

# CentOS

An introduction to the Community Enterprise OS distribution

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*Scotty: Computer. Computer. Ah.  
[McCoy hands him a mouse and he speaks over it]  
Scotty: Hello, computer.  
Dr. Nichols: Just use the keyboard.  
Scotty: The keyboard. How quaint.  
– Star Trek IV - The Voyage Home*



# Defining the Enterprise

## What makes it Enterprise?

- Long support cycles
- Security updates for several years
- ABI/API stability – Patches get backported
- Support by Hardware/Software vendors
- Certifications are possible



# Defining the Enterprise

## The cons

- No new software during a release cycle
- No cutting edge software except at releasepoint
- Support isn't cheap



## Finding a place for CentOS

- Each release is supported for around 7 years
- Security patches get backported
- APIs/ABIs don't change
- Your RHCE works on CentOS
- Paid support might be available



## When to run an enterprise distribution

There are several reasons to run a distribution with long time support. Here are just a few of them:

- You cannot afford to update all your servers each year
- Some software you use requires a supported distribution
- Your own software needs stable interfaces
- You need stable Desktop software for your business
- You need support



## Enterprise in your home

Several types of home linux users also benefit from an enterprise distribution:

- Typical SOHO user (Office programs, mail and web)
- Normal computer user (Wants a stable platform)
- And ...



# Enterprise in your home

Several types of home linux users also benefit from an enterprise distribution:

- Typical SOHO user (Office programs, mail and web)
- Normal computer user (Wants a stable platform)
- ...your Mom



## The birth of a new name

*The cAos-EL projects have been officially renamed to:  
centos (Community ENTERprise Operating System)  
This only affects caosel1 and caosel2. This is partly an  
aid in dispelling the version confusion.*

<http://caos.caosity.org/pipermail/caos/2003-December/001205.html>



## The caosity days

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- Around the same time projects like WBEL, Scientific Linux and Tao surface



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- 2004-03-xx CentOS 3.1 hits the mirrors



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- 2004-03-xx CentOS 3.1 hits the mirrors
- 2005-03-20 CentOS and cAosity restructuring announced  
<http://lists.centos.org/pipermail/centos/2005-March/003752.html>



## Project goals

These are some of the goals of the CentOS project

- Easy maintenance via yum
- Building a self hosting distribution – CentOS rpms are built on a CentOS environment
- Build up a friendly environment for users and maintainers
- Long-term support of the base distribution
- Community infrastructure



## This is where we are right now

- CentOS 2.1 is in maintenance mode and will get security patches until May 31st 2009
- CentOS 3 (3.8 is current) seems to be in maintenance mode also and will get security patches until October 31st 2010
- CentOS 4 (4.4 is current) will get full updates until February 29th 2008. Maintenance mode will end on February 29th 2012.



## CentOS 4

CentOS 4 can be used either for servers or for Desktops and comes with

- Kernel 2.6.9 (with more than 700 patches to it)
- Gnome 2.8, KDE 3.3, XFCE 4.2.3, OpenOffice.org 1.1.5, Firefox/Thunderbird 1.5, XOrg 6.8.2
- Serverside software like bind, sendmail, postfix, apache, and and and . . .
- A complete development chain with gcc-3.4.6 and gcc-4.1.0, languages like ruby, python and perl
- Supported Platforms are i386, x86\_64, IA64, s390 and s390x



## Security features

CentOS has several security features going beyond normal UNIX-like access controls

- The SELinux mandatory access control framework with a targeted policy
- Execshield and position independent executables (PIE)
- NX (No eXecute)
- Signed packages



## Packages

Package management in CentOS is done via yum. Besides the base and update repositories where the core distribution lives, CentOS offers the following extra repositories:

- CentOS Extras - Packages build for CentOS that provide additional functionality, for example XFCE or the Horde framework
- CentOS Fasttrack - Contains Bugfixes and updates issued between versions
- CentOS Plus - Packages which upgrade packages from the base distribution
- CentOS Testing - Testing ground for packages on their way to CentOS Plus or CentOS Extras



# CentOS 5

The next step will be the release of CentOS 5 around April 2007. You can talk to us about that here in the dev room or at our booth.

