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VMWare VI3

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ESX 3.0 – VC 2.0 Overview



■ New

- Support of 64Bit Guest OS in VM (experimental in GA 3.0)
- 4 CPU vSMP, 16GB RAM
- Support of NAS and iSCSI
- Clusters (HA, DRS and VCB)
- License Server – License model
- Architecture changes
- Nice – Poweroff W2K3 works, RDM and SAN Boot, Silent update VM Tools
- Migration from 2.x to 3.0

ESX 3 Produkte (Lizenz pro 2 Socket)

	Starter	Standard	Enterprise
ESX Server 3	X ■ NAS or local storage ■ Limited to servers with ■ up to 4PCPU ■ up to 8GB physical memory	X	X
VC Agent	X	X	X
VMFS		X	X
VSMP		X	X
VMotion			X
HA			X
DRS			X
Consolidated Backup			X
Target Market	SMB / Branch offices / Depts		

Virtual Infrastructure (VI) Produkte

Name	Lizenz
VMware VirtualCenter Management Server	Per Server
VMware VMotion	Per 2 Sockets
VMware HA	
VMware DRS	Per 2 Sockets
VMware Consolidated Backup	

Update VIN 2 nach VI 3

2.x Pricing

ESX 2.x VIN

- ESX 2.x
- VSMP
- VC Agent
- VMotion

3.x Pricing

VMware Infrastructure 3 Standard

- ESX 3
- VMFS
- VSMP
- VC Agent

- VMotion

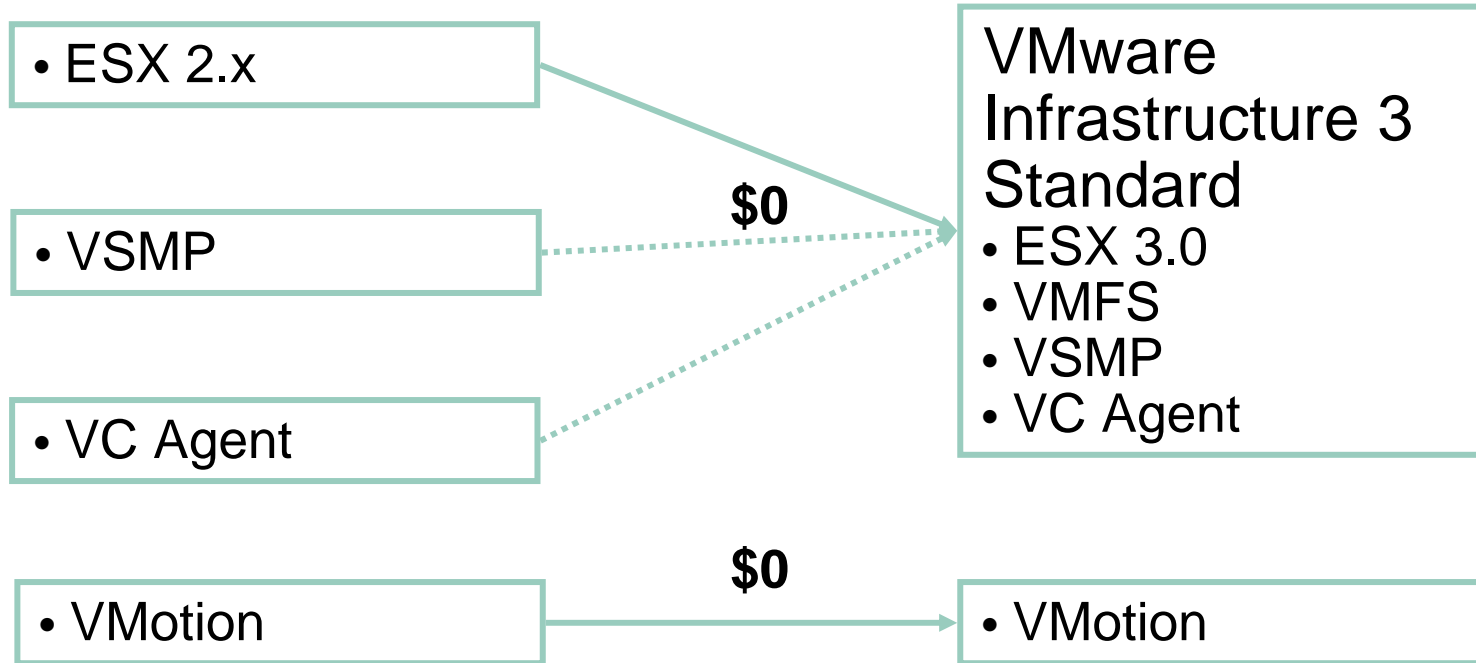
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For customers with valid SnS contracts

