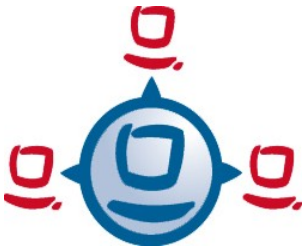
Documentation
as of: **03/03/2009**



opsi
Version 3.3

installation manual
opsi-server

open pc server integration

boot- and installation server for workstation PC's

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1 Introduction

This instruction explain detailed installation and starting of an opsiserver. It starts from the provided installation package and lead to a the test installation of a client.

The shown network configuration is exemplary and relates to a net without concurrent DHCP-Server (for example an isolated test net with a opsiserver and clients for the first trials).

We approve urgently for the first trials with opsi in a test net separated from other DHCP-server. Temporarily should a connection to the main net be possible for download actual product packages.

For an integration in concomitant nets you can ask for consulting service from your office (uib) if necessary.

1.1 Steps for installation and starting

Three steps for an installing and starting of an opsi-server:

(a) base installation of the server

(b) adjustment the server: configuration of the network, password awarding, updating of the server, product download

(c) complete the System Software Base Paket for Windows 2000 and XP from the original-CDs

Afterwards a client could be installed automatically.

For the base installation exists three versions to choose from your interest. For all three versions are the required data-packages in the internet or at the opsiserver-CD provided:

(1) starting of a VMware-machine (quick and easy, demanded a free of charge Vmware-Player)

(2) installation from the opsi-server-installation CD (its also quick and easy if their are no problems with the Hardware; run also with older hardware).

(3) installation of a debian-(Etch-)system with apt-get (If you know what you do.....)

The method of base installation variants are described in chapter 2 of this introduction.

1.2 Hardware requirement

For a opsiserver the following hardware is recommended:

- Intel-x86-compatible PC
- network interface card assisted by standard-linux kernel
- a hard disk with 16 GB capacity
- a bootable CD-ROM-drive

Neither in test handling or in reality handling are the requirements at the capacity on the machine high. Primarily the servers working as file-server which requires a network connection.

Working with a VMware-Machine needs a reasonable host computer. It's possible for test status that an other VMware-machine work as client in the same host computer.

2 opsi-server base installation

This chapter describe three version of realisation for an opsiserver. If all steps are successful you get an identical server system, which is prepared for configuration and starting. You can choose your way realising an opsiserver and ignore the other stages.

At the end you should update your system according chapter 'Update of the opsi-server'.

2.1 Starting of a VMware-Machine

A opsiserver can be installed as a virtuell machine because the required computer speed can be low. For VMware a corresponding machine is prepared. The data files are available on the opsi-server-CD or in the internet. For handling free of charge VM-ware-player is adequate.

If you already installed a complete VMware software or a VMware player, you only need few mouse clicks for a opsi-server base installation:

- Copy the data 'opsi3.3-servervm.zip' from CD in a directory or download it from the internet.
- Unzip the data and a directory 'opsiserver' will be generated.
- Start the VMware-player. Search with the data browser the directory 'opsiserver' and choose the data 'opsiserver.vmx'. Sometime you get a message that CDROM- and floppy-disk device have another address – you can ignore this message. The virtuell machine boots.

The VMware-player is free of charge for all system software on vmware.com. Normally you can install it without problems, if the equipment of the host computer (specially memory) meet the needs of parallel running software system.

The virtuell machine from uib is based on Linux. Properties for our host-system are described in the configuration file 'opsiserver.vmx'. If you run the opsiserver image under Windows or if your Linux system machine has another address, you have to adapt the file.

If you restart your system successfully you can go on with to the chapter 'Language and Network configuration'.

2.2 Installation of a Debian (Etch) System with apt-get

In this chapter we assume you are familiar with the debian-package system (topic

informations of this topic you will find in appropriate books, on manual pages or under http://www.debian.org/doc/).

Please note that an opsiserver needs storage place in /opt/pcbin and /var/lib/opsi. In both directories a free space of minimum 8 GB is recommended.

We recommend the following installations:

```
apt-get install wget lsof host python-mechanize p7zip-full
```

opsi need a installed samba. Install it form Debian:

```
apt-get install samba samba-common smbclient smbfs samba-doc
```

or install samba from the Sernet repositories:
Add in the file '/etc/apt/sources.list':

```
deb http://ftp.sernet.de/pub/samba/tested/debian etch main
```

and install samba with the commands:

```
apt-get update
apt-get install sernet-cifs-mount sernet-samba sernet-samba-doc sernet-smbclient sernet-smbfs
```

Working on a Ubuntu server you should also install: openbsd-inetd.

Check the opsiserver entry in `/etc/hosts` or the output of

```
getent hosts `hostname -f`
```

The result should be similar to

```
192.168.1.1 server.domain.tld server
```

To start with the installation of opsi add in the file '/etc/apt/sources.list':

```
deb http://download.uib.de/debian etch opsi3.3
```

Execute the following orders:

```
apt-get update
apt-get remove tftpd
update-inetd --remove tftpd
apt-get install opsi-atftpd
apt-get install opsi-depotserver
apt-get install opsi-configed
```

During the tftpd-installation you will be asked for the tftp directory. Answer with '/tftpboot'. The question after the multicast support you can answer with 'no'.

During the installation of the opsiconfd you will be asked for informations for a SSL certificate preparation.

See also the description under 'Update opsi 2.5 to 3.0'.

During the opsiserver installation you have to allow the patching of the files 'dhcpd.conf' and 'smb.conf'. Answer the question with 'yes'. Also you will be asked for a password for the user 'pcpatch'. Set a new password and please consider chapter 'Change of passwords'.

Cause you install opsi on an existing machine we assume of a correct network

configuration. So you can go on with chapter 'Checking the java configuration'.

2.3 Installation from the opsi-server-CD

The computer will be complete new attached. The hard disk will be prepared and a linux base system installed supported with the opsi-tools 'sysbackup' or 'sysrestore'.

Attention: The installation delete the complete hard disk!

