

# Unofficial SuSE FAQ

Edited by

**Togan Muftuoglu**

SuSE Linux Mailing list participants

## Revision History

Revision \$Revision: 1.12 \$

\$Date: 2003/08/01 08:22:30 \$

*Copyright (c) 2001–2003 Togan Muftuoglu .*

*Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.1 or any later version published by the Free Software Foundation; with no Invariant Sections, with no Front-Cover Texts, and with no Back-Cover Texts.*

Current copy of the licence can be found at Gnu Free Documentation Licence.

---

## ***Table of Contents***

*Index*

*About The Unofficial SUSE FAQ*

*Background of the FAQ*

*Acknowledgement*

*How to help to update the FAQ ?*

*Mirror Sites of the Unofficial SuSE FAQ*

*Other Formats*

*Working from the CVS*

*RoadMap of the Unofficial SuSEFAQ*

*Changes*

*1. Overview Of SuSE Mailing List and Very Common Questions*

*SuSE English Linux Mailinglist*

*Very Frequent Questions*

*2. Installation Related Questions*

*Installation Questions*

*Howto Install Windows XP and SuSE Linux on the same PC*

*SuSE Linux and Windows XP, Dual Boot, Newbies Guide*

*Raid controllers*

*3. Kernel Related Questions*

*Kernel Related Questions*

*4. System Administration Related Questions*

*General System Administration*

*Understanding how SuSEconfig works*

*Starting and Stopping Services*

- YOU (YaST Online Update)*
- Lilo related Questions*
- User Related Problems*
- Shell Related Questions*
- One-liner solutions*
- 5. *Networking Related Problems*
  - Ethernet Configuration and Diagnostic Problems*
  - Routing Problems*
- 6. *PPP/ADSL/DHCP*
  - PPP Related Problems*
  - DHCP Related Problems*
- 7. *File Systems Related Questions*
  - NFS Related Problems*
  - Samba Related Problems*
  - Other Filesystems*
  - Configuring Wine*
- 8. *Printing*
  - CUPS Related Problems*
  - LPRNG Related Problems*
- 9. *Sound Related Questions*
  - Audio CD Related Questions*
  - Custom Kernel and Sound Related Questions*
  - Sound files conversions Questions*
- 10. *Web Servers*
  - Apache Related Questions*
  - FTP Servers*
- 11. *Mail Related Questions*
  - Mailservers*
  - Mail Server configuration files*
  - Spam Mail Related Questions*
  - Fetchmail Related Problems*
  - How can I make applications share the same mailboxes ?*
    - Netscape / Mozilla*
    - Netscape / Mozilla for windows*
    - Eudora for windows*
    - Kmail*
    - balsa*
    - evolution*
    - mutt*
    - pine*
- 12. *CD Writer & DVD Related problems*
  - IDE CDRW Howto*
  - SuSE 8.1 CD-ROM/DVD-ROM SCSI Emulation Fix*
- 13. *Video Hardware*
  - General X System Problems*
  - Framebuffer Problems*
- 14. *X Window System*
  - X Window Networking Problems*
  - Using a Wacom Graphire 2 USB with SuSE 8.0*
  - Input Devices Related Problems*

## 15. GUI's

*General Desktop Problems*

*GNOME Related Problems*

*KDE Related Problems*

*XFCE Related Problems*

*Window Managers*

*Afterstep Related Problems*

*BlackBox Related Problems*

## 16. Software

*Working with RPM and Related Problems*

*Adding Software to your SuSE Linux*

*Dealing With Tarballs*

*Applications*

## 17. Security

*SuSE Firewall packages*

*Secure Shell Related Questions*

*Security related fixed packages*

A. *How is the Unofficial SuSE FAQ done ?*

### **List of Examples**

A-1. *includes.inc*

A-2. *sections.inc*

A-3. *How the Book is layed out*

---

# Index

## A

*adding fonts*

*fetchmsttfonts, General X System Problems*

*Alsa Modules, Custom Kernel and Sound Related Questions*

*Apache Directory restrictions> , Apache Related Questions*

*Apache FollowSymlinks, Apache Related Questions*

*Appletalk, Other Filesystems*

---

## B

*Backup partion, General System Administration*

*Bash Shell, Shell Related Questions*

*Bootable Cd, General System Administration*

*Building RPMS'dor SuSE, Working with RPM and Related Problems*

---

## C

*cdrecord, Sound files conversions Questions*

*chkconfig, Starting and Stopping Services*

*Colors of Xterm, General System Administration*

*Control Alt Delete, General System Administration*  
*Cron, General System Administration*  
*Crypto file system, General System Administration*  
*CVS server, General System Administration*

---

## D

*DHCP, DHCP Related Problems*  
*DNS and DHCP, DHCP Related Problems*  
*dw650, Ethernet Configuration and Diagnostic Problems*

---

## E

*ethernet diagnostic tools, Ethernet Configuration and Diagnostic Problems*  
*euro, General System Administration*

---

## F

*Fetchmail, Fetchmail Related Problems*  
*Finding installed software, General System Administration*  
*framebuffer*  
    *kernel parameters, Framebuffer Problems*  
*full duplex, Ethernet Configuration and Diagnostic Problems*

---

## H

*harddisk install, Installation Questions*

---

## I

*ICE authorization, General X System Problems*  
*IDE CD Writer, IDE CDRW Howto*  
*inserv, Starting and Stopping Services*  
*Installation, Installation Questions*  
*ip alias, Ethernet Configuration and Diagnostic Problems*

---

## K

*Kernel and Alsa, Custom Kernel and Sound Related Questions*  
*Kernel patches used by SuSE, Kernel Related Questions*  
*Kernel upgrade, Kernel Related Questions*  
*Kppp, PPP Related Problems*

---

## L

*Lilo and Windows, Lilo related Questions*  
*Lilo graphic change, Lilo related Questions*  
*Linneighbour, Samba Related Problems*

---

## M

*mac address, Ethernet Configuration and Diagnostic Problems*  
*Mail configuration, Mail Server configuration files*  
*Mailserver listening local only, Mail Server configuration files*  
*martian packets, Kernel Related Questions*  
*MD5 passwords, General System Administration*  
*mia-diag, Ethernet Configuration and Diagnostic Problems*  
*mirroring suse, Installation Questions*  
*mpeg, Sound files conversions Questions*  
*Multiple gateways, Routing Problems*

---

## O

*One liners, One-liner solutions*

---

## P

*Postfix and procmail, Mail Server configuration files*  
*PPP server, PPP Related Problems*  
*procmail, Fetchmail Related Problems*

---

## R

*Remote Clients, X Window Networking Problems*  
*Remote Logging, General System Administration*  
*Routing, Routing Problems*  
*RPM*  
*rpm version, Adding Software to your SuSE Linux*  
*RPM commands, Working with RPM and Related Problems*  
*RPM version, Working with RPM and Related Problems*  
*Runlevel, General System Administration*

---

## S

*Samba, Samba Related Problems*  
*Shell changing, Shell Related Questions*  
*Shmfs, General System Administration*  
*Shutdown problem with P4 CPU, Kernel Related Questions*  
*Smb, Samba Related Problems*  
*Spam Mail, Spam Mail Related Questions*

*Splash screen, General System Administration*  
*SSH, Secure Shell Related Questions*  
*SSH Gui, Secure Shell Related Questions*  
*SSH links, Secure Shell Related Questions*  
*Starting Services, Starting and Stopping Services*  
*SuSE compatible RPM's, Working with RPM and Related Problems*  
*Swat, Samba Related Problems*  
*Synchronization of servers, General System Administration*

---

## T

*Telnet, General System Administration*  
*truetype fonts, General X System Problems*  
*truetype LCD, General X System Problems*

---

## V

*Vsftp, FTP Servers*

---

## W

*Wheel Mouse, Input Devices Related Problems*  
*wireless, Ethernet Configuration and Diagnostic Problems*  
*Wvdial, PPP Related Problems*

---

## Y

*YaST2 Ncurses, YOU (YaST Online Update)*  
*You alternative, YOU (YaST Online Update)*  
*You GPG, YOU (YaST Online Update)*  
*You Local (harddisk nfs), YOU (YaST Online Update)*  
*You Proxy, YOU (YaST Online Update)*  
*You Server, YOU (YaST Online Update)*  
*You version, YOU (YaST Online Update)*

---

# About The Unofficial SUSE FAQ

## Background of the FAQ

This document is compiled from the SuSE linux English Mailinglist and tries to provide answers to Frequently Asked Questions (FAQ). Please bear in mind that this is an **unofficial** document and it is maintained voluntarily. Therefore please do not ask why this FAQ has not been updated recently.

---

## Acknowledgement

This FAQ is only made possible by the contributors of the SuSE Linux English Mailing List members. All I have done is to produce an output, hoping it will help people with common questions and problems to find a solution specific to SuSE Linux Environment.

---

## How to help to update the FAQ ?

You can easily help this FAQ document by providing the solutions you have found for your problems. It does not help when you send a reply to the list with the Subject **Solved** and the body of the message says simply **Thanks everyone I have solved my problem**. It would be better for everyone's benefit including yourself to provide the solution, so someone else can also solve their problems by going over your steps.

You can also send me your contributions as plain text (sorry no html) or better as Docbook `<qandaentry></qandaentry>` files to be included in the FAQ.

Probably the best way to send contributions, is by using Sourceforge's tracker for Patches


If there are spelling errors or incomplete answers for questions, please again, use the Sourceforge tracker for Bugs

I do sincerely believe the Unofficial SuSEFAQ is far from complete, be it by layout or contents. In order to help it grow into the direction you would like to see, please submit your requests to Feature Requests under the Sourceforge menu

---

## Mirror Sites of the Unofficial SuSE FAQ

The up to date version of this FAQ is available here . You may want to try the main mirror site if you encounter difficulties in reaching the primary site.

 The main site will be redirecting you to a nearby mirror automatically. The mirror you are redirected is in sync with <http://dinamizm.ath.cx> so you will not miss any updated information.

Should you encounter problems with the mirroring, please notify via project bugtracker

### Current Unofficial SuSE FAQ Mirror List

- <http://susefaq.sourceforge.net>
- <http://www.smaug42.com/susefaq>
- [http://www.bmtsolutions.com/suse\\_faq](http://www.bmtsolutions.com/suse_faq)
- <http://www.netbulans.com/susefaq>
- <http://www.wdm.com/susefaq>
- <http://www.tigersden.co.uk/susefaq>

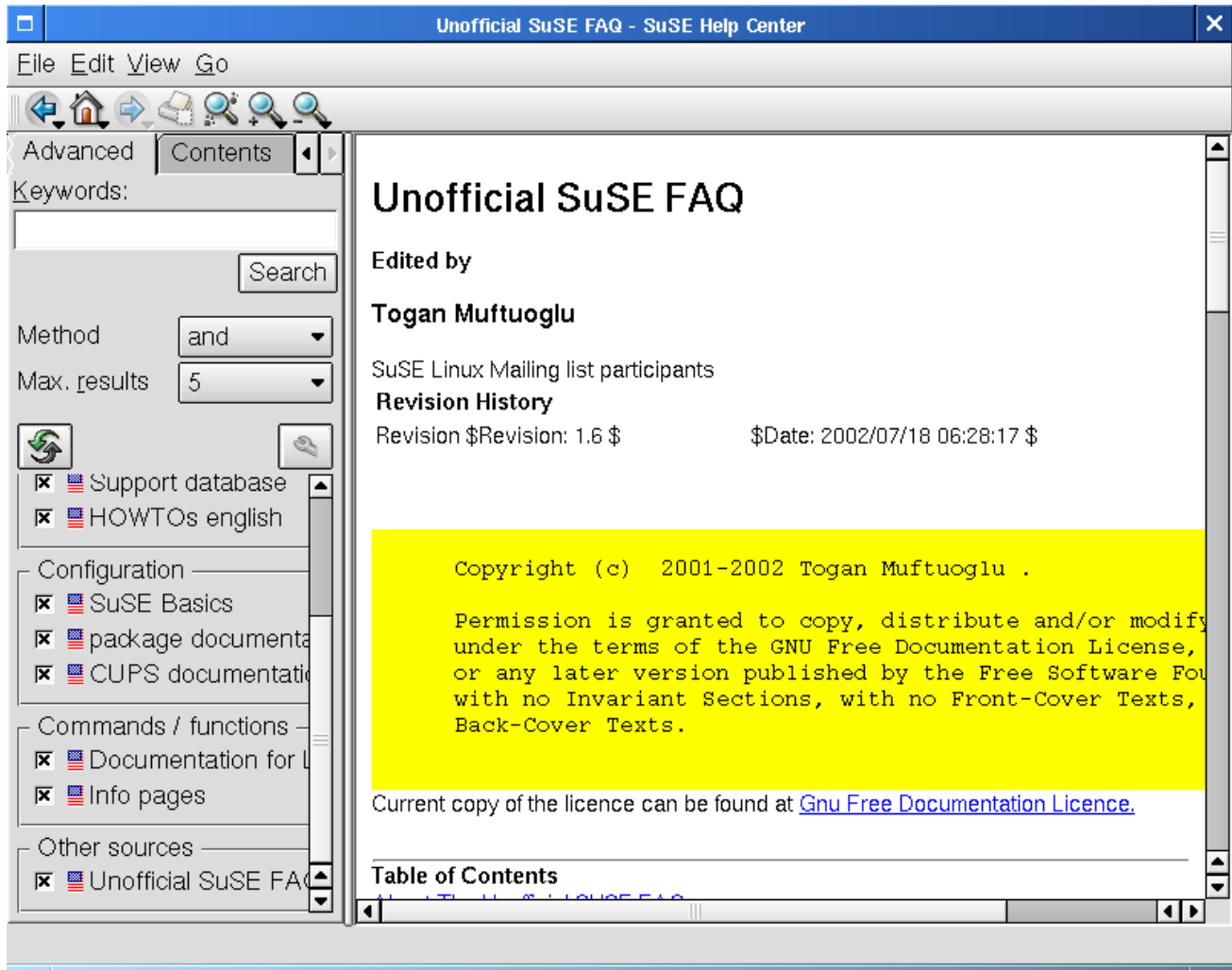
The above mirrors are up-to-date with the contents

For those who would like to mirror this FAQ please drop me an email so I can update the mirror info. Please do not use a mirroring script or a mirror tool against the main site. The easiest way would be to get the compressed version of the files from Sourceforge project page.

## Other Formats

Other formats of this FAQ, like the pdf version are available also.

There is also an rpm version which is integrated into SuSEhelpcenter.



You can get it from Sourceforge and for the paranoid you may get my gpg key from <http://dinamizm.ath.cx/toganm.asc>

After installing the SuSEFAQ.rpm run

```
/sbin/SuSEconfig --module susehelp
```

You may need to generate the indexes once you are in the susehelp center.

## Working from the CVS

You may also get the most current files from the Sourceforge CVS. If you just want to browse whats new you can do it via web interface.

If you would like to have the up-to-date CVS files in your computer so you can build, change , or do whatever you want, first get the CVS tree in your local machine

### 1. Anonymous CVS access is

```
cvs -d:pserver:anonymous@cvs.susefaq.sourceforge.net:/cvsroot/susefaq \
login
```

Press **Enter** when prompted for password

### 2.

```
cvs -z3
-d:pserver:anonymous@cvs.susefaq.sourceforge.net:/cvsroot/susefaq co \
faq_sgml
```

There are a couple of Readme files with which I have tried to explain the software needed for you to produce the output formats locally, and a warning about my Makefile abilities :-)

---

## RoadMap of the Unofficial SuSEFAQ

Most of the How-to's available on the Internet, assume that we are using another distro. Hence although the information is there, in order to apply it, one has to understand the details that are needed to make things work as they should.

One of my goals is to have How-to documents specific to SuSE which will explain things in terms that the layperson can understand, using SuSE tools and the SuSE directory structure, along with the SuSE boot concept.

Much of this information can already be found under `/usr/share/doc/packages`. However, it takes a long time before the user finally discovers what is available and where it is located.

You will find the basis of this concept here, which is a try out. Please provide feedback via Feature Request Tracker to let me know if I am rowing against the current or not.

Currently there are some forums on the project page. Please use these forums to help with the project

---

## Changes

2003-08-01

- \* stopping hwscan from starting at boot time
- \* How to use HighPoint PCI card with SuSE 8.1
- \* how to use SSL with Apache2

- \* how to use susehelp with apache2
  - \* added shcokwave flash info from the Sourceforge tracker #765710
  - \* spellchek done by John Berger. Thanks
- 2003-05-02
- \* Fixing bug #731055 missing infor for rc.d/network correction
- 2003-05-01
- \* Updated the autoyou script enabling it to work with SuSE 8.1
- 2003-04-25
- \* added ssh\_key login patch #645616
- 2003-04-21
- \* Auto updating YOU by Silviu Marin-Caea
  - \* Configuration of Cups by Graham Smith
- 2003-04-12
- \* fixed max\_scsi\_luns typo
- 2003-03-15
- \* Mozilla 1.3 installation
  - \* Alternative WinXP and Linux install
- 2003-03-14
- \* stop Nautilus drawing the desktop
  - \* configuring Mozilla print settings
  - \* included simple installation instructions for mozilla and java
  - \* configuring Xfree86 4.3 with SuSE 8.1
- 2003-02-26
- \* kde global settings related files
  - \* fix samba step by step link
  - \* promise\_ide install
  - \* what is cups
- 2003-02-21
- \* fixing mozilla and java
- 2003-02-18
- \* public\_html and suexec
  - \* configuring apache logs
  - \* added forum sections of the sourceforge page
  - \* compiling a module for SuSE kernel
- 2003-01-17
- \* DVD and CDRW emulation fix for SuSe 8.1

2002-11-11

- \* added graphire
- \* sharing mailboxes
- \* howto set for restrited shell
- \* initial release wine setup
- \* updated to the latest uptodate mirror sites
- \* added info regarding auto mirrors
- \* added link to susefirewall2 documentation
- \* initial check in for XP and Linux Install
- \* Fixing samba step by step link added [www.samba.org](http://www.samba.org) Fixed bug 620206
- \* Initial release for SuSEConfig

2002-10-04

- \* apache error messages

2002-09-30

- \* kde3.03 help menu

2002-09-25

- \* fixed Bug #614513 <http://fou4s.gaugusch.at/> is the correct homepage

2002-09-20

- \* Using truetype with Netscape/Mozilla
- \* Fix for bug #612060
- \* suseconfig.fonts Mike Fabian
- \* added Mike Fabians background info for mkttfdir

2002-09-19

- \* Stopping attachments with Postfix

2002-09-20

- \* suseconfig.fonts Mike Fabian
- \* added Mike Fabians background info for mkttfdir

2002-09-19

- \* Stopping attachments with Postfix body\_check
- \* Experimental Reference index
- \* New section on starting and controlling services
- \* added SuSE policy about fixing holes in patches
- \* Peter Poeml's short howto on is my package fixed

2002-09-17

- \* howto configure wheel mouse
- \* fixing LCD with truetype fonts
- \* adding truetype fonts
- \* Fix for YaST2 after KDE upgrade

2002-09-16

- \* How to compile KDE from CVS
- \* SSH gui client

2002-08-23

- \* added howto configure qtconfig

2002-08-22

- \* added wrong kernel install and shutdown problem fix
- \* added some general information about routing
- \* kde303 plugin problem
- \* added linneighbour setup

2002-08-21

- \* YOU signature problem

2002-08-20

- \* Added new fetchmsttfonts script to reflect changes

2002-08-15

- \* Why kppp drops
- \* Using local mirror of SuSE update directory for YaST2 Online Update

2002-08-08

- \* added dhcp 2 dns configuration
- \* added lock\_account
- \* Changing lilo picture
- \* ipalias updated to reflect SuSE 8.0

2002-08-02

- \* added fetchmail\_procmail
- \* wvdial stupid mode
- \* Configuring PPP server
- \* YOU text mode failure fix
- \* Fou4s alternate for YOU
- \* DW650 wireless
- \* added link for <http://susefaq.sourceforge.net/articles/cdrip.html>

2002-07-30

- \* What is shmfs ?
- \* Enabling telnet

2002-07-29

- \* NFS install

2002-07-26

- \* Using procmail with postfix

2002-07-18

- \* sendmail only listening localhost

- \* how to use samba as pdc
- \* updated wireless to reflect pcmcia.rpm update

2002-07-17

- \* configuring X server for remote client access
- \* How to recover forgotten root password
- \* Setting up a CVS server
- \* chkconfig updated for SuSE 8.0
- \* kdm\_background for 7.3
- \* Changing KDE Default menu system for new users

2002-07-16

- \* using YOU with proxy servers.
- \* configuring sendmail

2002-06-12

- \* added [www.gentoo.org/projects/keychain](http://www.gentoo.org/projects/keychain) to ssh links
- \* using cron
- \* Protecting windows via LILO
- \* Setting YOU servers
- \* Where does YOU keep the downloaded rpms
- \* How can I change the Login screen background
- \* Howto autoboot to selected user in KDE
- \* Adding another splash screen to KDE
- \* Turning on Numlock when KDE starts

2002-05-21

- \* configuring postfix
- \* Configuring Samba printing via swat
- \* locking a user account

2002-05-12

- \* converting mpg files to cdr format and burning them to CD's

2002-05-07

- \* Openssh by Keith winston
- \* fixed typos in /etc/sysconfig/network/wireless

2002-05-06

- \* added package pin
- \* using build to create rpms

2002-05-06

- \* how to stop SuSEconfig to change postfix or sendmail configurations

2002-04-29

- \* Section for Firewall configuration
- \* Links for using SSH

- \* added <http://guru.unixtech.be/rpm> for rpms built for suse
- \* New wireless config options from Keith, replaces the old one

2002-04-26

- \* added [packman2.links2linux.de](http://packman2.links2linux.de) website for SuSE rpms
- \* updated mirror list
- \* [bash\\_customize.sgml](#)
- \* adding software new section
- \* Wireless setup for SuSE 8.0 by Keith Winston

2002-04-26

- \* Roman Drahtmueller's answer why suse does not provide new versions of the programs as official rpms
- \* Wireless setup for SuSE 8.0 by Keith Winston

2002-04-23

- \* Outputting firewall2 configuration
- \* Appletalk and Mac filesharing
- \* Changing colors schema for xterm

2002-04-20

- \* Apt4rpm intro
- \* Added [www.usr-local-bin.org](http://www.usr-local-bin.org) for SuSE compatible rpms

2002-04-19

- \* README.mirrors
- \* <http://www.wdm.com/susefaq> added
- \* Added [Netbulans.com](http://Netbulans.com)
- \* Added [ods.co.cr](http://ods.co.cr) (CostaRica)

2002-04-16

- \* KDE3 upgrade and fixing KDM problems

2002-04-16

- \* changed SuSE Package Conventions link to Mads'page
- \* SuSE Linux English mailinglists FAQ update. Note that this can be changed by the list admin
- \* Added suse-kde mailing list details

2002-04-03

- \* Cosmetics for commands mkisofs and dd for screen tag
- \* Updated mirror info

2002-04-02

- \* New preface for the SuSE FAQ
- \* Howto make a copy of data CD ? Answer by Anders
- \* ChangeLog finally added for the whole directory :-)

2002-03-26

- \* How to use fetchmail as a daemon and have it started during boot time.

- \* How to auto start apps in kde
- \* How to create a custom bootable CD
- \* How to make multiple copies of a file
- \* How do I enable euro support ?
- \* Lucent Modems
- \* Backing up partition table

---

# Chapter 1. Overview Of SuSE Mailing List and Very Common Questions

## SuSE English Linux Mailinglist

This part is a summary of what you would get if you send an empty email to `<suse-linux-e-faq@suse.com>`. The Mailing list admin can change the contents of the reply you will receive, so it is a good idea to request it from time to time.

1. *Why don't you provide searchable archives of this list?*
2. *Why do my replies go to the original poster and not the list?*
3. *How do I get the list in digest form instead of separate emails?*
4. *Can I send attachments to the list?*
5. *How do I contact a human regarding problems with the list?*
6. *Why do you restrict postings to subscribers?*
7. *I receive the list without problems, but whenever I try to post or retrieve the archives, my mail bounces with a warning that only subscribers are allowed to post.*
8. *I just received a strange message from something called ezmlm about bouncing messages. What's going on?*
9. *I'm wondering if Linux is "better" than Windows. Should I post that questions to the list?*
10. *How do I pause deliveries from the list while I'm on vacation?*

### 1. Why don't you provide searchable archives of this list?

The archives are far too large to be indexed by us. Very complete archives that are searchable can be found here:

- <http://www.geocrawler.com>
- <http://www.netsys.com/suse-linux-e/index.html>
- <http://marc.theaimsgroup.com/>

Alternatively, you can prepend your search on Google.com with *lists site:lists.suse.com*. E.g., to search for **lilo 1024** you would type *lists site:lists.suse.com lilo 1024* into the search field.

### 2. Why do my replies go to the original poster and not the list?

We do not "munge" the mail headers by inserting a "Reply-To: suse-linux-e@suse.com" because it makes it more difficult for the subscribers to handle the mail the way they want to. Your mail client probably has a "reply" function, as well as a "reply to all" or "reply to list". Please use the latter if

you want your message to go to the list and not just to the original poster.

Also, please don't complain about this on the list, it has been discussed many, many, many times in the past already.

For background information, click [here](#)

### 3. How do I get the list in digest form instead of separate emails?

We don't offer digested lists for several reasons:

1. Most of our lists (especially this one) are far too large to make digests useful. Are you really going to read an ~500K email once per day? Yes, it's the same amount that you would receive as separate mail, but it's easy to delete or skip messages that don't interest you, in that case; it's not worth a digest.
2. In our experience, digests tend to decrease the quality of list postings. They do this by encouraging the sorts of behaviors that are often considered rude or in poor 'netiquette': replying to mail with the incorrect subject header or other headers that make it impossible for threaded mail clients to work properly, replying to mail without reading the entire thread first, and probably more. Of course, people who do things like this are often the cause of huge flame wars about proper netiquette that can go on for days, often with the result of having very helpful and knowledgeable people leaving the list in disgust.
3. Usually, when people request digests what they are really asking for, is a way to keep the list mail from flooding their mailbox and making it harder to find and read non-list mail. This is a valid concern and one that is best handled with mail filtering, not digests. If your system is configured to use procmail to deliver mail locally (SuSE's postfix and sendmail packages are), all you need to do is create a file in your home directory named '.procmailrc' that contains something like the following:

```
MAILDIR=$HOME/Mail # where do you keep your mail?
DEFAULT=$MAILDIR/inbox # what's your default mail box?

# if mail is from list put it in $MAILDIR/foo
:0
* ^Mailing-List.:*suse-linux-e
$MAILDIR/foo
```

Everything else will be placed in \$DEFAULT. By default, procmail creates a normal mbox formatted mail box, so if you want to copy the file somewhere (e.g., to a PDA) you only need to, in the above example, copy \$MAILDIR/sle. Of course, procmail is capable of much more than what this simple example shows, so please read `procmailrc(5)` and `procmail(5)` for more information.

### 4. Can I send attachments to the list?

The short answer is 'no'. We may strip attachments that contain something other than plain text and bounce email that only contains attachments. Likewise, HTML email is *strongly* discouraged and may be blocked as well.

### 5. How do I contact a human regarding problems with the list?

## 6. Why do you restrict postings to subscribers?

suse-linux-e is a high-traffic mailing list with a huge number of subscribers, because of this we want to limit crossposting and SPAM.

## 7. I receive the list without problems, but whenever I try to post or retrieve the archives, my mail bounces with a warning that only subscribers are allowed to post.

Most likely your envelope and header From addresses are different. There's nothing necessarily wrong with this (it's quite common on large domains, for example), but it does make things a little more complicated. We use the 'envelope' From for authentication, not the header From. If you don't know what any of this means, then email ml-admin@suse.com and ask them to subscribe you.

## 8. I just received a strange message from something called ezmlm about bouncing messages. What's going on?

It means that a message that we attempted to deliver to you bounced. It happens, don't worry about it. If the warning bounces however, then your address is flagged and ezmlm will be sending you a probe within 10 days at the latest. If that bounces, then you are automatically unsubscribed from the list.

## 9. I'm wondering if Linux is "better" than Windows. Should I post that questions to the list?

Please don't. It's a an extremely tired, overdiscussed topic and rarely results in anything approaching a useful conclusion. Questions like "I need to do BLAH and in Windows I could do it with the BLAH program. How do I do that in Linux?" are entirely appropriate, of course.

## 10. How do I pause deliveries from the list while I'm on vacation?

You unsubscribe before you leave and resubscribe when you return. Please understand that you may be unsubscribed if you have an improperly configured auto-responder (e.g., vacation(1)) that is sending messages to the list or the other subscribers.

---

# Very Frequent Questions

1. *What does "SuSE" mean, and how do you pronounce it?*
2. *Where can i download SuSE ISO files?*

## 1. What does "SuSE" mean, and how do you pronounce it?

SuSE, pronounced soo'-suh, comes from the German acronym, "Software und Systementwicklung (Software and System Development).

## 2. Where can i download SuSE ISO files?

There are no ISO files for the regular i386 versions. If you need an explanation why this is the case, how to nevertheless install via Internet or where to find such files for other versions (LiveEval,

PPC,...), then read this document.

