HOWTO run OmniOS under ESXi 5.1

and install VMware-Tools

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This HOWTO has been translated from German into English. However, the screen shots are from the localized German software versions. Nevertheless it shouldn't be too hard to match them with the English versions.

Required software:

- VMware vSphere Hypervisor (ESXi) 5.1.0 with free licence Build Number: 799733, Release Date: 10.09.2012 Source: <u>https://my.vmware.com/web/vmware/info/slug/datacenter_cloud_infrastructure/vmware_vsphere_hypervisor_esxi/5_1#product_downloads</u>
- VMware vSphere Client 5.1.0
 Build Number: 786111, Release Date: 10.09.2012
 Source: https://my.vmware.com/web/vmware/info/slug/datacenter_cloud_infrastructure/vmware_vsphere_hypervisor_esxi/5_1#product_downloads
- ESXi 5.1 update patch ESXi510-201212001 Build Number:914609, Release Date: 20.12.2012 Source: <u>https://hostupdate.vmware.com/software/VUM/OFFLINE/release-368-20121217-718319/ESXi510-201212001.zip</u>
- 4. OmniOS stable release (omnios-33fdde4) OmniOS_Text_r151004.iso Source: http://omnios.omniti.com/media/OmniOS_Text_r151004.iso

The installation was performed according to the following procedure and with the software versions listed above. It might be possible that a combination of other software versions works as well and that some of the described steps are not essentially necessary.

The HOWTO is made up of two major parts:

- I. Upgrading the free ESXi 5.1 Hypervisor
- II. Installation of OmniOS as a Virtual Machine

The described method is not the only possible way to update the ESXi Hypervisor. It does operate directly on the ESXi host via a command shell. Issuing wrong commands might render the ESXi Hypervisor inoperable. Special diligence is required and all actions are on your own risk.

Prerequisites:

- a. The ESXi 5.1 Hypervisor is already installed and licenced on a host system.
 It is assumed that the free of charge available licence from VMware for one physical server has been applied.
- b. The vSphere Client 5.1 software for managing the ESXi 5.1 host is already installed on a Windows PC.

Expressions in angle brackets <> denote variables that have to be substituted by the appropriate values.

I. Upgrading the free ESXi Hypervisor

The free licenced ESXi 5.1 comes with some restrictions, e.g. the vSphere Update Manager (VUM) cannot be used to apply updates. Therefore the update is performed on the command line of a shell on the ESXi host. As a prerequisite the local shell access on the concole terminal and / or the ssh access to the ESXi host have to be enabled.

VMware ESXi 5.1.0 (VMKernel Releas	e Build 799733)	
Supermicro X9SCL-II/X9SCM-II		
Intel(R) Xeon(R) CPU E3-1240 V2 0 32 G18 Menory	3.40GHz	
Download tools to nanage this host http://18.8.8.107/ (DHCP) http://	Fron: (STATIC)	
(F2) Custonize System/View Logs		(F12) Shut Down/Restart

At the ESXi console on the start page Press <F2> and login as "root".



Select "Troubleshooting Options" and in the following menu activate "Enable ESXi Shell" and / or "Enable SSH".

The screen should then look like this:

Troubleshooting Mode Options	ESXi Shell	
Disable ESXI Shell Disable SSI	ESXi Shell is Enabled	
Modify ESXi Shell and SSH timeouts Restart Management Agents	Change current state of the ESXi Shell	
VD/DOWN2 Select	rel Release Build 799733)	KESC2 Exit

Return to the start page with pressing <ESC> twice.

Now it is possible to invoke a local command shell at the ESXi console by pressing <alt-F1> (return from there to the start page with <alt-F2>) if this option has been enabled and / or to access the ESXi host over the network via a ssh client like putty. The IP-address for this is shown on the start page of the ESXi console.

For updating the ESXi host the patch bundle has to be copied to a datastore on the host. This can be done with WinSCP or like shown here by uploading via the datastore browser of the vSphere Client (1.+2.).