Update ESX 2 Einzellizenzen nach VI3

2.x Pricing

3.x Pricing



For customers with valid SnS contracts

License Server

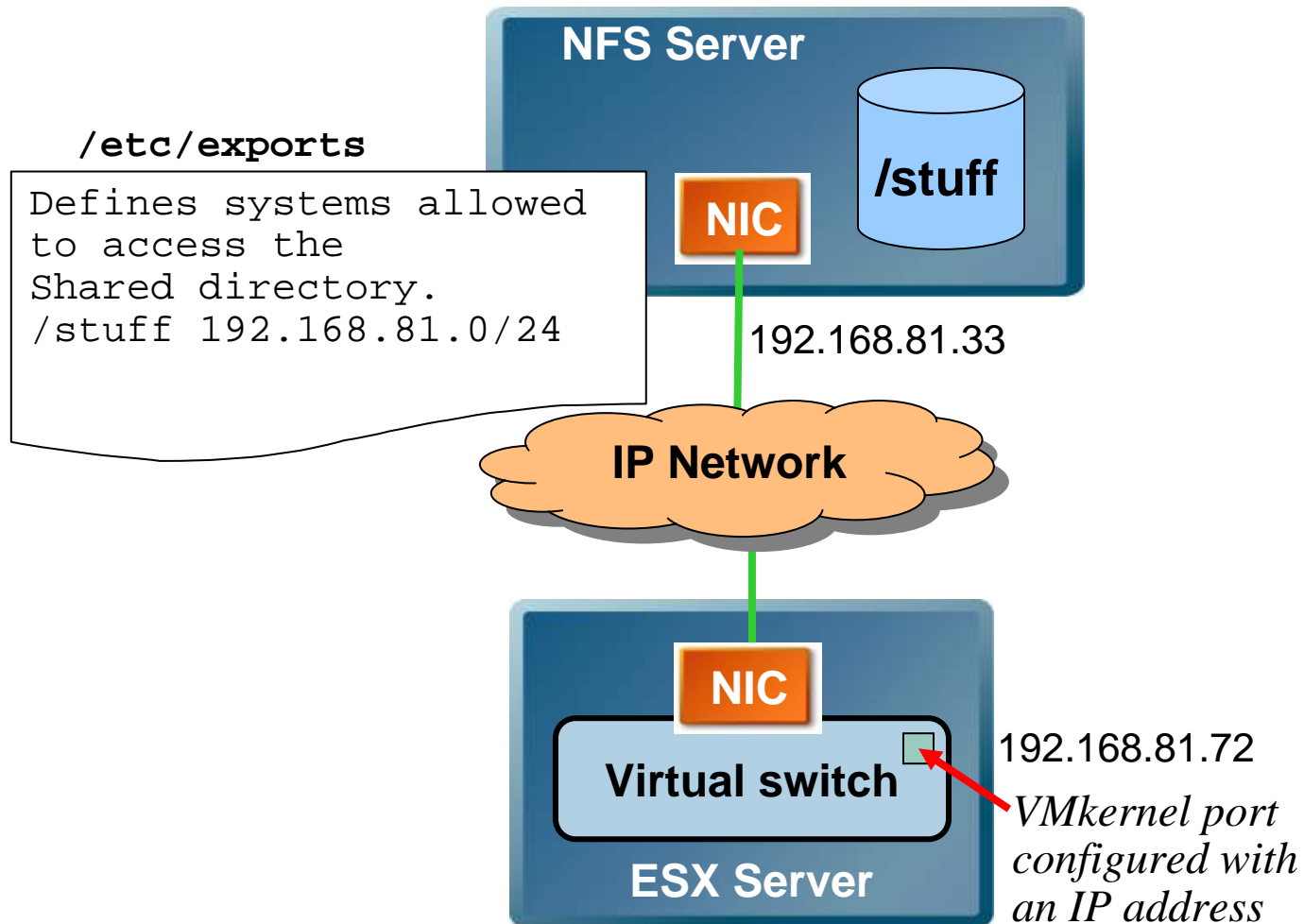
- License Server
 - FlexLM for Managed license
 - like Citrix Presentation Manager – same Server can be used
- Unmanaged License as alternative to Managed License with FlexLM