The following is taken from the SuSE ftp

*SuSE Linux AG is one of the leading providers of Open Source software worldwide: this forms the backdrop to the reason why we, too, have committed ourselves to the support and further development of the Open-Source community.*

*SuSE Linux AG, with over 100 full time developers, is making a substantial contribution to the further development of the Linux Open Source operating system and its related programs. We are one of the main driving forces in the fields of development of the kernel, KDE, XFree86, compiler, ALSA, USB and multiple-platforms, and we are in addition supporting the internationalization of the Linux project.*

*In our SuSE Linux Open Source operating system we bring together a wide range of freely available programs, applications and tools. This is our carefully assembled product, which we provide and distribute for 6 platforms (Intel/AMD, IA64, PPC, AXP, S/390 and Sparc).*

*Above all we strive to ensure the high quality of SuSE Linux, and that it is as up-to-date as possible. In addition we want to guarantee the constant high quality of our documentation and our support, in the interest of all customers.*

*In order to be able to maintain this service in the future, as well as meeting the accompanying wishes of our customers, we are dependent on sales of our products and services, and must ensure that an adequate cost structure exists within our company.*

*For the purposes of testing and evaluation, we have made a great effort to provide a variation of SuSE Linux which does not have to be installed, and which makes it extremely easy to try out SuSE Linux or examine its hardware requirements.*

*With our SuSE Linux FTP version (SuSE Linux Professional, excluding commercial program packages, which we are not allowed to offer on their own for download) we provide a free service for all those who wish to install SuSE Linux via FTP.*

*We are currently providing ISO images for download for all non-Intel/AMD/PPC platforms (IA64, AXP, S/390 and Sparc), since these products cannot be made available everywhere, worldwide and at the accustomed speed.*

*Of course we would be pleased to present you and your company with our complete range of services; you can request our product catalog at any time, free of charge and without obligation.*

*Your SuSE Linux Team!*

---

## Chapter 2. Installation Related Questions

### Installation Questions

1. I have downloaded the whole SuSE-Directory from ftp.suse.com to my Windowsbox, how do I

*install the distribution?*

2. *I've downloaded SuSE 7.3 to my hard disk and tried to install a new system from there. No success.*
3. *How can I make the SuSE 8.0 installation via NFS ?*
4. *Why does YaST2 skip CD's in NFS install of SuSE7.3?*
5. *The system hangs when the virtual console switches off after 10 minutes idle time. No log messages, no **CapsLock**, **NumLock** leds, no **Ctrl-Alt-Del**, no **Alt-Fn**, no ping answer thru network, etc... Only a blank screen, Reset and no ideas...*
6. *Why am I having problems installing from the files I have downloaded from ftp.suse.com ?*
7. *How can I mirror the SuSE 7.3 from ftp.suse.com*

### **1. I have downloaded the whole SuSE-Directory from ftp.suse.com to my Windowsbox, how do I install the distribution?**

Try out this Dos-Batchfile:

```
ftp://ftp.suse.com/pub/suse/i386/VERSION/dosutils/lhdsetup.bat
```

### **2. I've downloaded SuSE 7.3 to my hard disk and tried to install a new system from there. No success.**

Solution

What you have to do to overcome the above situation:

1. Download (from an FTP site) or copy (from your CD-ROM) the necessary directories to your HD. I found the gunzipping of suse/images/root to suse/setup/inst-img not to be necessary, as in earlier releases.
2. Make your boot diskette (.../suse/disks/bootdisk), and module diskettes, if needed.
3. Boot the diskette.
4. The very important step: After language etc. selection, go to 'Settings'/Debug (expert)'/Load rootimage into ramdisk' and choose 'yes'.
5. Proceed with the installation. When asked, specify the partition and directory of your install directory. Now, the root image should be successfully loaded, and the installation should be continued as normal.

### **3. How can I make the SuSE 8.0 installation via NFS ?**

Nick Selby

The NFS issue I asked about has been solved (thanks Damian for that last little bit of the puzzle!). A recap for those who search this list later for answers about installing Linux to a machine over a network using NFS (man exports; man mount; man fstab; man nfs for more info):

1. Took the SuSE 8.0 DVD and copied out the bootdisk, modules1, modules2, modules3 disks onto floppies from my windows machine following the instructions in the readme file in the /disks directory on the DVD
2. Copied the ENTIRE SuSE DVD onto the hard drive of the machine on which I was to serve the installation files from, INCLUDING the following hidden file from the DVD to the top level of the directory in which I copied the SuSE DVD

! .S.u.S.E-disk-001.2002040315

3. **Exported** – allowed to be viewed over the NFS file server – the directory into which I copied the SuSE DVD by adding it to `/etc/exports`
4. SET the fstab mount instructions for the exported directory to be faster (as in DSL v. overweighted trans-continental Courier Pigeon faster) by adding this to my `/etc/fstab` (with heaps of caveats as described in below HOWTO)

```
server:/home/nick/suse /home/nick/suse nfs
rsize=32768,wsize=32768,timeo=14,intr
```

5. Restarted the NFS Server (from inside Yast 2, though only after hand configuring most of it per the instructions in the document on the DVD `/suse/docu/NFS-HOWTO`) with the information about the client I was allowing to come in and shop around.
6. Booted the other machine with the floppy bootdisk and then added the modulesX disks as requested
  - a. Selected Start Installation
  - b. Selected Network Installation
  - c. Allowed it to get an IP by DHCP
  - d. Entered the IP of the machine on which the NFS server was waiting
  - e. Entered the directory specified in the fstab file
  - f. Set up as usual in Yast.

Installation went perfectly.

#### 4. Why does YaST2 skip CD's in NFS install of SuSE7.3?

Did you simply copy all CDs into one directory?

This is a bug in the 7.3 YaST2 – it only "sees" the first `.S.u.S.E*` file (each CD-ROM includes this file as an identification file).

As a workaround, you can copy each CD into a separate directory:

```
|7.3-i386
|-CD1
|-CD2
|-CD3
|-CD4
|-CD5
|-CD6
|-CD7
```

Now YaST2 should change the CDs automatically.

Alternatively you could keep all files in a single directory and modify the package description files using the following script:

```
#!/bin/sh

function fix_pkd
{
    test -e $1.bak || mv $1 $1.bak;
```

```

    echo fixing $1;
    $1.bak < sed "s@^\(InstPath:.*\)[[:digit:]]{2}\(.*\)@\\101\\2@"
    > $1;
}

test -e ./S.u.S.E-disk-002.2001092601 \
  || { echo "Please change to the installation root directory"; exit 1; }

for i in `find ./suse/setup/descr -name "*.pkd" -a -type f`; do
  fix_pkd $i;
done

```

This will fool YaST2 into looking for all packages on the first CD :)

**5. The system hangs when the virtual console switches off after 10 minutes idle time. No log messages, no CapsLock, NumLock leds, no Ctrl-Alt-Del, no Alt-Fn, no ping answer thru network, etc... Only a blank screen, Reset and no ideas...**

Turn off APM and "hardware monitoring" in the bios.

Please try to boot using the "**disableapic**" kernel parameter

**6. Why am I having problems installing from the files I have downloaded from ftp.suse.com ?**

**Never, ever, transfer files in ascii mode**, even when you know that they are ascii.

**7. How can I mirror the SuSE 7.3 from ftp.suse.com**

```

#!/bin/sh

wget --mirror ftp://ftp.suse.com/pub/suse/i386/7.3/ \
-X /pub/suse/i386/7.3/full-names \
-X /pub/suse/i386/7.3/unsorted \
-X /pub/suse/i386/7.3/suse/beo1 \
-X /pub/suse/i386/7.3/suse/ham1 \
-X /pub/suse/i386/7.3/suse/han1 \
-X /pub/suse/i386/7.3/suse/j1 \
-X /pub/suse/i386/7.3/suse/j2 \
-X /pub/suse/i386/7.3/suse/zq1 \
-P /data \
-o log.txt

or

#!/bin/sh

rsync -arvz --exclude "full-names/" \
--exclude "beo1/" \
--exclude "ham1/" \
--exclude "han1/" \
--exclude "j1/" \
--exclude "j2/" \
--exclude "zq1/" rpmfind.net::linux/SuSE-Linux/i386/7.3 /data/

```

---

## Howto Install Windows XP and SuSE Linux on the same PC

Ron  
Boyer

I have Windows XP Professional and SuSE Linux Professional, 8.0 installed on the same PC:

Architecture:      CPU:  
i386                Intel Pentium 4 1.60GHz  
Boot Architecture: RAM:  
lilo                 DDR 128

I searched the SuSE support database myself before attempting the installation of both OSes on my PC and found the following information in regard to the installation of Windows XP and SuSE Linux on the same PC. (This is the only trustworthy information that I could find to reference).

Using the following information I have installed both OSes and have had no problems to speak of.

Applies to:        SuSE Linux 7.0 + (I am using 8.0 professional)  
Situation:         You want to run Linux and Windows XP on the same computer.  
Procedure:

- Linux on a separate hard disk

You can simply install Linux on the free hard disk and configure the bootloader.

- Linux on the same hard disk as Windows:

1. First of all you must make room for Linux.

Computers with preinstalled Windows XP usually employ the NTFS file system Version 2. Unfortunately, there is no documentation available about this file system at the moment, so currently Linux cannot read or write in NTFS. Resizing the partition with YaST2's Windows resizer is not possible.


You may use either a commercial partitioning program or reformat the disk, after which you can install SuSE Linux and subsequently Windows XP.

Please note that computers with preinstalled XP may have a separate partition containing recovery data. This partition must not be deleted in any case!

- a. First create a primary FAT32 partition for Windows. This can be done with SuSE's installation program. Leave the rest of the disk free. If you also use an

- extended partition, it should occupy the remaining disk space. Please notice that some laptops require a special partition that must not be deleted.
- b. Install SuSE Linux behind the primary partition and copy the bootloader LILO to a floppy disk.
  - c. Install Windows XP on the primary partition.
2. For more information on the further configuration of the bootloader check the article [Linux and Windows NT](#)

Further information on Linux and NTFS is available at [Linux NTFS Project](#)

 Note that the size of the partitions here are only my 'guesstimates' in light of my own hardware/software.

I offer this information in hope that it may benefit someone, or inspire some constructive thinking.

---

## SuSE Linux and Windows XP, Dual Boot, Newbies Guide

SallyShears

<sshears@theWorld.com>

<http://theWorld.com/~sshears>

For the past several years, Linux has become easier and easier to install and use. The SuSE installer would partition your hard disk, shrink Windows to make room for Linux and add a boot menu so you could choose Linux or Windows. On the Mac, it was the same. Also the same in other Linux distributions.

But, now in 2002, the available PC's have Windows XP with a new file system (ntfs) that makes things much more difficult. The only easy route is to discard Windows and let the Linux installer create a Linux-only computer.

Skilled hackers know their way around all the obstacles, and much of this has been posted here. But, abbreviated recipes won't be much help to Newbies trying to do this for the first time.

The purpose of this article is to provide a guide, accessible even to Newbies, for creating the desired Linux-plus-Windows installation.

*What I wanted:*

1. Nice Linux machine.
2. Easy to re-boot into Windows from time to time.
3. Able to save files in either Linux or Windows and then see them from the other.
4. Easy to return the machine to it's original Windows-only state.

*Limitations of this article:*

- ◇ I'm doing this in SuSE Linux ver 8.1; some of the problems I'm solving may be handled by later versions of SuSE Linux or in other Linux distributions. Caveat reader.
- ◇ My approach is a second hard disk drive for Linux, so this won't work for laptops. Some, not all, the comments below will be relevant to laptops.
- ◇ I'm working only with SuSE Linux. A similar approach will probably work with other Linux distributions, but the details may be different. Hackers, please comment
- ◇ My primary desktop environment is Mac OS X, not Windows, so I may be missing some obvious points about Windows.
- ◇ My instructions assume you are using the graphic user interface in Linux (KDE) and not the text-only approach sometimes used for servers.

*Problems to solve:*

1. Today's machines come with Windows XP. The XP file system is ntfs (a more modern file system than FAT which was used up to Win98). The Windows XP file system fills the whole disk, leaving no room for Linux.
2. SuSE installer has a partition re-sizer to make room for Linux, but it won't resize the ntfs file system, only the older FAT file system. The only option in the SuSE installer is to delete the Windows XP system. We don't want to do that! There is no easy way to setup **dual boot**.
  - a. SuSE suggest the easiest approach is to delete the Windows XP partition and create a new FAT file system for Windows, and then resize that partition with the SuSE installer. Ugh! This creates a new set of problems: Windows XP may not work as well with FAT. You may not have installer CDs to install Windows XP in a FAT file system. We want the Windows-aspect of our computer to be 100% *standard*.
3. SuSE Linux can *see* the Windows ntfs partition and read from it, but cannot write files on the ntfs file system. Windows deals only with Windows-stuff and can't even *see* the Linux partition. The recommended solution, if keeping the ntfs file system for Windows, is to create a FAT32 partition that both OS's can read/write and use this for files to be accessed from both sides.

All the above leads me to an easier approach: **A second hard disk...**

4. Win XP will only boot from *first* hard disk. (There are some technical details here, but I believe the restriction is that Windows will only boot from the first hard disk in boot-priority order.)
5. Many PC vendors only provide a *Restore* cd, not a complete *Install* cd for Windows. Comments here on usenet suggest that if you resize the Win partition, you cannot reinstall Win XP from these *Restore* disks without going back to scratch (that is, without resetting the whole hard disk drive to be dedicated to Windows.) Again, Windows deals only with Windows-stuff.
6. We want to make sure that a re-install of Windows won't wipe out your Linux. In particular, that it not wipe out the nice *Choose your OS..* menu when booting. Using the restore disk will probably overwrite the whole drive in question, including the Master Boot Record (MBR) where the Linux boot manager is located. Therefore, we don't want to put the nice Linux boot-manager on the Windows drive. Instead, we'll put it on a separate Linux hard disk drive. Also, for the same reasons, we want the FAT32 partition to be on the Linux drive. (Note: It's going to be harder on Laptops... Most laptops have only one hard drive.)

*Assumptions:*

- ◇ You are using a new consumer PC.
- ◇ It has Windows XP; I also think Apple is great, but this article is NOT about installing on an Apple computer.
- ◇ It has one ATA/IDE/EIDE-type hard disk drive
- ◇ You can add a second hard disk drive
- ◇ Your Windows XP and your SuSE Linux installations will be standard

*My approach to solving the problems:*

- ◇ Add a second hard disk drive for Linux
- ◇ Make Linux the **first** drive, and Windows the **second**
- ◇ Add a FAT32 partition to the linux drive that both operating systems can read/write. Format this partition as FAT32 in Windows.
- ◇ Configure the Linux boot loader (**GRUB**) to give you the choice of Windows or Linux at boot time.
- ◇ Learn to mount the FAT partition in Linux.

*Major alternatives to my approach:*

- ◇ instead of dual boot, create a Linux only machine. This is much easier, the installer will take care of everything.
- ◇ instead of a second hard drive, resize the Windows partition and put everything on one drive
- ◇ instead of configuring the boot loader, twiddle the bios to change the boot priority order of the hard disks (see step 6 below)
- ◇ instead of creating a shared partition, just email yourself any document you want to use in the other operating system

*Basics you need to know:*

- ◇ **Boot**ing means loading the system software from the hard drive. Booting takes place when you turn on or restart your computer.
- ◇ In Windows, your disk drives and partitions are listed as C:, D:, E:, etc.
- ◇ In Linux, your disk drives are hda, hdb, etc., where hda is the "first" drive and hdb is the "second".
- ◇ Each drive may be divided into partitions which work like "virtual" disk drives.
- ◇ In Windows, partitions appear as additional "Local Disk Drives" E:, F:, etc.
- ◇ In Linux, partitions are identified by adding a number to the drive label. So, hda1 is the first partition on the first drive, hda2 is the second partition on the first drive, etc.
- ◇ It's crazy, but for historical reasons, the boot programs know the drives as (hd0) and (hd1), that is, zero is first, one is second. Naturally! For the boot loader, the partitions are indicated with a comma and digit, again counting up from 0. -- So (hd1,0) is the second hard drive, first partition. -- Similarly, (hd0,2) is the first hard drive, third partition. (Fortunately, once you've set up your boot menu, you can forget about the "**start from zero**" scheme for just about everything you'll want to do.)
- ◇ Within a partition, a file system has to be created before you can do anything else. SuSE will take care of this for the Linux partitions, and Windows handles it's drive. We'll use the Windows format utility for the FAT32 partition.
- ◇ For the main Linux partition, the filesystem is probably ReiserFS, the SuSE default. But you could choose ext2 or ext3.

- ◇ It's confusing, but the label "FAT" is used for three slightly different file systems: FAT, FAT16, and FAT32. We'll use FAT32, the most modern of these because it allows long file names. Linux sometimes uses "vfat" for FAT32.

### Steps:

1. Test your computer with Windows XP. Set up your Windows users, register with Microsoft, etc.
2. Buy an additional hard drive. These are quite cheap now. You can have 40gb for a little over \$100. I bought Maxtor Ultra Series 80gb (red box) for \$150. Six months from now, you'll laugh at these prices! I think most any IDE/ATA drive will work fine.
3. Change the original hard drive from *Master* to *Slave* by opening the case and moving a jumper on the drive. Install the new hard drive, and set it to be *Master* on the same IDE cable. Look for some instructions with your new hard drive, make notes, and check your original drive carefully. The jumper positions are different for different brands of hard disk drive. Usually, there is something printed on the drive label.

ⓘ (You might want to get help to do the *Master – Slave* changes and install the new drive.)

(It would probably work to put the original hard drive on the second IDE cable as *Master*, where the new drive is *Master* on the first IDE cable just as above, but I haven't tested this.)

Just remember, the original drive with Windows will be the *second* drive, and the new one with Linux will be the **first** drive.

4. Install SuSE — Run the SuSE installer, starting with SuSE's directions. Usually this means booting from *CD#1* or the DVD.
  - a. Throughout the installation — Remember that you are installing Linux on hda, the "first" drive. The SuSE installer should suggest this as the default.
  - b. Create a partition to share between Linux and windows — At the partitioning step of the install, shrink the Linux partition a bit and add a FAT partition on hda. For "mount point" of the FAT partition enter `/windows/share` and the remaining default options for "FAT" should be OK. Both Windows and Linux can read and write to this FAT32 partition. I made my FAT partition 300mb. [Perhaps we could specify the options for `/etc/fstab` at this point, but I did it later. Comments?]
  - c. Rest of Installation — Follow SuSE's suggestions to install on first hard drive (hda). Follow SuSE's suggestions to install GRUB on the Master Boot Record (MBR). On the software options page, choose **Default** system. You're done when you get the KDE desktop and not the installer menus.
  - d. Explore Linux a bit. There are a few more steps before we can easily switch back and forth between Linux and Windows, but these can wait.
5. Test booting — Logout and restart your computer. Watch the boot menu. You should get options for Linux, Floppy, and Failsafe. Also a couple of "windows.." options. Check that "Linux" works. Don't try the "Windows" choices in the boot menu; they won't work! Make a note of the items you see in the boot menu. (I did try the "windows" option and the computer "hangs". If this happens to you, the old "three finger salute" still works... hold Ctrl and Alt while you type Delete. This will restart your computer.)
6. (Strictly Optional) Switching OS's the HARD WAY — You might need to use this in order to boot Windows before completing the remaining steps. It's awkward, but it does get you to

Windows... When you boot, there is probably an option to enter the "BIOS Setup". Watch for this option and act quickly. On my machine, I have to hit "Del" within a couple of seconds. Proceed carefully, but find the option to change the "boot priority" of the different hard disks. You can choose Windows by giving boot priority to the second hard disk drive, Linux by giving boot priority to the first hard drive. This works, but there has to be a better way!

If you do change the BIOS boot–priority order, then before doing the remaining steps, go back and reset the boot–priority order so the first hard disk (with Linux) has priority.

7. Fixing the Windows item in the Boot menu — Restart your computer, choose the default "Linux" in the boot menu, login as root. Note that "root" will NOT be one of the choices you can select by clicking the name/picture on the login menu, just type "root" in the "Login" space and give the root password. You should see the KDE desktop. Notice the warning icons on the desktop. As root, you can blow things up completely! Be careful.
  - a. Check the boot options created by the installer. Launch YaST2 by clicking the bottom–left icon, the gear wheel... then **System...** then **YaST2**; the name is an acronym for "*Yet another System Tool*" and this is one of SuSE's important contributions.

- ◇ Choose "**System**" in the left panel of YaST2.
- ◇ Choose "**Bootloader Configuration**" in the right panel.
- ◇ Choose "**Expert manual configuration**". Next.
- ◇ Look at the window "*Boot loader configuration:*"... After some initial items, you'll find one section for each item in the boot menu. Each sections starts with a "title" line. (The text in this window is from the file `/boot/grub/menu.lst`)

Here's what SuSE's installer created for me:

```

---- START of /boot/grub/menu.lst ----
# Modified by YaST2. Last modification on Thu Nov 21 23:31:22 2002

gfxmenu (hd0,1)/boot/message
color white/blue black/light-gray
default 0
timeout 8

title linux
    kernel (hd0,1)/boot/vmlinuz root=/dev/hda2 hdc=ide-scsi vga=785
    initrd (hd0,1)/boot/initrd

title windows 1
    root (hd0,2)
    makeactive
    chainloader +1

title windows 2
    root (hd1,0)
    makeactive
    chainloader +1

title floppy
    root (fd0)
    chainloader +1

title failsafe

```

```

kernel (hd0,1)/boot/vmlinuz.shipped root=/dev/hda2 ide=nodma apm=off
acpi=off vga=normal nosmp maxcpus=0 disableapic 3
initrd (hd0,1)/boot/initrd.shipped
---- END of /boot/grub/menu.lst ----

```

OK, so what's the problem? There are two problems with what SuSE creates:

- ◇ The "windows 1" section will try to boot from the sharing partition (first hard disk, third partition, the FAT partition... remember it's counting from zero). This partition will have only some of my files, and not Windows itself, so any boot from this partition will fail. (I suppose SuSE thinks we MIGHT put some Windows version on this partition in the future. I think this boot menu option is confusing, so I'll just remove it.)
  - ◇ The "windows 2" section is pointed to the right place, but has an error.
- b. Remove the wrong "windows" section -- Select the windows section that references (hd0,2) by left-click-dragging over the text. Hit the "delete" or "backspace" key on your keyboard to erase it. Poof! Gone.
  - c. Fix the remaining Windows option -- Continue your editing... I took the section "windows 2" and changed it to be like this:

```

title Windows XP
map (hd1) (hd0)
root (hd1,0)
chainloader+1
makeactive

```

- ☞ Some notes: "Windows XP" can be whatever text you want in the boot menu "map..." see below. Last two entries... I think SuSE has them in backwards order Don't worry about the indenting... SuSE will fix it. Ignore the button marked "Edit /etc/grub/conf"

- ◇ Click **Next** then **Finish** then **Yes**. YaST2 will save your revised boot menu.

### Explanation

There are limitations on Windows ability to boot. The GRUB manual at [http://www.gnu.org/manual/grub/html\\_mono/grub.html](http://www.gnu.org/manual/grub/html_mono/grub.html) explains this and suggests the map command. By using the map command, any running program, after GRUB passes things to the next stage, will see the second disk hdb a.k.a. (hd1) as though it were the first hda a.k.a. (hd0). (More precisely, any running program that accesses the disk through the BIOS will see it this way, so there –could– be programs that won't work with this disk–swapping approach. [Hackers, is there ANY danger in this? Should I skip this detail?])

8. Test the Boot Menu Choices -- In Linux, logout and select "Restart computer". Try the boot options for Linux and Windows to verify that they work. When you log-in to Linux, do so with your normal username, not as root. Use root only when you need to in order to change a system configuration.

### 9. Format the shared partition -- I use the Windows XP format command to format the shared partition.

- ◆ Restart the computer
- ◆ Chose Windows XP (or whatever label you chose)
- ◆ Start... My computer... Your shared partition will appear as an "extra" local drive. Mine was E:. Here's how to know you have the right "local drive": When you click on a drive, it's icon is highlighted and the lower left display shows the size and space available. When you click on your shared drive, the lower left display will not show size because the partition has not yet been formatted.
- ◆ Right click on your shared partition. Format. Choose FAT32, not ntfs. Use the defaults for other options.
- ◆ Now if you click on the shared partition, the lower left display will show the size.

### 10. Make the "Shared" partition visible to Linux

- ◆ Restart, boot Linux, login as root, open a console window with Konsole (I start Konsole with one of the icons in the lower left... Move your mouse over the icons and let it pause. Linux will show the name of the program represented by the icon.)
- a. Look as `/etc/fstab` this is the table that tells Linux which partitions to mount at boot and which can be mounted by the user. In the Konsole window, type

```
cat /etc/fstab
```

My output looked like this for the hard disks (there are additional lines, but these are all the `/dev/hd. . .` lines)

```
/dev/hda2    /                reiserfs    defaults    1 1
/dev/hda3    /windows/share   vfat        defaults    0 0
/dev/hda1    swap             swap        pri=42      0 0
```

In this table, hda3 is our FAT partition for sharing between OS's.

(What's the problem? The problem is if `/dev/hda3` is mounted with *defaults*, this will be done by root at boot-time, and no other users will be able to touch it. You won't be able to touch it if you login with your normal userid, only if you login as root. Instead, we need to set the shared partition to be mounted by you after login.)

- b. Save a copy of `/etc/fstab`

```
cp /etc/fstab /etc/fstabSAVE
```

If this fails, you probably didn't login as root. Logout, login as root, and repeat from step 10.

- c. Change `/etc/fstab`

```
umount /windows/share
pico /etc/fstab
```

This is a simple text editor. Use the arrow keys to move the cursor. **Ctrl-D** to delete a character. Just type to insert characters. Now change the `/dev/hda3` line so that

instead of the word *defaults*", you have **noauto,user**". When done, the first few lines of my `/etc/fstab` look like this:

```
/dev/hda2    /                reiserfs    defaults    1 1
/dev/hda3    /windows/share  vfat        noauto,user 0 0
/dev/hda1    swap            swap        pri=42      0 0
... there's more... leave the additional lines unchanged ...
```

 (Thanks to Kevin Nathan for this tip.)

If you make a mistake, **Ctrl-X**, *No* so you don't save, and repeat **pico /etc/fstab**

- ◇ Still in Pico, **Ctrl-X**, *Yes* to save, Return to confirm the file name. Now you have changed `/etc/fstab`.
- ◇ Logout, Shutdown, let the computer stop, then Power-on, and boot Linux.
- ◇ If this doesn't work, boot *rescue system* and trouble-shoot.

## 11. Learning to mount your shared partition in Linux

To mount your partition:

- ◆ Boot Linux and login with your normal userid
- ◆ Open a Konsole window

```
mount /windows/share
```

To un-mount the shared partition

```
umount /windows/share
```

.. or just log out.

12. Uninstall. Someday, you might want to return your machine to be a Windows machine, just like you purchased at the store. I'm sure you'll like SuSE Linux, but maybe you want to give the computer to someone who doesn't know this yet! Remove your linux hard drive and change the original drive (with Windows) back to "Master". Now, when you boot, the machine will never know that you used to have Linux installed!

Have a lot of fun!

---


## Raid controllers

1. How to set up an Promise fasttrak 100 tx-2 (20270 chipset) ide raid controller on a Suse 8 System
2. How can I use HightPoint PCI card with SuSe 8.1 ?

### 1. How to set up an Promise fasttrak 100 tx-2 (20270 chipset) ide raid controller on a Suse 8 System

1. Get the drivers from <http://promise.com> and read carefully the **readme.txt**.
2. Do exactly what they write in **readme.txt** until you experience the first problems (they will come soon enough ;-)

3. You will find out that SuSE setup found 3 hard disks: `/dev/hda`, `/dev/hde` and `/dev/sda` or similar. This is wrong. You should only see `/dev/sda`.
4. Ignore this fact and install everything into `/dev/sda`.
5. Then in boot options (SuSE setup), define user boot loader (don't use lilo).
6. Make your choices on software etc, setup keyboard, setup time, all the normal stuff.
7. Start setup.
8. After copying all packages onto your harddrive, you may experience setup saying: `cannot write mbr.`
9. Now you have to leave the `readme.txt` path. Ignore this error message and continue. You will fix that later.
10. After completing the setup as normal, you root into the shell, mount your floppy, and start **sh setup-ft**.
11. Check whether the kernel images are in `/boot`. If they are not, `/etc/lilo.conf` will be missing too. Install them from package `k_deflt`.
12. If the kernel images are there, check `lilo.conf`. Check the append lines for syntax errors (wrong tokens). Check the `disk =` parameter, and if needed, change it to `/dev/sda`.
13. Install `mbr` to `/dev/sda` using the `lilo` command (see `man lilo` how to do it).
14. Using the `lilo` command, define the proper boot device (`/dev/sda`)
15. Run `lilo`
16. Reboot – it should work now.

 I didn't have to install the `k_deflt` package in my last attempt. The way to solve these problems may be other than what I described above.


## 2. How can I use HighPoint PCI card with SuSe 8.1 ?

Grant Quinlan

We wanted to move our server storage to a mirror array to protect against downtime and data loss, and HighPoint's PCI card seemed to be a wonderful approach (details as why I like it below). Unfortunately all the documentation for installing drivers assumes that LILO will be used for booting, but with SuSE 8.1 GRUB is the default boot loader. Documentation available for GRUB is pretty sparse to begin with, and much of SuSE's implementation of GRUB does not match with what I could find in newsgroups and archives. I was very tempted to switch my boot to use LILO, but could see that there were some good reasons not to change. I've had to work on getting this set up during off-hours, so the 20 or so hours that it took me to figure out the solution took about 3 weeks. Now that I know how, someone should be able to use these instructions to get a system set up and configured in less than an hour of work (although each time I had to re-initialize our 180 GB mirror set, it took about 10 hours).

1. I started with a 180 GB IDE (ATA100) drive connected to one of the motherboard's IDE ports, with a working SuSE 8.1 installation. Partition 1 is swap, partition 2 is `/`, and partition 3 is `/home`. I have a matching drive which will mirror this one after installation, and the HighPoint controller card.
2. Get the **hpt374** driver file. The driver build must match the kernel (2.4.19-4GB) and the latest from HighPoint <http://www.HighPoint-Tech.com> is for the 2.4.18-4GB kernel, so I built my own. I downloaded the driver sources from <http://www.HighPoint-Tech.com/hpt374-opensource-v111.tgz>. I unpacked the archive, and ran `make` to build the file `hpt374.o`.

3. Update the hpt374 bios. I am not sure if this was necessary, but it probably is. I downloaded and unpacked [http://www.HighPoint-Tech.com/BIOS\\_374\\_124.zip](http://www.HighPoint-Tech.com/BIOS_374_124.zip) and [http://www.HighPoint-Tech.com/load\\_220701.zip](http://www.HighPoint-Tech.com/load_220701.zip) and copied the files to floppies. I then booted DOS 6.2 from a floppy, loaded the BIOS update (the load application reported an error because it wanted to run under Win95/98 but it seemed to work), and rebooted into Linux.
4. Install the module. From the location of the hpt374.o file I ran "**install -d /lib/modules/2.4.19-4GB/kernel/drivers/SCSI**" and "**install -c hpt374.o /lib/modules/2.4.19-4GB/kernel/drivers/SCSI**". These commands register the module and copy it to `/lib/modules/2.4.19-4GB/kernel/drivers/SCSI`.
5. Test the module. I ran the command "**insmod hpt374.o**". The warning about a *tainted module* can be ignored – it means that a portion of the code used to build the module is not registered and licensed as free software (HighPoint does not want to encourage us to mess with their sources, though they have made them available). The `lsmod` command can be used to verify that the module is loaded. You can also now run the GUI Admin tool to view and configure the card, available from [http://www.HighPoint-Tech.com/GUI\\_404\\_231.zip](http://www.HighPoint-Tech.com/GUI_404_231.zip).
6. Update boot configuration. Edit `/etc/sysconfig/kernel` and add "**hpt374**" to the list of modules in the `INITRD_MODULES` variable. Edit `/boot/grub/menu.lst` and replace "`root=/dev/hda2`" with "`root=/dev/sda2`" – actually make copies with new names for menu items that reference "`hda`" to allow you to boot using the IDE channel if problems arise. When you are sure that everything is working then delete the extra items. (Note that "a" is the first device, "2" is the 2nd partition). Edit `/etc/fstab` and change references to the IDE device (`hda`) to the hpt SCSI device (`sda`).
7. Run `mkinitrd` to update the bootable RAM Disk files `initrd` and `initrd.shipped`
8. Move the IDE drive to channel 1 of the hpt374 controller card. Reboot. During boot, when the HPT card is scanning for devices you can type **Ctrl-H** to bring up the menu to set your boot device, configure mirrors and stripes, etc.