Steps:

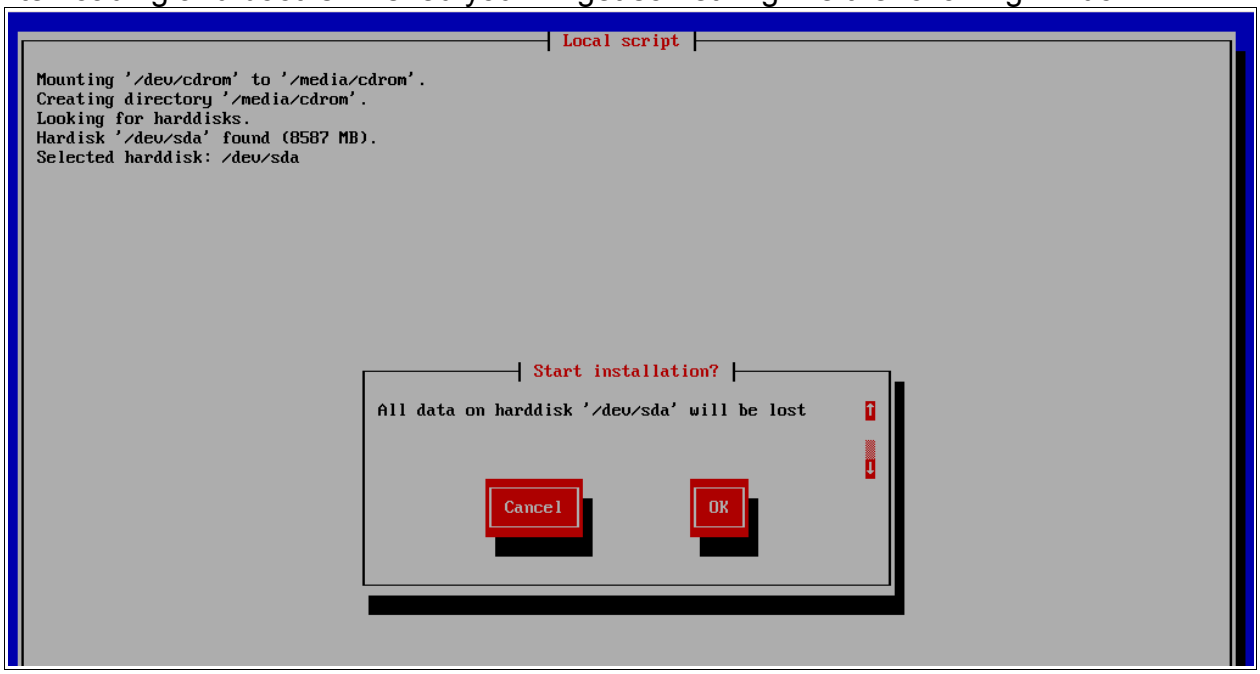
Put the CD in the drive and reboot the computer.

The computer should boot now from the CD. If it not boot from CD, you have to change the BIOS-settings to allow a reboot from CD.

Booting from CD you see the following message

After few seconds waiting 'Boot from local drive ' automatically will choose and the reboot from the hard disk starts. Please choose 'Install opsi depotserver'.

After loading and boot is finished you will get something like the following window:



Choose 'OK' to continue.

The following output looks like:

```
Mounting '/dev/cdrom' to '/media/cdrom'.
Creating directory '/media/cdrom'.
Looking for harddisks.
Hardisk '/dev/sda' found (8587 MB).
Selected harddisk: /dev/sda
Deleting partition table on disk '/dev/sda'.
Creating partition on '/dev/sda': number: 1, type 'primary', filesystem 'linux-swap', start: 1 cyl, end: 130 cyl.
Creating partition on '/dev/sda': number: 2, type 'primary', filesystem 'ext3', start: 131 cyl, end: 1043 cyl.
Creating filesystem 'linux-swap' on '/dev/sda1'.
Creating filesystem 'ext3' on '/dev/sda2'.
Mounting '/dev/sda2' to '/mnt/root'.
Creating directory '/mnt/root'.
Extracting server filesystem
```

'Extracting server filesystem' will take a while (about 5 - 15 Minutes).

After extracting the Master Boot Record is written an the machine reboots.

Take off the CD.

If you start your system successfully go on with the chapter 'Language and Network configuration'.

2.4 Installation on an univention corporate server (UCS 2.x)

For opsi evaluation we recommend to use our VMware-Machine or a Debian based System

Insert the following informations in the file /etc/apt/sources.list:

```
deb http://apt.univention.de/2.0/unmaintained/ 2.0-0/all/
deb http://apt.univention.de/2.0/unmaintained/ 2.0-0/i386/
deb http://apt.univention.de/2.0/unmaintained/ 2.0-0/amd64/
deb http://apt.univention.de/2.0/unmaintained/ 2.0-0/extern/
deb-src http://apt.univention.de/2.0/unmaintained/ 2.0-0/source/

deb http://<username>:<password>@download.uib.de/debian ucs2.0 opsi3.3
```

You have to displace <username> and <password> with your login data.

Complete the following orders:

```
apt-get update
apt-get install opsi4ucs-ldap-schema
apt-get install opsi4ucs
```

During the tftpd-installation you will be asked for the tftp directory. Answer with '/var/lib/univention-client-boot/'. The question after the multicast support you can answer with 'no'.

During the installation you will be asked some questions – see also 2.3.

The opsi configuration editor can be installed optional as applet on the UCS-server.

Complete the following orders:

```
apt-get install opsi-configed
/etc/init.d/opsiconfd restart
```

The applet can called up with the URL https://<servername>:4447/configed.

For using the opsi configuration editor the user has to be member of the group 'opsiadmin'. The group membership of an user can be configured with the univention-admin.

2.5 Installation on openSUSE 10.3/11.0

First general notes:

- These packages are tested with Open-Suse 10.3/11.0.
- uib gmbh approved for evaluation the usage of opsi-VM or a Debian or Ubuntu Systems because the product dependence could be dissolved comfortable.
- Support for Suse based systems afford uib gmbh in context of a Professional Support contract.

