

**Moving from
SuSE 9.1
To
CentOS ~~5.5~~ 5.6**

Pre SuSE History

- Netware 4 server, 2 user demo version
- Started exploring with Red Hat 9, Debian and Slackware on 486 based motherboard.
- Settled on Red Hat 9 for a while. File/Web only.
- Red Hat was going end of life with only paid licenses for the future (pre Fedora days).
- Trustix Linux – high stability, automatic update and supposed long life. AMD K5 motherboard.
- My first question on LinuxQuestions.org – adding a big drive to a motherboard that didn't support it.
- Trustix announced pay-only subscriptions too.
- SuSE 9.1 on Intel P-II which provided a free solution, automatic updates and good support.

Why Upgrade?

- SuSE 9.1 came out in April 2004 with an end-of-life at June 2006. It's now well past the end-of-life!
- It's stable but I want to keep ClamAV running.
 - I could, until about a year ago, get updates for SLES 9 from SuSE projects library.
 - NO place to get the current one except as source.
- All the drives are formatted ReiserFS.
- And besides ... it's time to upgrade that old PC that just won't seem to die.

Why CentOS?

- The price is right (free)
- Based on Red Hat Enterprise Linux
- High stability over Latest/Greatest (Fedora)
- Long service life
 - Centos 4 in March 2005 still active
 - Centos 3 from March 2004 to end of life October 2010
- Large user base and experience
- Patches trickle down from Red Hat very quickly
 - sometimes the same day



A Word About CentOS Releases

- As Red Hat releases come out CentOS follows.
- Red Hat released 6.0, then 5.6 and then 4.9 all within a couple of months.
- CentOS people were overwhelmed. They had started on 6.0 but decided that 5.6 was more important so did it first.
- When 4.9 came along that got slipped in before 5.6 could finish because it was a lot easier.
- CentOS 5.6 has been out about a month now and 6.0 is still in process – it's a big change.

The Old Hardware

- Intel Pentium II 333
- 384 MB Ram (128 MB originally)
- Six Hard Drives:
 - 4 GB IDE (256MB swap, boot, home, lib, etc.)
 - 120 GB IDE with 2 partitions:
 - 20 GB ($\frac{1}{2}$ MD1) VOL1: (also web pages)
 - 93 GB general storage
 - Two 4 GB SCSI mirrored (MD0) SYS:
 - 250 GB IDE with 2 partitions:
 - 20 GB ($\frac{1}{2}$ MD1) VOL1: (also web pages)
 - 214 GB backup and misc storage
 - 2 GB SCSI Swap

The New Hardware

- AMD Sempron 2800+
- 1 GB RAM
- Four Hard Drives
 - 9 GB SCSI (512MB swap, boot, home, lib, etc.)
 - 4 GB SCSI Swap (something I had handy)
 - Two 500 GB SATA Mirrored (MD0) with LVM
 - 8 GB SYS:
 - 2 GB MySQL
 - 10 GB VOL1:
 - 10 GB web pages
 - 120 GB General Storage
 - 250 GB Backup Storage
 - 65+ GB Free space

The Software

- **SuSE 9.1 → CentOS 5.5 → 5.6**
- **Postfix**
- **ClamAV**
- **Amavisd-New**
- **Apache 2.0 → Apache 2.2**
- **MySQL 4 → MySQL 5**
- **Pine → Alpine**
- **Gallery 1.5 → Gallery 2.x**
- **phpMyAdmin 2.7 → phpMyAdmin 5.x**
- **Squirrel Mail**

Centos 5.5 Install

- Inspired by \$15 Case/PS/MB/DVD purchase
 - MB not really what I needed (RDRAM, no SATA)
 - Tried old MB I had around but it was REALLY dead
 - DVD didn't really work as DVD but CD OK
- Bought used MB/CPU from local dealer for \$50
- Net Install from CD
 - DVD Image of CentOS 5.5 on old server via NFS
- Text mode install – until this choice: "Continue in Text mode or use VNC" – EASY CHOICE!
- Lots of install choices from my comfortable seat
- Pretty smooth install
- Hardest part was getting partitions the way I wanted
- Up and running text mode (no GUI needed)
- Got VNC working from SSH login from comfortable seat (after disabling firewall!)

Postfix - ClamAV - Amavisd-New

- Postfix install and setup went pretty easy (Wiki)
- ClamAV install went easy too. Wiki instructions!
- Amavisd-New not so easy
 - Searched for it on Google and found it
 - Downloaded it
 - Tried to RPM install it – LOTS of dependencies
 - Somehow in the process stumbled on RPMforge
 - RPMforge to the rescue!
 - RPMforge is a CentOS repository
 - Search the CENTOS Wiki for "RPMforge install"
 - Follow the instructions
 - After RPMforge was added the dependencies were all taken care of automatically