20 10.0.0.107 - vSphere Client	the second s			Carton of Sector States		and the second se		
Datei Bearbeiten Ansicht Best	tandsliste Verwaltung Plug-Ins Hilfe	1						
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10000.107	VHware ESX Ubersicht Virtuelle Maschinen & Konfigurationsprobleme ESXI-Shell für den Host wurde aktivert	u, S.1.0, 799733 Ressourcenzuteilung Leistung	Kanfiguration, Lokale Berutzer und Gruppen, Ereignisse, Berechtlo	Ungen				
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	Hyper-Threading:	Aktiv	Netzwerk Tvp	Ordner Suchen	[datastore1] patches			
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	DirectPath I/O:	Unterstützt	TRACK WORKING	-				
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	Image: Second	ein -		<u> </u>	I+ ("		,

Before performing the update the host has to be switched into maintenance mode (3.).

Login as "root" either on the local ESXi console or over the network via ssh.

This is where we did put the patch bundle:

The command:

```
esxcli software sources profile list -d <full-path-to-zip-file>
```

shows a list of all update profiles in the patch bundle:

~ # esxcli software sources profi	le list -d /vm	fs/volumes/datastore1/patches/ESXi510-201212001.zip
Name	Vendor	Acceptance Level
ESXi-5.1.0-20121201001s-standard ESXi-5.1.0-20121204001-standard ESXi-5.1.0-20121201001s-no-tools ESXi-5.1.0-20121204001-no-tools ~ #	VMware, Inc. VMware, Inc. VMware, Inc. VMware, Inc.	PartnerSupported PartnerSupported PartnerSupported PartnerSupported

You can find a very good introduction into the concept of update profiles and an overview of the patch process here:

http://www.v-front.de/2012/11/are-esxi-5x-patches-cumulative.html

In general the standard profile is what you want, i.e. the second profile from the list above. The first profile with the "s" in front of the hyphen does only contain security fixes and the profiles 3 and 4 are without the VMware-Tools.

Before we perform the actual update it is possible to see what will be changed by using the update command with the "--dry-run" option (watch out, double hyphen !).

esxcli software profile update -d <full-path-to-zip-file> --dry-run -p <profile-name>

~ # esxcli software profile update -d /vmfs/volumes/datastore1/patches/ESXi510-201212001.zipdry-run -p ESXi-5.1.0-20121204001-standard
Update Result
Message: Dryrun only, host not changed. The following installers will be applied: [BootBankInstaller, LockerInstaller]
Reboot Required: true
VIBs Installed: VMware_bootbank_esx-base_5.1.0-0.9.914609. VMware_locker_tools-light_5.1.0-0.9.914609
VIBs Removed: VMware bootbank esx-base 5.1.0-0.0.799733. VMware locker tools-light 5.1.0-0.0.799733
VIBs Skipped: VMware_bootbank_ata-pata-amd_0.3.10-3vmw.510.0.0.799733, VMware_bootbank_ata-pata-atiixp_0.4.6-4vmw.510.0.0.799733, VMware
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1-1vmw.510.0.0.799733. VMware bootbank ipmi-ipmi-devintf 39.1-4vmw.510.0.0.799733. VMware bootbank ipmi-ipmi-msghandler 39.1-4vmw.510.0.0.7
99733. VMware bootbank ipmi-ipmi-si-dry 39.1-4vmw.510.0.0.799733. VMware bootbank misc-cnic-register 1.1-1vmw.510.0.0.799733. VMware bootba
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a-1vmw.510.0.0.799733, Wware_bootbank_net-forcedeth_0.61-2vmw.510.0.0.799733, VMware_bootbank_net-igb_2.1.11.1-3vmw.510.0.0.799733, VMware
_bootbank_net-ixgbe_3.7.13.6iov-10vmw.510.0.0.799733, WMware_bootbank_net-nx-nic_4.0.558-3vmw.510.0.0.799733, WMware_bootbank_net-r8168_8.0
13.00-3vmw.510.0.0.799733, WMware_bootbank_net-r8169_6.011.00-2vmw.510.0.0.799733, WMware_bootbank_net-s2io_2.1.4.13427-3vmw.510.0.0.799733
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are_bootbank_sata-ata-piix_2.12-6vmw.510.0.0.799733, VMware_bootbank_sata-sata-nv_3.5-4vmw.510.0.0.799733, VMware_bootbank_sata-sata-promis
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4xx_1.0.8.12-6vmw.510.0.0.799733, VMware_bootbank_scsi-aic79xx_3.1-5vmw.510.0.0.799733, VMware_bootbank_scsi-bnx2i_1.9.1d.v50.1-5vmw.510.0.
0.799733, VMware_bootbank_scsi-fnic_1.5.0.3-1vmw.510.0.0.799733, VMware_bootbank_scsi-hpsa_5.0.0-21vmw.510.0.0.799733, VMware_bootbank_scsi
-ips_7.12.05-4vmw.510.0.0.799733, vMware_bootbank_scsi-lpfc820_8.2.3.1-127vmw.510.0.0.799733, vMware_bootbank_scsi-megaraid-mbox_2.20.5.1-6
vmw.510.0.0.799733, VMware_bootbank_scsi-megaraid-sas_5.34-4vmw.510.0.0.799733, VMware_bootbank_scsi-megaraid2_2.00.4-9vmw.510.0.0.799733,
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csi-mptspi_4.23.01.00-6vmw.510.0.0.799733, VMware_bootbank_scsi-qla2xxx_902.k1.1-9vmw.510.0.0.799733, VMware_bootbank_scsi-qla4xxx_5.01.03.
2-4vmw.510.0.0.799733, WMware_bootbank_scsi-rste_2.0.2.0088-1vmw.510.0.0.799733, WMware_bootbank_uhci-usb-uhci_1.0-3vmw.510.0.0.799733