Necessary preparations:

- The command “hostname -f” must return a fully qualified domainname containing two dots, e.g. opsiserver.uib.local
- The command “getent hosts `hostname -f`” must return the ip address of the interface the clients should connect to. If the result is 127.0.0.2 please correct your /etc/hosts.
- Samba must be configured
- If the machine should also act as DHCP-server, the daemon dhcpd has to be configured and should be up and running

You can use zypper to add the opsi-SUSE-Repository:

```
zypper ar 'http://<username>@download.uib.de/suse' opsi3.3
```

You have to replace <username> by your login name.

You will be asked for your password on every repository access.

Depending on the used openSUSE version you will have to resolve some package dependencies. The following packages may be not part of the distribution:

- python-crypto
- python-mysql
- python-twisted-web2
- python-newt
- duplicity

The required packages may be available in the following community-repositories:

openSUSE 10.3

http://download.opensuse.org/repositories/devel:/languages:/python/openSUSE_10.3/

http://download.opensuse.org/distribution/10.3/repo/oss/suse

http://download.opensuse.org/distribution/10.3/repo/non-oss/suse

http://download.opensuse.org/repositories/home:/lrupp:/Factory/openSUSE_10.3

http://download.opensuse.org/repositories/home:/Saviq/openSUSE_10.3

http://download.opensuse.org/repositories/home:/jimfunk/openSUSE_10.3/

openSUSE 11.0

http://download.opensuse.org/repositories/devel:/languages:/python/openSUSE_11.0/

http://download.opensuse.org/repositories/home:/dsbhayangkara/openSUSE_11.0_Update/

http://download.opensuse.org/repositories/home:/Saviq/openSUSE_11.0/

After adding the repositories the installation of opsi can be started by executing:

```
zypper install opsi-depotserver
zypper install opsi-configed
rcopsiconfd restart
rcopsipxeconfd restart
```

3 Language and Network configuration

Precondition: Base installation is finished and the system (re)booted.

3.1 Language configuration

The first step is to choose the preferred language:

Figure 1: Language selection

3.2 „1stboot“

For the work with the opsiserver it could be helpful to connect them with the internet directly. For network configuration start the script `1stboot.py`.

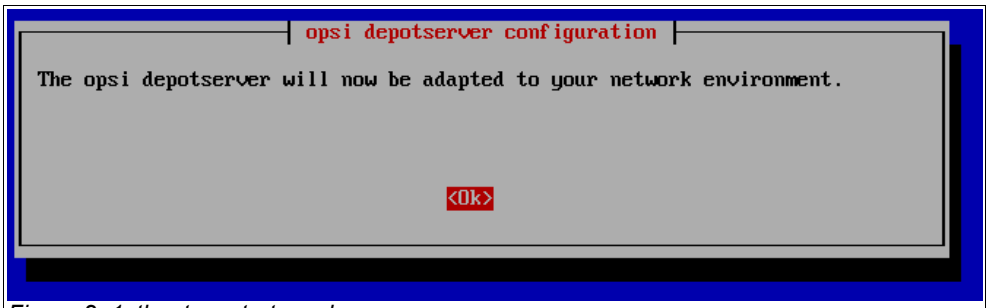


Figure 2: 1stboot.py start mask

Put in the configuration informations for your network and answer the questions.

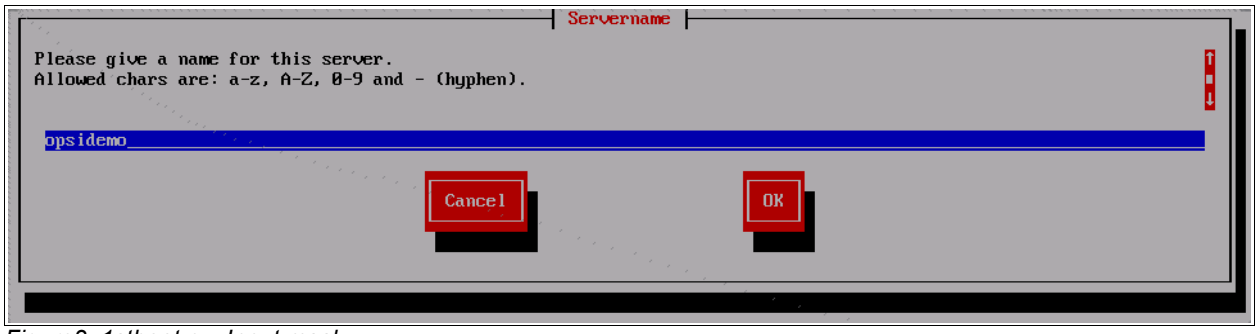


Figure3: 1stboot.py: Input mask

In the following you will asked for:

- server name — Name of this server (without domain) e.g. opsidepot
- domain — DNS-Domain (not Windows-Domain) – the name has to include a point e.g. opsi.local
- ip address — Address of this server e.g. 192.168.1.50
- netmask — Net mask of this server e.g. 255.255.255.0
- country — For the creation of the SSL-certificate: Identification of the nation (2 capital letter) e.g. DE
- state — For the creation of the SSL-certificate: Identification of the federal state e.g. RPL
- city — For the creation of the SSL-certificate: Identification of the city e.g. Mainz
- organisation — For the creation of the SSL-certificate: Identification of the company e.g. uib gmbh
- organisational unit — For the creation of the SSL-certificate: Identification of the bureau (optional)
- email address — For the creation of the SSL-certificate: mail address (optional)

- gateway — IP-adress of the internet gateway e.g. 192.168.1.1
- proxy — If useful for the internet access the proxy informations: e.g. http://myuser:mypass@192.168.1.5:8080
- DNS server — ip address of the name server e.g. 192.168.1.1
- mail relay — ip address of the mail server e.g. 192.168.1.1
- tftp server: — As 'TFTP server' you put in IP-number of the server (='IP-address') normally.
- Password of root — Password of root

After finishing the program '1stboot.py' the machine will be rebooted.

A technical advice to the program 1stboot.py:
The program works with templates to modify the configuration files. If you work reapply with the program and want to edit the configuration files by yourself you find the template in:

/var/lib/1stboot/templates/

3.3 Second start

After the reboot login as 'root' with your password.

You are on the graphic surface of the opsiserver directly (for the surface a sustainable use of ressources surface so-called Windowmanager will used). For salutatory an „Iceweasel“-browser-window with furthermore instructions and a reference on the available handbook attend.