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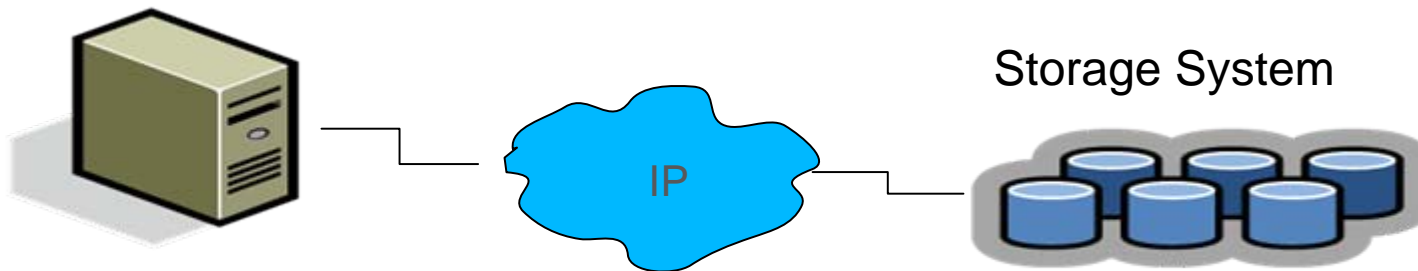
Storageanbindungen

Anbindung über NFS



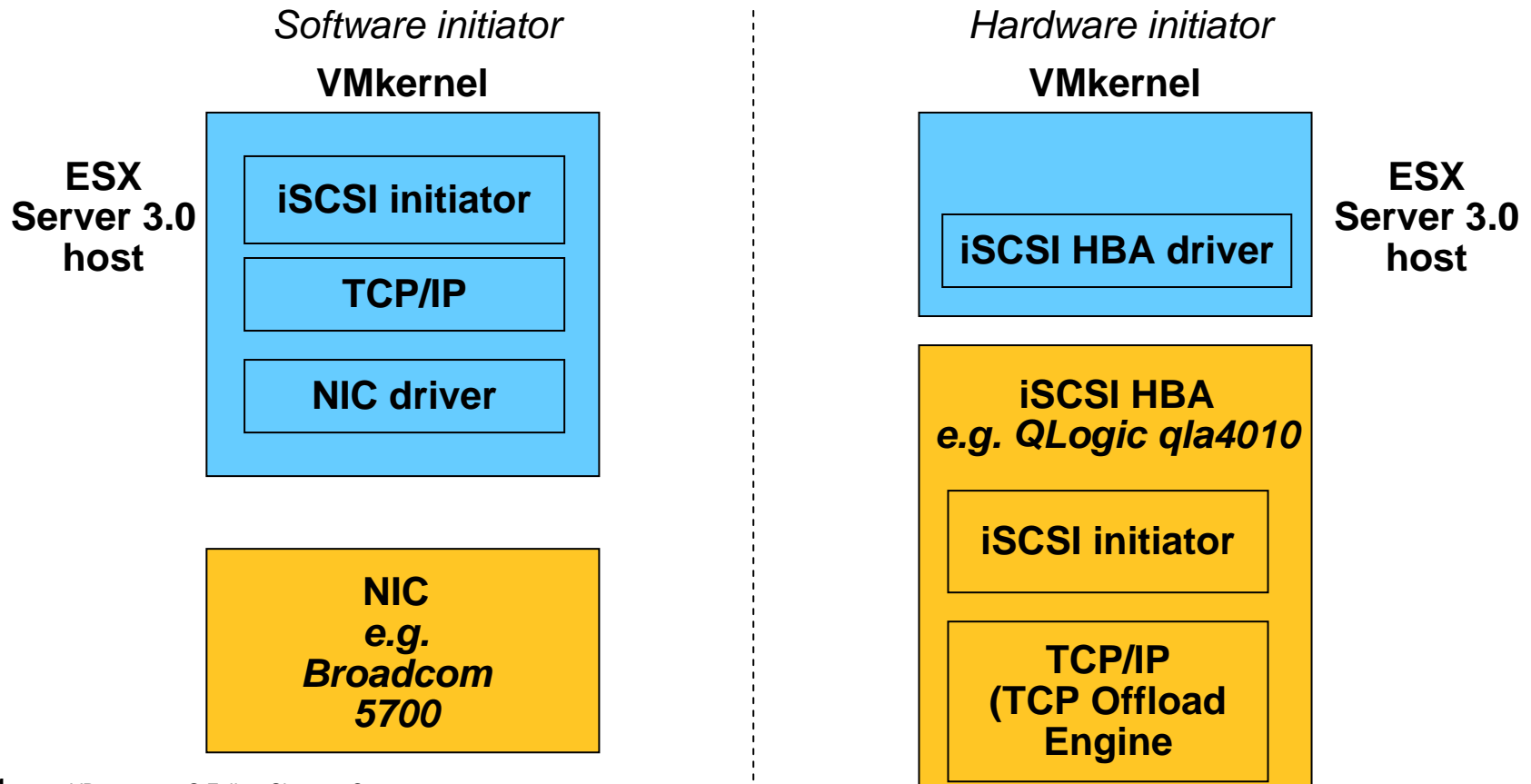
Anbindung über iSCSI

- A SCSI transport protocol, enabling access to storage devices over standard TCP/IP networks
 - Maps SCSI block-oriented storage over TCP/IP
 - Similar to mapping SCSI over Fibre Channel



