

# 360<sup>IS</sup>

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## Essential Commands

### Restart the xapi management software.

```
xe-toolstack-restart
```

### Recover from failed/downed master node.

```
pool-emergency-  
transition-to-master xe  
pool-recover- slaves
```

### Resetting VM power state if incorrectly indicated in XenCentre or in the pool database.

```
xe vm-reset-powerstate
```

### Rebuilding a broken/failed node.

Transition to a new master if the old master failed:

```
xe host forget <broken host>
```

Rebuild/re-install the broken host

Add it to the running pool as a new slave.

### Full domain0 backup.

```
xe host-backup
```

### Pool database only backup.

```
xe pool-dump-database
```

360is are a specialist, UK, vendor-neutral, professional services firm with expertise in virtualization and security in mission critical environments. We have been responsible for more enterprise deployments of XenServer than any other UK firm. We specialise in high risk, tight deadline, budgetary constrained projects.

## Internal Networking

XenServer networking operates at the Link Layer (layer 2) of the TCP/IP stack as defined by RFC1122. The Link Layer sits above the physical and below the Internet Layer. For more information on the Link Layer and its protocols see:

[http://en.wikipedia.org/wiki/TCP/IP#The\\_concept\\_of\\_layers](http://en.wikipedia.org/wiki/TCP/IP#The_concept_of_layers)

Although the control domain (Domain0) and most Virtual Machines will communicate using IP, remember that XenServer networking is mostly concerned with maintaining that happens at Layer 2, in the same manner as an intelligent Ethernet switch. XenServer supports a variety of Layer 2 scenarios including VLANs and NIC Bonding.

## Requirements

### Minimum XenServer Hardware Requirements

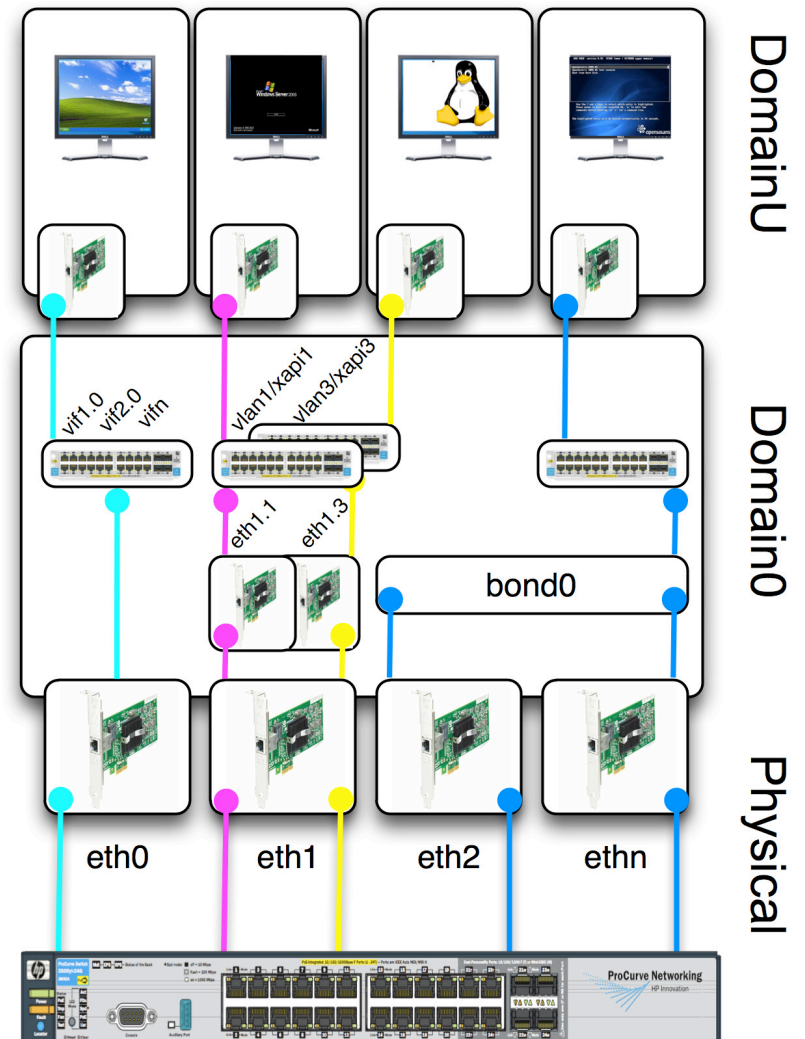
XenServer	Minimum	Recommended
CPU Speed	1.5GHz	2GHz
CPU Family	64-bit	64-bit
RAM	1GB	2GB
Local Storage	16GB	60GB
Networking	100Mb	1Gb