If you get a message that their is no network connection, you should reboot the computer before you are searching for the fault.

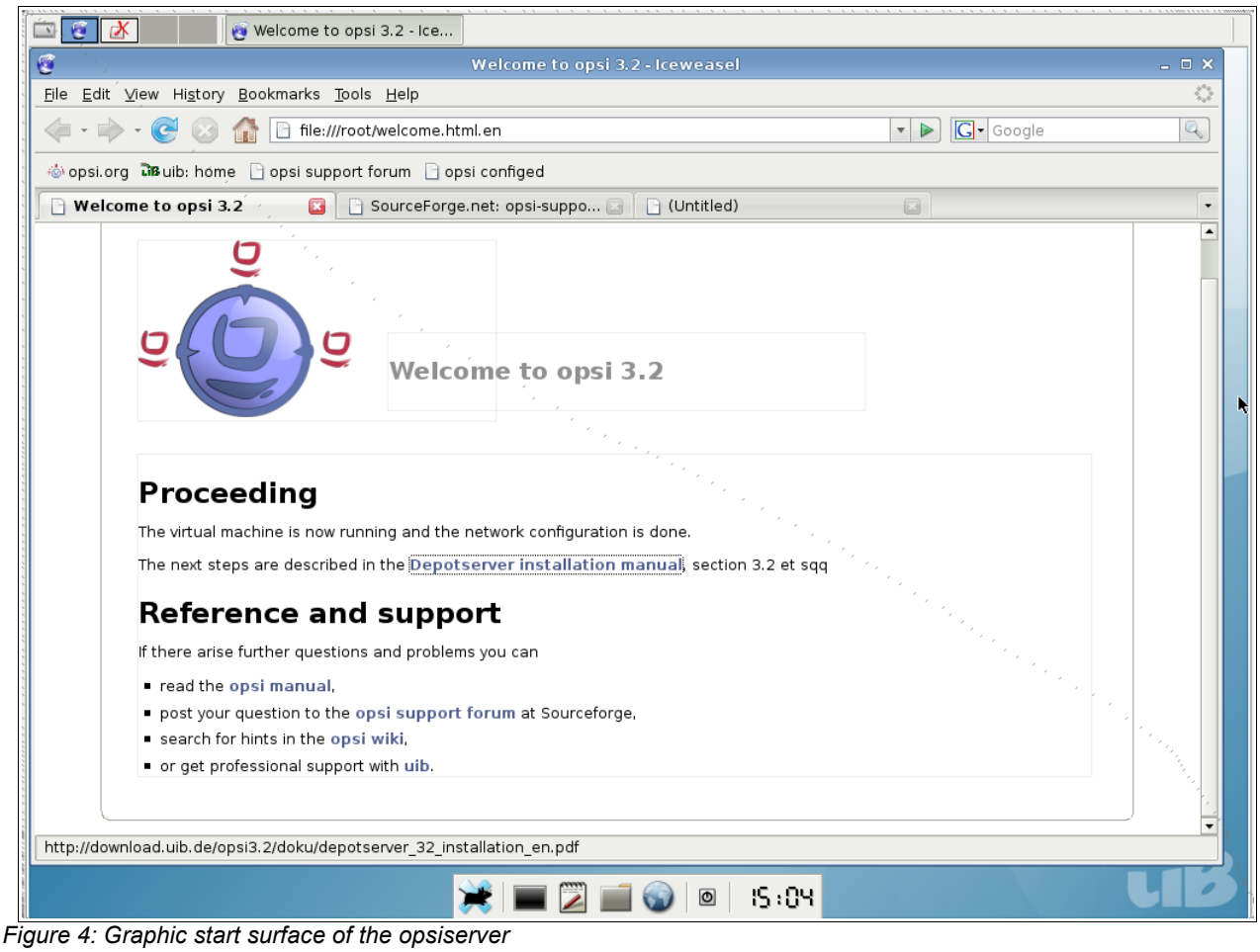


Figure 4: Graphic start surface of the opsiserver

If the network configuration information was correct you are able to grab per remote on the opsiserver:

- Per ssh (in linux systems always existent, under Windows with putty, s. http://www.chiark.greenend.org.uk/~sgtatham/putty/) you can hit on the command line of the server. As user name you use 'root' and authenticate with the root password.
- Per vnc (normally under Linux with the e.g. available vncviewer or krdc, under Windows e.g. with ultravnc, http://www.uvnc.com/) you can use per remote a graphic surface. The vnc-adress will build out of the IP-adress (or the server name by a already working name release) and a trailed „:1“. The password for the vnc access is „linux123“. You should change it soonest – how is describe in the next chapter.

3.4 Terminal window

In the following some orders has to put in the command line. It could be a fast way to get the wished result.

A window for the input of orders i.e. a terminal window you can get in different ways:

- Remote access per ssh on the opsiserver (see the last chapter)

- Open a terminal window in the graphic surface (directly on the opsiserver or per vnc) with a click on the teminal icon in the icon bar.
- Open a terminal window in the graphic surface (directly on the opsiserver or per vnc) with a right mouse click in the surface and the choice of „Terminal“. Helpfully: the graphic surface has many working surfaces reachable with the choice buttons in the left upper corner of the display.

It's very advantageous to put instruction orders e.g. out of this handbook per cut and paste in a terminal window (as far as the application environment support this).

The default password for the vnc connection is „linux123“ - you have to change it, best change is directly:

Open a new terminal window and write:

```
vncpasswd
```

On the following question you have to put in your new password. Minimum are 8 charakters.

General in productive systems should the vnc access be locked or only allowed tunneld with over SSH for security reasons. If vnc is admitted for the internal network a firewall has to block the internet port.

3.5 Check and if necessary correct the network connection

If the network configuration is correct and the computer is connected with the internet you can access on any adress in the internet with the browser in the start window.

If not everything works you have to open a terminal window (maybe the remote access isn't possible yet but the direct server surface) and prove the network connection usual checks.

You can access the following command in the terminal window

```
1stboot.py
```

and put in the network configuration again.

A reboot is forced with the order

```
reboot
```

If the network connection works, you can put in opsi packages or actualize them. And build the environment for the first installation test.