 When setting up this machine I was able to get the RocketRaid 404 card for about \$80, and two 180 GB Western Digital drives for \$180 each. The RocketRaid 404 card maps up to 8 ATA100 drives to SCSI devices for Linux and Windows. It supports JBOD, Raid 0, Raid 1, and Raid 0+1 configurations. I have the 180 GB mirror set and then 3 old EIDE drives attached to the card.

With a 4 way stripe set up the card could conceivably supply data up to 4 times faster than a single ATA100 drive. Mirrors can be read as a stripe set so 4 matched disks in a 2 way striped mirror could then write twice as fast and read 4 times as fast as a single ATA100 drive. Actually the limits of the PCI bus will prevent data from ever actually moving that fast, and when the buffers on the drives are emptied and data needs to be streamed directly from the disk platters then disk rotation (x4) becomes the limiting factor. The WD 180 GB drives come with 8MB buffers (many drives have only 1 to 4 MB buffers) which does a lot help things run at maximum speed more of the time.

Anyhow, it makes for a pretty fast and reliable setup at a very reasonable price.

---

## Chapter 3. Kernel Related Questions

## Kernel Related Questions

1. *How can I upgrade my kernel with SuSE compiled ones ?*
2. *Where can I see which patches to apply, to SuSEify my brand new kernel downloaded from kernel.org ?*
3. *SuSE 8.0 does not shutdown. It stops at "Runlevel 0 has been reached"*
4. *How to compile a module for the SuSE kernel ?*
5. *What is martian source and why I'm getting them ?*

### 1. How can I upgrade my kernel with SuSE compiled ones ?

On a pure SuSE Linux system (i.e. no guarantees if you've changed lilo.conf or did other things):

```
rpm -Uvh k_(deflt|smp).rpm
mk_initrd
lilo
reboot
```

To create from sources:

```
rpm -Uvh kernel-sources*.rpm
cd /usr/src/linux
[edit Makefile and set EXTRAVERSION, if you like]

# "cloneconfig" uses data from /proc/config.gz
# you may have to say Y/N/M for options new in the new kernel
# sources (i.e. not already found in /proc/config.gz)
make cloneconfig dep clean bzlilo modules modules_install

mk_initrd
lilo
reboot
```

### 2. Where can I see which patches to apply, to SuSEify my brand new kernel downloaded from kernel.org ?

Try looking on the ftp site in the people directory...look in mantel. You should find a complete list of patches....or at least he used to keep them there.

### 3. SuSE 8.0 does not shutdown. It stops at "Runlevel 0 has been reached"

Do a

```
uname -a
```

If you see something like 64GB smp in it, then go to YaST and select to install the standard SuSE kernel instead of the SMP kernel.

1. Fire up the Install/Remove module of YaST2 (or the Las Vegas Girl...whatever you wanna call it)
2. In the 'Group' List box, select System/kernel

3. Select `k_deflt` and deselect `k_smp` (YaST2 should display a 'd' right next to `k_smp` and should display an 'X' right next to `k_deflt`)
4. Let it install it
  - a. Run `mk_initrd` and `lilo` again before step five.
5. Reboot
6. Your computer will be a complete screw up at this time. Nothing will run. Your computer will turn into a worthless piece of junk sitting on your desktop not being able to do anything whatsoever. At this step, call 1-800-BILL-GATES to fix the problem.
7. BTW, when I went through Step 1 – 5, everything was OK. You may or may not encounter Step 6.

#### 4. How to compile a module for the SuSE kernel ?

Before you compile your module you must prepare the sources, so they reflect the running kernel. However, a lot of information can be found in `/usr/src/linux/Documentation`

1. 

```
cd /usr/src/linux
```

self explanatory :)

2. 

```
make mrproper
```

Cleans out the source tree, removing bits from previous compiles that may be in there. Also removes old config files.

3. 

```
make cloneconfig
```

This is a SuSE hack, as far as I'm aware. This reads the configuration from the running kernel, using the dynamic file `/proc/config.gz`, and uses that to create an identical configuration for the sources. This ensures that you can compile a kernel identical to the one SuSE supplies. Most people use that as a starting point for experimenting with kernel options.

4. 

```
make dep
```

Standard kernel compilation command. It creates dependency files which determine the order in which things are to be compiled. It also creates various header files with information from the configuration.

5. 

```
touch /usr/src/linux/include/linux/modversions.h
```

I'm not actually sure if this is necessary. The SuSE kernels don't use module versioning so that header file is never created by "make dep". But a lot of compiles, notably the nvidia graphics driver, fail if that file isn't present.

The command creates an empty file of that name, which seems to be all that's needed. As I say, I'm not sure about this one, but it's worked for me so far.

6. After that you can compile your module, and it will fit nicely into the running kernel

## 5. What is martian source and why I'm getting them ?

These are packets which originate on the planet Mars ;-).

These have IP numbers which should never appear in the wild. For example IP range 192.168.0.0/24 is a reserved IP range for local networks and these IP numbers should never reach the Internet.

---

# Chapter 4. System Administration Related Questions

## General System Administration

1. How do I enable passwords with more than 8 characters ?
2. How can I change the default runlevel setting in inittab and keep it changed in ascii login for example ?
3. How can I use a different machine for logging messages ?
4. How can I disable the splash screen ?
5. How can I add crypto filesystem after installation ?
6. What is the equivalent of Windows' **CTRL-ALT-DEL** in Linux to list all running programs?
7. How can I print a list of installed packages ?
8. How do I keep different servers in sync always updated ?
9. How do I backup my partition table ?
10. How do I make a custom bootable CD ?
11. How do I enable Euro character support ?
12. How and where can I change the color scheme for xterm ?
13. How can I have my script run every 30 minutes ?
14. How can I setup a CVS server ?
15. How do I enable telnet and ftp in SuSE 8.0?
16. What is the significance and purpose of shmfs ?

### 1. How do I enable passwords with more than 8 characters ?

It's in `/usr/share/doc/packages/pam/README.md5`

*SuSE Linux is able to handle MD5 passwords. With MD5 encryption, passwords can be longer than 8 characters (up to 128 characters). Since MD5 encryption is not compatible with the standard Unix crypt() function, most commercial Unices and some programs don't work with MD5 passwords. So be careful, if you enable this feature.*

For the details on activating MD5 passwords, please consult the above mentioned file.

### 2. How can I change the default runlevel setting in inittab and keep it changed in ascii login for example ?

It is actually quite simple:

1. run YaST
2. System Configuration
3. Login Configuration
4. Then select ASCII rather than Graphical

### 3. How can I use a different machine for logging messages ?

Edit `/etc/rc.config` on the server and set

```
SYSLOGD_PARAMS="-r"
```

The `-r` option allows remote machines to log to syslog. On the client machine, edit `/etc/syslog.conf` and add the line(s)

```
*.* @server
```

to log everything to the host named `server`. You may want to be more selective. The left hand side is the usual `syslog.conf` patterns.

Don't forget to restart the syslog on both machines after the above editing.

### 4. How can I disable the splash screen ?

- Add **splash=0** to the append line in `lilo.conf` and run **lilo**
- Runtime:

```
echo 0 > /proc/splash
```

to turn off. Use 1 to turn on.

### 5. How can I add crypto filesystem after installation ?

Have look at [http://sdb.suse.de/sdb/en/html/jsj\\_crypto\\_filesystem\\_mini\\_howto.html](http://sdb.suse.de/sdb/en/html/jsj_crypto_filesystem_mini_howto.html)

### 6. What is the equivalent of Windows' CTRL-ALT-DEL in Linux to list all running programs?

A nice easy one is `top` (open a terminal and type in `top`). Should be available on pretty much every flavor of `*nix`. It lets you see the applications, and how much CPU is dedicated to each app etc.

Assuming you use KDE as your window manager, you could also try the KDE System Guard. It is similar in function to the Windows Task Manager..... In the SuSE menu it is under **System->Info->KDE System Guard** or if you use the KDE default menus, it is just under **System**.

With `ps -aux` you can read the processes running, and if you want to see one specific process, then `ps -aux | grep my-procees-name`

And **pstree** gives a nice tree structure of any children processes of any app that may have one..

## 7. How can I print a list of installed packages ?

**rpm -qa | more**

**rpm -qa >> packages.csv** This gives a nice little file named `packages.csv`. Then use Kspread or Star Office and open it like a comma separated values file and then sort, search, etc.

## 8. How do I keep different servers in sync always updated ?

Have a look at: Unison – maybe this does what you are looking for? SuSE Linux 7.3 already includes this package, an RPM for SuSE Linux 7.2 is available from here:

<http://www.suse.de/~grimmer/packages/RPMs/i386/7.2/unison-2.7.7-0.i386.rpm>  
<ftp://ftp.suse.com/pub/people/grimmer/RPMs/i386/7.2/unison-2.7.7-0.i386.rpm>

## 9. How do I backup my partition table ?

Applies to Any SuSE version

Even if you don't have a dualboot, do yourself a favor and backup your partition table. Just do this:

```
fdisk -l /dev/hda >>mytable.txt
```

(or whatever disks you have) and write it to a floppy or handcopy it to a piece of paper.

## 10. How do I make a custom bootable CD ?

It is simple then to make a bootable CD. First create a file, say `boot.img` which is an exact image of the boot floppy currently in use. There is at least one HOWTO on making bootable floppies. If you have a bootable floppy handy, you can make a boot image with the command

```
dd if=/dev/fd0 of=boot.img bs=10k count=144
```

assuming the floppy is in the A: drive.

Place this image somewhere in the hierarchy which will be the source for the iso9660 filesystem. It is a good idea to put all boot related files in their own directory (`boot/` under the root of the iso9660 fs, for example), but this is not necessary.

One caveat – Your boot floppy **MUST** load any initial ramdisk via LILO, not the kernel ramdisk driver! This is because once the linux kernel starts up, the BIOS emulation of the CD as a floppy disk is circumvented and will fail miserably. LILO will load the initial ramdisk using BIOS disk calls, so the emulation works as designed.

The *El Torito* specification requires a **boot catalog** to be created as well. This is a 2048 byte file which is of no interest except it is required. My patches to mkisofs will cause it to automatically create the boot catalog. You must specify where the boot catalog will go in the iso9660 filesystem. Usually it is a good idea to put it the same place as the boot image, and a name like

`boot.catalog` seems appropriate.

So we have our boot image in the file `boot.image`, and we are going to put it in the directory `boot/` under the root of the iso9660 filesystem. We will have the boot catalog go in the same directory with the name `boot.catalog`. The command to create the iso9660 fs in the file `bootcd.iso` is then

```
mkisofs -b boot/boot.img -c boot/boot.catalog -o bootcd.iso
```

The `-b` option specifies the boot image to be used (note the path is relative to the root of the iso9660 disc), and the `-c` option is for the boot catalog file.

Now burn the CD and its ready to boot!

## 11. How do I enable Euro character support ?

Applies to any SuSE version

SuSE support Database has the following articles on the topic:

[http://sdb.suse.de/en/sdb/html/jkoeke\\_euro.html](http://sdb.suse.de/en/sdb/html/jkoeke_euro.html)

[http://sdb.suse.de/en/sdb/html/jkoeke\\_foreign\\_euro.html](http://sdb.suse.de/en/sdb/html/jkoeke_foreign_euro.html)

1. Check the locales which support the euro:

```
tux:~ # locale --all-locale | grep euro
```

If yours doesn't end on `@euro`, it isn't working.

Fire up Old-YaST, system administration, change config file, go to `RC_LANG` and set it to a value which supports the Euro. For England this might possibly be `en_IE@euro`

Once you're in this config-file, you are recommended to set `Console-Font` to `lat9w-16.psfu.gz`. (see `sdb` for details).

2. Use the Euro symbol:

Set encoding to `iso-8859-15`. It might have been `iso-8859-1` originally. This can be done e.g. in the KDE control center

## 12. How and where can I change the color scheme for xterm ?

```
set -o noclobber && dircolors -p > ~/.dir_colors
```

and edit `~/.dir_colors`.

## 13. How can I have my script run every 30 minutes ?

Cron is your best bet. Edit your crontab and add a line like this:

```
0,30 * * * * /path/to/script
```

```
# run the job "my_script" every 30 minutes:
*/30 * * * * $HOME/bin/my_script
```

For more info, use **man 5 crontab**".

#### 14. How can I setup a CVS server ?

1. First, install cvs with YaST2 of your SuSE CD.
2. Second, edit `/etc/inetd.conf` and find the line that looks like this:


```
# cvspserver stream tcp nowait root /usr/sbin/tcpd /usr/bin/cvs -f --allow-r
```

Remove the comment character ( "#" ) and space from the front of the line.

3. Save the file and restart inetd: `rcinetd restart`

#### 15. How do I enable telnet and ftp in SuSE 8.0?

Services such as these are enabled by editing the `/etc/inetd.conf` file. Then, you must also use the **Runlevel editor** (or edit `/etc/inittab`) to activate inetd in the desired runlevels.

 Telnetd is not installed by default, please install the package `telnet-server`

You would be better off using `ssh` in place of `telnet` and `vsftpd` in place of `ftp` – see `/etc/inetd.conf` for details.

Now services started by `xinetd` (`inetd`) use the `tcp wrappers`, so to get things working you will have to do some editing to the files `/etc/hosts.allow` and `/etc/hosts.deny`. See `man 5 hosts_access` for details of the format.

Configuration file for `vsftpd` is `/etc/vsftpd.conf`

#### 16. What is the significance and purpose of shmfs ?

See file://usr/src/linux/Documentation/filesystems/tmpfs.txt (`/dev/shm` is the mountpoint). If you set `TMPDIR=/dev/shm` most programs will use it for temp files. Of course, once you reboot everything there is gone.

---

## Understanding how SuSEconfig works

This section tries to explain the purpose of `SuSEconfig`, what it does, why one needs to run it, when it should be run and what happens if you don't run it

1. *I'm confused over the purpose of the `SuSEconfig` program. What does it do?*
2. *Why do I have to run it? When do I have to run it? What happens if I don't run it?*
3. *I've read the scripting for the program and can see that, after setting a bunch of variables and*

*checking this and that, it runs a series of configuration files `/sbin/conf.d/SuSEconfig.*`. But why is this necessary?*

4. *If I change an application configuration file (e.g. `httpd.conf` or `my.cnf`), without running `SuSEconfig`, do I screw up my system?*
5. *If I make such changes in several programs (without running `SuSEconfig`) and then run `SuSEconfig` much later, does it make everything OK?*
6. *If I install a new program, using `config`, `make`, `make install`, (not a RPM), does `SuSEconfig` recognize anything about that new application? Does the use of `SuSEconfig` depend at all on using RPM's?*
7. *I've read the manuals that came with SuSE 8.1 and they only go a limited way in answering my questions.*
8. *I thought the individual programs had configuration files that were independent of other applications and that one could reliably configure any one of them (e.g. `apache` or `mysql`) without having to worry about messing up other programs or the system. However, this does not really seem to be the case. – Or is it?*
9. *I'm trying to learn SuSE (and Linux in general) entirely on my own and am having a devil of a time, figuring it out. Could someone give me a professional's view of this and help me understand what I should and should not do in configuring my system?*

### **1. I'm confused over the purpose of the `SuSEconfig` program. What does it do?**

It takes config options from lots of files and process them, often converting them into another file format usable by specific apps (for example, it configures the menus for several window managers based on what apps you have installed).

### **2. Why do I have to run it? When do I have to run it? What happens if I don't run it?**

That depends largely on the situation. In pre-8.0 you need to run it after editing `/etc/rc.config`. In 8.x that file becomes obsolete, and `SuSEConfig` uses the data from `/etc/sysconfig/`

### **3. I've read the scripting for the program and can see that, after setting a bunch of variables and checking this and that, it runs a series of configuration files `/sbin/conf.d/SuSEconfig.*`. But why is this necessary?**

Setting up menus for your windowmanager, for example. Unfortunately, SC does about 20x more than you normally need it to on any given run, and is way overkill in most cases. After installing software with `yast`, SC will run it's whole shebang, even though you just installed one application which has no effect on anything relating to SC. The reason for this is that SC cannot know what is (however indirectly) related to anything else, and it must therefore assume that it should be run "just in case."

### **4. If I change an application configuration file (e.g. `httpd.conf` or `my.cnf`), without running `SuSEconfig`, do I screw up my system?**

What normally happens is `SuSEconfig` detects that you have edited the config file yourself, and says ok, a power user, I won't touch the config file then, I'll just tell the user I made a version which she may choose to use.

**5. If I make such changes in several programs (without running SuSEconfig) and then run SuSEconfig much later, does it make everything OK?**

When you run it it will do whatever it needs to do, so any pending updates would be done then.

**6. If I install a new program, using config, make, make install, (not a RPM), does SuSEconfig recognize anything about that new application? Does the use of SuSEconfig depend at all on using RPM's?**

You do not need to run SC after make/make install because building software that way is completely independent of the Linux flavor you use, and completely independent of your RPM database. i tend to install all of my software from source tarballs (unless it's on the Suse CD or updated by YOU), but this is not something your average user should do, as most users want their RPM db to reflect what's on the system (and me, i don't give a damn what my RPM db says).

**7. I've read the manuals that came with SuSE 8.1 and they only go a limited way in answering my questions.**

SC has fallen more into the background since 8.0

**8. I thought the individual programs had configuration files that were independent of other applications and that one could reliably configure any one of them (e.g. apache or mysql) without having to worry about messing up other programs or the system. However, this does not really seem to be the case. – Or is it?**

Looking at it another way, SuSEconfig attempts to put a simplifying layer on top of the config files of various applications.

**9. I'm trying to learn SuSE (and Linux in general) entirely on my own and am having a devil of a time, figuring it out. Could someone give me a professional's view of this and help me understand what I should and should not do in configuring my system?**

If you stick to using YaST to configure you will be ok. If you edit `/etc/sysconfig/*` manually and run SuSEconfig afterwards, you're ok too. If you are a power user who knows what to do to config files, you'll be ok naturally. It's only when you mix and don't understand the result you got, that's when you are in trouble.

In such an advanced system as Unix i think there is no simple answer for this. Changing the One Wrong Thing, whether related to SC or not, can potentially hose your system (normally in the sense that it won't boot properly, only Very Rarely in the sense that you lose data). i've never heard of a case of someone rendering their system unusable by changing any settings which SC processes, however (that doesn't mean it hasn't happened – i'm just not aware of it).

---

## Starting and Stopping Services

SuSE is using insserv to control the runlevel links in an automatic fashion. This section tries to address questions related to creating and maintaing runlevel links.

### *1. How can I start services at boot time ?*

2. Why do my runlevel symlinks change order ?
3. I can't find chkconfig where is it ?
4. How can I stop hwscan from starting at boot time ?

### 1. How can I start services at boot time ?

To start a service:

```
$ insserv named
```

To stop a service from starting:

```
$ insserv -r named
```

 You can also use **YaST Control Center** → **System** → **Run level editor** + **Runlevel properties**

Have a look at insserv(8) manual page for in detail explanations.

```
INSSERV(8)                The SuSE boot concept                INSSERV(8)

Insserv - Enable an installed system init script

Enables an installed system init script ('boot
script') by reading the comment header of the script,
e.g.:


### BEGIN INIT INFO
# Provides:          boot_facility_1 [ boot_facility_2 ...]
# Required-Start:   boot_facility_1 [ boot_facility_2 ...]
# Required-Stop:    boot_facility_1 [ boot_facility_2 ...]
# Default-Start:    run_level_1 [ run_level_2 ...]
# Default-Stop:     run_level_1 [ run_level_2 ...]
# Description:      multiline_description
### END INIT INFO

and calculating the dependencies between all scripts.
```

If you are interested in making your own init script for a custom program to start at boot time look at /etc/init.d/skeleton. You can use this example to create your own.

### 2. Why do my runlevel symlinks change order ?

"insserv", is changing the run level links. Every time a package including an init script is being installed, it calls insserv in its %post section to install the required run level links. Have a look at the insserv(8) and init.d(7) man pages. Probably your init script is lacking the required comments in the header that determine the default run levels and startup dependencies (as specified by the LSB).

 Have a look at SuSE Package Conventions document if you are creating your own rpms or for a deeper understanding of SuSE RPM internals. Note that this document is still work in progress...

### 3. I can't find chkconfig where is it ?

Applies to SuSE 8.0

The equivalent is `insserv`, refer to the previous question for detailed info about man pages and other explanations.

```

CHKCONFIG(8)                                CHKCONFIG(8)

NAME
    chkconfig - enable or disable system services

SYNOPSIS
    chkconfig -t|--terse [names]
    chkconfig -s|--set [name state]
    chkconfig -e|--edit [names]
    chkconfig -l|--list [--deps] [names]
    chkconfig -a|--add [names]
    chkconfig -d|--del [names]

DESCRIPTION
    chkconfig is used to manipulate the runlevel links at boot time
    (see init.d(7)). It can be thought of as a frontend to insserv(8).
    Chkconfig can run in six different modes: terse list mode, set
    mode, edit mode, list mode, add mode and delete mode. The last three
    modes were added for compatibility reasons
  
```

#### 4. How can I stop hwscan from starting at boot time ?

- Fire up YAST
- Select "System"
- Select "Runlevel Editor"
- Select "Runlevel Properties"
- Select (from list) "hwscan"
- Click "Set/Reset"
- Select "Disable the service"
- Click "Finish"

An alternative procedure is as follows

It's a service called "hwscan", started from the Links in `/etc/init.d/rcX.d` where X is your runlevel. To see in which runlevels your script is invoked :

```
# chkconfig -l script
```

Normally you could remove the scripts with:

```
# insserv -r script
```

in your case:

```
# insserv -r hwscan
```

## YOU (YaST Online Update)

1. Why does YOU keep pulling the list of updates for 7.2 while I am using 7.3 ? Where does it get this information ?
2. Where does YOU keep the software it downloads ?
3. How can I set another SuSE mirror server to download updates ?
4. How can I use YaST2 Online Update YOU for my local mirror ?
5. How can I configure YOU so it will use a proxy ?
6. When using YOU it fails with the message "Cannot check patch [name] because the GPG package is not installed". How can it be fixed ?
7. How can I have YOU update automatically ?
8. Is there an alternative for YOU (YaST Online Update) ?
9. I can't do text mode based YaST2 online update because the program aborts. How can I fix it ?
10. Why is Yast2 in ncurses mode after KDE upgrade ?

### 1. Why does YOU keep pulling the list of updates for 7.2 while I am using 7.3 ? Where does it get this information ?

Check whats in `/var/lib/YaST/update.inf`. The complete explanation what to do is in the `sdb`.

### 2. Where does YOU keep the software it downloads ?

You should find them in `/var/lib/YaST/patches/i386/update/VERSION`

### 3. How can I set another SuSE mirror server to download updates ?

You add the name of the server you want to use to the top of the list in `/etc/suseservers`, this is what YaST2 online update is using.

In order to have the server name in the `/etc/suseservers` stay the same, edit `/etc/sysconfig/onlineupdate` and set so it will not.


```
YAST2_LOADFTPSEVER="no"
```

 `ftp://ftp.aarnet.edu.au/pub/suse` can be used in Australia

### 4. How can I use YaST2 Online Update YOU for my local mirror ?

You may want to look at the Mini Howto for creating patch CD's.

First use a cron script to obtain a mirror via rsync every night updating `/usr/local/update/i386/update/8.0` directory. You can place the following script under `/etc/cron.daily/update80.sh`

 The very first time this script is run it will try to populate the entire directory structure. If your Internet connection speed is slow, you can reduce the download amount by copying the files and directories under `/var/lib/YaST/patches/i386/update/8.0/` to

`/usr/local/update/i386/update/8.0` directory so `rsync` will update only the changes.

```
#!/bin/sh
logger -t update80.sh[$$] Updating from gwdg - 8.0

rsync -auqz --stats --delete --exclude zq1/
      ftp.gwdg.de::SuSE/ftp.suse.com/suse/i386/update/8.0/. \
      /usr/local/update/i386/update/8.0/.

logger -t update80.sh[$$] Finish Updating from gwdg - 8.0
```

When using the YaST2 online Update module, select expert and then choose `harddisk` and enter the path as follows: `"/usr/local/update"`, YaST2 will find the remaining parts depending on your SuSE version. Then you will be able to apply the patches via `harddisk`.

- ☞ If you want to make a Patch CD, the important point is use of *graft-points*, an option of `mkisofs`. For example:

```
-graft-points i386/update/8.0=/usr/local/update/i386/update/8.0
```

This way you can use the CD as a patch CD and YaST2 will happily accept it.

## 5. How can I configure YOU so it will use a proxy ?

In YaST Control Center go to **System**→**Sysconfig Editor**. There are several options under "**Config options**", click the **+** plus sign next to **Network**, then click on **Proxy**. Type in your proxy settings. For example: `http://proxy.provider.de:3128`, which is `yourproxyserver:portnumber`. Make sure you run **SuSEconfig**. You may need to restart KDE so environment variables are taken into account.

## 6. When using YOU it fails with the message "Cannot check patch [name] because the GPG package is not installed". How can it be fixed ?

Take a look in the SuSE support database [http://sdb.suse.de/en/sdb/html/swiegra\\_you-gpg.html](http://sdb.suse.de/en/sdb/html/swiegra_you-gpg.html) for an explanation. To fix it get <ftp://ftp.suse.com/suse/i386/update/8.0/yast1/yast2-config-online-update.rpm> and install this using `rpm -Uhv yast2-config-online-update.rpm`, then start doing your other updates with YOU as normal.

## 7. How can I have YOU update automatically ?

Silviu Marin-Caea

This has been there in SuSE since I don't know when. I myself have discovered documentation about it in the locally installed SuSE help (it's the last place I looked :-).

1. First, edit `/etc/suseservers` and put the preferred (nearest, least hops) mirror first.
2. Then edit `/etc/sysconfig/onlineupdate`

```
YAST2_LOADFTPSEVER="no"
```

3. Then add a script called `autoupdate` in `/etc/cron.daily` (don't forget to **chmod u+x** `/etc/cron.daily/autoupdate`).

The script:

```
# in SuSE 8.1, it does not work without this
export DISPLAY=linux

# download patches
yast2 online_update .auto.get

# install downloaded patches
yast2 online_update .auto.install
```

If you prefer, you can download subgroups of packets like this:

```
yast2 online_update .auto.get security
```

Other than *security*, there are: *recommended*, *document*, *YaST2*, *optional*

To erase, after installation, the downloaded update packages, I thought of this (anyone, is there a better way?):

```
# uncomment the line corresponding to your installed SuSE version:

# SuSE 8.0
#rm -rf /var/lib/YaST/patches/*

# SuSE 8.1
#rm -rf /var/lib/YaST2/you/*
```

## 8. Is there an alternative for YOU (YaST Online Update) ?

The Fast OnlineUpdate for SuSE (or Fou4s for short), is a project started by Markus Gaugusch, a frequent contributor to suse-security. Its goal is to provide an alternative to our YaST Online Update (YOU for short) system. Fou4s is both lighter in weight and more powerful than YOU. The homepage is here: <http://fou4s.gaugusch.at/>

## 9. I can't do text mode based YaST2 online update because the program aborts. How can I fix it ?

Please enter the following command as user root:

```
rm -rf /var/lib/YaST/patches/i386/update/8.0
```

## 10. Why is Yast2 in ncurses mode after KDE upgrade ?

After upgrading from KDE3 to KDE3.0.x, Yast2 will only start in ncurses mode and the graphical screen is not available.

While upgrading, the qt-non-mt.xxx library also needs to be installed from the **development packages** section.

---

## Lilo related Questions

1. *How can I add a password for Windows<sup>TM</sup> in LILO?*
2. *How can I make graphic pictures for the Lilo menu ?*

### 1. How can I add a password for Windows<sup>TM</sup> in LILO?

If you want to add a password to LILO so that the user is asked for a password when Windows<sup>TM</sup> is selected, edit `/etc/lilo.conf` using the **SuSE control center** → **boot configuration**. Edit the windows entry and add another entry called password. Then in the argument just add your password.

### 2. How can I make graphic pictures for the Lilo menu ?

To have lilo pictures changed, have a look to <http://www.gamers.org/~quinet/lilo/help.html> explanations are for SuSE 7.2 and 7.3 though they should work for 8.0 also.

---

## User Related Problems

1. *What can I do if I have forgotten my root password ?*
2. *How can i manually lock an account on SuSE linux? Could I just do something on the file /etc/shadow?*

### 1. What can I do if I have forgotten my root password ?

1. Boot your PC,
2. at the lilo prompt entering

```
linux init=/bin/sh
```

should give you the rootshell.

3. Now issue the command

```
mount / -n -o remount,rw
```

to mount / writeable,

4. issue **passwd** command and set a new password
- 5.

```
mount / -n -o remount,ro
```

6. after that you should be able after reboot, to login with your new password.

### 2. How can i manually lock an account on SuSE linux? Could I just do something on the file /etc/shadow?

`vipw -s` and change the `passwd` to `"*"`, `vipw` and change the shell to `/bin/false`. Make sure to `chmod -R 000 ~/.ssh`

---

## Shell Related Questions

1. How can I change my default shell ?
2. How can set the user to a restricted shell ?
3. How does the environment set when I use Bash shell ?

### 1. How can I change my default shell ?

Use the command `chsh` or edit `/etc/passwd`

With root user rights, enter the command `yast` then System Administration->User administration select the user you want modified with **F3** function key and when you come to login shell again press **F3** and select the shell and finish. When you login as that user you can have the shell you have assigned in YaST

The interactive way to deal with it is through `usermod`. Something like (don't quote , read the man page):

```
# usermod -s USER /qualified/path/to/shell
```

### 2. How can set the user to a restricted shell ?

Simply give the user `/usr/bin/rbash` instead of `/usr/bin/bash` as a login shell. If `bash` is either called with the `-r` parameter or as `rbash`, it will react as restricted shell. See **info bash** for further documentation.

### 3. How does the environment set when I use Bash shell ?

Keith Winston

Applies to SuSE 7.3

**SuSE 7.3 Bash Initialization.** This is an overview of what gets set where when you use a bash shell in SuSE. The process works a little differently if you are running a different shell (`zsh`, `ksh`, `[t]csh`, etc.).