Apache and MySQL

- Apache went smoothly. Old virtual hosts worked without any serious difficulties.
- MySQL was another challenge
 - Converting from version 4 to version 5
 - Google search "mysql upgrade 4 5"
 - Great instructions on MySQL site
 - Long list of possible issues but none applied to me
- Shut down MySQL on old server and tar dumped the data files (about 2 minutes)
- Restored on new server
- Ran the "mysql_upgrade"
- Started MySQL – and none of my data is there
- Forgot to change /etc/my.cnf to point to the new data!
- Ran "mysql_upgrade" again and everything OK



Squirrel Mail and phpMyAdmin

- Squirrel Mail easy install - in CentOS base
- phpMyAdmin on RPMforge
- Smooth install but Apache not happy with them where they were installed
- Cheat! Use a symbolic link in my htdocs (on `/srv/www`) to `/usr/share/squirrelmail` and `/usr/share/phpMyAdmin`

Email – Part 1

- Using Postfix and Dovecot.
- After a bit of fiddling and reading various Wiki documents I got it all working.
- I can send and read mail from Squirrelmail and Thunderbird without difficulty. Dovecot works better than the UW-IMAP on the old server.
- But ... I CANT READ ROOT's MAIL!
- Root is blocked by Dovecot, either IMAP or POP3.
- Try 'mail' – no mail. Turns out 'mail' does not support Maildir formats.
- Figured to install Pine but it's not in repositories – but Alpine is. Looks the same and does more fancy stuff that I don't really need.

Email – Part 2

- Alpine doesn't work either – until you get the mail directory set up correctly. ~/Maildir with no server.
- Hooray! I can now read all that root mail from the last month.
- Was able to test incoming mail by using Postfix 'transport' tables on the SuSE server. Hard to figure out how to make it work. Internet sources (Google) did not help much. Finally guessed right.
- Since 'mail' doesn't work I have some crontab tasks I have to rewrite. Should have used the perl email access things anyway. Easy installs from the usual CentOS software update. Had to use CPAN on the old SuSE system though.

Gallery 1.5 → 2.x

- Gallery stores and manages photos via a web interface
- Storage and organization for photos
- My daughter was looking for something to store photos on back in 2006
- At the time such services were NOT free (per month fee)
- A quick look around the Linux world found Gallery
- It did everything we needed so it was a zero cost solution
- Copied whole thing to new server (tar dump/restore)
- Gallery 1.5 would NOT run on new server (Sqlite conflict)
- Installed Gallery 2.x (zip file on SourceForge)
- Follow conversion instructions
- All works!
- And after all of this I decided that this will be legacy stuff and will do everything new in Picasa

Cron

- Once I started filling in cron.xxx tasks I was overwhelmed with unwanted emails. I was spoiled by how well SuSE handled cron.xxx task output.
- Time to cheat again. Copied run-crons from the SuSE server.
- After a bit of head scratching and tweaking it is now working with NO emails unless something goes wrong.
- I then discovered all crons are not alike! The syntax is a bit different. For odd minutes SuSE's `'- */2 * * * *'` became `'(1-59)/2 * * * *'`

Upgrade to CentOS 5.6 - 1

- Red Hat 5.6 was released in November 2010.
- I figured I'd wait for 5.6 to come out before cut over to the new server.
- It turned out to be a LONG wait with no 5.6 until early April 2011. Good thing I didn't wait for 6.0.
- Figured out how to use the install DVD image I had downloaded as input to the upgrade so as to not re-download it all again.
- Decided to try out the upgrade on my laptop first. The update from the DVD image took about 20 minutes and patches another half hour. Not bad!

Upgrade to CentOS 5.6 - 2

- Ran a standard software update (200+ modules). Probably less than 20 minutes for this mostly because it's a faster machine.
- Ran update patches (57). Most of this was download time.
- Done! Pretty easy actually.
- One problem – Postfix didn't start. Known issue and easily circumvented - no postfix in services list.
- Now I can think about actual cutover.

Summary

- CentOS Wiki How-Tos are outstanding
- RPMforge has the stuff that's missing
- Google - where you can find anything
- Alug – where I learned a lot:
 - About the existence CentOS
 - Disk arrays and mirroring
 - Logical Volume Manager
 - Countless other tips and tricks



Login

FrontPage

Help

Tips and Tricks

How To

FAQs

Events

Contribute

Newsletter

Changelog

FrontPage

Text

Titles

What is CentOS?



CentOS is an Enterprise Linux distribution based on the [freely available sources](#) from Red Hat Enterprise Linux. Each CentOS version is supported for 7 years (by means of security updates). A new CentOS version is released every 2 years and each CentOS version is periodically updated (roughly every 6 months) to support newer hardware. This results in a secure, low-maintenance, reliable, predictable and reproducible Linux environment.



Planet CentOS / Newsletter

Stay in touch with the CentOS developers at our [Planet CentOS](#) weblog aggregator and the irregular [CentOS Pulse](#) newsletter.

Download

Download CD and DVD images or individual RPM packages.
Current major versions are **5.6** and **4.9** [out of support: **3.9** and **2.1**].

Search

Find information about CentOS by keyword on wiki, website, mailinglists and forums.

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Browse our vastly increasing selection of Manuals, FAQs, Tips-and-tricks and Howtos.

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