4 Update and configuration of opsiserver

4.1 Proxy entry in apt-configuration

Adapt if necessary the file

```
/etc/apt/apt.conf
```

on your network circumstances (put the right proxy in or comment/delete lines). You can edit your file with e.g. a program like „midnight commander“:

```
mc /etc/apt/apt.conf
```

4.2 Update of the opsiserver

Update the opsiserver with the comandos:

```
apt-get update
apt-get upgrade
```

4.3 Checking the java configuration

Administrate the opsiservers and the connected clients with the program 'opsi-configed'. The program is written in Java and use minimum Java version 6 or version 1.6 (old version count).

To control the Java version call up

```
java -version
```

in a terminal window.

Adapt in a terminal window with `update-alternatives` the Java version if it's not indicated with minimum „1.6.0“:

```
update-alternatives --config java

There are 3 alternatives which provide `java'.

  Selection    Alternative
-----------------------------------------------
 +    1        /usr/lib/j2se/1.4/bin/java
*     2        /usr/lib/j2sdk1.5-sun/bin/java
      3        /usr/lib/j2re1.6-sun/bin/java

Press enter to keep the default[*], or type selection number: 3
Using `/usr/lib/j2re1.6-sun/bin/java' to provide `java'.
```

4.4 Change passwords

On the system is a pseudo-user 'pcpatch' arranged. For installation of software packages the PC use the user 'pcpatch' and you can access the configuration data on designed shares.

The user 'pcpatch' has to be arranged with a correct password. Call in a terminal window the program 'opsi-admin' and the 'opsi-admin' will set the 'pcpatch-password for opsi, unix and samba (after sending the order you have to put in the password):

```
opsi-admin -d task setPcpatchPassword
```

4.5 Administrate the groups opsiadmin / pcpatch

The opsi administration is only allowed for user members in the UNIX-group 'opsiadmin'.

In the configured VMware-machine is only 'root' member of these group. If on the opsiserver e.g. a user 'Schneider' exists and belong also to the group 'opsiadmin' the group membership can be arranged and tested with the orders:

```
adduser schneider opsiadmin
grep opsiadmin /etc/group
```

The grep-order put out (similar)

```
opsiadmin:x:993:root,schneider
```

All user which pack packages (makeproductfile), install (opsiinst) or edit manuell configuration files have to be in the group 'pcpatch' additional:

```
adduser testuser pcpatch
adduser schneider pcpatch
```

The test

```
grep pcpatch /etc/group
```

devote

```
pcpatch:x:992:testuser,schneider
```

root is allowed to do anything and have not to be explizit registered in the group.

To create a new admin user use commands like this:

```
useradd -m -s /bin/bash adminuser
passwd adminuser
smbpasswd -a adminuser
adduser adminuser opsiadmin
adduser adminuser pcpatch
```

5 DHCP-Configuration

5.1 Important

A correct working name resolving and DHCP is essential for opsi. To simply the setup, the opsi-server VM is delivered with a running DHCP-Server. At the other hand in most productive environments a DHCP-Server exists and should used together with opsi. Both alternatives are described below. See also the DHCP/DNS Chapter at the opsi-manual.

5.2 Using DHCP-Server at the opsi-Server

The DHCP-Server at the opsi-server VM is configured with no free leases, so no unknown client will get a IP-Number from this DHCP-Server.

If you creaste a client at the opsi-server it will also create a dhcp entry for this client. Therefore you have to supply the IP-number and the MAC-address.

5.3 Using external DHCP-Server

If you use an external DHCP-Server you may want to disable the DHCP-Server at the opsi-Server:

```
/etc/init.d/dhcp3-server stop
update-rc.d -f dhcp3-server remove
update-rc.d dhcp3-server stop 20 2 3 4 5 .
```

Next you have to configure your external DHCP-Server to tell the clients that our opsi-server is now the boot server. If your external DHCP runs on Linux you need the following entries for the clients in teh **/etc/dhcp3/dhcpd.conf** file.

```
next-server <ip of opsi-server>;
filename "linux/pxelinux.0";
```

Replace <ip of opsi-server> by the IP-number of the opsi-Servers.

Using a Windows server the corresponding entries may be **bootserver** or **startserver** and **bootfile** or **startfile.**

If you creaste a client at the opsi-server you have to supply the MAC-address, but no IP-number.

5.4 Checking the backend configuration for DHCP entries

In the file /etc/opsi/backendManager.d/30_vars.conf is defined wich backend manage of opsi be used (**BACKEND_FILE31, BACKEND_FILE, BACKEND_LDAP**). The default backend is **BACKEND_FILE31.** In the entry **clientManagingBackend** may be controlled if opsi also assume the local DHCP configuration. This is sensible if the DHCP-server of the opsiserver will be used (default). The accordant entry is:

```
self.clientManagingBackend = [ BACKEND_DHCPD, BACKEND_FILE31 ]
```

If the local DHCP isn't used also the **BACKEND_DHCPD** not required:

```
self.clientManagingBackend = BACKEND_FILE31
```

After adapting the backend configuration the 'opsi-confd' has to be restarted:

```
/etc/init.d/opsiconfd restart
```

6 Install the minimal opsi-products

Get the actual necessary opsi-packages in the new opsi-package format.

6.1 Download via browser

Follow the link on the graphic surface of the start window and attend the details than you can download the packages and install them afterwards.

6.2 Download via wget (recommended)

You are able to do the procedure also on the command line of the terminal window:

```
cd /home/opsiproducts

wget -r -l1 -nd -nc -A '*.opsi' http://download.uib.de/opsi3.3/produkte/essential
```

If the 'wget' order failed so possible the environment variable 'http_proxy' has to been set on the correct Proxy string (e.g. http_proxy=http://192.168.1.5:8080/)

Put in the downloaded packages on your server and install them so the product is available for the clients. The interactive installation of a opsi package start with

```
opsiinst <paketname>.opsi
```

The following order installed all downloaded packets successive:

```
for paket in *.opsi; do echo $paket; opsiinst -f -q -k $paket; done
```

Please notice that the products winxppro and win2k aren't ready for action after installation. The installation has to be supplemented by the i386-tree of the accordant installation mediums (e.g. chapter 'OS-Installation: Complete the base package for Windows 2000 and XP').