The actual update is performed by the same command without the "--dry-run" option:



It can take several minutes until the command returns. During that time there is no output and you will see only your command line. Be patient !

Finally reboot the ESXi host and leave the maintenance mode.

Note:

In the command above it is also possible to apply a patch bundle with "install" instead of "update". In this case all the VIBs (VMware Installation Bundles) contained in the patch bundle will be installed, whose version differs from the version already installed on the host. This might result in replacing VIBs that have been installed before separately by older versions.

esxcli software profile install -d <full-path-to-zip-file> --dry-run -p <profile-name>

As an example the first lines of output from a dry run with the "install" subcommand:

~ # esxcli software profile install -d /vmfs/volumes/datastore1/patches/ESXi510-201212001.zip --dry-run -p ESXi-5.1.0-20121204001-standard Installation Result Reboot Required: true VIBs Installed: Wware_bootbank_esx-base_5.1.0-0.9.914609, VMware_bootbank_net-ixgbe_3.7.13.6iov-10vmw.510.0.0.799733, VMware_locker_too ls-light_5.1.0-0.9.914609 VIBs Removed: Intel_bootbank_net-ixgbe_3.11.32-10EM.500.0.0.472560, VMware_bootbank_esx-base_5.1.0-0.0.799733, VMware_locker_tools-light _5.1.0-0.0.799733 _VIBs Skipped:_VMware_bootbank_ata-pata-amd_0.3.10-3vmw.510.0.0.799733, VMware_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_ VIBs Skipped:_VMware_bootbank_ata-pata-amd_0.3.10-3vmw.510.0.0.799733, VMware_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_ VIBs Skipped:_VMware_bootbank_ata-pata-amd_0.3.10-3vmw.510.0.0.799733, VMware_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_ VIBs Skipped:_VMware_bootbank_ata-pata-amd_0.3.10-3vmw.510.0.0.799733, VMware_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_VMare_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_VMare_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_VMare_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_bootbank_ata-pata-atio p.0.4.6-4vmw.510.0.0.799733, VMware_bootbank_ata-pata-atio p.0.4000, 0.

On this system a new version of the network driver (net-ixgbe, version 3.11.32) was installed before. It would get replaced by the older driver version (net-ixgbe, version 3.7.13) from the patch bundle if the "install" subcommand would have been used.

II. Installation of OmniOS as a Virtual Machine

Copy the installer image OmniOS_Text_r151004.iso to a datastore on the ESXi host using WinSCP or upload the file with the datastore-browser of the vSphere Client.