CPU's with AMD-V or Intel-VT features are required for running Microsoft Windows guests

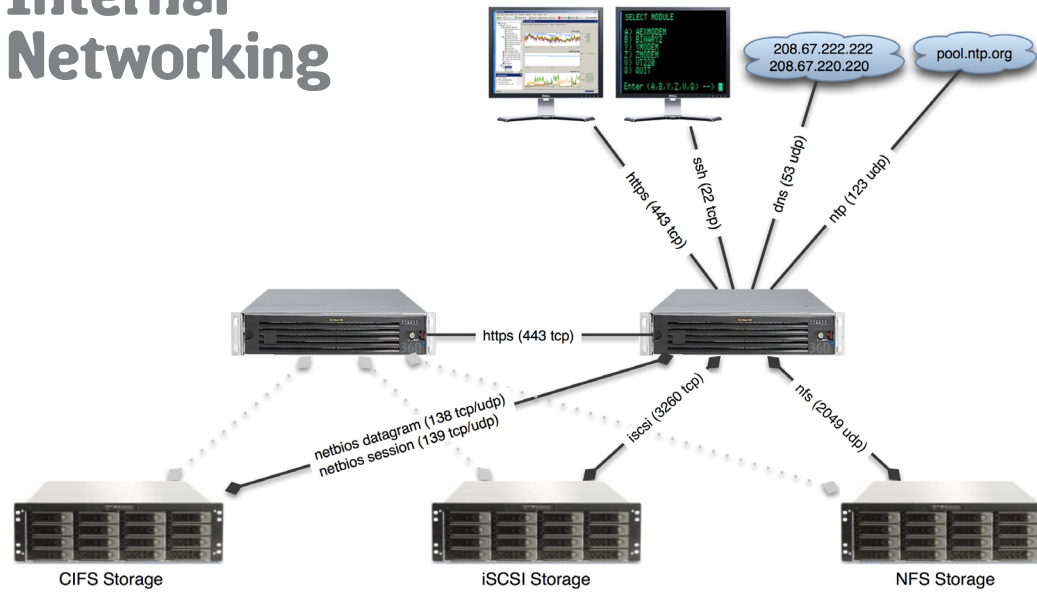
### Minimum XenCenter Hardware Requirements

XenCenter	Minimum	Recommended
CPU Speed	750MHz	1GHz
RAM	1GB	2GB
Disk Space	100MB	n/a
Networking	100Mb	1Gb

XenCenter is supported on Windows 2003, XP, and Vista



# Internal Networking



# Guests & Templates

Guest Operating Systems	Template	Bits	RAM-min/MB	RAM-max/GB	Notes
<b>Microsoft</b>					
Windows server 2000	Yes	32	128	32	SP4
Windows Server 2003	Yes	32,64	128	32	SP0, SP1, SP2, & R2
Windows Server 2008	Yes	32,64	512	32	
Windows XP	Yes	32	128	32	SP2 & SP3
Windows Vista	Yes	32	512	32	SP1, Enterprise Edition supported
<b>Linux</b>					
SUSE Enterprise Linux 9	Yes	32	256	32	SP1, SP2, SP3, SP4
SUSE Enterprise Linux 10	Yes	64	512	32	SP1, SP2
Debian Sarge 3.1	Yes	32	128	32	
Debian Etch 4.0	Yes	32	128	32	
RHEL 3.6-3.8	Yes	32	64	32	
RHEL 4.1	Yes	32	256	16	
RHEL 4.4	Yes	32	256	16	
RHEL 4.5-4.7	Yes	32	256	16	
RHEL 5.0-5.2	Yes	32,64	512	16	
CentOS 4.5, 4.6, 4.7	Yes	32	256	16	
CentOS 5.0, 5.1, 5.2	Yes	32,64	512	16	
Oracle Enterprise Linux 5.0, 5.1	Yes	32,64	1024	32	
<b>Other</b>					
Citrix XenApp Tuned	Yes	32,64	1024	32	Server, Enterprise, Data Centre & SBS
Windows 7 Beta		360is			Non paravirtualized
Solaris 10		360is			360is
OpenSolaris		360is			360is
FreeBSD		360is			360is