You are invited to download more opsi-products from download.uib.de and install them on your opsiserver similarly.

7 Start of the opsi-configed

Opsi offer with the opsi-configed a comfortable management interface.

You can start it different ways:

- If you are put in the adress in the browser (anywhere in the net) **`https://<opsiserver>:4447/configed`** a web side with an embedded opsi-configed appear. Precondition is a installed java version >= 1.6.
- Alternativ you can click with the right mouse tab on the graphic surface to open teh context menu and choose the „opsi config editor“.
- The configuration editor ist also component of the opsi-adminutils which also can be copied local on the client.

Log in with the member account of the group opsiadmin.

8 opsi-clients

8.1 Integration of existing clients

To integrate existing Windows clients in opsi the opsi-preloginloader have to be installed on these systems. There different ways to do this which are described in the opsi-manual at the chapter: 'Subsequent installation of the opsi-preloginloaders'. After you have done so, you should see the client at the crystal tab 'client selection'.

8.2 Creating a new client

You need a client (minimum 256 MB RAM) which is able to boot per PXE the network. For a first test we approve to download a corresponding vmware-image by download.uib.de (http://download.uib.de/vmware_pxeclient.zip). The advantage of vmware (virtuell hardware) is the support of the standard drivers from windows.

Now you have to create a client in the opsi system. Start the installation with a) the opsi-configed or b) the command line.

Graphic frontend of opsi-configed:

With menu item 'OpsiClient/Create new opsi client' and the description of IP-name, domain, client description, IP-number (which is only requested by the internal DHCP) and MAC-address you finished the client creation. The client will be created in the opsi database and (if so configured) at the same time as PXE-client at the DHCP configuration on the opsiserver.

Command line opsi-admin:

```
opsi-admin -d method createClient <clientname> <domain>
<description>  <notes>  <ipAddress>  <hardwareAddress>
```

e.g.:

```
opsi-admin -d method createClient pxevm uib.local "Testclient" ""
192.168.0.5 00:0c:29:12:34:56
```

After you have done so, you should see the client at the crystal tab 'client selection'.

9 First Tests

9.1 Hardwareinventory with the netboot product hwinvent

Afterwards choosing the client and in the crystal tab 'netboot-Products' in the line of the wished system software (e.g. hwinvent) the action 'setup' choose and save with a click on the hook button.

Now reboot the client (over PXE), the hwinvent should be started. The client load after the reboot a linux-boot-image which scans the hardware and send the results back to the server.

Afterwards the software system will be installed.

9.2 Hard- and Softwareinventory with the products hwaudit and swaudit

10 OS-Installation: Complete the base package for Windows 2000 and XP

The base package include only files for automatic system software installation – not the system software for his own.

If you want to test the automatic Windows 2000- or Windows XP-system software installation, you have to

a) copy the i386-directory of a installation-CD für Microsoft Win2k/WinXP Professional in the directory **`/opt/pcbin/install/win2k`** or **`/opt/pcbin/install/winxppro`** directory. After copy you have to change the rights of the i386/ directory:

```
chown -R opsiconfd:pcpatch i386/
chmod -R ug+rw i386/
```

The file can be copied also over the network. Therefore you have to connect as user “pcpatch“ by the approval “opt_pcbin“ on the opsiserver. The corresponding directory you will find under install\winxppro or install\win2k.

b) prove the windows-product key. Use therefore the opsi-configed or the command line:

```
opsi-admin -d method getProductProperties_hash winxppro
```

and correct it if necessary (set in the right product key in ONE line):

```
opsi-admin -d method setProductProperties winxppro '{ "productkey" : "ABCDE-
FGHIJ-KLMNO-QRTUV-WXYZ1", "askbeforeinst" : "true", "extendoem" : "1" }'
# Dasselbe für cut and paste (nicht lesbar, aber in einer Zeile ;-):
#opsi-admin -d method setProductProperties winxppro '{ "productkey" : "ABCDE-FGHIJ-KLMNO-QRTUV-WXYZ1", "askbeforeinst" : "true", "extendoem" : "1" }'
```

The handling of the opsiserver is explained in the opsi-manual version 3.2.

11 Installation of products on the clients

You can access the opsi-configed webapplet with https://<servername>:4447/configed and start the installation of other products.

Important products are:

11.1 opsi-adminutils

The product opsi-adminutils includes the opsi-configed for a local installation e.g. on a system administrator computer.

12 Supplement: Update of a opsiserver

12.1 Update 3.2 to 3.3

12.1.1 Documentation

Please read the opsi 3.3 changes documentation in the opsi-manual.

12.1.2 Register of the opsi 3.3 repository

In order to avoid that an update to 3.3 happens accidentally the debian package for opsi 3.3 is in a specific repository. Delete in /etc/apt/sources.list the entry:
deb http://download.uib.de/debian etch opsi3.2
and put in:

For Debian sarge: (no update available. Upgrade to Etch)

For Debian Etch, Ubuntu Dapper/Edgy/Feisty (i386/amd64):

deb http://download.uib.de/debian etch opsi3.3

Execute **apt-get update**.

12.1.3 Put in the opsi debian packages

Put in the packages with following order:
apt-get install opsi-depotserver opsi-configed

apt-get upgrade

If you be asked on upgrading which version of a configuration file you wish to apply you should choose the newest version. If not you should know exactly what you do e.g. you don't choose the newest version because you want an other as the default File31-Backend.

The installation of the opsipxeconfd package may abort with a error which is caused by the old installation, not by the new package. In this case please execute:

apt-get install opsi-depotserver

If there are still errors, it should help to issue an

apt-get install -f

12.1.4 Checking the backend configuration

In the file /etc/opsi/backendManager.d/30_vars.conf is defined which backend manage of opsi be used (**BACKEND_FILE31, BACKEND_FILE, BACKEND_LDAP**).

The default backend is **BACKEND_FILE31.**

The backend **BACKEND_FILE** is deprecated - you should change to **BACKEND_FILE31.**

The backend **BACKEND_LDAP** is is not supported by opsi 3.3 yet - you should change to **BACKEND_FILE31** until LDAP-support is available.