iSCSI Connectivity

- ESX Server supports both software and hardware initiators



Software initiator vs. Hardware initiator

- Software initiator
 - Use existing NICs
 - Use native vmkernel stack
 - Used when performance IS NOT an issue, as server and application performance can degrade significantly!
 - Used when cost IS an issue
 - Used when no PCI slots are available
 - Used for simple connectivity to storage or tape backup

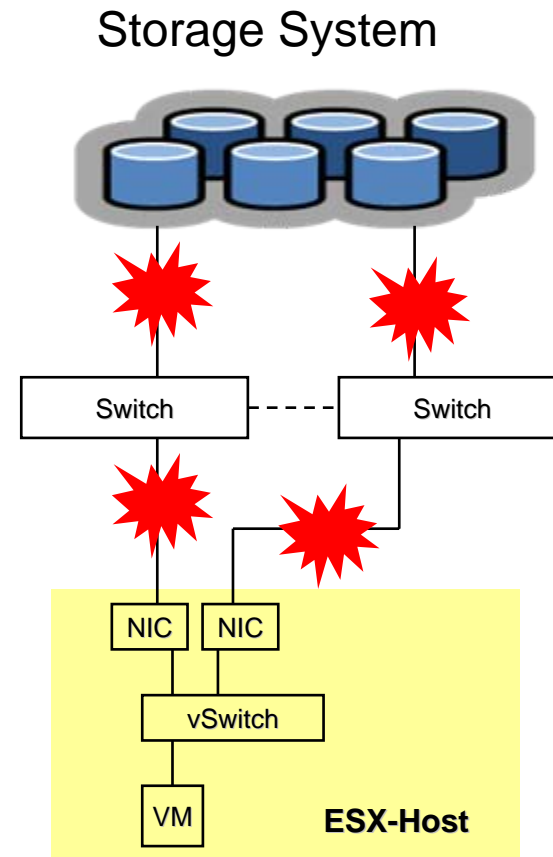
- iSCSI storage adapters (hardware initiator)
 - Uses less ESX Server resources, especially CPU
 - Initially supported adapter-Qlogic qla4010

Verwendung von iSCSI

- Boot ESX Server from iSCSI storage
 - Using hardware initiator only
- Create a VMFS on iSCSI LUN
 - To hold VM State, ISO images, and templates
- Allows VM access to a raw iSCSI LUN
- Allows VMotion migration of a VM whose disk resides on iSCSI LUN

Pfadredundanz bei iSCSI

- Redundanz in ESX Konfigurierbar
 - Beide NIC's aktiv
 - Aktiver NIC und Passiver NIC
- Redundanz über Ethernetswitch
 - z.B. Port Channeling bei Cisco
- Bei Ausfall eines Pfades sind im Betrieb keine Umschaltzeiten spürbar.
Vergleich zu FibreChannel:
Umschaltzeiten bis zu 60s je nach Stagesystem



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Fibre Channel vs. iSCSI vs. NAS

Vergleich FibreChannel vs. iSCSI vs. NAS (NFS) (1)

<i>Technology</i>	<i>Protocols</i>	<i>Transfers</i>	<i>Interface</i>	<i>Performance</i>
Fibre Channel	FC/SCSI	Block access of data/LUN	FC HBA	High (due to dedicated network)
iSCSI	IP/SCSI	Block access of data/LUN	iSCSI HBA or NIC	Medium (depends on integrity of LAN)
NAS	IP/NFS	File (no direct LUN access)	NIC and IP switches	Medium (depends on integrity of LAN)

For best performance and security, consider putting iSCSI and NAS on separate and isolated IP network!

Vergleich FibreChannel vs. iSCSI vs. NAS (NFS) (2)

<i>Technology</i>	<i>Boot VM</i>	<i>Boot ESX Server</i>
Fibre Channel	Yes	Yes
iSCSI	Yes	Yes
NAS	Yes	No

Vergleich FibreChannel vs. iSCSI vs. NAS (NFS) (3)

<i>Technology</i>	<i>Clustering</i>	<i>Raw Disk</i>	<i>RDM</i>
Fibre Channel	Yes	Yes	Yes
iSCSI	No	Yes	Yes
NAS	No	No	No

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Questions