- Kernel 2.6.18
- Gnome 2.16, KDE 3.5.4, OpenOffice.org 2.0.4
- Eye Candy with compiz on XOrg 7.1
- Apache 2.2, PHP 5.1.6



## Building the OS

- Getting the sources from the upstream ftp servers
- Figure out packages with trademarked content and remove or exchange that content
- Getting anaconda to work
- The spec files and patches are stored in subversion
- Build packages on a distributed build system (plague and mock)
- Make sure that packages build on supported platforms
- Release CentOS (new version or “quarterly” update)



## Security and other updates

- Security updates are built the same way the operating system is built. After release they get announced on the centos-announce mailing list.
- We have some other repositories with updates:
  - Fasttrack repository: This contains bugfix and enhancement updates which are released inbetween “quarterly” updates.
  - <http://dev.centos.org/>  
Here development packages are tracked (like new kernels). Use with care.



## Additional repositories

- CentOS Plus repository: This repository contains newer versions of packages in the base distribution or versions with different features.
  - Kernel with additional modules
  - XFS module
  - PHP5, MySQL 5, PostgreSQL 8.1.x
- CentOS Extras repository: This repository contains additional packages like the horde framework or XFCE4



## Other tasks we do

- Manage a world wide web of CentOS mirrors
- Controlling and running our infrastructure
- Running mailing lists and support on IRC
- Telling you stuff about CentOS at conferences



# Where do you fit in?

## The CentOS webforums

The screenshot shows a browser window with the URL `http://www.centos.org/modules/newbb/index.php?cat=3`. The page features the CentOS logo and navigation links: Home, Donate, Information, Support, Wiki, Downloads, Contact Us, Search, Register, and Login. A welcome message is displayed, along with the current time (2007/2/21 21:48) and the user's last visit (2007/1/28 21:54:22). The main content area is titled "CentOS 4" and lists forums covering topics related to CentOS 4. The table below summarizes the forum data:

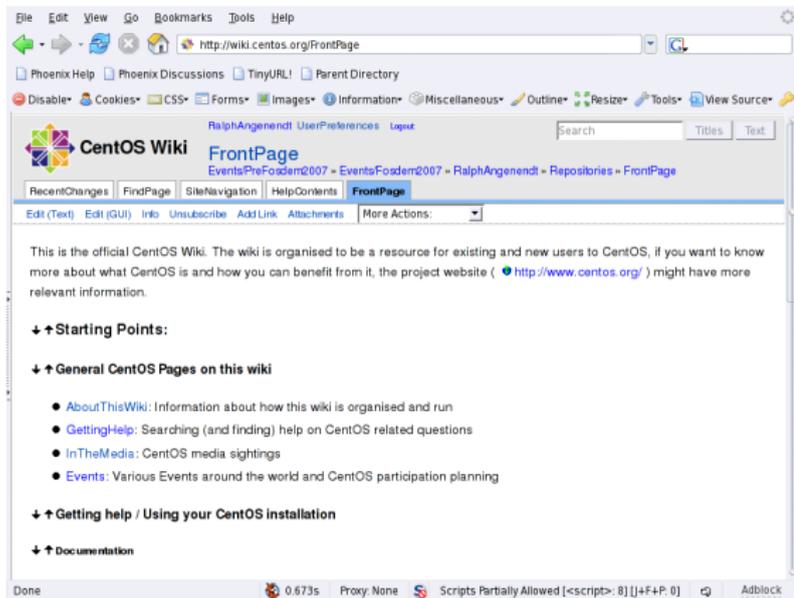
Forum	Topics	Posts	Last Post
<b>Oracle Installation and Support</b> Installation and support for Oracle on CentOS. Moderator: <a href="#">hughesjr</a> , <a href="#">donavan</a> , <a href="#">arfb</a> , <a href="#">arfb</a> , <a href="#">arfb</a> , <a href="#">arfb</a>	56	142	2007/2/12 13:30:11 by <a href="#">pjwelsh</a>
<b>Announcements and News</b> Covers announcements and news related to CentOS 4. Moderator: <a href="#">donavan</a> , <a href="#">lance</a> , <a href="#">matthosie</a> , <a href="#">hughesjr</a> , <a href="#">arfb</a>	13	23	2005/12/22 17:10:01 by <a href="#">hughesjr</a>
<b>CentOS4 Errata</b> Announcements regarding CentOS4 Errata Moderator: <a href="#">donavan</a> , <a href="#">lance</a> , <a href="#">matthosie</a> , <a href="#">hughesjr</a> , <a href="#">arfb</a>	4	4	2005/6/29 12:43:09 by <a href="#">hughesjr</a>