In the entry **clientManagingBackend** may be controlled if opsi also assume the local DHCP configuration. This is sensible if the DHCP-server of the opsiserver will be used (default). The accordant entry is:

```
self.clientManagingBackend = [ BACKEND_DHCPD, BACKEND_FILE31 ]
```

If the local DHCP isn't used also the **BACKEND_DHCPD** not required:

```
self.clientManagingBackend = BACKEND_FILE31
```

For the hard- and software inventory you have since opsi 3.3 two possibilities: BACKEND_FILE31 or BACKEND_MYSQL. One of these you have to enter independent which backend is used normally:

```
self.swinventBackend = BACKEND_FILE31
self.hwinventBackend = BACKEND_FILE31
```

For the logging there is since opsi 3.3 a own Backend: BACKEND_FILE31. These you have to enter independent which backend is used normally:

```
self.loggingBackend = BACKEND_FILE31
```

After adapting the backend configuration the 'opsi-confd' has to be restarted:

```
/etc/init.d/opsiconfd restart
```

12.1.5 Import of the new opsi products

Fetch the actual necessary opsi packeges in the new package format:

```
cd /home/opsiproducts

wget -r -l1 -nc -nd -A '*.opsi' http://download.uib.de/opsi3.3/produkte/essential/upgrade
```

The downloaded package has to be installed on the server to be available for the clients. The interactive installation of an opsi package happen with the aid of the order:

```
opsi-package-manager -i <package file name>
```

The following order install the downloaded packages successive:

```
opsi-package-manager -i *.opsi
```

12.2 Update 3.1 to 3.2

12.2.1 Register of the opsi 3.2 repository

In order to avoid that a update to 3.2 happen accidentally the debian package for opsi 3.2 is in an own repository. Delete in /etc/apt/sources.list the entry:

deb http://download.uib.de/debian etch opsi3.1
and put in:

For Debian sarge: (no update available. Upgrade to Etch)

For Debian Etch, Ubuntu Dapper/Edgy/Feisty (i386/amd64):

deb http://download.uib.de/debian etch opsi3.2

Execute **apt-get update**.

12.2.2 Put in the opsi debian packages

Put in the packages with following order:
apt-get install opsi-depotserver; apt-get upgrade

If you be asked while the upgrade which version of a configuration file you will apply you should choose the newest version. If not you should know exactly what you do e.g. you don't choose the newest version because you want an other as the default File31-Backend.

12.2.3 Import of the new opsi products

Fetch the actual necessary opsi packeges in the new package format:

```
cd /home/opsiproducts

wget -r -l1 -nd -A '*.opsi' http://download.uib.de/opsi3.2/produkte/essential/upgrade
```

The downloaded package has to be installed on the server to be available for the clients. The interactive installation of an opsi package happen with the aid of the order:

```
opsiinst <paketname>.opsi
```

The following order install the downloaded packages successive:

```
for paket in *.opsi; do opsiinst -f -q -k $paket; done
```

12.2.4 Checking the backend configuration

In the file /etc/opsi/backendManager.d/30_vars.conf is defined wich backend manage of opsi be used (**BACKEND_FILE31, BACKEND_FILE, BACKEND_LDAP**). The default backend is **BACKEND_FILE31.** In the entry **clientManagingBackend** may be controlled if opsi also assume the local DHCP configuration. This is sensible if the DHCP-server of the opsiserver will be used (default). The accordant entry is:

```
self.clientManagingBackend = [ BACKEND_DHCPD, BACKEND_FILE31 ]
```

If the local DHCP isn't used also the **BACKEND_DHCPD** not required:

```
self.clientManagingBackend = BACKEND_FILE31
```

For the hard- and software inventory you have to enter the FILE31-backend independent which backend is used normally:

```
self.swinventBackend = BACKEND_FILE31
self.hwinventBackend = BACKEND_FILE31
```

After adapting the backend configuration the 'opsi-confd' has to be restarted.

12.3 Update 3.0 to 3.1

12.3.1 Register of the opsi3.1 repository

In order to avoid that a update to 3.1 happen accidentally the debian package for opsi 3.1 is in an own repository. Delete in /etc/apt/sources.list the entry:
`deb http://download.uib.de/debian sarge opsi3.0`
and put in:

For debian sarge (only i386):

`deb http://download.uib.de/debian sarge opsi3.1`

For debian Etch, Ubuntu Dapper/Edgy (i386/amd64):

`deb http://download.uib.de/debian etch opsi3.1`

Execute **`apt-get update`**.

12.3.2 Put in the opsi debian packages

Put in the packages with following order:
`apt-get install opsi-depotserver; apt-get upgrade`

If you be asked while the upgrade which version of a configuration file you will apply you should choose the newest version; if not you should know exactly what you do.

12.3.3 Adapt the configuration

Opsi 3.1 used per default the new backend “File31“. So you either adapt your configuration that your previous backend will used or the data base from th eold to the new backend convert. The classifictaion of the opsi-backends to the different „functions“ will be defined in the file /etc/opsi/backendManager.d/30_vars.conf. If you want to use the file-backend furtherly the corresponding section has to look like these:

```
self.defaultBackend         = BACKEND_FILE
self.clientManagingBackend = BACKEND_FILE
self.pxebootconfBackend     = BACKEND_OPSIPXECONFD
self.passwordBackend        = BACKEND_FILE
self.pckeyBackend           = BACKEND_FILE
self.hwinventBackend        = BACKEND_FILE
```

In these case it's important that the file-backend further on be loaded. In order to achieve

this the line in the file /etc/opsi/backendManager.d/10_file.conf:

```
'load': False
```

has to adapted in:

```
'load': True
```

After changing the configuration the services opsiconfd and opsipxeconfd has to be started new. Execute the following order:

```
/etc/init.d/opsiconfd restart; /etc/init.d/opsipxeconfd restart
```

Should you decide to use the File31-backend the files has to be converted. **Before you convert your system make a backup of your system!** For the conversion of files the program opsi-convert will used. The order for a conversion from File- to File31-backend is:

```
opsi-convert File File31
```

After a conversion between the two file based backends the file /etc/opsi/pckeys should be corrected manually because both backends are using this file but the File31-backend requires entries with fully qualified domain names, e.g.:

```
clientname.domain.tld:1bad67e3c6955ccac891f58ca31ed37e
```

In contrast, the classic File-backend has lines with simple host names, e.g.:

```
clientname:1bad67e3c6955ccac891f58ca31ed37e
```

12.4 Update 2.5 to 3.0

12.4.1 Register of the opsi 3-repository

In order to avoid that an update to 3.0 happens accidentally the debian package for opsi 3.0 is in a special repository. Delete in /etc/apt/sources.list the entry
`deb http://download.uib.de/debian sarge main`
and put in:
`deb http://download.uib.de/debian sarge opsi3.0`

Execute **`apt-get update`**.