# Speeds & Feeds

Name	Throughput MB/s
<b>General IO</b>	
PCI-X DDR 16-bit	533
PCI-X 133	1067
PCI Express (x1)	250
PCI Express (x4)	500
PCI Express (x8)	2000
PCI Express (x16)	4000
<b>Processor Interconnect</b>	
Hypertransport 3.0(2)	10400
Hypertransport 3.1(3)	12800
QuickPath (X58) (4)	12800
<b>Storage IO</b>	
Fibrechannel 1GFC	100
Fibrechannel 2GFC	200
Fibrechannel 4GFC	400
Fibrechannel 8GFC	800
Fibrechannel 10GFC Serial	1000

Name	Throughput MB/s
Fibrechannel 20GFC	2000
Ultra-320 SCSI	320
Serial ATA 2	300
Serial Attached SCSI	300
Serial Attached SCSI 2	600
<b>LAN Networking</b>	
100 base X	12.5
1000 base X	125
10G base X	1250
<b>High Performance Computing</b>	
Myrinet 10G	1250
QsNet	1000
SCI Dual Channel	2500
Infiniband 1X Single(1)	250
Infiniband 4X Single(1)	1000
Infiniband 12X Single(1)	3000

(1) Infiniband has single, dual, or quad configurations upto 12GB/s  
 (2) 16-bits out of 32, unidirectional, at 2.6GHz  
 (3) 16-bits out of 32, unidirectional, at 3.2GHz

# Hardware Essentials

Vendor	Name	Model	Clock Speeds/GHz	Cores	Power/Watts	Codename	Launch	Virtualization	Deployment	Socket	Notes
Intel	Xeon	30xx	1.86 - 2.66	2	65	Conroe	Sep-06	Yes	1 CPU Systems	LGA775 (Socket T)	VT but no Hyper Threading
Intel	Xeon	31xx	3.0 - 3.16	2	65	Wolfdale		Yes	1 CPU Systems	LGA775 (Socket T)	VT but no Hyper Threading
Intel	Xeon	51xx	1.6 - 3.0	2	65 - 80	Woodcrest	Jun-06	Yes	2 CPU Systems	LGA771 (Socket J)	Server version of Intel Core2
Intel	Xeon	52xx	1.86 - 3.4	2	35 - 80	Wolfdale DP	Nov-07	Yes	2 CPU Systems	LGA771 (Socket J)	Based on the Wolfdale core
Intel	Xeon	53xx	1.6 - 3.0	4	50 - 150	Clovertown	Nov-06	Yes	2 CPU Systems	LGA771 (Socket J)	2x Dual Core Woodcrest chips in one package
Intel	Xeon	54xx	2.0 - 3.4	4	80 - 150	Harpertown	Nov-07	Yes	2 CPU Systems	LGA771 (Socket J)	Based on Yorkfield core
Intel	Xeon	55xx	1.86 - 3.2	4	80 - 130	Gainestown	Nov-08	Yes	2 CPU Systems	LGA771 (Socket J)	"Nehalem" architecture. E5502 model has only 2 cores
Intel	Xeon	71xx	2.5 - 3.5	2	95 - 150	Tulsa	Aug-06	Yes	4+ CPU Systems	Socket 604	Enhanced Paxville MP
Intel	Xeon	73xx	1.66 - 2.93	4	80 - 130	Tigerton	Sep-07	Yes	4+ CPU Systems	Socket 604	2x Core2 chips in one package
Intel	Xeon	74xx	2.13 - 2.66	2, 4, or 6	65 - 130	Dunnington	Aug-08	Yes	4+ CPU Systems	Socket 604	3 Wolfdale cores in one package
AMD	Opteron	12xx	1.8 - 3.0	2	103 - 105	Santa Ana	Aug-06	Yes	1 CPU Systems	LGA1207 (Socket F)	
AMD	Opteron	22xx	1.8 - 3.2	2	95 - 119	Santa Rosa	Aug-06	Yes	2 CPU Systems	LGA1207 (Socket F)	
AMD	Opteron	23xx	1.9 - 2.0	4	95	Barcelona	Sep-07	Yes	2 CPU Systems	LGA1207 (Socket F)	
AMD	Opteron	82xx	2.0 - 3.2	2	95 - 120	Santa Rosa	Aug-06	Yes	4+ CPU Systems	LGA1207 (Socket F)	
AMD	Opteron	83xx	1.9 - 2.5	4	95	Barcelona	Sep-07	Yes	4+ CPU Systems	LGA1207 (Socket F)	
AMD	Opteron	83xx	2.8	4	95	Shanghai	Nov-08	Yes	4+ CPU Systems	LGA1207 (Socket F)	