At the bottom of the browser window, the status bar shows "Done", "2.926s", "Proxy: None", "Scripts Partially Allowed [<script>: 9] [!+P: 0]", and "Adblock".



# Where do you fit in?

## The CentOS wiki



The screenshot shows a web browser window displaying the CentOS Wiki FrontPage. The browser's address bar shows the URL `http://wiki.centos.org/FrontPage`. The page content includes the CentOS Wiki logo, a search bar, and navigation tabs such as "RecentChanges", "FindPage", "SiteNavigation", "HelpContents", and "FrontPage". The main text of the page reads: "This is the official CentOS Wiki. The wiki is organised to be a resource for existing and new users to CentOS, if you want to know more about what CentOS is and how you can benefit from it, the project website ( <http://www.centos.org/> ) might have more relevant information."

**↓ ↑ Starting Points:**

**↓ ↑ General CentOS Pages on this wiki**

- [AboutThisWiki](#): Information about how this wiki is organised and run
- [GettingHelp](#): Searching (and finding) help on CentOS related questions
- [InTheMedia](#): CentOS media sightings
- [Events](#): Various Events around the world and CentOS participation planning

**↓ ↑ Getting help / Using your CentOS installation**

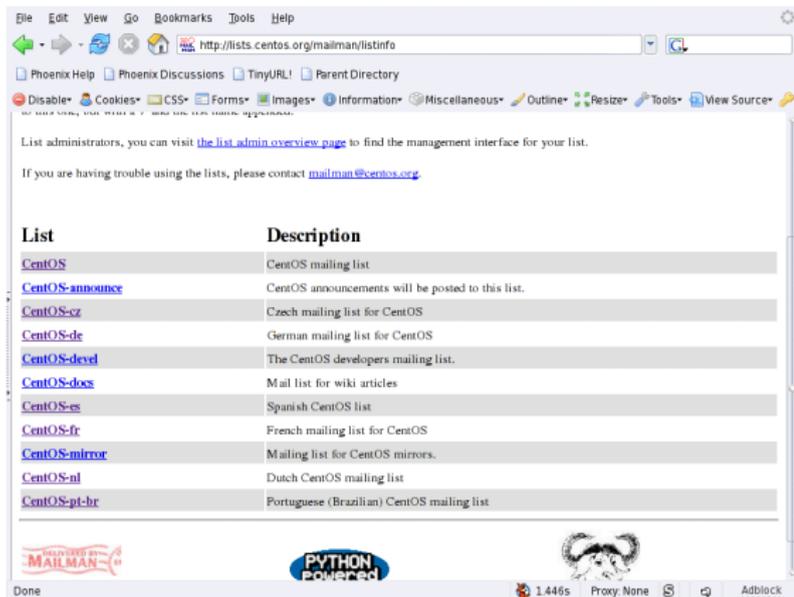
**↓ ↑ Documentation**

The browser status bar at the bottom shows "Done", a loading icon, "0.673s", "Proxy: None", "Scripts Partially Allowed [<script>: 8] [J]+F+P: 0]", and "Adblock".