12.4.2 Put in the opsi Debian package

Put in the package with the order
`apt-get install opsi-depotserver opsi-configed opsi-linux-bootimage`

These order should create the following output

```
Reading Package Lists... Done
Building Dependency Tree... Done
The following extra packages will be installed:
  opsi-reinstmgr opsi-utils opsiconfd python python-crypto python-json
  python-ldap python-newt python-opsi python-pam python-pyopenssl
  python-twisted python2.3 python2.3-crypto python2.3-ldap python2.3-pam
```

```
  python2.3-pyopenssl python2.3-twisted python2.3-twisted-bin sun-j2re1.6
Suggested packages:
  python-doc python-tk python-profiler slapd python-gtk2 python-glade-1.2
  python-glade2 python-qt3 libwxgtk2.4-python python2.3-doc python2.3-profiler
  python-ldap-doc pyopenssl-doc
Recommended packages:
  python-serial python2.3-iconvcodec python2.3-cjkcodecs
  python2.3-japanese-codecs
The following NEW packages will be installed:
  opsi-configed opsi-reinstmgr opsi-utils opsiconfd python python-crypto
  python-json python-ldap python-newt python-opsi python-pam python-pyopenssl
  python-twisted python2.3 python2.3-crypto python2.3-ldap python2.3-pam
  python2.3-pyopenssl python2.3-twisted python2.3-twisted-bin sun-j2re1.6
The following packages will be upgraded:
  opsi-depotserver opsi-linux-bootimage
2 upgraded, 21 newly installed, 0 to remove and 0 not upgraded.
Need to get 88.0MB of archives.
After unpacking 120MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

(.....)

The package opsiconfd need some entries to create a SSL-certificat:

```
Setting up opsiconfd (0.9-1) ...
Generating a 1024 bit RSA private key
.....................................................................++++++
..........++++++
writing new private key to '/etc/opsi/opsiconfd.pem'
-----
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [AU]:de
State or Province Name (full name) [Some-State]:Rheinland-Pfalz
Locality Name (eg, city) []:Mainz
Organization Name (eg, company) [Internet Widgits Pty Ltd]:uib
Organizational Unit Name (eg, section) []:
Common Name (eg, YOUR name) []: opsidepot.uib.local
Email Address []:info@uib.de

The user `pcpatch' is already a member of `shadow'.
Starting opsi config service...   (done).
```

(....)

After you finished these chapter go on with 'Inspect the configurations' to 'Put in the minimal opsi-products'.

12.5 Update 2.4 to 2.5

The Update is easy

```
# Informationen über neue Pakete holen
apt-get update
# altes depotserver paket removen
apt-get remove opsi-depotserver
# neue pakete installieren
apt-get install opsi-depotserver
apt-get install opsi-webconfigedit
apt-get install opsi-inied
```

```
# Notwendige opsi-Pakete holen
wget -r -l 1 -nd -nH --cut-dirs=5 -np -N -R "*.html*" \ www.uib.de/www/download/
download/opsi-pakete/essential
# notwendige opsi-Pakete installieren
opsiinst win2k.cpio.gz
opsiinst winxppro.cpio.gz
opsiinst opsi-winst.cpio.gz
opsiinst preloginloader.cpio.gz
opsiinst softinventory.cpio.gz
opsiinst opsi-adminutils.cpio.gz
opsiinst javavm.cpio.gz
```

12.6 Update 2.x to 2.4

The update is time-consuming because the versions before 2.4 working not with debian-packages (or only in parts) and some things have to be installed new.

Specially it's a system software update from 'Debian Woody (3.0)' to 'Debian Sarge (3.1)' and from 'Kernel 2.4' to 'Kernel 2.6'. If you don't know an update with 'apt-get dist-upgrade' and haven't possibilities for testing, it will be better to reinstall the server or to ask some experts (for example uib).

After warning you now the important facts:

Adapt the file '/etc/apt/sources.list' to install the debian-package out of 'stable' and get extra sources.

Here an example

```
#Standard debian Quellen:
deb http://sunsite.informatik.rwth-aachen.de/ftp/pub/Linux/debian/ stable main
non-free contrib
deb-src http://sunsite.informatik.rwth-aachen.de/ftp/pub/Linux/debian/ stable
main non-free contrib
deb http://non-us.debian.org/debian-non-US stable/non-US main contrib non-free
deb http://security.debian.org/ stable/updates main
#Hier gibts den FreeNX-Server:
deb http://www.linux.lk/~anuradha/nx/ ./
#Alternative Samba Quelle:
deb http://ftp.sernet.de/pub/samba/ debian/
#opsi-Pakete:
deb http://www.uib.de/www/download/download/debian sarge main
```

Update with 'apt-get' the databank package. If this isn't possible, you may have to put a proxy in the file '/etc/apt/apt.conf' oder delete one.

Before you can start 'dist-upgrade', you have to correct some dependencies:

```
apt-get install libcrypt-blowfish-pp-perl
apt-get install apache-common
```

Update now the system software:

```
apt-get dist-upgrade
```

Edit the '/etc/login.defs' and put '/opt/bin' in the path.

To proceed on:

```
apt-get install kernel-image-2.6.8-2-686
apt-get install kernel-source-2.6.8
apt-get remove opsi-depotserver
#optional (bei Neuinstallation vorhanden)
apt-get install xfce4
apt-get install wget
apt-get install traceroute
apt-get install nxserver
#-> configuration: custom keys
apt-get install mozilla-firefox
```

Now you have done the most work and could go to chapter 'Installation of a debian (Sarge) system with apt-get'.