The files are processed in this order:

`/etc/profile`

global config, initializes the terminal (sets the `TERM` variable and unsets `TERMCAP` since SuSE uses `terminfo` instead of `termcap`), sets `umask 022`, sets initial `PATH`, `MANPATH` and a few other variables, sources `/etc/SuSEconfig/profile`, sources all `*.sh` files in `/etc/profile.d/`, sources `/etc/profile.local`, sources `/etc/bash.bashrc`, sources `~/.bashrc`. It includes code to prevent `~/.bashrc` from running more than once depending on whether it has already been executed.

*/etc/SuSEconfig/profile*

this file is generated by SuSEconfig from settings in the */etc/rc.config* file. It sets language environment variables, *KDEDIR*, *QTDIR*, *PRINTER* and *WINDOWMANAGER*.

*/etc/profile.d/\*.sh*

application specific settings such as *jade\_dsl.sh*, *medusa-idled.sh* (search engine used by nautilus), *sp.sh*, *tetex.sh*. Most of these were not activated for my installation.

*/etc/profile.local*

doesn't exist by default. Best place to put global aliases, global shell and environment variables, etc.

*/etc/bash.bashrc*

sets some shell functions (*startx* and *remount*), also sets some aliases (*+=pushd*, *-=popd*, *o=less*, others), sets the *PS1* variable which controls the format of the prompt, sets other variables, if bash 2.0+ it also sources */etc/profile.d/complete.bash*.

*/etc/profile.d/complete.bash*

sets a couple of shell options (*shopt*), customizes the bash "complete" builtin behavior (file completion). SuSE did some serious work to optimize this part of the bash configuration.

*~/.bashrc*

finally, your own bash settings are run. You can override anything that has been set previously since this file is sourced last (prompt, variables, etc.). The default SuSE *.bashrc* includes code to check for */etc/profile.dos* and sources it if it exists. It also checks for *~/.alias* and sources it if it exists.

*/etc/profile.dos*

sets up aliases for DOS commands (*del*, *move*, *copy*, etc.)

*~/.alias*

best place to put your custom alias definitions.

Then, bash looks for additional config files to run...

For login shells, it looks for these files, in order, and executes commands from the FIRST one that exists and is readable.

*~/.bash\_profile* doesn't exist by default.

*~/.bash\_login* doesn't exist by default. You can create it and put custom commands here that you only want to happen once when you first login. If this file exists, then the *~/.profile* will not run. Normally, this is not a problem since *~/.profile* does not do much and the *~/.bashrc* gets sourced from */etc/profile*.

*~/.profile* sets *LANG* variable, sources */etc/profile*, if it has not already been run (checks *PROFILEREAD* variable), sources *~/.bashrc*, runs the fortune program if you uncomment it.

For interactive non-login shells, bash looks for this file:

*~/.bashrc* this is where most custom user settings should go.

When you logout, it looks for this file:

*~/.bash\_logout* file doesn't exist by default. If you want to do something every time you logout, create this file and load it up.

## One-liner solutions



There are many reasons you may want to use quick one liner solutions to solve your questions while either using the system or administering the system. this section is aiming to provide answers to such actions.

1. *How can I locate the biggest files to see what is eating up space ?*
2. *How can I delete files named nnn . nnn~ via cron ?*

### 1. How can I locate the biggest files to see what is eating up space ?

(as root) This could be a long list, so you might want to redirect the output into a file for perusal...

```
find / -xdev -type f -size +10000k -mtime -3 -ls | sort -n -k 7,7
```

-  `-xdev` only searches the local disk, very useful if you are mounting NFS disks.
-  You may want to add a `'-path /proc' -path /dev' -prune'` or otherwise keep find out of `/dev/` and `proc`

### 2. How can I delete files named nnn . nnn~ via cron ?

Log in as root and execute `crontab -e`, add a line like this:

```
0 1 * * * find / -name '*~' -exec rm {} \;
```

This command will execute everyday at 1 o'clock in the morning and remove all files that end with a `~`. If you want to delete `core` files, replace `*~` with `core` above.

## Chapter 5. Networking Related Problems

### Ethernet Configuration and Diagnostic Problems

1. *In which package is mia-diag tool ?*
2. *How to find out if an NIC is full duplex or not ?*
3. *How can I assign two IP's to one network card?*
4. *How can I change the MAC address of the ethernet card ?*
5. *How can I setup my PCMCIA wireless card using HotPlug ?*
6. *How do I setup an D-Link DWL-650+ wireless card ?*

#### 1. In which package is mia-diag tool ?

`mii-diag` is in the package `netdiag`. It doesn't work for (RealTek 8139), it reports 10 mbps half-duplex, when in reality it's running 100mbps, full-duplex. `rtl8139-diag` from the same package, at least confirms the duplex setting, but doesn't mention link beat or speed setting.

## 2. How to find out if an NIC is full duplex or not ?

Try `/usr/sbin/mii-diag ethx` (replace x with the number of your NIC).

## 3. How can I assign two IP's to one network card?

You need to have IP Aliasing support enabled in the kernel. Then just configure it like any other interface. You can have the following in `/etc/rc.config`:

```
NETDEV_0="eth0"
NETDEV_1="eth0:1"

#
# parameteres for ifconfig, simply enter "bootp" or "dhcpcclient" to use the
# respective service for configuration
# sample entry for ethernet:
# IFCONFIG_0="192.168.81.38 broadcast 192.168.81.63 netmask 255.255.255.224"
#
IFCONFIG_0="dhcpcclient"
IFCONFIG_1="192.168.169.1 broadcast 192.168.169.255 netmask 255.255.255.0 up"
```

### Applies to SuSE 8.0

YaST2 can not do it at the time being `/etc/sysconfig/network/ifcfg.template` explains

```
# Multiple addresses (aka aliases)
# There are several ways to assign more than one IP address to a network
# interface. If you ever want to use YaST2 for this you should choose
# the
# first possibility:
# 1) one IP address per config file:
#   create multiple copies of your master config files and add
#   ':<string>' to
#   the filenames of the copy. Prefer increasing number starting at 1.
# 2) multiple IP addresses per config file:
#   You can extend the variable name 'IPADDR' by any string you like
#   (IPADDR_1,
#   IPADDR-FOO, IPADDRxxx, ...) and use these variables for your IP
#   addresses.
#   If you need some additional parameters for these addresses, then
#   just add
#   the same extension to these variable names.
#   IPADDR_AAA=1.2.3.4
#   NETMASK_AAA=255.0.0.0
#   BROADCAST_AAA=1.2.3.55
#   IPADDR_BBB=10.10.2.3/16
#   LABEL_BBB=B
```

## 4. How can I change the MAC address of the ethernet card ?

On one of my systems, I needed to change the MAC address on the Ethernet interface. I tried putting the `"hw ether addr "` spec in the `IFCONFIG_0` variable, but `ifconfig` didn't seem to want to set the IP address and the MAC address at the same time. Also, I found that it was necessary to change the MAC address **before** setting the IP address, otherwise `ifconfig` would give an `ioctl` error.

To solve this problem, I made a change to `/etc/rc.d/network` as follows:

```

--- rc.d.old/network      Fri Nov 30 20:05:59 2001
+++ rc.d/network         Fri Nov 30 21:32:43 2001
@@ -68,6 +68,10 @@
                ;;
                *)
                echo "Setting up network device $NETDEV"
+               IFCHMAC=`eval echo '$'IFCHMAC${I}`
+               if test "${IFCHMAC}" ; then
+                   ifconfig $NETDEV $IFCHMAC
+               fi
                ifconfig $NETDEV $IFCONFIG
                rc_status -v1
                ;;

```

And then adding an entry to `/etc/rc.config` in the form of:

```
IFCHMAC_0="hw ether xx:xx:xx:xx:xx:xx"
```

After making these changes, the system will set the correct MAC address upon boot, before setting the IP address.

## 5. How can I setup my PCMCIA wireless card using HotPlug ?

Keith Winston

Applies to SuSE 8.0

There is a new `pcmcia.rpm` at the SuSE FTP which is also available with YaST Online Update. Here are the patch details:

```

Bug-ID: pcmcia-1138
Kind: recommended
- fixes wireless lan problems: we now use orinoco driver
instead of wlan-ng for
most cards
- updates
/usr/share/doc/packages/pcmcia/README.SuSE
- fixes some minor bugs

```

I want to confirm that that the fix indeed works as promised, even for cards that use encryption keys other than key [1]. The updated `README.SuSE` now includes a detailed description of how the new system works, which configuration files to use, and which ones are updated by the patch.

## 6. How do I setup an D-Link DWL-650+ wireless card ?

Rick Green

The DWL-650 is in `/etc/pcmcia/config` as delivered with SuSE 8.0. Just plug it in! (Assuming you've installed the `pcmcia` package, of course!)

I'm running the compact flash version DCF-650W, and I added the following to `/etc/pcmcia/config` to support it:

```
card "D-Link DCF-650W"
#card "Z-Com XI300 11Mb/s 802.11b WLAN Card"
  manfid 0xd601, 0x0002
  bind "wvlan_cs"
```

...and I found I had to switch from 'kernel' to 'external' pcmcia support.

---

## Routing Problems

With SuSE 8.0 configuration of internet devices has changed. You can find detailed information about **ifup** and how the routing table is used by reading the following man pages:

- man ifup
- man routes

also have a look at New SuSE Network Configuration and Features article on the Support database.

If you are in need of Multi Link routing then you need advance features and most probably Linux Advanced Routing & Traffic Control documentation can give you some ideas.



This section of the FAQ needs contributions ie. articles

---

## Chapter 6. PPP/ADSL/DHCP

In this chapter you will find answers to PPP ADSL and DHCP related problems.

---

### PPP Related Problems

1. *How can I set up an ppp server ?*
2. *When I try to connect to my ISP, the connection is immediately terminated after the pppd is up. How can I fix it ?*
3. *Why does the modem drop upon connection ?*

#### 1. How can I set up an ppp server ?

Chad Whitten

Here is what I have and it works with windows and Linux clients: `/etc/ppp/options.server`

```
-detach                # detach from ppp session (ie, run in background)
asynmap 0
modem
crtstcts
lock
require-pap            # use pap authentication
refuse-chap            # dont use chap authentication
```

```
#login
proxyarp
ms-dns 10.1.1.5      # sets the local dns server
ms-dns 10.1.1.1
10.1.1.10:10.1.1.50 # sets the gateway and ip address for dial-in
```

/etc/mgetty+sendfax/login.config

```
/AutoPPP/ -      a_ppp  /usr/sbin/pppd file /etc/ppp/options.server
```

and from /etc/inittab

```
mo:23:respawn:/usr/sbin/mgetty -n 5 -s 57600 -D ttyS0
```

On both windows and Linux, I just setup a standard dial-up networking connection.

## 2. When I try to connect to my ISP, the connection is immediately terminated after the pppd is up. How can I fix it ?

If you are using WvDial to dial your ISP, in /etc/wvdial.conf, find the setting named *Stupid Mode*. Set it to 1.

Some ISP's will send the text for a login and password, but never use the response. *Stupid Mode* tells WvDial to ignore such prompts.

## 3. Why does the modem drop upon connection ?

Create a file named kppp in the directory /etc/ppp/peers, with the contents:

```
plugin passwordfd.so
```

That will allow it to authenticate and connect again.

## DHCP Related Problems

1. How can I get the DHCP service to upadte the DNS when a computer is allocated an address ?

### 1. How can I get the DHCP service to upadte the DNS when a computer is allocated an address ?

Silviu Marin-Caea

Here are the relevant portions of config files: /etc/named.conf

```
key "dhcp_updater" {
    algorithm "hmac-md5";
    secret "HSrz0PvF-bla-bla-brgc3/Xw==";
};

[...]

zone "genesys.ro" in {
    type master;
    file "genesys.ro.localnet";
```

```
        allow-update { key "dhcp_updater"; };
};
zone "1.168.192.in-addr.arpa" {
    type master;
    file "192.168.1";
    allow-update { key "dhcp_updater"; };
};
```

/etc/dhcpd.conf

```
# default lease time 2592000 sec = 30 days
default-lease-time 2592000;
# max lease time 5184000 sec = 60 days
max-lease-time 5184000;

option domain-name "genesys.ro";
option subnet-mask 255.255.255.0;
ddns-update-style interim;
ddns-updates on;

key dhcp_updater {
    algorithm hmac-md5;
    secret "HSrz bla bla JLHbrgc3/Xw==";
}

subnet 192.168.1.0 netmask 255.255.255.0 {

    range 192.168.1.100 192.168.1.254;

    option routers 192.168.1.1;
    option domain-name-servers 192.168.1.1;
    option smtp-server 192.168.1.1;
    option pop-server 192.168.1.1;
    option netbios-name-servers 192.168.1.1;
    option ntp-servers 192.168.1.1;

    ignore client-updates;

    zone genesys.ro. {
        primary 127.0.0.1;
        key dhcp_updater;
    }

    zone 1.168.192.in-addr.arpa. {
        primary 127.0.0.1;
        key dhcp_updater;
    }

}
```

### Use

```
dnssec-keygen -a HMAC-MD5 -b 128 -n USER DHCP_UPDATER
```

to obtain a string for "secret".

# Chapter 7. File Systems Related Questions

## NFS Related Problems

FIXME SOON

---

## Samba Related Problems

With Samba you can have your Windows™ operating system installed PC's to share files and access resources on your Linux machine.

1. *How does one setup Samba for network printing ?*
2. *How does one use Samba as a PDC ?*
3. *How can I use LinNeighbourhood ?*

### 1. How does one setup Samba for network printing ?

Applies to SuSE 8.0

Brian W. Carver

One tiny problem to describe, but then for the benefit of posterity I'll describe how I printed across the network! When printing from the client computers, printing is fine, but it prints a blank page at the end. SuSE even has a description of this problem in their database, but I don't understand their solution. Anyone able to explain it to a dummy?

 [http://sdb.suse.de/en/sdb/html/ke\\_netprint-trouble.html](http://sdb.suse.de/en/sdb/html/ke_netprint-trouble.html)

### Solution for network printing on 8.0


1. Install samba.
2. Edit `/etc/inetd.conf` to uncomment the line that says:

```
swat stream tcp nowait.400 root /usr/sbin/swat swat
```

 Make sure you have `inetd` restarted, as root issue **`rcinetd restart`**

3. Edit `/etc/hosts.allow` to contain:

```
swat: 127.0.0.1 192.168.0.
```

 if like me, you want any local computer (192.168.0.x) to be able to access SWAT.

4. Type `http://localhost:901` into a web browser.

Use `swat` to set up things. I'll include my `smb.conf` as an attachment to show you how I set up my printer and a couple of shared directories. You can also follow the same advice I did from

Samba Server Step-by-Step Guide which is an old but still useful guide.



You can find more documentation which are uptodate at <http://www.samba.org>

5. The one thing he doesn't tell you in that guide is to go to SWAT's passwords section and create a samba user for each client computer. You'll have to have a linux user on the server for each of these computers too. Then I made sure my windows computers were actually using the same user names and passwords for logging into windows **control panel->users** and then finally in swat click on **ENABLE USER** for each user you've created.
6. After that the server computer showed up in Network Neighborhood and I could set up a network printer in Windows with the **settings->printer->wizard**.

Good luck. I feel like some of what works for me, works on accident and I don't really understand what I've done myself. I just know the clients can print, and I'm thrilled with that.

```
# Samba config file created using SWAT
# from localhost (127.0.0.1)
# Date: 2002/05/01 04:43:18

# Global parameters
[global]
    interfaces = 192.168.0.1/24 127.0.0.1/24
    bind interfaces only = Yes
    security = SHARE
    encrypt passwords = Yes
    map to guest = Bad User
    log file = /var/log/samba/log.%m
    time server = Yes
    socket options = SO_KEEPAIVE IPTOS_LOWDELAY TCP_NODELAY
    character set = ISO8859-15
    os level = 2
    dns proxy = No
    wins support = Yes
    guest account = smbuser
    hosts allow = 192.168.0.2 192.168.0.3 192.168.0.4
    printing = lprng
    hide dot files = No
    veto files = /*.eml/*.nws/riche20.dll/*.**/

[homes]
    comment = Home Directories
    read only = No
    create mask = 0640
    directory mask = 0750
    guest ok = Yes

[printers]
    comment = All Printers
    path = /var/tmp
    create mask = 0600
    guest ok = Yes
    printable = Yes

[printer1]
    path = /var/tmp
    read only = No
    create mask = 0600
    guest ok = Yes
```

```

printable = Yes
printer name = printer1
oplocks = No

[public]
comment = Public
path = /home/public
read only = No
create mask = 0664
directory mask = 0775
guest ok = Yes

[data]
comment = Data
path = /home/samba/data
read only = No
create mask = 0660
directory mask = 0770
guest ok = Yes


```

## 2. How does one use Samba as a PDC ?

Applies to SuSE 8.0

Howard Coles Jr.

Go to IBM's Open Source WebSite. They have a "how to use SAMBA as a PDC" tutorial that has all the info you need to get XP to authenticate to the domain. Here's the link:

 this is with 2.2.2a which comes SuSE 8.0 Pro

<http://www-1.ibm.com/servers/esdd/tutorials/samba.html>

## 3. How can I use LinNeighbourhood ?

Quinton Delpeche

Which version of SUSE are you using? LinNeighborhood was on the SUSE 7.3 Pro CD's. SAMBA is not easy to deal with, but I have received a number of good pointers on the list:

1. Firstly, are you sure you have installed Samba (including smbclient?). Do

```
rpm -qa | grep samba
```

to find out.

2. Second, is the smbfs module loaded. Find out by doing

```
lsmod | grep smbfs
```

If it is not, (as root) do

```
modprobe smbfs
```

to load it. I think you need to add a line to `/etc/init.d/boot.local`

```
/sbin/modprobe smbfs
```

to do this automatically at boot, but others here will be more knowledgeable on this.

3. Thirdly, make `smbmnt` and `smbumount` `suid root`, so that ordinary users can use them. As `root`, do

```
chmod 4755 /usr/bin/smbmnt
chmod 4755 /usr/bin/sbumount
```

I am sure there are some security implications in this (which others may perhaps be kind enough to point out), but it may be sensible to get the thing working first and then worry about them.

4. Fourthly, ensure that there are shared resources on the Windows (I am assuming 98) machines. You may have done this already, but if you have not, you need to add the File Sharing for MS Networks service via right-click/Properties/Add on the Network Neighbourhood icon. Ensure that all Win PCs are in the same workgroup, and that the name (Identification tab) is proper (ie no weird characters like periods). Then, via the My Computer icon, right-click the resource you want to share (eg C:), and select Sharing.

Give it a name and description, and decide on whether you want to give full or read-only access.

5. Fifthly, try pinging from each computer to all others. If this does not work, there is something wrong at a base level, and nothing else will work. Ensure that all Win PCs can see the shared resources of all others – if this does not work, there is something wrong with your Windows setup, which will need to be sorted out before you try browsing via Samba.
6. Now, open `LinNeighbourhood`. Click on `Options/Browse entire network`. In the popup box, you should be the user (greyed out). (If you are not, tick the `Browse as user` box, and enter your username and password. Then untick the box.) Click on `OK`.
7. Give it a few seconds, particularly if you have just made changes to your Win PCs – it can take up to 10 minutes for changes made to a Win network to propagate. But you should eventually end up with a nested hierarchy in the left-hand panel, with your machine at the top. Below it there is a network (perhaps called `TUX-NET`) which will have entries for the Linux machines on which Samba is installed (so your machine should also appear here). Below that there is another network (perhaps called `WORKGROUP`). This should consist of your Windows PCs. If it does not, try doubleclicking on the entry. Each PC entry should have a `+` next to it, and if you click on that you should see the shares you established earlier. Doubleclick on one, click `Mount`, and `LN` should mount it at your chosen point, and open `Konq` to display it. (Thanks to: Kevin Donnelly [kevin@dotmon.com](mailto:kevin@dotmon.com))

I hope this helps to get you started. If `LinNeighborhood` isn't on your CD's, do a search for it at <http://www.google.com/linux> Download the source, and then log in as `su` and do the following:

```
# tar xzvf filename.tar.gz
```

This will give you a new directory, presumably named `linneighborhood`. Enter this directory:

```
# cd linneighborhood
# ./configure
# make
# make install
```

---

## Other Filesystems

1. *What do I need to do in order to have Mac's do file sharing with Linux ?*

### 1. What do I need to do in order to have Mac's do file sharing with Linux ?

SuSE comes with Netatalk, which allows the Linux box to show up in the Mac's Chooser. It will probably not be installed by default, so just use the YaST2 Install and Remove Software and use the search function to find Netatalk.

1. Go into YaST2 Control Center (unless you're already root, it will prompt you for the root password)
2. Click on **System** icon on the left side.
3. Click on **RC-Config Editor**.
4. Expand the section called "**Start-Variables**"
5. Inside **Start-Variables**, expand the subsection called **Start-Network**
6. Under **Start-Network** click on **start\_atalk** and set it to **YES**.
7. From the root prompt:

```
/etc/init.d/atalk start
```

You don't even need to edit `/etc/atalk/netatalk.conf`, in SuSE 7.3 it comes ready to run.

- ⓘ If you need to edit the file, then open it in a text editor, and about the 10th line down you may need to replace `server_name` with whatever your servername is.

```
ATALK_NAME="server_name"
```

---

## Configuring Wine

Curtis Rey

This section will try to explain the configuration of WINE

When using a fake windows (set up by wine) in a users directory **cd .wine/fake\_windows/Program\ Files\14\ Degrees\ East\Fallout\ Tactics/**

```
wine BOS.exe
```

Note the \ used in between certain directory names. This is how you handle spaces between words in Linux, e.g. Fallout Tactics is entered as `Fallout\ Tactics` and likewise for 14 Degrees East as `14\ Degrees\ East`. Enter something like `14_Degrees_East` won't work.

You can also do a couple of different things. Namely if you have a window installation on another drive/partition you can mount the drive and the point wine toward that drive as well as if you have it on another partitions you can set win to read the partition.

Also you can setup windows within a wine installation in the `.wine/fake_windows` in your home directory to give you self a virtual windows environment inside of Linux, do as I have done and just run programs out of a wine installation. You also might want to check out a couple of other things as well. There is WineX at <http://www.transgaming.com> (or get it a sourceforge) used for gaming. Right now I have both and am having better luck with an update version of the generic wine running games. And there are CrossOver programs/plugins from <http://www.codeweavers.com> that are especially built to handle stuff like M\$ Office 97/2000 and Excel. I understand they work very very well (providing you follow codeweavers installation instructions).

I understand the Codeweavers and The Wine Project are perhaps going to merge code. This should make wine even more M\$ friendly and support a wider range of those evil M\$ things to run on your machine.

Anyway, make sure you have it set up the right way, like have the drives in the wine config matching your fstab and play around with certain options like *managed windows*, *unmanaged windows*, *Use DGA*, *Double buffered desktop*, etc... Below is my config file to give you an idea. The wine site has a fairly good support/FAQ as well:

```
[Drive A]
"Type" = "floppy"
"Path" = "/media/floppy"
"Label" = "/media/floppy"
"Device" = "/dev/fd0"

[Drive C]
"Path" = "/home/crrey/.wine/fake_windows"
"Type" = "hd"
"Label" = "/home/crrey/.wine/fake_windows"
"Filesystem" = "win95"

[Drive D]
"Type" = "hd"
"Path" = "/windows/C"
"Label" = "/windows/C"
"FS" = "win95"

[Drive E]
"Type" = "hd"
"Path" = "/windows/D"
"Label" = "/windows/D"
"FS" = "win95"

[Drive F]
"Type" = "hd"
"Path" = "/windows/E"
"Label" = "/windows/E"
```

```
"FS" = "win95"

[Drive G]
>Type" = "hd"
>Path" = "/windows/F"
>Label" = "/windows/F"
>FS" = "win95"

[Drive H]
>Type" = "hd"
>Path" = "/windows/G"
>Label" = "/windows/G"
>FS" = "win95"

[Drive I]
>Type" = "hd"
>Path" = "/windows/H"
>Label" = "/windows/H"
>FS" = "win95"

[Drive J]
>Type" = "hd"
>Path" = "/windows/I"
>Label" = "/windows/I"
>FS" = "win95"

[Drive K]
>Type" = "hd"
>Path" = "/windows/J"
>Label" = "/windows/J"
>FS" = "win95"

[Drive L]
>Type" = "hd"
>Path" = "/windows/K"
>Label" = "/windows/K"
>FS" = "win95"

[Drive M]
>Type" = "cdrom"
>Path" = "/media/cdrom"
>Label" = "/media/cdrom"
>FS" = "win95"
>Device" = "/dev/sr1"

[Drive N]
>Type" = "hd"
>Path" = "/windows/M"
>Label" = "/windows/M"
>FS" = "win95"

[Drive R]
>Path" = "/media/cdrecorder"
>Type" = "cdrom"
>Device" = "/dev/sr0"
>Filesystem" = "win95"

[Drive X]
>Type" = "hd"
>Path" = "/tmp"
```

```

"Label" = "Tmp Drive"
"FS" = "win95"

[Drive Y]
"Type" = "network"
"Path" = "${HOME}"
"Label" = "Home"
"FS" = "win95"

[Drive Z]
"Type" = "network"
"Path" = "/"
"Label" = "Root"
"FS" = "win95"

[wine]
"Windows" = "C:\\Windows"
"System" = "C:\\Windows\\System"
"Temp" = "X:\\\"
"Path" = "C:\\Windows;C:\\Windows\\System;X:\\;Y:\\\"
"GraphicsDriver" = "x11drv"
; Wine doesn't pass directory symlinks to Windows programs by default.
; Enabling this may crash some programs that do recursive lookups of a whole
; subdir tree in case of a symlink pointing back to itself.
;"ShowDirSymlinks" = "1"
"ShellLinker" = "wineshellink"

```

```

# <wineconf>

; Be careful here, wrong DllOverrides settings have the potential
; to pretty much kill your setup.

[DllOverrides]
; default for all other dlls
"*" = "builtin, native, so"

[x11drv]
; Number of colors to allocate from the system palette
"AllocSystemColors" = "100"
; Use a private color map
"PrivateColorMap" = "N"
; Favor correctness over speed in some graphics operations
"PerfectGraphics" = "Y"
; Color depth to use on multi-depth screens
;"ScreenDepth" = "16"
; Name of X11 display to use
;"Display" = ":0.0"
; Allow the window manager to manage created windows
"Managed" = "Y"
; Use a desktop window of 640x480 for Wine
;"Desktop" = "640x480"
; Use XFree86 DGA extension if present
; (make sure /dev/mem is accessible by you !)
"UseDGA" = "Y"
; Use XShm extension if present
"UseXShm" = "Y"
; Use XVidMode extension if present
"UseXVidMode" = "Y"
; Enable DirectX mouse grab

```

```

"DXGrab" = "Y"
; Create the desktop window with a double-buffered visual
; (useful to play OpenGL games)
"DesktopDoubleBuffered" = "Y"
; Code page used for captions in managed mode
; 0 means default ANSI code page (CP_ACP == 0)
"TextCP" = "0"
; Use this if you have more than one port for video on your setup
; (Wine uses for now the first 'input image' it finds).
;; "XVideoPort" = "43"
; Run in synchronous mode (useful for debugging X11 problems)
;; "Synchronous" = "n"

"Desktop" = "N"

[fonts]
;Read documentation/fonts before adding aliases
;See a couple of examples for russian users below
"Resolution" = "96"
"Default" = "-adobe-helvetica-"
"DefaultFixed" = "fixed"
"DefaultSerif" = "-adobe-times-"
"DefaultSansSerif" = "-adobe-helvetica-"

;; default TrueType fonts with russian koi8-r encoding
;"Default" = "-monotype-arial-*-*-*--*-*-*-*-*-*--koi8-r"
;"DefaultFixed" = "-monotype-courier new-*-*-*--*-*-*-*-*-*--koi8-r"
;"DefaultSerif" = "-monotype-times new roman-*-*-*--*-*-*-*-*-*--koi8-r"
;"DefaultSansSerif" = "-monotype-arial-*-*-*--*-*-*-*-*-*--koi8-r"
;; default cyrillic bitmap X fonts
;"Default" = "-cronyx-helvetica-"
;"DefaultFixed" = "fixed"
;"DefaultSerif" = "-cronyx-times-"
;"DefaultSansSerif" = "-cronyx-helvetica-"

[serialports]
"Com1" = "/dev/ttyS0"
"Com2" = "/dev/ttyS1"
"Com3" = "/dev/ttyS2"
"Com4" = "/dev/modem"

[parallelports]
"Lpt1" = "/dev/lp0"

[ppdev]
;; key: io-base of the emulated port
;; value : parport-device{,timeout}
;; timeout for auto closing an open device ( not yet implemented)
;"378" = "/dev/parport0"
;"278" = "/dev/parport1"
;"3bc" = "/dev/parport2"

[spooler]
"LPT1:" = "|lpr"
"LPT2:" = "|gs -sDEVICE=bj200 -sOutputFile=/tmp/fred -q -"
"LPT3:" = "/dev/lp3"

[ports]
;"read" = "0x779,0x379,0x280-0x2a0"
;"write" = "0x779,0x379,0x280-0x2a0"

```

```
[spy]
"Exclude" = "WM_SIZE;WM_TIMER;"

[registry]
;These are all booleans.  Y/y/T/t/1 are true, N/n/F/f/0 are false.
;Defaults are read all, write to Home
; Global registries (stored in /etc)
"LoadGlobalRegistryFiles" = "Y"
; Home registries (stored in ~user/.wine/)
"LoadHomeRegistryFiles" = "Y"
; Load Windows registries from the Windows directory
"LoadWindowsRegistryFiles" = "Y"
; TRY to write all changes to home registries
"WritetoHomeRegistryFiles" = "Y"
; Registry periodic save timeout in seconds
; "PeriodicSave" = "600"
; Save only modified keys
"SaveOnlyUpdatedKeys" = "Y"

[Tweak.Layout]
;; supported styles are 'Win31'(default), 'Win95', 'Win98'
;; this has *nothing* to do with the windows version Wine returns:
;; use cmdline option --winver if you want that.
"WineLook" = "Win98"

[Console]
;"Drivers" = "tty"
;"XtermProg" = "nxterm"
;"InitialRows" = "25"
;"InitialColumns" = "80"
;"TerminalType" = "nxterm"

[Clipboard]
"ClearAllSelections" = "0"
"PersistentSelection" = "1"

; List of all directories directly contain .AFM files

[afmdirs]
"1" = "/usr/share/ghostscript/fonts"
"2" = "/usr/share/a2ps/afm"
"3" = "/usr/share/enscript"
"4" = "/usr/X11R6/lib/X11/fonts/Type1"
"5" = "/usr/lib/wine/afm"

[WinMM]
"Drivers" = "wineoss.drv"
"WaveMapper" = "msacm.drv"
"MidiMapper" = "midimap.drv"

[ppd]
"generic" = "/usr/lib/wine/ppd/generic.ppd"

# </wineconf>

#####
# Application dependent sections follow #
#####
```

```
[AppDefaults\\_INS5576._MP\\x11drv]
; Lotus Notes R5 installer
; I'm quite not sure this will run on some other machine than mine, but it
; can't hurt
"Managed" = "N"
"Desktop" = "N"

[AppDefaults\\nlnotes.exe\\x11drv]
"Desktop" = "1280x1024"

[AppDefaults\\notes.exe\\DllOverrides]
"msvcrt" = "native"
"msvcrt40" = "native"
"crtdll" = "native"
"imagehlp" = "native"
"rnaph" = "native"

[AppDefaults\\nlnotes.exe\\DllOverrides]
"msvcrt" = "native"
"msvcrt40" = "native"
"crtdll" = "native"
"imagehlp" = "native"
"rnaph" = "native"

[AppDefaults\\nhldaemn.exe\\DllOverrides]
"msvcrt" = "native"
"msvcrt40" = "native"
"crtdll" = "native"
"imagehlp" = "native"
"rnaph" = "native"
```

---

## Chapter 8. Printing

### CUPS Related Problems

1. *What is CUPS ?*
2. *How do I configure Cups for Server/Client operation ?*

#### 1. What is CUPS ?

CUPS is a printing system. What does it mean?