# Where do you fit in?

## The CentOS mailing lists



The screenshot shows a web browser window with the address bar containing `http://lists.centos.org/mailman/listinfo`. The page content includes:

- Navigation links: Phoenix Help, Phoenix Discussions, TinyURL!, Parent Directory
- Utility icons: Disable, Cookies, CSS, Forms, Images, Information, Miscellaneous, Outline, Resize, Tools, View Source
- Text: "List administrators, you can visit [the list admin overview page](#) to find the management interface for your list."
- Text: "If you are having trouble using the lists, please contact [mailman@centos.org](mailto:mailman@centos.org)."
- Table of mailing lists:

List	Description
<a href="#">CentOS</a>	CentOS mailing list
<a href="#">CentOS-announce</a>	CentOS announcements will be posted to this list.
<a href="#">CentOS-cz</a>	Czech mailing list for CentOS
<a href="#">CentOS-de</a>	German mailing list for CentOS
<a href="#">CentOS-devel</a>	The CentOS developers mailing list.
<a href="#">CentOS-docs</a>	Mail list for wiki articles
<a href="#">CentOS-es</a>	Spanish CentOS list
<a href="#">CentOS-fr</a>	French mailing list for CentOS
<a href="#">CentOS-mirror</a>	Mailing list for CentOS mirrors.
<a href="#">CentOS-nl</a>	Dutch CentOS mailing list
<a href="#">CentOS-pt-br</a>	Portuguese (Brazilian) CentOS mailing list

At the bottom of the browser window, there are logos for "MAILMAN" and "PYTHON POWERED", and a status bar showing "Done", "1.446s", "Proxy: None", and "Adblock".



# Where do you fit in?

## The CentOS irc channels

```

File Edit View Terminal Tabs Help
DO NOT PASTE IN HERE (unless asked; 1 line MAX), use http://www.rafb.net/paste/ | The cha
22:11 BlackHand | the truth
22:12 range | BlackHand: What's wrong with linux?
22:12 BlackHand | an OS, a language, an editor
22:12 BlackHand | three are one, and one is three, sacred trinity
22:12 Zathrus | vim -- just as powerful, but without the silly memory overhead.
22:12 BlackHand | ^^
22:12 Evolution | BlackHand: how do I get grub to recognize emacs?
22:12 Evolution | I can't boot to emacs properly, even with init=/usr/bin/emacs
22:12 Zathrus | Evolution: no, you don't understand -- Linux is the bootloader.
22:13 BlackHand | Zathrus: exactly!
22:13 Evolution | vim just lacks the web browser and irc client emacs contains
22:13 * Evolution | fires up 3 copies of xemacs on BlackHand's box
22:14 Zathrus | Evolution: vim expects you to know how to use screen :)
22:14 BlackHand | vi dont have quakemacs (play quake in emacs), winemacs (run
| windows apps in emacs)
22:16 BlackHand | vi dont have emacs on rails!
22:17 peerce | vi is an editor. emacs is a whole freekin' software development
| environment that can act as an editor.
22:17 Zathrus | peerce: actually, vim can do the dev environ bit too.
22:20 peerce | its macro language is powerful enough to implement applications
| in?
22:20 peerce | i've never messed with vim macros, i stick with a minimal subset
| of vi/vim commands that work everywhere
22:21 MrMeoff | centos is so good it almost makes me cry *tear*
22:33 Zathrus | peerce: you're talking about vimscrip, not macros. Macros are
| something different :) -- and not really anything you'd want to
| write stand alone apps in.
=====
22:51 * sigwerk eyeballs Evolutions shins
22:52 range( ei) 8#centos( nt) Act: 149
[#centos]:
02/21/07 22:52 0.49 0.56 0.56 0$ bash 1-$ bash 2$ bash 3$ bash 4$ bash

```



## Where do you fit in?

- Help others on the mailing lists
- Help others on IRC
- Write documentation on the wiki
- Build packages for inclusion in the Extras repository
- Help on the web forums
- Run a mirror



# Questions?



# Answers!



# Thank you!

