	
Volume (block size = 2MB)	~32TB-8GB	64TB	64TB	
Volume (block size = 4MB)	~64TB-16GB	64TB	64TB	
Volume (block size = 8MB)	64TB	64TB	64TB	
File Size (block size = 1MB)	256GB	256GB	256GB	256GB minus 512B
File Size (block size = 2MB)	512GB	512GB	512GB	512GB minus 512B
File Size (block size = 4MB)	1TB	1TB	1TB	1TB minus 512B
File Size (block size = 8MB)	2TB	2TB	2TB	2TB minus 512B
Files per directory	30,000	30,000	30,000	
Directories per volume	30,000	30,000	30,000	
Files per volume	30,000	30,000	30,000	30,720

<b>Fibre Channel</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
LUNs per server	256	256	256	256
LUN Size	2TB	2TB	2TB	2TB minus 512B
SCSI controllers per server	16			
Devices per SCSI controller	16			
Number of paths to a LUN	32	32	32	16
Number of total paths	1024	1024	1024	1024
LUNs concurrently opened by all virtual machines	256	256	256	256
LUN IDs	255	255	255	255
HBA's per host				8
HBA Ports				16
Targets per HBA				256

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<b>NAS / NFS</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Default Number of NFS datastores (Maximum)	8 (32)	8 (32)	8 (32)	8 (64)

<b>iSCSI initiators</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
LUNs per server	256	256	256	256
Hardware iSCSI initiators per server	2	2	2	4
Targets	64	64	64	256
LUNs concurrently used				256
NIC ports bound to software iSCSI stack per server				8
Paths to a LUN				8
Dynamic targets per hardware adapter port				64
Static targets per hardware adapter port				64
Total Paths				1024

<b>Compute Maximums</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Number of VM's Registered on a server	128		170	320
Number of virtual CPU's per server	128	128	192	512
Number of cores per server	32	32	32	64
Number of logical processors per server	32	32	32	64
Number of virtual cpu's per core	8	8	8 (U1,2) 20 (U3,4)	20

<b>Memory Maximums</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
RAM per server	64GB	256GB	256GB	1TB
RAM Allocated to Service Console	800MB	800MB	800MB	800MB
Minimum RAM to Service Console	272MB	272MB	272MB	400MB

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<b>Physical NICs</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Number of e100 NICs	26	26	26	
Number of e1000 NICs	32	32	32	32
Number of Broadcom NICs	20	20	20	
igb 1GB Ethernet ports (Intel)				16
tg3 1GB Ethernet ports (Broadcom)				32
bnx2 1GB Ethernet ports (Broadcom)				16
forcedeth 1GB Ethernet ports (Nvidia)				2
s2io 10GB Ethernet ports (Neterion)				4
nx_nic 10GB Ethernet ports (NetXen)				4
ixgbe Oplin 10GB Ethernet ports (Intel)				4
bnx2x 10GB Ethernet ports (Broadcom)				4

<b>PCI VMDirectPath Devices</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
PCI VMDirectPath devices per host				8

<b>Advanced, physical traits</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Number of port groups	512	512	512	
Number of NICs in a team	32	32	32	
Number of Ethernet ports	32	32	32	

<b>Virtual NICs/switches/VLANs</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Number of virtual switch ports	1016	1016	1016	4088
Number of virtual switches	127	127	127	248
Number of portgroups (VLANs)	4096	4096	4096	512
<b>Total</b> virtual network switch ports per host				4096

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<b>vNetwork Distributed Switch</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Distributed virtual switch ports per vCenter				6000
Distributed port groups per vCenter				512
Distributed switches per vCenter				16
Hosts per distributed switch				64

<b>HA / DRS Cluster</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Hosts per HA / DRS cluster	16	32	32	32
Virtual machines per HA / DRS cluster				1280
Virtual machines per host in HA cluster				100
Virtual machines per host in DRS cluster				256
Failover hosts per cluster				4
Failover as percentage of cluster				50%

<b>Resource Pool Maximums</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Number of Resource Pools Per host		512	512	4096
Number of children per resource pool		256	256	1024
Tree depth per resource pool		12	12	12
Tree depth per resource pool in DRS cluster		10	10	10
Number of resource pools per cluster		128	128	512

<b>vCenter Maximums</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Hosts (32-bit )	100	200	200	200
Powered-on virtual machines (32-bit )	1500	2000	2000	2000
Registered virtual machines (32-bit)	1500	2000	2000	3000
Hosts (64-bit)				300
Powered-on virtual machines (64-bit)				3000
Registered virtual machines (64-bit)				4500
Linked vCenter Server systems				10
Hosts in Linked-mode environment				1000

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**VMware Configurations Maximums  
Comparisons Matrix**

For more information refer to the VMware Configuration Maximums documentation

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Powered-on VM's in Linked-mode environment				10000
Registered VM's in Linked-mode environment				15000
Concurrent vSphere client connections (32-bit )				15
Concurrent vSphere client connections (64-bit				30
Hosts per datacenter				100
Concurrent provisioning operations per host				8
Concurrent provisioning operations per datastore				8
Concurrent VMotion operations per host				2
Concurrent VMotion operations per datastore				4
Concurrent sVMotion operations per host				2
Concurrent sVMotion operations per datastore				4
Concurrent operations per vCenter Server				96

<b>vCenter Update Manager</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Concurrent hosts scanned (64-bit)				300
Concurrent hosts scanned (32-bit)				200
Concurrent virtual machines scanned (64-bit)				4000
Concurrent virtual machines scanned (32-bit)				200
Cisco VDS update and deployment				70
Virtual machine remediation per ESX host				5
Powered-on Windows VMscan per ESX host				6
Powered-off Windows VM scan per ESX host				6
Powered-on Linux VM scan per ESX host				145
VMware Tools scan per ESX host				145
VMware Tools upgrade per ESX host				145
Virtual machine hardware scan per host				145
Virtual machine hardware upgrade per host				145
Virtual machine remediation per VUM server				48
Powered-on Windows VM scan per VUM server				72
Powered-off Windows VM scan per VUM server				10
Powered-on Linux virtual machine scan VUM server				145
VMware Tools scan per VUM server				145
VMware Tools upgrade per VUM server				145

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**VMware Configurations Maximums  
Comparisons Matrix**

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ESX host scan per VUM server				72
ESX host remediation per VUM server				8
ESX host upgrade per VUM server				48
ESX host upgrade per cluster				1

<b>vCenter Orchestrator</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Connected vCenter Server systems				10
Connected ESX/ESXi servers				100
Connected virtual machines				3000
Concurrent running workflows				150

<b>vCenter Converter</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Concurrent import/export tasks				16

<b>vSphere Storage Management Initiative (SMI-S)</b>	<b>ESX 3</b>	<b>ESX 3.5 &amp; 3.5U1</b>	<b>ESX 3.5U2 and Up</b>	<b>vSphere 4</b>
Number of vCenter Server systems connected				1
Number of ESX/ESXi hosts connected				1
Number of ESX/ESXi hosts managed in vCenter				100
Number of VM's registered in vCenter Server				1000
Number of datastores registered in vCenter Server				100