In Linux, printers are represented as queues. Each queue can be a different printer, or the same printer with different configurations. When you print something, you send the file to a server in memory. This server processes the file and sends it to the required queue. It is nice because local printers and remote printers (of whatever kind) just look the same for the user.

This server is CUPS (or it could be LPRng, LPD, etc). It is very complex compared with older systems like LPRng, and is able to process documents before they are printed in a very nice way. Some KDE printing features (in the printing dialog) work only with CUPS.

#### 2. How do I configure Cups for Server/Client operation ?

Graham Smith


## Configuring Cups for Server/Client operation

SuSE appears to only setup CUPS as a server on your localhost, which causes problems when setting up a client/server configuration.

The configuration files for cups are located at /etc/cups There are two main config files:

cupsd.conf = Server configuration (used if you have a printer connected to this machine)

client.conf = Client config (used if you are a client to a cups server)

 You will have to be logged in as root to alter either of these files.

### 1. Altering cupsd.conf

This file is extremely well commented and includes examples of what you should enter.

- a. Firstly, at about line 50, add your ServerName. (you will see an example commented out as shown below).

```
#ServerName myhost.domain.com
```

- b. Next locate the section marked "##### Browsing Options" located about line number 470.

Search for BrowseAddress and add your ip address, and replacing the last number with 255. For example, if my ip address is 10.1.2.3 , I would enter the following:

```
BrowseAddress 10.1.2.255
```

Then slightly further down I would add:

```
BrowseAllow 10.1.2.*
```

### 2. Altering client.conf

This file is used on machines which are a client to a CUPS Server (e.g. No printer connected to the machine but connects to another machine to print)

At about line 40 you will find an example commented out of setting the ServerName. e.g.

```
#ServerName myhost.domain.com
```

Add an entry with the Fully Qualified Domain Name of your server there.

### 3. Debugging Cups problems

All errors are logged in /var/log/cups/error\_log file, just goto the end of the file for the latest debug statements.

The level of the debug entries are controlled by an entry in `/etc/cups/cupsd.conf` file. Search for `LogLevel`, it should be about line 165

**!** **WARNING:** Do not set this level too high otherwise you will be flooded with debug messages and won't be able to identify what is wrong. Start with "info" and if this does not supply enough details then proceed to "debug". I have never needed to go any higher than this.

4. Please ensure you restart cups after any alterations are done to the above configuration files. e.g.

```
rccups restart
```

or

```
/etc/init.d/cups restart
```

Also see:

- CUPS and the LinuxPrinting.org Database <http://www.linuxprinting.org/cups-doc.html>
- Troubleshooting-CUPS-and-Asking-for-Help HOWTO <http://www.cups.org/cups-help.html>

---

## LPRNG Related Problems

FIXME SOON

---

## Chapter 9. Sound Related Questions

### Audio CD Related Questions

*1. Why won't the AudioCD IO slave see my CD when I'm using scsi/scsi emulation ?*

**1. Why won't the AudioCD IO slave see my CD when I'm using scsi/scsi emulation ?**

Anders Johansson <[andjoh@cicada.linux-site.net](mailto:andjoh@cicada.linux-site.net)>

The AudioCD IO slave uses the `/dev/sg` files to communicate with your SCSI cd reader. Your user needs to have read and write access to the `sg` device mapped to your cd. You can accomplish this by putting the user who should be allowed to use the cd in the group "disk" (see documentation for how to do this).

---

### Custom Kernel and Sound Related Questions

*1. How can I use the alsa modules after compiling a custom kernel ?*

**1. How can I use the alsa modules after compiling a custom kernel ?**

Actually, it is quite simple. Alsa sound drivers are kernel modules. Therefore, when you recompile the kernel, you normally have to recompile the alsa modules as well. When you install a SuSE kernel package, `k_*.rpm`, the alsa modules are included. However, the sources are not part of the kernel sources. To rebuild the alsa modules, normally proceed as follows:

1. install the alsa source package:

```
rpm -i alsa-version.src.rpm
```



This package is missing in SuSE 7.3. You can download it from <ftp://ftp.suse.com/pub/people/tiwai/7.3-src>

2. Now rebuild the alsa packages:

```
cd /usr/src/packages/SPECS
rpm -ba alsa.spec
```

3. Install the alsa module sources:

```
cd /usr/src/packages/RPMS/i386
rpm -Uvh km_alsa-version.i386.rpm
```

4. Build the alsa modules:

```
cd /usr/src/kernel-modules/alsa-driver-version
make -f Makefile.module
```

5. Install the alsa modules:

```
make -f Makefile.module install
```

That should be it, give or take the occasional typo. After a **depmod -a** all `snd*` dependencies should be resolved. You shouldn't have to change your `modules.conf` at all.

## Sound files conversions Questions



You may want to check Keith Winston's article on CD ripping

*1. How can I convert my mpg files to be burned into CD-R ?*

**1. How can I convert my mpg files to be burned into CD-R ?**


Lew Wolfgang

Just us it like this:

```
mpg123 -s something.mpg >something.cdr
```

The file format is not `.wav`, but in the format that may be burned directly by `cdrecord` if you do this:

```
cdrecord -v speed=S dev=X,Y,Z -swab -pad -audio *.cdr
```

 assumes X86 architecture. Don't use `-swab` on SPARC

Substitute the speed for your burner/cdrs and your own X,Y,Z config obtained by running `cdrecord -scanbus`. This will burn all the `.cdr` files in the directory that you're sitting in.

Keith  
Winston

This is the script I use, just put the mp3 files in the `~/burn/data` directory.

```
#!/bin/bash

# This is a CD-R script for burning mp3 files directly to CD.
# The mpg123 program converts mp3s to cdr format, and cdrecord burns
# the tracks on the CD.
#
for I in /home/foo/burn/data/*.mp3
do
    mpg123 --cdr - "$I" | cdrecord dev=0,0,0 -audio -pad -v -speed=2
-nofix -
done
cdrecord dev=0,0,0 -fix

####
```

## Chapter 10. Web Servers

### Apache Related Questions

1. *How can I restrict some directories ?*
2. *Why does SuSE use `-FollowSymlinks` as its default? Is there a good reason why it's not `+FollowSymLinks` as a default ?*
3. *Why does Apache not work with PHP4?*
4. *Where can I learn what the Apache error messages mean?*
5. *How does one get rid of unwanted error messages in the Apache logs?*
6. *How is SuSE setting up Apache to serve `public_html` files?*
7. *How do I use `SuSEhelp` with Apache2 ?*
8. *How do I get SSL working with Apache2 ?*

#### 1. How can I restrict some directories ?

Create your `.htpasswd` file as follows:

```
/usr/sbin/htpasswd -c /usr/local/httpd/password.files/.htpasswd ronald
```

you will be prompted by:

```
Adding password for ronald.
New password:
```

you type it in and you are finally prompted by:

*Re-type new password:*

just do it!

then create the .htaccess file using any plain-text editor in the directory to be protected as follows:

```
AuthUserFile /usr/local/httpd/password.files/.htpasswd
AuthGroupFile /dev/null
AuthName ronald
AuthType Basic

<Limit GET POST>
  require user ronald
</Limit>
```

## 2. Why does SuSE use `-FollowSymLinks` as its default? Is there a good reason why it's not `+FollowSymLinks` as a default ?

**Security.** You probably let web authors create files under your htdocs directory or their public\_html directories. Imagine if one created a symlink to /etc or something.

Your anonymous FTP server is set up in the same way.

If you don't care about the security issues, you can change it yourself. It is better that the user knows the issue if they are vulnerable.

## 3. Why does Apache not work with PHP4?

If you take a look in the official SuSE site, you'll notice that they found out that Apache and LDAP cannot work together in this release. They suggest to uninstall LDAP.

<http://sdb.suse.de/en/>

## 4. Where can I learn what the Apache error messages mean?

<http://www.bignosebird.com/apache/a5.shtml>

## 5. How does one get rid of unwanted error messages in the Apache logs?

Use Apache itself:

```
SetEnvIf Request_URI "root.exe|cmd.exe|default.ida" bad-req
ErrorLog /var/log/httpd/faq_error.log
CustomLog /var/log/httpd/faq_acces.log combined env=!bad-req
```

Use it in your server conf and these things will not show in your logs

## 6. How is SuSE setting up Apache to serve public\_html files?

This is the way it works:

1. The apache server will start suexec for the home directories, if it finds it. It's in `/usr/sbin/suexec`. Now suexec will let apache run as `testuser:users` in `testuser's public_html` directory. This is different from the way Apache normally runs as `nobody:nogroup`. Now suexec applies a lot of restrictions, and it checks all cgi files, and will refuse to run them if the permissions are off. You need to read the apache docs on suexec. It allows you to run your `public_html` as mode 700, but it is more dangerous, because it lets people come into your `public_html` as the user, instead of nobody. In the main server `htdocs` and `cgi-bin`, Apache will run as `nobody:nogroup`; SuSE uses a user called `wwrun` instead of nobody, but it's about the same.

So you may want to rename suexec to disable it, unless you want to read up on it. Your `testuser` should be in group `users`. There is a suexec log in the `/var/log/httpd` logs, it will give you some clues.

## 7. How do I use SuSEhelp with Apache2 ?

Ralph Clark

When I installed SuSE 8.2 by ftp I discovered that the `susehelp` package didn't work after setting the `sysconfig DOC_HOST` variables to point to the local machine's FQDN and running `SuSEconfig`. The local page it was directing the browser to was inaccessible.

It turns out that this is because the `httpd` demon's config directory wasn't getting hold of the relevant include file to tell the `httpd` demon where the `susehelp` files live.

I've found two ways this screw up can happen depending on whether you are running `apache` or `apache2`.

if you are running `apache v1.x`, setting the `sysconfig DOC_*` variables in `YaST` should cause config files in `/etc/httpd` to be updated, including `httpd.conf`.

For some reason when I did this, `SuSEconfig` thought that my `httpd.conf` had already been altered (it hadn't, the package was freshly installed) so instead of updating the file it saved the new config as `httpd.conf.SuSEconfig`. I was able to fix this by just overwriting the original version with the `SuSEconfig-generated` version and running `'rcapache restart'`.

With `apache2`, life seems to be a little more complicated since `YaST` doesn't seem to know how to configure it for `susehelp`. Fortunately this can be fixed by hand quite easily. In this version, the `httpd` config files live in `/etc/apache2`. All you need to do in order to get the `http` server to pick up the `susehelp` stuff is to make a symlink to the `susehelp.conf` file, e.g.:

```
ln -sf /etc/httpd/susehelp.conf /etc/apache2/conf.d/susehelp.conf
```

and restart the demon with `"rcapache2 restart"`.

In addition, with apache2 the manual pages for apache2 themselves are apparently in the wrong place as the startup pages for the local host /srv/www/htdocs/index.html.\* link to /srv/www/htdocs/manual which isn't there. So you may also want to symlink from there to the actual location of the files in /usr/share/apache2/manual/.

## 8. How do I get SSL working with Apache2 ?

Generate the SSL certificate:

```
cd /usr/share/doc/packages/apache2
./certificate.sh as root.
```

```
cd /etc/sysconfig
```

edit apache2 and add "ssl" as per the following:

```
APACHE_MODULES="access actions alias auth auth_dbm autoindex cgi dir env
expires include log_config mime negotiation setenvif status suexec
userdir ssl"
```

Also enable:

```
APACHE_SERVER_FLAGS="-D SSL"
```

Restart apache

---

## FTP Servers

*1. Any suggestions for a secure FTP server ?*

### 1. Any suggestions for a secure FTP server ?

vsftpd – very secure FTP daemon. Install the package, enable inetd to run it, and work your way down /etc/vsftpd.conf switching the options on and off as required – it's dead easy.

---

## Chapter 11. Mail Related Questions

### Mailservers

SuSE's default installation is with sendmail. However you can use postfix instead. Qmail does not come with SuSE as the license restricts SuSE. Having said you can install Qmail if you want yet you have to do all the hard work in that case.

Applies to SuSe 8.0

There are two configurations that are taken into consideration:

- /etc/sysconfig/mail

- `/etc/sysconfig/sendmail` or `/etc/sysconfig/postfix` depending on which one you have installed

## Postfix

1. *How can I configure postfix so my correct email address goes out ?*

### 1. How can I configure postfix so my correct email address goes out ?


Applies to 8.0

Keith Winston

What you need is the postfix **sender\_canonical lookup table**. It will translate all outgoing addresses in the table to how you define them. This all has to be done as root

1. Edit `/etc/postfix/sender_canonical` and add this line to it:

```
login_name@localhost.domain    desired_username@desired_outgoing_domain
```

 Change the above to reflect your case

2. Then, create the hash file (`sender_canonical.db`) with:

```
postmap sender_canonical
```

3. Then, make sure you have told postfix to use it. Edit `/etc/postfix/main.cf` and make sure it has this line (it may be toward the end of the file). If it's not in there, add it:

```
sender_canonical_maps = hash:/etc/postfix/sender_canonical
```

4. Finally, reload:

```
postfix reload
```

By the way, most mail servers will let you send to them directly as long as you have valid sender address. However, some mail servers only accept mail from machines that have DNS MX records. I send out mail directly and I've only had 1 refuse to accept my mail in the last 3 months.

## Sendmail

1. *How can I set up sendmail for "Host with temporary network connection" ?*

### 1. How can I set up sendmail for "Host with temporary network connection" ?

For receiving mails from your ISP via pop, you need to configure fetchmail (use the tool `fetchmailconf`). To setup sendmail for posting emails by using smtp, you need to read file:///etc/mail/README

---

## Mail Server configuration files

1. *How can I stop SuSEconfig from recreating my mail setup ?*
2. *How can I stop receiving "\*.bat" "\*.exe" attachments while using Postfix ?*
3. *Why does sendmail not accept mails ?*
4. *How do use procmail with Postfix ?*

### 1. How can I stop SuSEconfig from recreating my mail setup ?

Applies to SuSE 8.0

Every time SuSEconfig is run it checks the variables. So having `MAIL_CREATE_CONFIG="no"` in `/etc/sysconfig/mail` will prevent SuSEconfig from overwriting your `main.cf` (even though it is documented as not overwriting `sendmail.cf`). That variable is checked in `SuSEconfig.postfix` as well.

### 2. How can I stop receiving "\*.bat" "\*.exe" attachments while using Postfix ?

in `/etc/postfix/main.cf` enable the body checks with this line:

```
body_checks = pcre:/etc/postfix/body_checks
```

Now put something in this file (`/etc/postfix/body_checks`):

```
/^(.*)name\=\\" (.*)\. (hta|vb[esx]|ws[fh]|js[e]|bat|cmd)\\"$/ REJECT
```

This will filter attachments (probably dangerous) of various types. Remove from the above line, whatever you want to allow.

Of course you can add some more lines to make postfix a simple spam filter:

```
/special offer email/      REJECT
/mortgage rates/          REJECT
```

### 3. Why does sendmail not accept mails ?

Applies to SuSE 8.0

using **YaST2**→**System**→**Sysconfig editor** edit `/etc/sysconfig/mail` as follows:

```
#
# Set this to "yes" if mails from remote should be accepted
# this is necessary for any mail server.
# If set to "no" or empty, then only mails from localhost
# are accepted.
#
SMTPD_LISTEN_REMOTE="yes"
```

### 4. How do use procmail with Postfix ?

in `/etc/postfix/main.cf` Search for

```
#mailbox_command = /some/where/procmail
```

And change it to your path to procmail, which is `/usr/bin/procmail` unless you changes the procmail installation.


## Spam Mail Related Questions

1. *How can I install SpamAssassin ?*

### 1. How can I install SpamAssassin ?

The one thing I would say is that it's a *good* idea to install the Mail::Audit module *first*. So;

```
perl -MCPAN -e shell
```

 (answered 'no' to the 'do you want to muck around with the CPAN defaults' question; I'm no great shakes with Perl.)


```
install Mail::Audit
quit
```

(ftp.perl.org was having a funny five minutes when I installed; I hit ctrl-c and it found another server (in Demon) and got Mail::Audit off there instead.)

I also made a point of installing Net::DNS, just for the hell of it; identical procedure to the one above.

You can then either download spamassassin as a tar.gz from <http://spamassassin.taint.org/downloads.html> or type;

```
perl -MCPAN -e shell
install Mail::SpamAssassin
quit
```

 if you do this, it autoinstalls

If you go the tarball way, then **tar -zxvf it; perl Makefile.PL; make; make test; make install**

 (which shoves it in `/usr/lib/perl5/site_perl/5.6.1/` on my box.)

Tried doing the tests in README and all worked fine from the off.

## Fetchmail Related Problems

Here you will find answers to Fetchmail related Problems.

1. *How can I enable fetchmail as a daemon to start at boot time ?*
2. *How can I make fetchmail to deliver via procmail ?*

### 1. How can I enable fetchmail as a daemon to start at boot time ?

A sample script is placed at `/usr/share/doc/packages/fetchmail/README.SuSE`

If you want to fetch mail periodically, you can start fetchmail as a daemon using the following init script:

```
#!/bin/sh
# Copyright (c) 1996–2000 SuSE GmbH Nuremberg, Germany. All rights reserved.
#
# Authors: Klaus Franken
#         Björn Jacke
#
# /etc/init.d/fetchmail
#
# please edit /root/.fetchmailrc
#
### BEGIN INIT INFO
# Provides:          fetchmail
# Required-Start:    network
# Required-Stop:
# Default-Start:     2 3 5
# Default-Stop:
# Description:       run fetchmail in daemon mode
### END INIT INFO

. /etc/rc.config
return=$rc_done

case "$1" in
  start)
    echo -n "Starting fetchmail-daemon"
    /usr/bin/fetchmail -d 900 -a -f /root/.fetchmailrc -L /var/log/fetchmail 2>&1 || return=$rc_failed
    echo -e "$return"
    ;;
  stop)
    echo -n "Shutting down fetchmail-daemon"
    /usr/bin/fetchmail -quit || return=$rc_failed
    echo -e "$return"
    ;;
  *)
    echo "Usage: $0 {start|stop}"
    exit 1
esac

exit 0
```

The file to which the `-f` option points must be the `.fetchmailrc` of the user who has to fetch the mail. Put the script in `/etc/init.d/` and make it executable:

```
cd /etc/init.d/
chmod +x fetchmail
```

and finally run `insserv`.

## 2. How can I make fetchmail to deliver via procmail ?

You need to add:

```
mda "/usr/bin/procmail -d %T"
```

to your "options" in `~/ .fetchmailrc` For instance `.fetchmailrc` may look something like:

```
poll mail.domain.com protocol pop3 username myusername password mysecretpassword options ssl
```

---

## How can I make applications share the same mailboxes ?

Carlos Robinson

Ok, the main trick is that many mail programs use the same basic format: the unix mail folder format, or mbox. They may store it on different directories, but they can be changed or symlinked. Some need special extensions for the names for the subfolders, but again, they can be symlinked. Unfortunately, there is no agreement on how to store flags like read or new message, or indexes.

**! IMPORTANT:** Before trying any of the below, backup all your mail folders. No excuses :-)

Ok, to the method. You have to decide which program is "boss"; ie, the directory structure to use, and also who is responsible for fetching /and or sending mail. In my case, my main program is Pine, and the posting is handled by sendmail, fetchmail, and procmail, ie, externally to any mail client program.

So, my mail folders are in `/home/myuser/Mail`, and subfolders are just directories. Lets assume the folder "folder", and a subfolder "subfolder". I'll have this structure:

```
/home/myuser/Mail/                directory
/home/myuser/Mail/folder
    mbox file
/home/myuser/Mail/subfolder/
    directory
/home/myuser/Mail/subfolder/folder
another mbox file
```

---

## Netscape / Mozilla

Netscape can see normal mbox files without problems, but it will create an index file of the same name with an .msf extension (some times it has to be manually created). However, it will not see subfolders unless they have a .sbd extension, and there is an mbox file named the same as the subfolder as well.

You can use the same "/home/myuser/Mail/" tree, or create a new one, like "/home/myuser/Mail.mzla", holdings symlinks to all the folders from "~/Mail/" you want to see. I prefer the later, it's makes things better for pine, but it's more work to setup the first time (I use a script). In any case, you need to go to the menu "Edit/Mail and Newsgroups Accounts Settings". There, find the settings for "Local Folders/Local directory" and adjust accordingly to your choice.

```
If it is a new directory, then
  for each original mbox file do
    create a new simlink to it
```

{sometimes optional step: create empty index file}

```
For each mbox file (or symlink to one) in the directory
  create an empty file with extension ".msf" with touch (ex: folder.msf)
```

```
For each subfolder
  Create file "/home/myuser/Mail/subfolder.msf" with touch
  Create file "/home/myuser/Mail/subfolder" with touch
  Create symbolic link "home/myuser/Mail/subfolder.sbd" to the folder
```

Repeat the above for each sub-sub-folder.

Quit and restart netscape, and check what it sees and what it doesn't see. Redo, etc, for ever – this is linux ;-)

Special files, created or used by Netscape: Sent, Templates, Trash, Unsent Messages, outbox, Inbox (?). Some can be configured, otherwise simlinked; but they have got to have those precise names.

So, you will have something like this, or similar (there are many combinations, mine is more complicated):

```
~/Mail/
~/Mail/mbox
~/Mail/folder/
~/Mail/folder/mbox

~/Mail/mbox.msf          (0 bytes)
~/Mail/folder.sbd       --> ~/Mail/folder/
~/Mail/folder           (0 bytes)
~/Mail/folder.msf       (0 bytes)
~/Mail/folder/mbox.msf  (0 bytes)
```

---

## Netscape / Mozilla for windows

This is an special case. It uses the same files as the linux version, but of course, it can not read linux partitions: thus, the windows version has to be the boss, and the linux version be configured to use the local files in the windows partitions. Otherwise, just symlink as needed.

Example. The windows mozilla folders will be in some place like this:

```
/windows/C/windows/Profiles/Cer/Application/Data/Mozilla/Profiles/default/l4mvabd3.slt/Mail/t
/windows/C/windows/Profiles/Cer/Application/Data/Mozilla/Profiles/default/l4mvabd3.slt/Mail/L
Folders/Drafts
```

Then, if I am interested in just reading the windows folders in linux, but not otherwise, I could do:

```
cd Mail.mzla (or whatever)
ln -s WindowsFolder LinuxFolder
ln -s WindowsFolder.msf LinuxFolder.msf
```

If I want to read/write in any of them, I'd have to symlink the main mozilla directory, which ever it is (somewhere in .mozilla/, for example ".mozilla/cer/txr7hrr6.slt/Mail/"), to the windows one in the fat partition. Security is impaired, though (FAT is world readable).

**! Restriction:** if you use NTFS in windows, you can not write to it from linux.

---

## Eudora for windows

I don't have it, but as it uses the same mbox format (as Ole Kofoed pointed here), the folders can be, at least, read in linux. I don't have details.

---

## Kmail

Im not sure if kmail ask the first time it runs where it should store the folders, but I have been unable to find that in the configuration file. Perhaps it always uses ~/Mail. Otherwise... :-?

Kmail can see mbox files directly, and it will create its own indexes:

```
mbox (original mailbox file)
.mbox.index
.mbox.index.sorted
```

But it can not see the subfolders: we have to jump over some more loops ;-) Fortunately, this one was documented in kmail help: just create a symlink to the subdirectory with the extension ".directory". Also, if I remember correctly, it needs an empty new mbox file of the same name as the directory. For example:

```
lists/ (original folder)
```

```
._klists.directory    -> lists/  
._klists              (empty file)  
._klists.index  
._klists.index.sorted
```

You do not need to create the indexes (which are hidden, that's very nice of the designers).

---

## **balsa**

It uses the same format as Pine, so it is transparent. It even uses the same system for marking new/read/unread emails (an specially formatted mail in the mbox file)

---

## **evolution**

Unusable. It doesn't cooperate, it wants to be left alone. :-)

It can read a mbox file, true. But if it is a symlink to an existing file, on exit that symlink is replaced by a real new file, which is a copy of the original one. That means changes made by the other programs will not be seen by evolution, and viceversa. Very unfortunate :-)

---

## **mutt**

I don't use it, I don't know.

---

## **pine**

Highly configurable, uses standard mbox files and folders, with no external indexes. Will try to read \*any\* file in the assigned directory and all subdirectories of it, including indexes: that's why I use a different folder for mozilla, containing symlinks to the folders pine uses, and mozilla own indexes.

Well, those are my notes. I'm sure there will be errors, but I hope they are not important. If something is unclear, just ask: but don't be on a hurry O:-)

---

# **Chapter 12. CD Writer & DVD Related problems**

## **IDE CDRW Howto**

*1. How can I setup my ATAPI CD-RW on SuSE ?*

### **1. How can I setup my ATAPI CD-RW on SuSE ?**

Setting up an ATAPI CD-R/CD-RW on a SuSE installation involves just a few steps.

Some people have had difficulties which are not hard to overcome. If you follow these instructions, you should be able to set your system up quickly.

Assumptions:

1. You are using the pre-compiled kernel from SuSE.
2. Your CD-R is an ATAPI device. That is, it connects to one of your IDE ports.
3. You know which IDE device your CD-R is. Let's assume it is `/dev/hdc`, that is, the master of the secondary IDE port.

In the following steps, use method (a) to get the drive tested. Afterwards, when you've got it all working, follow method (b).

1. Inform the kernel that you want to drive the `hdc` device using the IDE-SCSI emulation. Use one of the following methods:
  - a. Use `"hdc=ide-scsi"` as a boot parameter when booting your machine. (Anything you add/modify at the `append=` line, must stay between the quotation marks)
  - b. Add/modify the `"append"` option in `/etc/lilo.conf`:

```
append="hdc=ide-scsi"
```


Execute `/sbin/lilo`. Reboot.

2. Load the `"ide-scsi"` module. Use one of the following methods:

- a. As root, at the command prompt, execute:

```
# modprobe ide-scsi
```

- b. Append the `"ide-scsi"` to the variable `"INITRD_MODULES"` in `/etc/sysconfig/kernel`

 `/etc/sysconfig` is SuSE 8.0 specific if you are using a lower version  
`/etc/rc.config` is to be edited for the same parameter

. Then as root, execute `"mk_initrd"`, followed by `"/sbin/lilo"`. Reboot your system.

3. Observe the output in the log when the `ide-scsi` module is loaded.
  - a. Look at the contents of `/var/log/messages` after `ide-scsi` is loaded (I'd suggest you install the package `xlogmaster` to view the contents of `/var/log/messages`). It should look similar to this:

```
kernel: Vendor: SAMSUNG Model: CD-R/RW SW-208B Rev: BS01
kernel: Type: CD-ROM ANSI SCSI revision: 02
kernel: Detected scsi CD-ROM sr0 at scsi1,channel 0, id 0, lun 0
kernel: sr0: scsi3-mmc drive: 8x/32x writercd/rw xa/form2 cdda tray
```

Notice the line `"Detected scsi CD-ROM sr0"`, the value `"sr0"` indicates the device name of the CD-R to be used when under IDE-SCSI emulation. The name `"hdc"` is NOT to be used.

If you so desire, make a link of `sr0` to `cdrom` or `cdr` or `cdrecorder`, etc. Example:

```
# ln -s /dev/sr0 /dev/cdrom
```

- b. Observe the console output as you boot and note the new scsi emulation device name given to your ATAPI device. Create the links as described in (i) if you want.

At this point you should have your ATAPI CD-R emulated as a SCSI device on `/dev/sr0`. Remember, the CD-R is NOT accessible under `hdc` anymore. Test it by mounting a CD:


```
# mount /dev/sr0 /mnt
# ls /mnt
```

Then unmount the CD this way:

```
# umount /dev/sr0
```

4. Set up your CD burner software by pointing `/dev/sr0` as your CD-R. Personally, I prefer to use "xcdroast" to burn CD's, since it autodetects the CD-R. Test by burning a CD.

## SuSE 8.1 CD-ROM/DVD-ROM SCSI Emulation Fix

 This is NOT the SuSE database fix.

**SYMPTOM.** Your computer is equipped with a CD-RW drive and one or several "ordinary" CD drives. After installing SuSE Linux 8.1, one or more of the CD drives cannot be mounted.

**CAUSE.** Some modules are missing from `initrd`.

From SuSE Linux 8.1 on, the CD drive support is no longer compiled and kept in the kernel, but implemented by way of modules (`cdrom` and `ide-cd`). As opposed to the module `ide-scsi`, those modules (`cdrom` and `ide-cd`) are not included in `initrd`. That is why the SCSI emulation reaches all drives and not only those listed in the kernel parameter `hdX=ide-scsi`.

### SOLUTION

1. Open the YaST Sysconfig Editor. **YaST2->System->Editor for /etc/sysconfig**. Select **Base-Administration->Common-Basics->initrd\_modules**.
2. Insert the modules `cdrom` and `ide-cd` after the `root=/dev/hdaX` listing. Be careful not to remove any of the modules listed, since they are necessary for booting.
3. Edit the `/boot/grub/menu.lst` file, making the following additions in this order:

```
max_scsi_luns=1 hdb=ide-scsi hdc=ide-scsi
```

(in the linux kernel line, after the `root=/dev/hdaX` entry).