VMware ESXi	VMware ESXi, 5.1.0, 914609											
Übersicht Virtuelle Maschinen R	Ubersicht, Virtuelle Maschinen, Ressourcenzuteilung, Leistung, Konfiguration, Lokale Benutzer und Gruppen, Ereignisse, Berechtigungen											
Konfigurationsprobleme ESXi-Shell für den Host wurde aktivi	iert	Neue virtuelle Maschine ers	tellen			23	J					
SSH für den Host wurde aktiviert Allgemein	_	Konfiguration Konfiguration für die virtue	lle Maschine auswählen									
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Prozessortyp:	Intel(V2 @	Speicher Version der virtuellen Maschine	C Typisch Erstellen Sie eine neue virtuelle Maschine mit den gängig	gsten Geräten und Konfigurationsoptionen.								
Lizenz:	VMwa - Lize	CPUs	Benutzerdefiniert									
Prozessor-Sockets:	1	Arbeitsspeicher	Relen Sie eine neue virtuelle Maschine mit zusätzliche	en Geräten oder bestimmten Konfigurationsoptio	onen.							
Kerne pro Socket:	4	Netzwerk CCCI Cantraller										
Logische Prozessoren:	8	Festilatte ausvählen										
Hyper-Threading:	Aktiv	Bereit zum Abschließen										
Anzahl an Netzwerkkarten:	4											
Zustand:	Verbu	1										
Virtuelle Maschinen und Vorlagen:	1		2.									
vMotion aktiviert:	Nicht	1										
VMware EVC-Modus:	Deak	1										
vSphere HA-Status	② Nie	1										
Host für Fault Tolerance konfiguriert:	Nicht	1										
Aktive Aufgaben:												
Hostprofil:	Nicht											
Image-Profil:	(Upda	1	1.									
Profil-Ubereinstimmung:	(2) N											
DirectPath I/O:	Unter											
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🛐 Neue virtuelle Maschine 🥔												
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🌇 Neu starten		Hife		< Zurück Weiter >	Abbre	chen I						
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In vSphere Client create a new Virtual Machine (1. + 2.).

On the following pages chose a name for the VM, e.g. "OmniOS", select the datastore for placing the VM files and select Virtual Machine version 8.

Select "Oracle Solaris 10 (64-bit)" as the guest OS:

🕜 Neue virtuelle Maschine erst	ellen	
Gastbetriebssystem Geben Sie das Gastbetriebs	system an, das auf dieser virtuellen Maschine genutzt werden sol	Version der virtuellen Maschine: 8 I
Konfacztion Neme und Soeicherort Soeicher Castlechriebsystem Castlechriebsystem Castlechriebsystem SciSt-Controller Festpate zum Abschließen	Gastbetriebasystem: C Windows C Linux Marker Version: Orade Solaris 10 (64-8it) Durch das Identifizieren des Gastbetriebasystems kann der Ass Betriebasystems vorsehen.	sistent passende Vorgaben für die Installation des
Hilfe		< Zurück Weiter > Abbrechen

Next specify the number of CPUs, Cores and the amount of main memory.

Select "VMXNET 3" as the network adapter:

Neue virtuelle Maschine erste	illen			×
Netzwerk Welche Netzwerkverbindung	en werden von der virtuellen Maschine verwendet?		Version der virtuellen Mas	schine:
Konfauraton Name und Socherort Socialite Werston der vitraden Manchorg CRUs Anbeitsteicher Netzwerk Socialitenter Perspätischen Bereit zum Abschlieden	Netzwerkverbindungen erstellen We viele Netzwerkarten möchten Sie anschleßen? Netzwerk 1: Mit Retwork Sofern von deser VM-Version unterstützt, können n bezbeitetn mehr als A hetzwerkkarten hänzugefügt Mediche estellt wurd. Die Adapterauswahl kann sich sowohl auf die Netzwerk Netzwerkladigtern, die von verschledienen Gestbetrieb werden, finden Sie hier: VM-wer-Knowledigelaus.	Adapter Adapter MONET 3 MO	Bein Brochalten verbiden IV IV IV IV IV IV IV IV IV IV IV IV IV	
•				
Hife		< 2	turück Weiter > Abbre	chen

For the SCSI controller use "LSI Logic Parallel" and chose to create a new virtual disk. Regarding the disk size it is not necessary to go with the 16GB shown below. The OmniOS Installer will later propose a minimum of 2.1GB and recommend 4.1GB.