4. Now, execute the **mk\_initrd** command as root. To do this open a terminal program like `konsole` or `xterm` and log in as root with the command `su -`. Then enter the command **mk\_initrd**. If your boot manager is LILO, reinstall it with the command `lilo -v`. As GRUB is

the standard boot loader from SuSE Linux 8.1 on, this will not apply for most. This will allow all devices to be emulated as SCSI.

5. Reboot the system for changes to take effect.
6. Now determine the SCSI device numbers assigned to your physical IDE devices using the **cdrecord -scanbus** command. The command output will give you the numbers needed to link your newly emulated SCSI devices.


**EXAMPLE:** If there is a 0) before your DVD device, then your DVD device should be linked to SCSI device 0. Hence, the command you would use is **ln -sf /dev/sr0 /dev/dvd**. If it was your CD-ROM instead of your DVD-ROM you would use **ln -sf /dev/sr0 /dev/cdrom**.

If your CD writer follows after a 1), then the command will be **ln -sf /dev/sr1 /dev/cdrecorder**. The combination of sr0 and sr1 and the devices cdrom, dvd and cdrecorder depends on the numbers listed in the line from the **cdrecord -scanbus** output.

7. Using the information obtained from the **cdrecord -scanbus** command (see step 3), point all devices (dvd, cdrecorder and cdrom) to their respective scsi device.

*Example:* **ln -sf /dev/sr0 /dev/dvd** links the dvd to the scsi device sr0.

8. Type **hwscan --list** as root. Note all keys for each CD device. There will likely be multiple entries for any given CD device. Delete each of the noted CD device entries in the `/var/lib/hardware/unique-keys` directory.

 Deleting the unique-key CD device entries can easily be done in Konqueror as root. To do so, log in as root, follow the **hwscan --list** portion of this step from a konsole session.

Then open Konqueror, delete any of the unique-key files associated with a CD device, (right click and delete).

9. Open a konsole session and type the **hwscan --cdrom** command to populate the newly added (and correct) unique-key CD device entries.
10. Reboot your system and you should have two working devices with no errors at boot up.

## Chapter 13. Video Hardware

### General X System Problems

1. How can I add Windows fonts to SuSE. Is there a special utility to do it ?
2. How does one add Truetype fonts ?
3. I run `/sbin/init.d/SuSEconfig.fonts` and that doesn't output any errors (should it?).
4. How can I fix AntiAliasing problems with LCD monitors?
5. How can I make Netcape (Mozilla) use truetype fonts?

6. *How to make Mozilla and Java work under SuSE 8.1*
7. *How can I configure Mozilla to accept my printers?*
8. *How does one install Mozilla 1.3 ?*
9. *Could somebody help me out with eradicating these remnants of ICE? Where should I look?*
10. *How can I install Xfree86 4.3 onto SuSE 8.1 ?*

## 1. How can I add Windows fonts to SuSE. Is there a special utility to do it ?

With the `fetchmsttfonts` utility. It will download fonts from a well known site for you. Details see in `sdb`; if you search for AA (meaning anti-aliasing), you'll find it. When running `fetchmsttfonts`, the EULA will be displayed. To escape from the EULA display, you have to hit **q** (meaning quit).

- i** Recently Microsoft has ceased providing the fonts from its webserver. Hence the `fetchmsttfonts` will not be able to download the truetype fonts for you. Below is a modified script by "Marcel Broekman" which will download truetype fonts from Sourceforge.net and work as before.

```
#!/bin/sh
#Modified by Marcel Broekman
FONTS=" \
http://umh.dl.sourceforge.net/sourceforge/corefonts/webdin32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/andale32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/trebuc32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/georgi32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/verdan32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/comic32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/arialb32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/impact32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/arial32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/times32.exe \
http://umh.dl.sourceforge.net/sourceforge/corefonts/courie32.exe \
"

WGET_OPTIONS="-q --proxy=on"
EULA="http://corefonts.sourceforge.net/eula.htm"

if [ "`id -u`" != "0" ]; then
    echo "error: You must be root to use this program!"
    exit 1
fi

if [ -z $http_proxy ]; then
    echo
    echo "note: No proxy is used. Please set the environment variable \"http_proxy\""
    echo "note: to your favorite proxy, if you want to use a proxy for the download."
    echo "note:"
    echo "note:  bash: export http_proxy=\"http://proxy.provider.de:3128/\""
    echo "note:  tcsh: setenv http_proxy \"http://proxy.provider.de:3128/\""
fi

echo
echo "By continuing with this program you log on to the Microsoft(c)-Webserver."
echo "Accepting the following Terms and conditions results in a contract between the"
echo "user and Microsoft(c). Neither SuSE nor the vendor of this installation media"
echo "is part of this contract. SuSE will not take any liability for the software"
echo "which can be found on the Microsoft(c) Webserver."
echo
echo -n "Continue? [yes/NO] "
```

```

read answer
if [ "$answer" != "yes" ]; then
    exit 0
fi

mkdir -p /usr/X11R6/lib/X11/fonts/truetype/tmp
cd /usr/X11R6/lib/X11/fonts/truetype/tmp

echo
echo "====> EULA will be displayed now. Type 'q' to exit EULA. <===="
echo
echo -n "Press now any key to continue ... "
read

w3m -dump $EULA|grep EULA &> /dev/null
if [ $? -ne 0 ]; then
    echo "error: EULA not found. Aborting now!"
    cd .. && rm -rf tmp
    exit 1
fi

w3m -dump $EULA | less
echo -n "Do you accept all of the terms of EULA ? [yes/NO] "
read answer
if [ "$answer" != "yes" ]; then
    echo "warning: EULA not accepted. Aborting now!"
    cd .. && rm -rf tmp
    exit 0
fi

for archive in $FONTS; do
    file=`echo $archive|awk -F "/" '{print $NF}'`
    rm -f $file
    echo "$file:"
    echo -n "  Fetching    ... "
    wget $WGET_OPTIONS $archive
    if [ $? -ne 0 ]; then
        rm -f $file
        echo "failed ... deleted!"
        continue
    fi
    echo done
    echo -n "  Extracting ... "
    cabextract -l $file &> /dev/null
    if [ $? -ne 0 ]; then
        rm -f $file
        echo "failed ... deleted!"
    else
        cabextract $file &> /dev/null
        echo "done"
    fi
done

for i in *.[Tt][Tt][CFcf]; do
    lower=`echo $i|tr [:upper:] [:lower:]`
    test "$i" != "$lower" && mv $i $lower
done

chmod 644 *.tt[cf]

```

```


echo

if [ -x /usr/X11R6/bin/ttmkfdir ]; then
    echo -n "Creating fonts.scale ... "
    /usr/X11R6/bin/ttmkfdir | grep -v "^[:digit:]*$" > fonts.scale.msttfonts
    chmod 644 fonts.scale.msttfonts
    echo "done"
else
    echo "error: ttmkfdir (SuSE package ttmkfdir) is required to create fonts.scale!"
    cd .. && rm -rf tmp
    exit 1
fi

mv -f *.tt[cf] fonts.scale.msttfonts ..
cd .. && rm -rf tmp

/sbin/SuSEconfig --module fonts

```

-  If you use YOU, it will get a patch for xf86tools-5253 which will overwrite the above script. Either do not apply the patch or name the above script something else.

### End User License Agreement.

If you're talking about any truetype fonts, just drop the .ttf-files in /usr/X11R6/lib/X11/fonts/truetype and run **SuSEconfig**. Other fonts should work the same way, only in different directories. If you want to do it manually without SuSEconfig, look at mkfontdir and ttmkfdir.

## 2. How does one add Truetype fonts ?

1. Change to where the fonts are.

```
cd /usr/X11R6/lib/X11/fonts/truetype
```

2. Copy your truetype fonts here.
3. Determine if there are any files been created for the scaling of the ttf's.

```
ls -l fonts.s*
```

4. Remove all these files.

```
rm fonts.s*
```

5. Create a new font scale file.

```
ttmkfdir | sed s/^[0-9]*// > fonts.scale.myfonts
```

6. Now run SuSEconfig.fonts

```
/sbin/conf.d/SuSEconfig.fonts
```

## 7. Run xset to reread the font paths

```
xset fp rehash
```

## 8. You should be able to see the fonts with

```
xfontsel
```

**Background information about ttmkfdir**

Mike Fabian

```
ttmkfdir -o fonts.dir
```

This will be overwritten during the next run of **SuSEconfig**.

Better use

```
ttmkfdir -o fonts.scale.myfonts
```

Then run **SuSEconfig**. That's not perfect either for various reasons:

- duplicate lines from `fonts.scale.myfonts` and other `fonts.scale.*` files will all end up in `fonts.dir`
- `ttmkfdir`'s output is sometimes not very good, it may omit encodings which are useful, sometimes it adds encodings which don't work well, sometimes it makes entries for fonts as charcell fonts `"-c-"` which don't work well as charcell fonts. There are many other problems with `ttmkfdir` ...

You can try `mkfontscale` instead of `ttmkfdir`. `mkfontscale` works better, but even `mkfontscale` can't do the job perfectly. Probably it is impossible to do the job perfectly automatically. The author of `mkfontscale` wrote me: " Mapping TrueType and Type 1 font tables to XLFDs is intrinsically an underspecified task. "

Therefore we use the current mechanism of generating `fonts.scale` out of handedited `fonts.scale.something` files. These files were originally created with `mkfontscale`, but then improved manually and packaged with the font rpm.

If you add you own fonts, you need to do the same for best results. Create a `fonts.scale.myfonts` first with `ttmkfdir` or `mkfontscale`. Then improve it manually if necessary.

I'll try to make the automatic mechanisms work a little bit better in the future, but that is unfortunately not so easy.

**3. I run `/sbin/init.d/SuSEconfig.fonts` and that doesn't output any errors (should it?).**

**/sbin/conf.d/SuSEconfig.fonts didn't update fonts.dir. Example**

```

root@nozomi:/usr/X11R6/lib/X11/fonts/truetype# echo 0 > fonts.dir
root@nozomi:/usr/X11R6/lib/X11/fonts/truetype#
/sbin/conf.d/SuSEconfig.fonts
Updating fonts.scale for truetype
Updating fonts.scale for Type1
Updating fonts.scale for Speedo
Updating fonts.scale for CID
root@nozomi:/usr/X11R6/lib/X11/fonts/truetype# cat fonts.dir
0

```

nothing happened. `/sbin/conf.d/SuSEconfig.fonts` checks the timestamp of `/usr/X11R6/lib/X11/fonts/truetype` and compares it with the timestamp of `/var/adm/SuSEconfig/lastrun.SuSEconfig.fonts` to find out whether it needs to update `fonts.dir`. But the timestamp of the `/usr/X11R6/lib/X11/fonts/truetype` didn't change after I did `echo 0 > fonts.dir`, therefore `SuSEconfig.fonts` didn't do any work. It's possible to force it by removing `fonts.dir`:

```

root@nozomi:/usr/X11R6/lib/X11/fonts/truetype# rm fonts.dir
root@nozomi:/usr/X11R6/lib/X11/fonts/truetype#
/sbin/conf.d/SuSEconfig.fonts
Updating fonts.scale for truetype
Updating fonts.scale for Type1
Updating fonts.scale for Speedo
Updating fonts.scale for CID
Updating X11 font directory truetype...
create XftCache files ...

```

Now we see the message "Updating X11 font directory truetype..." and now `fonts.dir` has the same contents as `fonts.scale`:

```

root@nozomi:/usr/X11R6/lib/X11/fonts/truetype# head -n 5 fonts.dir
694
luximr.ttf -b&h-Luxi Mono-medium-r-normal--0-0-0-0-m-0-iso8859-1
luximr.ttf -b&h-Luxi Mono-medium-r-normal--0-0-0-0-m-0-iso8859-2
luximr.ttf -b&h-Luxi Mono-medium-r-normal--0-0-0-0-m-0-iso8859-3
luximr.ttf -b&h-Luxi Mono-medium-r-normal--0-0-0-0-m-0-iso8859-4
root@nozomi:/usr/X11R6/lib/X11/fonts/truetype#

```

You can achieve the same effect by touching `/usr/X11R6/lib/X11/fonts/truetype`:

```

root@nozomi:/usr/X11R6/lib/X11/fonts/truetype# touch
/usr/X11R6/lib/X11/fonts/truetype
root@nozomi:/usr/X11R6/lib/X11/fonts/truetype#
/sbin/conf.d/SuSEconfig.fonts
Updating fonts.scale for truetype
Updating fonts.scale for Type1
Updating fonts.scale for Speedo
Updating fonts.scale for CID
Updating X11 font directory truetype...
create XftCache files ...
root@nozomi:/usr/X11R6/lib/X11/fonts/truetype#

```

Or, if you want to recreate all `fonts.dir` files in all directories, remove the global time stamp:

```

root@nozomi:/usr/X11R6/lib/X11/fonts/truetype# rm
/var/adm/SuSEconfig/lastrun.SuSEconfig.fonts
root@nozomi:/usr/X11R6/lib/X11/fonts/truetype#

```

```

/sbin/conf.d/SuSEconfig.fonts      Updating fonts.scale for truetype
Updating fonts.scale for Type1
Updating fonts.scale for Speedo
Updating fonts.scale for CID
Updating X11 font directory 75dpi...
Updating X11 font directory CID...
Updating X11 font directory Speedo...
Updating X11 font directory TTF...
Updating X11 font directory Type1...
Updating X11 font directory baekmuk...
Updating X11 font directory encodings...
Updating X11 font directory encodings/large...
Updating X11 font directory japanese...
Updating X11 font directory local...
Updating X11 font directory misc...
Updating X11 font directory truetype...
Updating X11 font directory ucs...
Updating X11 font directory ucs/misc...
Updating X11 font directory uni...
Updating X11 font directory util...
create XftCache files ...
root@nozomi:/usr/X11R6/lib/X11/fonts/truetype#

```

When I go to run "xset fp rehash" as my user I get the following output:

```

xset fp rehash
X Error of failed request:  86
Major opcode of failed request:  51 (X_SetFontPath)
Serial number of failed request:  8
Current serial number in output stream:  10

```

What does this actually mean?

Broken `fonts.dir` or `fonts.dir` refers to fonts which don't exist or fonts listed in `fonts.dir` are broken themselves. For example:

```

root@nozomi:/usr/X11R6/lib/X11/fonts/truetype# xset fp rehash

```

OK, no error (This root user has access to the display because I became root using the `sux` script). Now write nonsense to `fonts.dir`:

```

root@nozomi:/usr/X11R6/lib/X11/fonts/truetype# echo nonsense > fonts.dir

```

And we get this error message:

```

root@nozomi:/usr/X11R6/lib/X11/fonts/truetype# xset fp rehash
X Error of failed request:  86
Major opcode of failed request:  51 (X_SetFontPath)
Serial number of failed request:  8
Current serial number in output stream:  10
root@nozomi:/usr/X11R6/lib/X11/fonts/truetype#

```

#### 4. How can I fix AntiAliasing problems with LCD monitors?

Graham Smith

Basically you have to add

```
match edit rgba = bgr;
```

to the `~/ .xftconfig` file. If this file doesn't exist just create it and add the above line to it.

- ☞ XFree86 Font De-uglification HOWTO Section 4.1.3.3 Item 8 but recommend reading all the items in the above section as it covers many fixes that can be done to make the better on the eyes. <http://www.tldp.org/HOWTO/mini/FDU/index.html>

## 5. How can I make Netcape (Mozilla) use truetype fonts?

Ben Rosenberg

You can use TTF's in Netscape 6.x/7.x, but not in 4.x as far as I know. You will have to edit `/opt/browser/defaults/prefs/unix.js` and specify the freetype lib and the directory of your TTF's. Then you restart Netscape or Mozilla..and they will use them. :)

This is what the section of my `unix.js` looks like. After you tell it what to use and where the freetype lib is ..you should have full access to your TTF's.

```
#####
// TrueType
pref("font.FreeType2.enable", true);
pref("font.freetype2.shared-library", "libfreetype.so.6");
// if libfreetype was built without hinting compiled in
// it is best to leave hinting off
pref("font.FreeType2.autohinted", false);
pref("font.FreeType2.unhinted", true);
// below a certian pixel size anti-aliased fonts produce poor results
pref("font.antialias.min", 10);
pref("font.embedded_bitmaps.max", 1000000);
pref("font.scale.tt_bitmap.dark_text.min", 64);
pref("font.scale.tt_bitmap.dark_text.gain", "0.8");
// sample prefs for TrueType font dirs
//pref("font.directory.truetype.1", "/u/sam/tt_font");
//pref("font.directory.truetype.2", "/u/sam/tt_font2");
//pref("font.directory.truetype.3", "/u/sam/tt_font3");
pref("font.directory.truetype.1", "/usr/X11R6/lib/X11/fonts/truetype");
#####
```

## 6. How to make Mozilla and Java work under SuSE 8.1

Ben Rosenberg

In 8.1 the Java plugin Mozilla downloaded would not work, because SuSEs Mozilla was compiled with GCC 3, and the plugin was compiled with GCC 2.95.

You can get around this without any trouble. Just go to this site to read about them...they put a very

nice GCC 3.2 compiled package of JAVA 1.4.1 and it works just fine with Mozilla when it's compiled with GCC 3.2. :) <http://www.blackdown.org>

Or you can just ftp directly and get it... here. The file you want is called `j2re-1.4.1-01-linux-i586-gcc3.2.bin`.

After downloading, just move it to `/usr/lib` and do this..

1. `chmod +x j2re-1.4.1-01-linux-i586-gcc3.2.bin`
2. `./j2re-1.4.1-01-linux-i586-gcc3.2.bin`

This will unpack it into `/usr/lib/j2re1.4.1`

You do not have to change the default settings for Java at all. Instead you just make a softlink from your `/opt/mozilla/plugins` directory to the plugins directory in `/usr/lib/j2re1.4.1/` and it should look like this...

```
libjavaplugin_oji.so -> /usr/lib/j2re1.4.1/plugin/i386/mozilla/javaplugin_oji.so
```

After making this softlink then Java should work just fine with your GCC 3.2 compiled browser. :)

It's not the best solution but it's a hell of a lot better then waiting for Sun to pull the heads from where then Sun doesn't shine in order to get a GCC 3.2 compiled pkg from them. And blackdown's been around a long time. I've never heard complaints about them.

## 7. How can I configure Mozilla to accept my printers?

**File->Print-> Properties** Now change the print command.

Unfortunately mozilla-1.1 forgets its print configuration, so you have to adopt it each time you start Mozilla.

What happens is Mozilla saves the preferences it started up with. So what you need to do is close mozilla down, then go into

```
/mozilla/default/pref/unix.js
```

and add something like this to the entries:

```
pref("print.print_command", "lpr ${MOZ_PRINTER_NAME:+'-P'}${MOZ_PRINTER_NAME}");
pref("print.printer_list", "lp lp1 lp2 lp3 lp4 lp5 lp6 lp7"); // list of printers, separated
```

Then the next time you start mozilla you will get a list of printers. You leave the postscript part in there, because the postscript output will get sent to the ghostscript filter for each printer listed.

## 8. How does one install Mozilla 1.3 ?

Get the rpms for your SuSE from here.

 **README**

Since Mozilla 1.0 we moved the shared libs to `/opt/mozilla/lib` so it is possible that your GNOME stuff cannot find the libs any longer. Then you have to add the following line to `/etc/ld.so.conf`:

```
/opt/mozilla/lib
```

and run **ldconfig** afterwards.


Some more news about our packages can be found here. Please send feedback to `<wolfgang.rosenauer@suse.de>`

**AntiAliasing:** If you don't want AA-fonts (for LCD, ...) you have to change the following line in `/opt/mozilla/defaults/pref/unix.js`:

```
pref("font.FreeType2.enable", false);
```

Since 1.2.1 there is no `SuSEconfig.mozilla` any more. No need to run `SuSEconfig`.

Please make sure (before installation) that `/opt/mozilla` is empty. Mozilla 1.3 uses another directory structure. After installation of Mozilla, you should have symlinks in `/opt/mozilla/lib/plugins`. If not, please try to run `/opt/mozilla/bin/add-plugins.sh` as root and see what will be done.

 `/opt/mozilla/plugins` should be removed. Mozilla uses `/opt/mozilla/lib/plugins` now.

## 9. Could somebody help me out with eradicating these remnants of ICE? Where should I look?

Applies to all versions

This is an accidental name similarity. This file is required by the X server (ICE is the Inter-Client Exchange protocol) and has nothing to do with ICE (whatever project that is). See <http://www.cise.ufl.edu/help/software/doc/XFree86/ICE> for more info.

## 10. How can I install Xfree86 4.3 onto SuSE 8.1 ?

### Installation

To install XFree86 4.3.0 download the appropriate files, i.e. all the files (not including the sub directory DRI) located in

◇ suse81 (SuSE Linux 8.1) to an empty directory you made prior, then in a konsole navigate to the directory with all the rpm's, and type the following commands to update XFree86 to release 4.3.0:

```
rpm --nodeps --force -Uhv *.rpm
SuSEconfig
```

Just ignore the warnings (if there are any).

For configuration of XFree86 4.3.0 use the configuration XFree86 tools 'xf86config', 'xf86cfg' or the SuSE XFree86 4 configuration tool SaX2. SaX2 is located in

◇ suse81/sax2 (SuSE Linux 8.1)

Install SaX2 with

```
rpm -Uhv sax*.i386.rpm
```

Make sure that the following packages are installed, They are required by SaX2!

◇ perl (series a)  
 ◇ perl\_tk (series perl)  
 ◇ perl\_sto (series perl)  
 ◇ perl\_gtx (series perl)  
 ◇ xbanner (series xap)

Just type the following command if you want to use SaX2 for configuration:

```
sax2
```

If the mouse does not work, please run SaX2 with the following options:

```
mousedevice /dev/protocol
```

### Nvidia OpenGL Support

For hardware accelerated OpenGL support please download and install the SuSE 8.1 RPMs located on the nvidia website.

```
rpm -Uhv NVIDIA_GLX-1.0-*.suse81.i386.rpm --nodeps --force
(ignore all occurring error messages!)
rpm -Uhv NVIDIA_kernel-1.0-*.suse81.i386.rpm --force
switch2nvidia_glx
```

The kernel RPM also contains the *sources*, so you can compile the kernel module *NVdriver* yourself if you want. Your kernel sources, i.e. package kernel-source, must be installed for this.

```
cd /usr/src/linux; make cloneconfig; make dep
cd /usr/src/kernel-modules/nv_glx
make -f Makefile.module
make -f Makefile.module install
depmod -a
```

You must configure XFree86 4.3.0 with

```
sax2 -m 0=nvidia (0 is a digit, not a letter!)
```

and enable 3D support, i.e. there must be a line in your `/etc/X11/XF86Config` in the *Modules* section which looks like this:

```
###
Load "glx"
###
```

Otherwise you will get the following error when starting an OpenGL application:

```
Xlib: extension "GLX" missing on display ":0.0"
```

### *DRI (3D accelerated OpenGL support)*

To be able to use DRI you must compile some kernel modules. Your kernel source package 'kernel-source' must be installed and configured for this. The configuration can be done with the commands:

```
cp /boot/vmlinuz.config /usr/src/linux/.config
cp /boot/vmlinuz.version.h /usr/src/linux/include/linux/version.h
cd /usr/src/linux; make cloneconfig; make dep
```

Then you'll have to compile the DRM kernel modules. The sources can be found in SuSE FTP under suse81/DRI (SuSE Linux 8.1) .

Install the sources with

```
rpm -Uhv km_drm-*.i386.rpm
```

Compile and install the kernel modules with

```
cd /usr/src/kernel-modules/drm
make -f Makefile.module
install -m 644 -o root -g root gamma.o i810.o i830.o mga.o r128.o radeon.o tdfx.o
depmod -a
```

At last you must install the XFree86-GLX package located in suse81/DRI (SuSE Linux 8.1) with:

```
rpm -Uhv XFree86-GLX-*.i386.rpm
/usr/X11R6/bin/switch2xf86_glx
```

and add the following entries to your /etc/X11/XF86Config in the *Modules* Section:

```
###
Load "glx"
Load "dri"
###
```

Please notice, that most drivers only support 16bpp ("DefaultDepth 16" in "Screen" Section of /etc/X11/XF86Config)!

DRI Support is currently available for the following boards:

- ◊ Matrox G200/G400/G450/G550
- ◊ ATI Rage 128(Pro)/Radeon
- ◊ Intel i810/i815/i830/i845
- ◊ 3Dfx Banshee
- ◊ 3Dfx Voodoo 3/4/5

You'll need the following entry in the "Device" Section of your `/etc/X11/XF86Config` for i810/i815/i830/i845 chipsets, otherwise there won't be enough memory available to use 3D.

```
#
VideoRam 16384
#
```

! Either add all users who work on this machine locally, to the group 'video' , or change the DRI section of your `/etc/X11/XF86Config` to:

```
Section "DRI"
    Group      "video"
    Mode      0666
EndSection
```

Otherwise users can't access 3D hardware and 'Mesa Software Rendering' (slow) would be the fallback. Notice that these mentioned changes represent a security issue.

### Known Problems

- ◇ Some people complain that the keys `<`, `>` and `|` no longer work after the update. Please verify that "pc105" (and not "pc104") is specified in the config file `/etc/X11/XF86Config` if you own a pc105 keyboard (german keyboards and maybe also others).
- ◇ Fonts look ugly. Use `'fonts-config -f'` to recreate font cache files for Xft/Xft2. See also manual page for `fonts-config`. `fonts-config` is included in the new `xf86tools` package.
- ◇ `fonts-config` resp. `fc-cache` hangs. Please use the following workaround for now to fix it:

```
rm -f /usr/X11R6/lib/X11/fonts/misc/fonts.cache-1.gz
rm -f /usr/X11R6/lib/X11/fonts/100dpi/fonts.cache-1.gz
rm -f /usr/X11R6/lib/X11/fonts/75dpi/fonts.cache-1.gz
rm -f /usr/X11R6/lib/X11/fonts/cyrillic/fonts.cache-1.gz
rm -f /usr/X11R6/lib/X11/fonts/Type1/fonts.cache-1.gz
```

---

## Framebuffer Problems

1. How can I disable framebuffer in the kernel without recompiling the kernel ?
2. How do I turn on the graphics in the background of the boot messages ?

### 1. How can I disable framebuffer in the kernel without recompiling the kernel ?

You would boot using the following boot parameter:

```
vga=normal
```

The kernel will then boot in text mode instead of the frame buffer. Simply put the above into the **"append="** line in `/etc/lilo.conf` and rerun **lilo**.

## 2. How do I turn on the graphics in the background of the boot messages ?

1. First, you need the following packages installed:

```
splashanim
libmng
libjpeg
```

2. Second, make sure the following is enabled in `/usr/src/linux/.config`

```
CONFIG_FBCON_SPLASHSCREEN=y
```

It's located under the kernel config section

```
Console drivers
|
+-->Frame-buffer support
|
+-->[*] Use splash screen instead of boot logo
```

If it's not selected, you'll need to recompile the kernel to enable splash screen support.

3. Finally, you'll need to enable the splash screen with `mk_initrd` and `lilo` (where `-s` represents the desired resolution):

```
mk_initrd -k "vmlinuz vmlinuz.suse" -i "initrd initrd.suse" -s 1024x768
```

4. add the following line to your `/etc/lilo.conf`

```
vga=791
```

5. Then, reboot and enjoy the purty pictures.

# Chapter 14. X Window System

## X Window Networking Problems

*1. How can I setup the X server so remote clients can use it?*

### 1. How can I setup the X server so remote clients can use it?

Applies to SuSE 8.0

In the newer versions of `kdm` you're supposed to do this from the `/etc/opt/kde3/share/config/kdm/kdmrc`

```
section [Xdmcp]
Enable=True
```

in `/etc/sysconfig/displaymanager` change the value `DISPLAYMANAGER_REMOTE_ACCESS` to "yes" and run `SuSEconfig`, for the "SuSEified" process.

## Using a Wacom Graphire 2 USB with SuSE 8.0

Kevin Donnelly

### Step by step Howto

1. This note provides step-by-step instructions for connecting a Graphire 2 USB (G2) to a PC running SuSE Linux 8.0. It has been tested on 2 PCs, one with an Asus A7V mobo with Voodoo3 graphics card, using `usb-uhci`, and the other with an Asus A7N266-VM with onboard nVidia graphics, using `usb-ohci`.
2. Comments, amendments, or further tips should be sent to [kevin@dotmon.com](mailto:kevin@dotmon.com).
3. This note builds on various items on the web, and I am grateful in particular to the authors of the following:
  - ◆ John's Linux USB Wacom Intuos Page <http://www.joganic.com/wacom/>. A superbly detailed explanation. The bits about the wacom driver itself are not relevant ? the SuSE driver does not seem to have the bug he refers to ? but the description of how to ensure the hardware is working is very helpful.
  - ◆ Wacom XInput driver for Xfree86 <http://people.mandrakesoft.com/~flepied/projects/wacom>. An important site for background on the basic driver. There are very useful forum archives at [http://www.lepied.com/archive\\_wacom.html](http://www.lepied.com/archive_wacom.html).
  - ◆ Graphire USB <http://www.pxh.de/fs/graphire/>. Home of the driver that makes it all happen.
  - ◆ Wacom Tablet HOWTO (Stefan Runkel) ? 11 August 2001. Very useful. Has tip for switching off your normal mouse if you want to use the tablet/pen the whole time (5.8).
  - ◆ Wacom USB mini-HOWTO (Arnaud Claden) ? 1 June 2000. Very out-of-date.
  - ◆ Tablette Wacom Graphire USB <http://lea-linux.org/hardware/graphire.php>. A short overview.
  - ◆ Ayoros' tutorial – Wacom Intuos/Grahire USB tablets under Linux HOWTO <http://gug.sunsite.dk/tutorials/ayoros1/>.
4. The following assumes that you have a fully-functioning basic install of SuSE 8.0, and that your USB subsystem is working. You can do a preliminary check by running:

```
usbview
```

This should give you a little GUI application which shows you your USB resources. If there seems to be something wrong here, you need to do more reading of various SuSE resources in order to sort that out before proceeding.

5. First of all, copy your existing `XF86Config` file to a backup, so that you can wind back if necessary.

```
su
cp /etc/X11/XF86Config /etc/X11/XF86Config.orig
```

6. If you have already attempted to install the G2, it is best to start from scratch. Unplug the tablet, and comment out any related lines in your XF86Config file. Then examine what modules are currently loaded:

```
lsmod
```

You should get something similar to the following:

Module	Size	Used by	Not tainted
nls_iso8859-1	2880	1	(autoclean)
nls_cp437	4384	1	(autoclean)
vfat	9244	1	(autoclean)
fat	28984	0	(autoclean) [vfat]
snd-pcm-oss	45152	1	(autoclean)
snd-mixer-oss	11136	1	(autoclean)
tdfx	34424	28	
nfsd	64800	4	(autoclean)
parport_pc	25448	1	(autoclean)
lp	5824	0	(autoclean)
parport	21856	1	(autoclean) [parport_pc lp]
ipv6	123424	-1	(autoclean)
snd-ens1371	12036	2	
snd-pcm	58528	0	[snd-pcm-oss snd-ens1371]
snd-timer	11456	0	[snd-pcm]
snd-rawmidi	13536	0	[snd-ens1371]
snd-seq-device	4336	0	[snd-rawmidi]
snd-ac97-codec	24196	0	[snd-ens1371]
snd	31720	0	[snd-pcm-oss snd-mixer-oss snd-ens1371 snd-rawmidi snd-seq-device snd-ac97-codec]
soundcore	3268	6	[snd]
isa-pnp	27816	0	(unused)
joydev	5728	0	(unused)
evdev	3904	0	
input	3072	0	[joydev evdev]
st	25844	0	(autoclean) (unused)
sg	23620	0	(autoclean)
usb-uhci	20996	0	(unused)
usbcore	55136	1	[usb-uhci]
via-rhine	11748	1	
mii	1040	0	[via-rhine]
ide-scsi	7648	0	
reiserfs	158816	1	
advansys	82368	0	

If the module wacom is loaded, unload it:

```
rmmod wacom
```

Check for the existence of /dev/input/mouse0 and event0:

```
su
cd /dev/input
ls -al mouse0 event0
```

You should get:

```
crw-r--r--  1 root    root      13,  64 Mar 23  2002 event0
crw-r-----  1 root    root      13,  32 Mar 23  2002 mouse0
```

Then run `xxd` on each of these devices (`xxd` "creates a hexdump of a given file or input", according to the man page):

```
xxd mouse0
xxd event0
```

You should get a response saying "No such device" to each. If you get a blank response for `evdev`, try:

```
modprobe joydev
```

and then try it again.

Check that `graphireusb_drv.o` is in `/usr/X11R6/lib/modules/input`:

```
locate graphireusb
```

(If you get a message that `locate` is an unknown command, install the package `find-utils`, which is not installed by default on a new system, and run `updatedb`. Then repeat the command).

Start `usbview` if it is not already running: (**Alt+F2**) `usbview` and also get a window into the message log:

```
su
tail -f /var/log/messages
```

Plug the tablet into a USB socket. You should hear two beeps, and `usbview` should show a new device in the tree. The log should show something like this:

```
Nov 6 11:39:58 babylon kernel: hub.c: USB new device connect on bus2/2/2, assi
Nov 6 11:39:58 babylon kernel: usb.c: USB device 3 (vend/prod 0x56a/0x11) is n
Nov 6 11:39:58 babylon kernel: usb.c: registered new driver wacom
Nov 6 11:39:58 babylon kernel: usb-uhci.c: interrupt, status 3, frame# 1364
Nov 6 11:39:58 babylon insmod: Using /lib/modules/2.4.18-4GB/kernel/drivers/us
Nov 6 11:39:58 babylon insmod: Symbol version prefix ''
Nov 6 11:39:58 babylon kernel: input0: Wacom Graphire2 4x5 on usb2:3.0
Nov 6 11:39:58 babylon kernel: wacom.c: v1.21.3 Vojtech Pavlik <vojtech@suse.c
Nov 6 11:39:58 babylon kernel: wacom.c: USB Wacom Graphire and Wacom Intuos ta
Nov 6 11:39:58 babylon insmod: Using /lib/modules/2.4.18-4GB/kernel/drivers/us
Nov 6 11:39:58 babylon insmod: Symbol version prefix ''
Nov 6 11:39:58 babylon kernel: usb.c: registered new driver hiddev
Nov 6 11:39:58 babylon kernel: usb.c: registered new driver hid
Nov 6 11:39:58 babylon kernel: hid-core.c: v1.8.1 Andreas Gal, Vojtech Pavlik
Nov 6 11:39:58 babylon kernel: hid-core.c: USB HID support drivers
Nov 6 11:39:58 babylon insmod: Using /lib/modules/2.4.18-4GB/kernel/drivers/inp
```

This shows the new device being recognised and assigned to `input0` – information on pressure etc will be received on `/dev/input/event0`. The module `wacom` is loaded, followed by further modules, eg `hid` (Human Interface Device), and `mousedev` – mouse information will appear at `/dev/input/mouse0`.

Now you can check whether the PC is receiving a data stream from the device:

```
su
cd /dev/input
xxd event0
```

Bring the mouse or stylus into contact with the tablet and move it about. You should get something like this:

```
0000000: 2c01 c93d 1cf1 0600 0400 0000 0000 0000 ,...=.....
0000010: 2c01 c93d 4b10 0700 0400 0000 0000 0000 ,...=K.....
0000020: 2c01 c93d 892f 0700 0400 0000 0000 0000 ,...=./.....
0000030: 2c01 c93d c84e 0700 0400 0000 0000 0000 ,...=.N.....
0000040: 2c01 c93d ebde 0900 0400 0000 0000 0000 ,...=.....
0000050: 2c01 c93d 28fe 0900 0400 0000 0000 0000 ,...=(.....
0000060: 2c01 c93d 661d 0a00 0400 0000 0000 0000 ,...=f.....
0000070: 2c01 c93d e35b 0a00 0400 0000 0000 0000 ,...=[.....
0000080: 2c01 c93d 227b 0a00 0400 0000 0000 0000 ,...="{.....
0000090: 2c01 c93d 5f9a 0a00 0400 0000 0000 0000 ,...=_.....
00000a0: 2c01 c93d ddd8 0a00 0400 0000 0000 0000 ,...=.....
00000b0: 2c01 c93d 1cf8 0a00 0400 0000 0000 0000 ,...=.....
00000c0: 2c01 c93d 5917 0b00 0400 0000 0000 0000 ,...=Y.....
00000d0: 2c01 c93d 9936 0b00 0400 0000 0000 0000 ,...=.6.....
00000e0: 2c01 c93d 1875 0b00 0400 0000 0000 0000 ,...=.u.....
00000f0: 2c01 c93d 5594 0b00 0400 0000 0000 0000 ,...=U.....
0000100: 2c01 c93d 9ab3 0b00 0400 0000 0000 0000 ,...=.....
0000110: 2c01 c93d d3d2 0b00 0400 0000 0000 0000 ,...=.....
```

Press **Ctrl-C** to exit `xxd`. You can then try:

```
xxd mouse0
```

and you should get something similar.

Running `lsmod` should now show something like:

Module	Size	Used by	Not tainted
mousedev	3872	0	(unused)
hid	17824	0	(unused)
wacom	6048	0	(unused)
nls_iso8859-1	2880	1	(autoclean)
nls_cp437	4384	1	(autoclean)
vfat	9244	1	(autoclean)
fat	28984	0	(autoclean) [vfat]
snd-pcm-oss	45152	0	(autoclean)
snd-mixer-oss	11136	1	(autoclean)
tdfx	34424	21	
nfsd	64800	4	(autoclean)
parport_pc	25448	1	(autoclean)
lp	5824	0	(autoclean)
parport	21856	1	(autoclean) [parport_pc lp]
ipv6	123424	-1	(autoclean)
snd-ens1371	12036	1	
snd-pcm	58528	0	[snd-pcm-oss snd-ens1371]
snd-timer	11456	0	[snd-pcm]
snd-rawmidi	13536	0	[snd-ens1371]
snd-seq-device	4336	0	[snd-rawmidi]
snd-ac97-codec	24196	0	[snd-ens1371]
snd	31720	0	[snd-pcm-oss snd-mixer-oss snd-ens1371 snd-rawmidi snd-seq-device snd-ac97-codec]
soundcore	3268	6	[snd]
isa-pnp	27816	0	(unused)
joydev	5728	0	(unused)

```

evdev                3904  0
input                3072  0      [mousedev hid wacom joydev evdev]
st                   25844 0      (autoclean) (unused)
sg                   23620 0      (autoclean)
usb-uhci             20996 0      (unused)
usbcore              55136 1      [hid wacom usb-uhci]
via-rhine            11748 1
mii                  1040  0      [via-rhine]
ide-scsi             7648  0
reiserfs             158816 1
advansys             82368 0

```

The next thing is to set up the tablet in X. Launch the mouse portion of Sax2:

```

sux
sax2 -F mouse

```

(the sux is needed because this is a GUI application)

Select Add, Tablet, Wacom, Graphire/Intuos (USB), and from the Expert tab change the driver to graphireusb. Then press OK. Then select Add, Pen, Wacom, Graphire/Intuos Stylus (USB), change the driver, and press OK. Finally, select Add, Pen, Wacom, Graphire/Intuos Eraser (USB), change the driver, and press OK. Then press Finish, Save configuration, and Yes to exit Sax2.

XF86Config will now have additional InputDevice sections for the tablet, as shown here:

```

Section "InputDevice"
Driver      "graphireusb"
Identifier  "Mouse[3]"
Option      "Device" "/dev/input/event0"
Option      "InputFashion" "Tablet"
Option      "KeepShape" "on"
Option      "Mode" "Absolute"
Option      "Name" "Graphire/Intuos (USB)"
Option      "Protocol" "Auto"
Option      "SendCoreEvents" "on"
Option      "Tilt" "on"
Option      "Type" "cursor"
Option      "USB" "on"
Option      "Vendor" "Wacom"
EndSection

Section "InputDevice"
Driver      "graphireusb"
Identifier  "Mouse[5]"
Option      "Device" "/dev/input/event0"
Option      "InputFashion" "Pen"
Option      "KeepShape" "on"
Option      "Mode" "Absolute"
Option      "Name" "Graphire/Intuos Stylus (USB)"
Option      "Protocol" "Auto"
Option      "SendCoreEvents" "on"
Option      "Tilt" "on"
Option      "Type" "stylus"
Option      "USB" "on"
Option      "Vendor" "Wacom"
EndSection

```

```
Section "InputDevice"
Driver      "graphireusb"
Identifier  "Mouse[7]"
Option     "Device" "/dev/input/event0"
Option     "InputFashion" "Pen"
Option     "KeepShape" "on"
Option     "Mode" "Absolute"
Option     "Name" "Graphire/Intuos Eraser (USB)"
Option     "Protocol" "Auto"
Option     "SendCoreEvents" "on"
Option     "Tilt" "on"
Option     "Type" "eraser"
Option     "USB" "on"
Option     "Vendor" "Wacom"
EndSection
```

However, these need to be edited, and further items need to be added.

Open the file in an editor:

```
su
pico /etc/X11/XF86Config
```

and make changes as follows.

In the Module section, add:

```
Load      "graphireusb"
```

to load the tablet driver.

In the InputDevice section for the tablet, change the lines:

```
Identifier  "Mouse[3]"
Option     "Type" "cursor"
```

to read:

```
Identifier  "gmouse"
Option     "Type" "gmouse"
```

In the InputDevice section for the stylus, change the lines:

```
Identifier  "Mouse[5]"
Option     "Type" "stylus"
```

to read:

```
Identifier  "gstylus"
Option     "Type" "gstylus"
```

In the InputDevice section for the eraser, change the lines:

```
Identifier  "Mouse[7]"
Option     "Type" "eraser"
```

to read:

```
Identifier    "geraser"
Option        "Type" "geraser"
```

Note that you **MUST** use these names with the `graphireusb` driver. If you use any others, the XServer will error on startup: "No type or invalid type specified" (the message will be in the log at `/var/log/XFree86.0.log`). This means that using `graphireusb` gives fewer options than using the `wacom` driver, since you can't set up the same physical device as two logical devices (see section 5.12 of the `Wacom HOWTO`).

Next, in the `ServerLayout` section, add:

```
InputDevice  "gmouse"  "SendCoreEvents"
InputDevice  "gstylus" "SendCoreEvents"
InputDevice  "geraser" "SendCoreEvents"
```

The revised sections should then look something like this:

```
Section "Module"
Load      "type1"
Load      "speedo"
Load      "extmod"
Load      "freetype"
Load      "glx"
Load      "graphireusb"
EndSection

Section "InputDevice"
Driver     "Keyboard"
Identifier "Keyboard[0]"
Option     "Protocol" "Standard"
Option     "XkbLayout" "gb"
Option     "XkbModel" "pc105"
Option     "XkbRules" "xfree86"
EndSection

Section "InputDevice"
Driver     "mouse"
Identifier "Mouse[1]"
Option     "ButtonNumber" "5"
Option     "Device" "/dev/mouse"
Option     "InputFashion" "Mouse"
Option     "Name" "Autodetection"
Option     "Protocol" "imps/2"
Option     "Vendor" "Sysp"
Option     "ZAxisMapping" "4 5"
EndSection

Section "InputDevice"
Driver     "graphireusb"
Identifier "gmouse"
Option     "Device" "/dev/input/event0"
Option     "InputFashion" "Tablet"
Option     "KeepShape" "on"
Option     "Mode" "Absolute"
Option     "Name" "Graphire/Intuos (USB)"
```

```

Option      "Protocol" "Auto"
Option      "SendCoreEvents" "on"
Option      "Tilt" "on"
Option      "Type" "gmouse"
Option      "USB" "on"
Option      "Vendor" "Wacom"
EndSection

Section "InputDevice"
Driver      "graphireusb"
Identifier  "geraser"
Option      "Device" "/dev/input/event0"
Option      "InputFashion" "Pen"
Option      "KeepShape" "on"
Option      "Mode" "Absolute"
Option      "Name" "Graphire/Intuos Eraser (USB)"
Option      "Protocol" "Auto"
Option      "SendCoreEvents" "on"
Option      "Tilt" "on"
Option      "Type" "geraser"
Option      "USB" "on"
Option      "Vendor" "Wacom"
EndSection

Section "InputDevice"
Driver      "graphireusb"
Identifier  "gstylus"
Option      "Device" "/dev/input/event0"
Option      "InputFashion" "Pen"
Option      "KeepShape" "on"
Option      "Mode" "Absolute"
Option      "Name" "Graphire/Intuos Stylus (USB)"
Option      "Protocol" "Auto"
Option      "SendCoreEvents" "on"
Option      "Tilt" "on"
Option      "Type" "gstylus"
Option      "USB" "on"
Option      "Vendor" "Wacom"
EndSection

Section "ServerLayout"
Identifier  "Layout[all]"
InputDevice "Keyboard[0]" "CoreKeyboard"
InputDevice "Mouse[1]" "CorePointer"
InputDevice "gmouse" "SendCoreEvents"
InputDevice "gstylus" "SendCoreEvents"
InputDevice "geraser" "SendCoreEvents"
Option      "Clone" "off"
Option      "Xinerama" "off"
Screen     "Screen[0]"
EndSection

```

Save the file `XF86Config`, and then close all windows and log out (to restart X). When X starts up again, log back in. If X does not start, log in as root at the console, and run:

```
grep -i XINPUT /var/log/XFree86.0.log
```

and

```
grep -i graphireusb /var/log/XFree86.0.log
```

which should give you an indication of the error. Correct it, log out, then log in as yourself, and run startx to launch X. If it still doesn't oblige, log back in as root, and revert to the old XF86Config file:

```
cd /etc/X11
cp XF86Config.orig XF86Config
```

Then go through the above steps again from scratch. Note that the USB subsystem is a bit fiddly on 8.0, and you may have to experiment with unloading various modules, or even rebooting to get a clean start environment.

If all has gone well, and X has started without any problems, the above two commands should show something like this:

```
babylon:/home/kevin # grep -i XINPUT /var/log/XFree86.0.log
XFree86 XInput driver : 0.3
Module class: XFree86 XInput Driver
ABI class: XFree86 XInput driver, version 0.3
Module class: XFree86 XInput Driver
ABI class: XFree86 XInput driver, version 0.3
(II) Initializing built-in extension XInputExtension
(II) XINPUT: Adding extended input device "geraser" (type: Graphire Eraser)
(II) XINPUT: Adding extended input device "gstylus" (type: Graphire Stylus)
(II) XINPUT: Adding extended input device "gmouse" (type: Graphire Mouse)
(II) XINPUT: Adding extended input device "Mouse[1]" (type: MOUSE)
babylon:/home/kevin # grep -i graphireusb /var/log/XFree86.0.log
(II) LoadModule: "graphireusb"
(II) Loading /usr/X11R6/lib/modules/input/graphireusb_drv.o
(II) Module graphireusb: vendor="The XFree86 Project"
(II) LoadModule: "graphireusb"
(II) Reloading /usr/X11R6/lib/modules/input/graphireusb_drv.o
(==) GraphireUSB tablet top X=0 top Y=0 bottom X=9897 bottom Y=7422
(==) GraphireUSB tablet top X=0 top Y=0 bottom X=9897 bottom Y=7422
(==) GraphireUSB tablet top X=0 top Y=0 bottom X=9897 bottom Y=7422
```

This shows that the 3 new devices have been recognised, and that the driver for the tablet has been loaded OK.

It is also possible to use the wacom driver instead of the graphireusb driver. To do this, just replace in the XF86Config file the words "graphireusb" with "wacom", "gmouse" with "cursor", "gstylus" with "stylus", and "geraser" with "eraser", so that the end result looks like this:

```
Section "Module"
Load      "type1"
Load      "speedo"
Load      "extmod"
Load      "freetype"
Load      "glx"
Load      "dri"
Load      "wacom"
EndSection

Section "InputDevice"
```

```
Driver      "keyboard"
Identifier  "Keyboard[0]"
Option     "Protocol" "Standard"
Option     "XkbKeyCodes" "xfree86"
Option     "XkbLayout" "gb"
Option     "XkbModel" "pc104"
Option     "XkbRules" "xfree86"
EndSection

Section "InputDevice"
Driver     "mouse"
Identifier "Mouse[1]"
Option     "ButtonNumber" "5"
Option     "Device" "/dev/psaux"
Option     "InputFashion" "Mouse"
Option     "Name" "AutoDetected"
Option     "Protocol" "imps/2"
Option     "Vendor" "AutoDetected"
Option     "ZAxisMapping" "4 5"
EndSection

Section "InputDevice"
Driver     "wacom"
Identifier "cursor"
Option     "Device" "/dev/input/event0"
Option     "InputFashion" "Tablet"
Option     "KeepShape" "on"
Option     "Mode" "Absolute"
Option     "Name" "Graphire/Intuos (USB)"
Option     "Protocol" "Auto"
Option     "SendCoreEvents" "on"
Option     "Tilt" "on"
Option     "Type" "cursor"
Option     "USB" "on"
Option     "Vendor" "Wacom"
EndSection

Section "InputDevice"
Driver     "wacom"
Identifier "stylus"
Option     "Device" "/dev/input/event0"
Option     "InputFashion" "Pen"
Option     "KeepShape" "on"
Option     "Mode" "Absolute"
Option     "Name" "Graphire/Intuos Stylus (USB)"
Option     "Protocol" "Auto"
Option     "SendCoreEvents" "on"
Option     "Tilt" "on"
Option     "Type" "stylus"
Option     "USB" "on"
Option     "Vendor" "Wacom"
EndSection

Section "InputDevice"
Driver     "wacom"
Identifier "eraser"
Option     "Device" "/dev/input/event0"
Option     "InputFashion" "Pen"
Option     "KeepShape" "on"
```

```

Option      "Mode" "Absolute"
Option      "Name" "Graphire/Intuos Eraser (USB)"
Option      "Protocol" "Auto"
Option      "SendCoreEvents" "on"
Option      "Tilt" "on"
Option      "Type" "eraser"
Option      "USB" "on"
Option      "Vendor" "Wacom"
EndSection

Section "ServerLayout"
Identifier  "Layout[all]"
InputDevice "Keyboard[0]" "CoreKeyboard"
InputDevice "Mouse[1]" "CorePointer"
InputDevice "cursor" "SendCoreEvents"
InputDevice "stylus" "SendCoreEvents"
InputDevice "eraser" "SendCoreEvents"
Option      "Clone" "off"
Option      "Xinerama" "off"
Screen     "Screen[0]"
EndSection

```

Log out and back in again, and a grep of the X log will show that the device has been started OK:

```

babylon:/home/kevin # grep -i wacom /var/log/XFree86.0.log
(II) LoadModule: "wacom"
(II) Loading /usr/X11R6/lib/modules/input/wacom_drv.o
(II) Module wacom: vendor="The XFree86 Project"
(II) Wacom driver level: 26 $
(II) LoadModule: "wacom"
(II) Reloading /usr/X11R6/lib/modules/input/wacom_drv.o
(II) Wacom driver level: 26 $
(II) XINPUT: Adding extended input device "eraser" (type: Wacom Eraser)
(II) XINPUT: Adding extended input device "stylus" (type: Wacom Stylus)
(II) XINPUT: Adding extended input device "cursor" (type: Wacom Cursor)
(==) Wacom Kernel Input device name: "Wacom Graphire2 4x5"
(==) Wacom tablet maximum X=10206 maximum Y=7422 X resolution=0 Y resolution=0
(==) Wacom tablet top X=0 top Y=0 bottom X=9897 bottom Y=7422
(==) Wacom tablet top X=0 top Y=0 bottom X=9897 bottom Y=7422
(==) Wacom tablet top X=0 top Y=0 bottom X=9897 bottom Y=7422

```

There may be good arguments for using one driver rather than the other, but I don't know what they are! The best one I can see for using the wacom driver is that the graphireusb driver seems not to start properly sometimes. It complains that an invalid threshold has been set, and resets that to 0, which seems to prevent the pen and eraser working. Inserting

```
Option "Threshold" "5"
```

or

```
Option "Threshold" "1"
```

into the InputDevice sections for the pen and eraser worked sometimes, but not always.

More serious is the fact that under both drivers, unplugging and replugging the tablet will mean that the GIMP loses contact with it, and doesn't see it when it is plugged in again. It is recognised OK by the system, so this may be a GIMP failing. The tablet input devices are still listed, but they are not operational. Logging in again and restarting GIMP leads to no devices at all being recognised. The only thing that works is a reboot! Pretty drastic.

---

## Input Devices Related Problems

*1. How do I configure a WheelMouse ?*

### 1. How do I configure a WheelMouse ?

Edit your `/etc/X11/XF86Config` file to look like this:

```
Section "InputDevice"
    Driver      "mouse"
    Identifier  "Mouse[1]"
    Option      "Device" "/dev/psaux"
    Option      "InputFashion" "Mouse"
    Option      "Name" "SCROLL MOUSE"
    Option      "Protocol" "IMPS/2"
    Option      "Vendor" "MITSUMI"
    Option      "Buttons" "3"
    Option      "ZAxisMapping" "4 5"
EndSection
```

---

## Chapter 15. GUI's

### General Desktop Problems

In this section you will hopefully find some answers to general desktop related questions

---

### GNOME Related Problems

- 1. How can I install Ximian Evolution ?*
- 2. How can I install Ximian ?*

#### 1. How can I install Ximian Evolution ?

Ximian Evolution is an MS Outlook clone, that (for my purposes and considering that it's only a 1.2 release) does it better than Outlook does. These instructions are for installing only Evolution, none of the other Ximian products. For details and screenshots, see <http://ximian.com/products/evolution/>.

The binary RPMs for SuSE 7.3, 8.0, 8.1, 8.2 are located at <ftp://ftp.ximian.com/pub/ximian-evolution/>,

or here <http://www.usr-local-bin.org> and just click the links to the Evolution downloads (these are for SuSE 8.2 only). In the Ximian ftp site, there's a lot of junk there that we're not interested in.

Obviously the important file is the evolution rpm, but there's really no way it'd simply be as easy as installing only one RPM. This RPM has many dependancies, which in turn have many dependancies. You can grab them with ftp, wget, a browser, whatever. If you want to be smooth, you can do a quick rectangle–kill and rectangle–yank with the ftp address above and create a quick & dirty shell script to download them for you...anyway, grab these files relevant to the SuSE version you have, and put them into a directory together:

```
bonobo
bonobo-conf
control-center
evolution
gal
gconf
gnome-core
gnome-pilot
gnome-print
gnome-vfs
gtkhtml
libbonobo-conf
libgal
libghgt
libglade
libgnomeprint
libgtkhtml
libiconv
libnspr
libnss
oaf
pilot-link
ximian-menus
ximian-utils
```

Many of these rpm's can usually be found already on the SuSE CD's, but if you're wanting the latest and greatest, it may need the newest of the dependency rpm's also. Now that you have all (hopefully) of the files, you should check to see if there are any dependancies we have to meet.

```
$> su
$> cd dir-with-evolution-rpms/
$> rpm --test -Uhv *.rpm
```

If you get some errors due to failed dependancies, then we need some more packages. Hopefully the dependancy is named something sensible that will match or almost match an RPM name from the ftp directory. Try browsing it with a web browser and doing a 'find in page' for some substring of the dependancy.

If you have luck like mine, that won't help. Go to [www.google.com](http://www.google.com) and do a quick search for the dependancy name and ximian, you should find the package that the resource is in easily. Grab it too, and then re–run '**rpm --test -Uhv \*.rpm**' again. Rinse, lather, repeat. Eventually we'll have no more failed dependancies, meaning it's on to... *Installing:*

If you've gotten this far, it should be a piece of cake to install the RPMs. Do an

```
$> rpm -Uhv *.rpm
```

to install the whole lot of them. If RPM complains that some are already installed, you can delete that particular RPM, or (if you're brave), do an

```
$> rpm --force --nodeps *.rpm
```


Now **'exit'** from root, and type **'evolution'**. If you have path issues, the executable is in `/opt/gnome/bin/`

The user's manual is installed under

 You may try to install the RPMS from SuSE in that case see

## 2. How can I install Ximian ?

You could always just install the SuSE built RPMS (includes 7.1, 7.2, 7.3 and 8.0)

 of Gnome 1.4, (so it isn't Ximian, but close enough) and very little effort involved.

## KDE Related Problems

Recently a new mailing list has been created by SuSE, in which KDE desktop and it's related problems are discussed. By joining that mailinglist you may find answers to your questions. To subscribe, send an empty mail to `<suse-kde-subscribe@suse.com>`

1. *Konqueror says can't handle text/html type while using SuSE help center. What's wrong ?*
2. *How do I start up an application each time the PC is booted into KDE ?*
3. *After upgrading to KDE3, KDM is unable to start KDE. How can I fix it ?*
4. *After upgrading to KDE 3.03, there's no background in KDM*
5. *How can I have the Numlock turned on when KDE starts ?*
6. *How can I apply/install a different splash screen to KDE ?*
7. *How can I autoboot to selected user ?*
8. *How can I change the Login screen background ?*
9. *How can I change the KDM background for KDE3 under SuSE 7.3 ?*
10. *How can I set the KDE Defaults for any new users ?*
11. *How to compile KDE from CVS ?*
12. *KDE applications manual pages do not show after KDE3.03 upgrade*
13. *Which file includes KDE's global configurations ?*
14. *How do I stop Nautilus drawing the desktop ?*

### 1. Konqueror says can't handle text/html type while using SuSE help center. What's wrong ?

The help centre was broken in 7.2 for people who upgraded their KDE to 2.2.x (from the original 2.1.2 in 7.2).

The solution is simple...get the susehelpcenter rpm for \*7.3\* from SuSE's site (or use a mirror!). It's in series k2de1.

Upgrade it with **rpm -U** or Yast and you will find that the help centre works.

## 2. How do I start up an application each time the PC is booted into KDE ?

Jon Klaussen

For which purpose the nice people at KDE provide us with... the "Autostart Folder"... ;)

Look in `.kde2/` in your home directory... and check this out:

<http://www.kde.org/documentation/userguide/all-about-your-desktop.html#THE-AUTOSTART-FOLDER>

## 3. After upgrading to KDE3, KDM is unable to start KDE. How can I fix it ?

Applies to SuSE 7.3

To fix it:

- `mkdir /opt/kde3/share/config/kdm`
- `ln -s /etc/opt/kde3/share/config/kdm/kdmrc /opt/kde3/share/config/kdm/kdmrc`
- `ln -s /etc/X11/xdm/Xaccess /opt/kde3/share/config/kdm/Xaccess`
- Edit the files in `/etc/SuSEconfig` and change: `qt2` ' `qt3` and `kde2` ' `kde3`
- edit `/etc/init.d/xdm`, change: `kde2` ' `kde3`
- Add `kde3` to `/usr/X11R6/bin/wmlist`
- Add `kde3` to the sessionlist in `/etc/opt/kde3/share/config/kdm/kdmrc`
- Add `kde3` to `/etc/ld.so.conf`
- run `ldconfig`
- run `rcxdm start`

## 4. After upgrading to KDE 3.03, there's no background in KDM

Szab3 L3;szl3

This is because of the missing path from qt plugin configuration. If you check the qtconfig *Library Paths* settings, you will see all previously installed qt plugin paths in the list, but not the current (3.0.5). If you add the correct plugin path (`/usr/lib/qt-3.0.5/plugins`), you will see jpeg images in file preview or kview etc...once again.

You may have to restart KDE once you make the changes in QTconfig. Just open a shell/console window and type **qtconfig** and it will open up! Go to the **Library Paths** tab and add the new path to *qt 3.0.5 plugins*! That will take care of all your jpeg problems in the main KDE screens, but your login background will still have to be a png for now, as it does not affect that image format.

 Graham Murray

I have found what I did wrong. I thought that qtconfig was global, so I ran `sux` first and made the changes as root. When I ran qtconfig as my normal user and restarted kde, jpegs worked again.

## 5. How can I have the Numlock turned on when KDE starts ?

Go to **Preferences+Peripherals→Keyboard** and select the **Turn on** radio button in NumLock on KDE startup under the **Advanced** tab.

## 6. How can I apply/install a different splash screen to KDE ?

- Open konqueror
- Create the directory `~/.kde/share/apps/ksplash/pics`
- Browse to `~/.kde/share/apps/ksplash/pics`
- Move and decompress your new splash screen file into the konqueror window.

## 7. How can I autoboot to selected user ?

**Preferences→System→Login Manager**

## 8. How can I change the Login screen background ?

**Preferences→System→Login Manager**

## 9. How can I change the KDM background for KDE3 under SuSE 7.3 ?

If you use kde3 and `/opt/kde3/bin/kdm` as login-manager, and always get an ugly grey xdm-ish background, make sure you have the following lines in `/etc/X11/xdm/Xsetup`:

```
kde3root=/opt/kde3/bin                                #Somewhere near line 52
for p in ${kde1root}/kdm \                             #Starting circa line 62
        ${kde2root}/kdm \
        ${kde3root}/kdm
do
```

## 10. How can I set the KDE Defaults for any new users ?

To change the menu for all users, you have to modify the general kde menu that is in `/opt/kde3/share/applnk`. If you want to add a new icon that is not present there, you have to create a new `.desktop` file and you may specify the following fields:

```
[Desktop Entry]
Encoding=UTF-8
Name=           #name of the application in menu
GenericName[i18n]= #text within brackets in menu, i18n is the code of the
                  # language you're using, [en] I suppose... :-)
Exec=           #name of the application o execute, you can specify full path
Icon=           #name of the icon of the applicatio, you can specify full path. !! If
                  #you don't put anything here you're entry won't be displayed in the menu
Type=Application
Terminal=0      #whether the application has to be executed in a console. 0 for
                  #none
```

To add a new menu or submenu, simply create a new folder and assign it an icon you like. For the folder to be displayed you must at least put a `.desktop` file in it.