🕜 Neue virtuelle Maschine erstellen		Neue virtuelle Maschine erstellen	
Festplatte erstellen Geben Sie de Größe der virtuellen Festplatte und die Bereitstelungprichtlinie an	Version der virtuellen Maschine: 8	Erweiterte Optionen Diese erweiterten Optionen müssen in der Regel nicht geändert werden.	Version der virtuellen Maschine: 8
Kopalitä Kopalitä Statististä Statististä Galle kohdensitte Forspättersofter Breitigtersofter Forspättersofter Generasem mt vitueller Machene poolen Generasem mt vitueller Machene poolen Oberspecifier oder Datempoolen Oberspecifier oder Datempoolen Outspecifier oder Datempoolen		Mondowskim Mondowskim Mondowskim Gostade Castletidiosvaten Castletidiosvaten <tr< td=""><td>Periplatte fest. Diese Optionen</td></tr<>	Periplatte fest. Diese Optionen
	Weiter > Abbrechen	Hife	< Zurück Weiter > Abbrechen

On the summary page select to modify the settings before creating the VM (3.):



In the following dialog select the CD-/DVD-drive and specify to use an ISO-image. As the source chose the OmniOS_Text_r151004.iso file on the ESXi datastore (4.). Also select to connect the drive when powering on the VM (5.):

Alle Geräte <u>Hnzufüg</u>	en Entfernen	Gerätestatus	
Ardentssecher (wird him., CHU (wird him.quefügt) Genfählster (wird him.quefügt) Genfählster (wird him.quefügt) WHCI Gesti (wird him.quefügt) Newer Schlotter (wird him. Newer Schlotter (wird him.	Ubersich 16384 H9 2 Grafikarte Eingeschankt (datastore) iso/O Chentgerät SII Logic / Panilel W1 Network W1 Network W1 Network SII Logic / Symbos. SII Logic / Symbos.	Been Einschaften verbinden Carbitetyp Carbitetyp Carbitetyp Carbitetyp Homsen: Alle Verbinden dasses Gefälte näcken Sie des auf de Schaftlicher UD-300-Numfwerk verbinden: Makan. Peterspecker-SSO-Datas (Carbitetype Signature) (Schaftlicher UD-300-Numfwerk verbinden: (Schaftlicher UD-300-	-5.
- m	•		

In the example above also 3 PCI-devices have been configured which is not required.

Finish the VM creation.

To start the installation select the VM in the inventory on the left side of the vSphere Client, right click and "Launch Console". Press the start button on the VM console window.

This should start the OmniOS installer of the ISO-image which was previously connected to the CD-drive. Make your selection for the keyboard layout and chose option 1 to install OmniOS:



Select to use the whole virtual disk for the installation:



Continue with <F2> (instead of <Enter>).

In the dialog for entering the computer name we get the information that no wired network interface was found. This is because the network driver for the previously selected VMXNET3 adapter will only be available after installing the VMware-Tools later.



After selecting the timezone the installation starts.

Round about 2 minutes later it has finished and we reboot with <F8>.

Login as "root" without password:



Next in the VM settings (VM console window menu bar: "VM" --> "Modify settings...") select the CD-/DVD-drive and uncheck "connected" and "connect at power on". Answer the following question with "Yes":



On the OmniOS command line activate the hotplug service with:

svcadm enable hotplug

Start the installation of the VMware-Tools by selecting "VM" --> "Guest" --> "VMware Tools installation/update" from the menu bar of the VM console window. The VMware-Tools CD has to be mounted manually.

For this enter:

ls -1 /dev/dsk | grep ide | grep c*s2

to search for the device of the virtual CD-drive.



The device-node "c1t0d0s2" does represent the slice to be mounted. This might differ from case to case and has to be adjusted in the following.

Mount the CD-drive with:

```
mount -F hsfs -o ro /dev/dsk/<device-node> /media
```



Unpack the VMware-Tools:

cd /root

tar xzf /media/vmware-solaris-tools.tar.gz

and start the installation with:

cd vmware-tools-distrib

perl ./vmware-install.pl



Before running VMware Tools for the first time, you need to configure it by invoking the following command: "/usr/bin/vmware-config-tools.pl". Do you want this program to invoke the command for you now? [yes] _

Answer all questions with their default by pressing <Enter>.





At the end you should have successfully installed the VMware-Tools version 9.0.1 build-913578 for Solaris in the OmniOS Virtual Machine.

The message from "svcprop" can be safely ignored, because the OmniOS VM doesn't have a X-server installed. Therefore all components of the VMware-Tools dealing with the integration of the user interface, i.e. graphics, mouse etc. don't apply to the OmniOS server distribution which is purely text based..

The message regarding "vmxnet3s0" shows that a network driver was installed successfully for the VMXNET 3 adapter but still needs to be configured in another step.

Do this according http://napp-it.org/downloads/omnios_en.html point 4.:

dladm show-link



ipadm create-if vmxnet3s0

root@OmniOS:~# ipadm create-if umxnet3s0										
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x200000) -> no				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	start()				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getprop(TxRingSize) -> 256				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getprop(RxRingSize) -> 256				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getprop(RxBufPoolLimit) -> 512				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x20000) -> no				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x1) -> yes				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x100000) -> no				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x400000) -> no				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x200000) -> no				
Dec	30	15:57:23	OmniOS	last messa	age repeated	1 time				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x20000) -> no				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x1) -> yes				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x100000) -> no				
Dec	30	15:57:23	OmniOS	vmxnet3s:	vmxnet3s:0:	getcapab(0x400000) -> no				
\mathbf{roo}	teor	nniOS:~#	_							

Now the following message will start to be posted permanently to the console and /var/adm/messages:



Despite spamming the log it looks like this does not indicate a noteworthy problem. You will find the same message in /var/adm/messages after installing the VMware-Tools in the Openindiana 151a5 desktop distribution. It just doesn't stand out because the console is covered by the X-server graphics window. The cause of this message is therefore not OmniOS specific but indicates a general flaw of the VMXNET 3 network driver under Illumos. In case that noticeable problems would show up it is always possible to change the configuration of the VM and use the E1000 network adapter instead. In this case you can completely follow point 4. under http://napp-it.org/downloads/omnios_en.html for the configuration of the network interface.

Procedd with setting the IP-address:

ipadm create-addr -T static -a <IP-address>/24 vmxnet3s0/v4

Now the output of *dladm show-link* and *dladm show-phys* should look like this:

ſ	Datei	Ansicht	VM											
			0	Ø		13	Þ		i.					
ł	root	0mniO?	3:~#	dlad	m sł	iow-	link							
l	LINK		CLA	ISS	1	ITU	S	TATE		BRIDGE	OV	ER		
	vmxne	et3s0	թհգ		1	500	u	р						
	root	0mniO	3:~#	dlad	m sł	iow-)	phys							
	LINK		ME	DIA					STAI	T E	SPEED	DUPLEX	DEVICE	
	vmxne	et3s0	Et	hern	et				սթ		10000	full	vmxnet3s0	
1	root@	OmniO	3:~#	_										

Set the default route:

route -p add default <Gateway-IP-address>

Specify the nameserver:

```
echo 'nameserver <Nameserver-IP-address>' >> /etc/resolv.conf
```

and activate DNS:

```
cp /etc/nsswitch.dns /etc/nsswitch.conf
```

For enabling ssh access you need to set a password for "root" first :

passwd root

and then change the entry in sshd_config from "no" to "yes":

cd /etc/ssh

```
cp sshd_config sshd_config.orig
```

```
sed 's/PermitRootLogin no/PermitRootLogin yes/' sshd_config > sshd_config.new
```

```
mv sshd_config.new sshd_config
```

Finally sshd needs to reread its configuration file. This can be accomplished by sending it the SIGHUP Signal or by a reboot.

A proper reboot can now be initiated from the vSphere Client thanks to the installed VMware-Tools.



It is announced on the console and other connected terminal sessions:



Finally it is now possible to access the server via a ssh client like putty.