The `/opt/kde3/share/applnk` is merged with the personal user-`kde` directory to generate the menu for each user. If the `~/ .kde/share/applnk` doesn't contain any entry, the whole `/opt/kde3/share/applnk` menu will be displayed. If it contains different entries, those will be displayed next to the ones of the general kde menu. If it contains an entry that is in the same folder or subfolder of the general menu and has the same name, the entry won't be displayed in the menu.

For exemple, if you have:

```
/opt/kde3/share/applnk/Applications/[empty]
```

and

```
~/ .kde/share/applnk/Applications/xmms.desktop
```

The xmms entry will be displayed in the folder 'Applications' of the Kmenu, but if you have:

```
/opt/kde3/share/applnk/Applications/xmms.desktop
```

and

```
~/ .kde/share/applnk/Applications/xmms.desktop
```

The xmms entry won't appear in the menu.

- ☞ I did this by eliminating the SuSE menu and using the Kmenu, if you want to use the Suse menu you'll have to change the entries in the SuSE menu. I've uninstalled it and now I can't remember where it was stored, but if you can find it, things work the same as for the Kmenu.

In respect to the icons on the desktop, I don't know how to add new ones. There's a script in `/opt/kde3/bin/startkde` written for SuSE that substitutes the original `/opt/kde3/bin/startkde.original` that do the job of creating the new desktop icons when a user logs in for the first time. But as I don't know bash script programming very well, I decided to create my own icons manually and I uninstalled the SuSE theme. This way only a **Trash** icon is created on the desktop. If you know bash programming, I think it wouldn't be difficult to understand the SuSE script and change it to create your own desktop icons.

## 11. How to compile KDE from CVS ?

Anders Johansson

On request, a little mini-howto on how to compile kde from cvs

It's probably a good idea to do all this in one terminal window. If you set an environment variable in one konsole window, that variable will not be set in another window, so stay in one window when you do this.

First of all, make sure you have cvs installed. It is on SuSE's CDs. You also need gcc, gpp, automake, autoconf and yacc. I can't list here everything you need exactly. If you install the "development" setup in yast, you should get most, if not all of it. I never worry too much about that, because the compilation scripts will complain if you lack a certain package you need. Just install it as you go along.

## 1. Check out the code from cvs

- a. You need to tell cvs which server to download from, and you need to log in to it.

```
export CVSROOT=:pserver:anonymous@anoncvs.kde.org:/home/kde cvs login
```

- b. There is no password, so just hit enter when it asks you.
- c. You only need to login once. If you decide to update your code in two weeks you only need to do the "export", not the "login" then.
- d. make a directory where you put the source. I keep mine in /home/andjoh/src/kde-3.1. Then "cd" to that directory (in my case, "cd /home/andjoh/src/kde-3.1")
- e. Now download what you want to compile. You need the base bits, the rest is "if you feel like it".
- f.

```
cvs co qt-copy
```

to get an up-to-date version of qt.

```
cvs co arts
cvs co kdelibs
cvs co kdebase
```

- g. Those three are needed. Then you can download "kdenetwork", "kdemultimedia", "kdegraphics", "kdegames", "kdeartwork", "kdeutils" "kdeaddons" and "kdeextragear-1" if you want them. But only the first three + qt-copy are actually needed to run kde.

## 2. Compile qt-copy

- a. You can find this info in the file README.qt-copy

```
cd qt-copy
export QTDIR=$PWD
make -f Makefile.cvs
./configure -system-zlib -qt-gif -system-libpng -system-libjpeg \
  -plugin-imgfmt-mng -thread -no-stl -no-g++-exceptions
make symlinks sub-src sub-tools
```

This will run for some time.

## 3. Compile kde

- a. First you need to decide where you're going to store the compiled binaries. I keep them in my home directory, in /home/andjoh/kde3.1

```
export KDEDIR=/home/andjoh/kde3.1

cd arts
make -f Makefile.cvs
./configure
make
make install
```

This is the magic sequence for compiling all the packages in kde. Simple, no? :)

```
cd kdelibs
make -f Makefile.cvs
./configure
make
make install


cd kdebase
make -f Makefile.cvs
./configure
make
make install
```

Those four packages should be handled in that order. The procedure is exactly the same for the rest of the packages you decided to download. You can do them in any order, except that kdeaddons should be done last of all.

b. Now, to use this, put these lines in your ~/.bashrc

```
export KDEDIR=~ /kde3.1
export QTDIR=~ /src/kde3.1/qt-copy
export WINDOWMANAGER=~ /kde3.1/bin/startkde
export PATH=$KDEDIR/bin:$PATH
export LD_LIBRARY_PATH=$KDEDIR/lib:$QTDIR/lib:$LD_LIBRARY_PATH
export KDEHOME=~ /.kde31-test
```

c. Log out and back in and you should see the brand new kde3.1 start up and your old kde 3.0.x settings won't be affected. Comment out those lines in .bashrc to get back to the old kde.

 with those lines in .bashrc, kde3.1 will start up regardless of what you select from kdm. This isn't really a "nice" solution, but it was the first one I could think of :) If anyone has a better idea of how to do this in a more "SuSE" manner, please speak up :)

## 12. KDE applications manual pages do not show after KDE3.03 upgrade

Copy /opt/kde3/share/applnk/Help.desktop to /opt/kde3/share/services and name it khelpcenter.desktop. Then edit it in a text editor and change

```
Exec=khelpcenter
```

to

```
Exec=khelpcenter %u
```

and change

```
Type=Application
```

to

```
Type=Service
```

Then log out and in again and your help should work from the menu as before

### 13. Which file includes KDE's global configurations ?

The general idea is that settings for a user are normally stored under `$KDEHOME/share/config` but that you can copy them to similar named files under `$KDEDIR/share/config` and that they will then be applied for everyone.

The only other thing you need to do, is a little digging in `$KDEDIR/share/config` to find where the settings that you are looking for are stored.

Some hints:

`kdeglobals` contains settings that apply to all programs, such as locale  
`kioslaverc` settings used for io-slaves, such as proxy settings  
`konquerorrc` konqueror specific settings  
`kdesktoprc` desktop (background) related settings, including screensaver

### 14. How do I stop Nautilus drawing the desktop ?

JohnPettigrew

You have some weird incarnation of KDE and Gnome running in root.

At some point, you ran nautilus. This, by default, will draw your desktop for you. What you need to do is to start Nautilus explicitly, then go to **EditPreferences, Desktop & Trash**, then deselect "**Use Nautilus to draw the desktop**" and click OK. Thereafter, even if you **do** run nautilus, it won't take your desktop over.

---

## XFCE Related Problems

FIXME SOON

---

## Window Managers

### Afterstep Related Problems

FIXME SOON

---

### BlackBox Related Problems

FIXME SOON

---

## Chapter 16. Software

### Working with RPM and Related Problems



You may want to have a look at <http://susefaq.sourceforge.net/articles/rpm.html> for a quick reminder of rpm commands

1. *When will SuSE include support for RPM version 4 ?*
2. *Is there any documentation on how SuSE builds the RPM packages for various software ?*
3. *Are there any tools for building RPM packages of various software suitable for SuSE?*
4. *The installer is asking for a specific file and complains that without that file, installation will not be done. How can I find in which rpm this file is ?*

### 1. When will SuSE include support for RPM version 4 ?

The version used since SuSE 7.1, RPM version 3.0.6, is capable of installing 4.0 rpms.

### 2. Is there any documentation on how SuSE builds the RPM packages for various software ?

The document that describes the process is maintained by Mads Martin Jorgensen and can be found [here](#) .

### 3. Are there any tools for building RPM packages of various software suitable for SuSE?

Applies to SuSE 8.0

There is a package called build in series d. This package provides the script /opt/SuSE/bin/build. With this script you can build RPMs for SuSE Linux in a chroot environment.

Applies to SuSE 8.2

There is a package called KRPMBuilder found in the development section in YaST2 Install/Remove software. Just checkmark the box next to it then click the 'Accept' button.

### 4. The installer is asking for a specific file and complains that without that file, installation will not be done. How can I find in which rpm this file is ?

If you don't find a script, then the following method can be used. (ARCHIVES.gz is e.g. on SuSE CD1)

```
zcat /media/cdrecorder/ARCHIVES.gz \ | egrep
'libexpat.so.1|libmcrypt.so.4|libpdf.so.0|libpq.so.2.1|libsablot.so.0|libt1.so.1'
\ | awk '{print $1,$9;}' ./CD4/suse/d3/pdflib.rpm: /usr/lib/libpdf.so
./CD4/suse/d3/pdflib.rpm: /usr/lib/libpdf.so.0 ./CD4/suse/d3/pdflib.rpm:
/usr/lib/libpdf.so.0.1.1 ./CD3/suse/gra2/tllib-devel.rpm:
/usr/lib/libt1.so ./CD3/suse/gra2/tllib.rpm: /usr/lib/libt1.so.1
./CD3/suse/gra2/tllib.rpm: /usr/lib/libt1.so.1.1.0
./CD2/suse/sec2/libmcrypt.rpm: /usr/lib/libmcrypt.so
./CD2/suse/sec2/libmcrypt.rpm: /usr/lib/libmcrypt.so.4
./CD2/suse/sec2/libmcrypt.rpm: /usr/lib/libmcrypt.so.4.2.6
./CD2/suse/ap2/postgresql-lib.rpm: /usr/lib/libpq.so
./CD2/suse/ap2/postgresql-lib.rpm: /usr/lib/libpq.so.2
./CD2/suse/ap2/postgresql-lib.rpm: /usr/lib/libpq.so.2.0
./CD2/suse/ap2/postgresql-lib.rpm: /usr/lib/libpq.so.2.1
./CD2/suse/sgml/sablot-devel.rpm: /usr/lib/libsablot.so
./CD2/suse/sgml/expat.rpm: /usr/lib/libexpat.so.1
```

```
./CD2/suse/sgml/expat.rpm: /usr/lib/libexpat.so.1.2
./CD2/suse/sgml/sablot.rpm: /usr/lib/libsablot.so.0
./CD2/suse/sgml/sablot.rpm: /usr/lib/libsablot.so.0.51.0
```

If you skip the `awk` command, then you'll get additional information about e.g. symbolic links. Just type the filenames you are looking for after the **egrep** command

Applies to SuSE version 8.0 thru 8.2

There is a package called `pin` in the SuSE 8.0 and newer versions, which provides a nice search opportunity for searching the `ARCHIEVES.gz`. If you have not installed it, first install it, and the first time it runs it copies the `ARCHIEVES.gz` file from the CD/DVD, and then when you type **pin name-of-file**, you have an interface for searching the file you are looking for.

---

## Adding Software to your SuSE Linux

1. *There are new versions of an software application. Why does SuSE not provide them officially?*
2. *Where can I find rpms for new versions of applications that are built for SuSE ?*
3. *What is apt4rpm , and how do I get it?*

### **1. There are new versions of an software application. Why does SuSE not provide them officially?**

Roman Drahtmueller

Thu Sep 27 2001 – 14:38:27 PDT

Hi,

Finally I decided to start learning iptables hence installed the 2.4.7 kernel along with the iptables. The version comes on 7.2 is 1.2.1a (yes the kernel is also 2.4.4) should not be there an official update to iptables out of curiosity ?

This is the reply from Roman Drahtmueller to the question given above. This reply is reprinted here with permission.

(This mail has become somewhat lengthy, but I wanted to write down some thoughts on closely related topics that arise when I give the answer for this question. Everything that has nothing to do with the actual question above on this thread is written below the line "#####", and it does not contribute to the half-technical question. I do not wish that there will be a discussion about the issues below on this list because it would generate an off-topic lengthy thread. It's just that some of the things below need to be said every once in a while in order to prevent misunderstandings from distorting the aspects and benefits of open source software.)

The answer:

Not quite: The iptables utility is only the setup tool, it can't easily be a security problem without messing up the rules during setup (You'd easily notice! :-). The actual work of the packet filter engine happens in the kernel, not in the ipchains utility. If your machine acts as a packet filter only, you can easily kill all running processes and run **rm -rf /** over it – it will continue to work until you try to reboot it.

By consequence, the newer version fixes bugs that may be nasty in some way, but there are none that were security-related. The version of iptables that is on the CDs is installed on a few dozen thousand installations, and in use one some thousands, I guess. A new version is always different from the one before (this is why there is a new version in the first place): different functionality and different bugs as well. We cannot guarantee that the newer version works exactly like the one before, which is why we don't provide a newer version of the package (with iptables being just a simple example).

Please look at the changelogs of single packages in the distribution, especially the core packages and libraries, and look at the patches that we include to fix bugs that we found during testing. In order to be taken seriously in the operating systems market, you have to be able to maintain a certain level of quality in your software. You make a tradeoff between the up-to-dateness (and security) and the reliability (and security) of your software. This implies that the functionality of a single package must be guaranteed over the updates. By consequence, the version stays the same: only those bugs are fixed that break the functionality of the package or impose a security risk. If your favourite email program crashes if you hit five keys together, then do not hit these five keys together. If it crashes when a strange email arrives, it may be security related: Write to [security@suse.de](mailto:security@suse.de), and use the pgp key to encrypt your text. New versions in update packages can only happen if the new version number is beneficial from the security standpoint, and if no other package relies/depends on the package to be updated.

(Example: openssh. A user should be able to tell by the version number that the recently discovered security bugs are fixed.)

#####

There is a specific set of reasons why we make a new distribution every once in a while (with a decreasing frequency): The opensource community needs to have a new base to build on (a distribution sets standards that are most important for the thing as a whole), and new features are desired on behalf of the usership. Free software is for free: You can download it from servers worldwide. But I wouldn't want someone else to do the job that we've accomplished with each distribution (7.3 is out in a few days): many thousands of hours of CPU-time have been used for compilation of code and for stresstests, many hundreds of CDs have been burned, network equipment and computer hardware has been bought just to test the software, and many millions of keys have been hit, not to mention the thousands of hours in long nights that developers at SuSE and the rest of the world have sat down to track down crashes, add improvements to performance, stability and security, provide a nicer, ergonomic interface and make it what it is: A secure, powerful, flexible and stable operating system, ready to use. It is what people expect from it (while everybody expects something different).

If you want to give yourself a nice lesson: Play distributor! Install a SuSE-6.1, just a minimal package selection, then put away the CDs. Then, get KDE-2.2.1 running on it, with a few dozen applications that do all kinds of things from showing the time down to burning CDs and sending mails. Compile from the source tarball, not SuSE source rpms. Modularize the software that you

have installed and keep an overview over it. Add icons, G/X, eye candy, sounds so that you like it more. Check it for bugs, identify crashes and find security problems. Deal with buggy hardware and BIOSes. Ensure consistency of the ready-to-install packages that you built. Make it possible to exchange parts of the system at full consistency. Communicate the bugs that you've found to the maintainers and authors of the software that you use (quite some people, many emails!).

After you have found out that you need to exchange basically everything in your minimal system in order to be able to even compile the new stuff (not to mention running or testing!), you can abbreviate to a minimal SuSE-7.2 installation and restart from the beginning. After a few weeks without much fun you will find out that kdm behaves strangely under some obscure, but usual circumstances; watch out for race conditions and buffer overflows while you nail down the reason why all of your processes get nuked by *SIGTERM* sometimes.

If you're there, invest some time to sit down with others and argue the technical reasons why you (lazily) added your docs to `/opt/kde/docs` instead of `/usr/share/doc`. Be sure to have a comprehensive result afterwards, so that your distribution follows the defined standards (SuSE is leading in terms of that). Then you change what doesn't match the standards, and recompile everything. Don't forget to write down how to use it for your grandma and your kids.

SuSE employs the best people that the world has for many of the subsystems that a SuSE Linux distribution is built on. They are paid for doing their job and for refining the software they wrote to a thing that you can use. The software is still for free, the patches are for free (the distributors even share their additions), but the fact that you can easily install and use it is not!

Provided you earn only Euro 2.50 an hour, you couldn't make it in time to be faster than 100 times the price of a Linux distribution (a SuSE in particular). If you buy all the software that is on the (filled up to the last byte) SuSE CDs from a commercial vendor, expect a bill of a few hundred thousand Euro. I've never ever paid a single buck for software, but if I didn't (proudly) work for SuSE, I'd pay significantly more. I would want new versions of single software packages every few months, but as you might know we're not forced to buy it either. It's just easier and less expensive.

The price of a Linux distribution does not compare to the price of commercial software, but to the price your own time and your freedom.

Thanks,

Roman.

--  
--

| Roman Drahtmueller >draht@suse.de< // "You don't need eyes to see, |  
| SuSE GmbH – Security Phone: // you need vision!"  
| Nurnberg, Germany +49-911-740530 // Maxi Jazz, Faithless |

--

Feel free to pass on this text, provided that it is complete and unchanged!

## 2. Where can I find rpms for new versions of applications that are built for SuSE ?

Here are some places you can look:

- <http://www.usr-local-bin.org>
- <http://packman.links2linux.de/index.php4> all SuSE packages. Site in German
- <http://guru.unixtech.be/rpm/>

### 3. What is apt4rpm , and how do I get it?

Richard Bos

Apt is a package installer, to install rpm packages [1]. Apt does **not** replace rpm, the contrary it enhances rpm by providing very good dependency checking. Apt works according the client/server model, were the server provides an apt repository containing the standard rpm packages. Besides the rpm packages the repository provides meta information about the rpm packages. The client uses this information to determine if new packages have arrived and which other dependend packages are needed.

A nice example to show the above is the installation of kdevelop:

```
dar:~ # apt-get -S install kdevelop3
Reading Package Lists... Done
Building Dependency Tree... Done
The following extra packages will be installed:
  arts-devel doxygen flex freetype2-devel html-dtd kdbase3-devel
  kdelibs3-devel kdelibs3-devel-doc kdesdk3 kdoc libmng-devel
  libogg-devel libvorbis-devel mesaglut-devel qt3-devel
  qt3-devel-doc qt3-devel-tools x-devel
The following NEW packages will be installed:
  arts-devel doxygen flex freetype2-devel html-dtd kdbase3-devel
  kdelibs3-devel kdelibs3-devel-doc kdesdk3 kdevelop3 kdoc
  libmng-devel libogg-devel libvorbis-devel mesaglut-devel qt3-devel
  qt3-devel-doc qt3-devel-tools x-devel
0 packages upgraded, 19 newly installed, 0 to remove(replace) and 10 not
upgraded.
```

As shown apt sorts out all dependend packages and will download and install these. The package version does not need to be provided, which is very convenient, too!

The apt client administrates in the file called `sources.list` the different apt repositories that the client can connect. With the information from all those apt repositories apt determines, were the most recent version rpm package is located of the rpm package to be installed. If dependend rpms need to be installed all apt repositories will be checked to look for the correct version. The the latter is not important the most recent version will be downloaded and installed. By the way, the apt repository can be located on the user's own harddisk too of course.

Apt can be told to hold an rpm package in case the user does not want a package to be automatically upgraded. The kernel package `k_dflt` is a good example of a package that should not be automatically downloaded.

Hopefully you can conclude that the apt is really an Advanced Package Tool, as that is what APT stands for.

For SuSE there is 1 repository available, the repository is located at <ftp://ftp.gwdg.de>. More information about the apt repository and apt can be found at <http://apt4rpm.sourceforge.net>. For

information about the SuSE-7.3 apt repository follow the link called apt-rpm reps.

**!** If you try it, there is a great chance that you don't want to use anything else anymore!

---

## Dealing With Tarballs

FIXME SOON

---

## Applications

*1. Why can't I play this Shockwave Flash file?*

### 1. Why can't I play this Shockwave Flash file?

There is some confusion over Macromedia players and Linux. There are two media players that Macromedia makes and to quote Macromedia :

<http://www.macromedia.com/support/shockwave/ts/documents/playerfaq.htm#4>

The difference between the Macromedia Flash and Shockwave Players

- ◆ Flash and Shockwave Players are both free web Players from Macromedia.

Together, they bring you the best rich media content on the Internet. Each has a distinct purpose. Flash Player delivers fast loading front-end web applications, high-impact web site user interaction, interactive online advertising, and short to medium form animation.

- ◆ Shockwave Player displays destination web content such as interactive multimedia product demos and training, e-merchandising applications, and rich-media multi-user games. Through Xtras, Shockwave Player is also extendable to playback custom-built applications.

The Shockwave player is not available for Linux. Most of the annoying ads are in Flash and should be playable from Linux. You can get the latest player at <http://www.macromedia.com/downloads/>

Macromedia has confused the issue by not giving Shockwave and Flash unique file extension. It refers to swf files as Shockwave Flash files. So it is not known at a glance which player is needed to play the file.

If you need the Shockwave player then you will have to purchase CodeWeaver's Crossover Plugin product (assuming you have an Intel CPU) it is available at:

<http://www.codeweavers.com/products/crossover/>

Crossover plug in will also allow Intel based boxes to play Apple Quicktime and Microsoft Office viewers in your web browser so it might be worth buying to meet those needs.

---

# Chapter 17. Security

There is also an unofficial SuSE Security FAQ maintained by Peter Nixon

---

## SuSE Firewall packages

In this section, some common questions in solving problems with SuSE Firewall packages are included. You can find the beta versions of these programs at Marc's homepage

 There is a document about SuSEfirewall2 at SuSEFAQ project pages

1. *How do I activate the SuSE personal firewall in my system ?*
2. *How can I solve my problems with SuSEfirewall2 ?*

### 1. How do I activate the SuSE personal firewall in my system ?

Make sure you have the personal firewall rpm installed.

1. Go to YaST2 Control Center

Network/Basic


2. Modem configuration: highlight the modem listed there; click on Edit ISP Parameters: click on Next
3. Connection parameters: click the box Activate firewall...; click Next,
4. Finish.

### 2. How can I solve my problems with SuSEfirewall2 ?

There is no correct answer unless the list members know your exact setup. One way is to send your current working configuration and then clarifying your problem. To send your current configuration:

```
grep -v ^# /etc/sysconfig/SuSEfirewall2
```

Based on your settings, more than likely someone will provide you with hints to solve your problem.

 If you have problems getting this tool configured, please read this file carefully and take also a look into

- /usr/share/doc/packages/SuSEfirewall2/EXAMPLES !
- /usr/share/doc/packages/SuSEfirewall2/FAQ !
- /usr/share/doc/packages/SuSEfirewall2/SuSEfirewall2.conf.EXAMPLE !

---

## Secure Shell Related Questions

 You may want to have a look at <http://susefaq.sourceforge.net/articles/openssh.html> for a quick reminder of how ssh works

1. *Where can I find information related to SSH Secure Shell ?*
2. *Is there an SSH client like WinSCP for suse 8*
3. *How can I login via SSH without passwords ?*

### 1. Where can I find information related to SSH Secure Shell ?

There is a nice little howto about using SSH.

- <http://www.puddingonline.com/~dave/publications/SSH-with-Keys-HOWTO/>
- The main website for the SSH FAQ is <http://www.snailbook.com>
- You can find links to the articles as well as the very useful Keychain script here: <http://www.gentoo.org/projects/keychain/>

Keychain caches your private keys so you don't have to enter your passphrase to unlock them each time the ssh-agent needs them.

### 2. Is there an SSH client like WinSCP for suse 8

Install the `kio_fish` pkg and then open up Konqueror. Now type this in the location bar:

```
fish://username@domain:22
```

This will act just like WinSCP. :)

### 3. How can I login via SSH without passwords ?

SSH login with key instead of password

As user:

```
cd ~/.ssh  
ssh-keygen -d
```

hit enter when it prompts you for file name

```
cat id_dsa.pub > authorized_keys
```

Then, connect up via ssh, and it will copy your public key to the remote directory and no more prompt for the password. This worked in 8.0.

---

## Security related fixed packages

There are times when there is a break in the flow of security and some packages are needed to be rebuilt with the security related patches. This section tries to answer questions related to this topic.



SuSE's policy is to patch existing version numbers so as not to break any dependencies.

You may want to subscribe to SuSE's announce-only mailing list. Only SuSE's security

announcements are sent to this list. To subscribe, send an empty email to:  
[suse-security-announce-subscribe@suse.com](mailto:suse-security-announce-subscribe@suse.com)

*1. Is my package fixed? Or: How to look into RPMs*

## 1. Is my package fixed? Or: How to look into RPMs

Peter Poeml

Sometimes on the SuSE list folks express doubts whether a package contains a certain fix or not. Even if the security announcements say the packages are not vulnerable, they want to know for sure. Looking at the version number of the package is most likely not enough to be sure... but how then? How to look "into" the packages?

I thought I'd write up a short howto and post it here.

### How to find out what HAS been changed:

1. get the original source RPM as distributed on the CDs ("zq" or "src" directory)
2. get the "fixed" package (see the security announcement, it contains the link to where to find it.)
3. compare the changelogs of the packages:

```
rpm -qp --changelog /path/to/old.rpm > /tmp/old.changes
rpm -qp --changelog /path/to/new.rpm > /tmp/new.changes
diff -u /tmp/old.changes /tmp/new.changes | grep "^+"
```

4. compare the file lists (just for an overview):

```
/usr/lib/rpm/rpmdiff /path/to/old.rpm /path/to/new.rpm
```

This step would very likely show you that a patch file that has been added.

5. to look further, unpack the source RPMs:

```
mkdir old; ( cd old; rpm2cpio /path/to/old.rpm | cpio -i --make-directories )
mkdir new; ( cd new; rpm2cpio /path/to/new.rpm | cpio -i --make-directories )
```

6. compare the two directories:

```
diff -uNr old new | less
```

or

```
diff -uNr old new | view - -c "syntax on"
```

if you like it colorful. Or, pipe it into diffstat, or print it out via pdiff :-)

### How to find out what SHOULD have been changed:

1. get the most recent sources (i.e. the fixed version) of, for example, openssl.

2. get the second most recent sources (the vulnerable version).
3. untar both of them.
4. read and compare the ChangeLog or CHANGES files (or a similar file).
5. run a recursive diff about the two source directories to review the changes.

Taking this even further, to really verify that the vulnerability is gone, you need a testcase (an exploit).

Anyway, your picture about the packages should be complete by then, and all your doubts hopefully gone.

For remaining questions you could contact this list ([<suse-security@suse.com>](mailto:suse-security@suse.com)).

In case of serious concerns you should contact the SuSE Security Team directly, writing to [<security@suse.de>](mailto:security@suse.de).

---

## Appendix A. How is the Unofficial SuSE FAQ done ?

While trying to produce Unofficial SuSE FAQ document, I wanted to make my life easier especially after James Ogle's suggestion of what should be included in this FAQ and how they should be related

SuSE 7.2 Pro edition included all the software that was used in preparing this collection of FAQ into a book format. In addition to TeX related packages the following were also used

```
docbkutils-0.60.4-34
docbook_3-3.1-56
docbook_4-4.1-55
docbook-dsssl-stylesheets-1.73-1
docbook-xsl-stylesheets-1.42-1
jade_dsl-1.2.1-331
jadetex-3.10-2
openjade-1.3-232
```

```
main-directory
|
|_ html
|_ mirror
|_ pdf
|_ text
|_ dsl/xsl
|_ entity
|_ topic1-dir
|_ topic2-dir
|_ chapters-dir
|_ sections-dir
|_ templates-dir
```

My initial idea was to keep `<qandaentry>` format files in their respective topic directories, use them in `<sect1>` formatted files placed in `sections-dir` and then create `<chapter>` formatted files in `chapter`

directory.

Finally in the main directory I was planning to have the Book format file.

Hence my entity directory would keep the *includes* files which would describe the files relationship.

### Example A-1. includes.inc

Here is what I have in the main includes file

```
<!-- DEFINE BASIC THINGS -->
<!ENTITY editor SYSTEM "common/editor.sgml">
<!ENTITY mail SYSTEM "common/faq_maillist.sgml">
<!ENTITY intro SYSTEM "common/faq_abstract.sgml">
<!ENTITY license SYSTEM "common/fdl.txt">
<!ENTITY book_info SYSTEM "common/book_info.sgml">

<!-- DEFINE SECTIONS -->

<!ENTITY % sections_inc SYSTEM "sections.inc">%sections_inc;

<!-- DEFINE SECTION INCLUDES -->

<!ENTITY % apache_inc SYSTEM "apache.inc">%apache_inc;
<!ENTITY % install_inc SYSTEM "install.inc">%install_inc;
<!ENTITY % kernel_inc SYSTEM "kernel.inc">%kernel_inc;
<!ENTITY % common_inc SYSTEM "common.inc">%common_inc;
<!ENTITY % sound_inc SYSTEM "sound.inc">%sound_inc;
<!ENTITY % sysadmin_inc SYSTEM "genadmin.inc">%sysadmin_inc;

<!-- DEFINE CHAPTERS -->
```

### Example A-2. sections.inc

This is from the sections.inc which is called from includes.inc

```
<!--Sect1 Includes -->

<!ENTITY sect_apache SYSTEM "sections/sect_apache.sgml">
<!ENTITY sect_kernel SYSTEM "sections/sect_kernel.sgml">
<!ENTITY sect_install SYSTEM "sections/sect_install.sgml">
<!ENTITY sect_common SYSTEM "sections/sect_common.sgml">
<!ENTITY sect_sound_alsa SYSTEM "sections/sect_sound_alsa.sgml">
.....
.....
<!-- Sect2 includes -->

<!ENTITY sect2_afterstep SYSTEM "sections/sect2_afterstep.sgml">
<!ENTITY sect2_kde SYSTEM "sections/sect2_kde.sgml">
<!ENTITY sect2_gnome SYSTEM "sections/sect2_gnome.sgml">
.....
```

Consequently, the main file is like this

**Example A-3. How the Book is layed out**

```
<!DOCTYPE Book PUBLIC "-//OASIS//DTD DocBook V4.1//EN"[
<!ENTITY % entities SYSTEM "includes/includes.ent">%entities;
]
>
<book
&intro;
&abstract;
&chapter;
.....
&chapter10;
&license;
</book>
```

**Notes**

- [1] APT installs debian deb package too of course, as apt was originally developed for Debian's deb packages.

Copyright 2001–2003 Togan Muftuoglu

