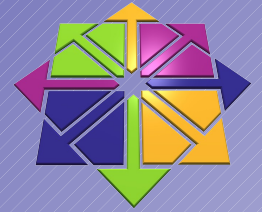




# CentOS Infrastructure, and Roadmap

Lance Davis, CentOS Project Leader  
Fosdem February 2007

# CentOS Infrastructure



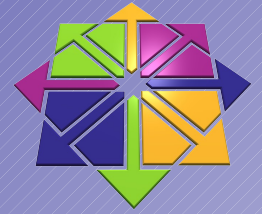
CentOS is a volunteer project.

All infrastructure is donated.

CentOS volunteers manage 33 donated servers worldwide that are used for a variety of purposes.

ALL of them run CentOS

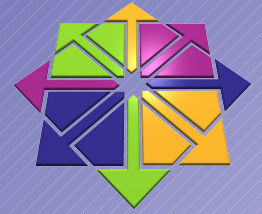
# CentOS Infrastructure



Servers are donated by universities and hosting companies, which are the main sponsors of the project.

In return they get promotion on CentOS website.

# CentOS Infrastructure

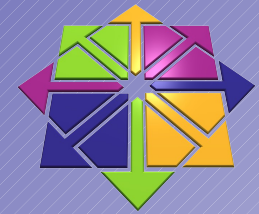


Servers are used for :-

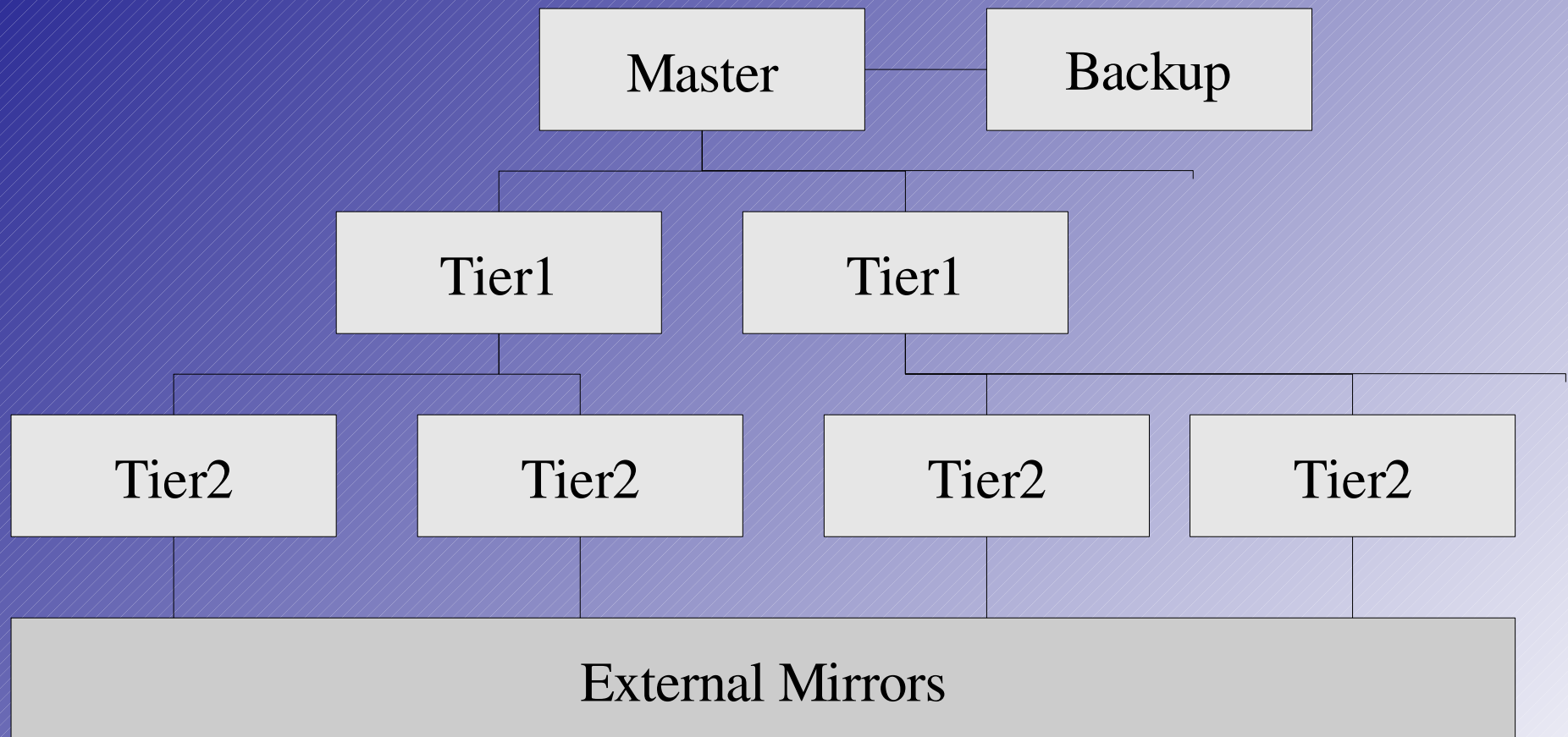
dns, website, wiki, mirror masters, vault, mailman,  
beta masters, build masters

Servers are administered by a small team of  
volunteers – each server is managed separately for  
redundancy – looking at puppet etc

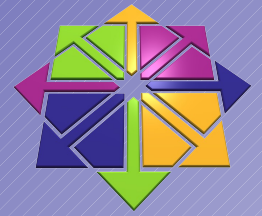
# CentOS Infrastructure



Mirror servers synchronise in a tree



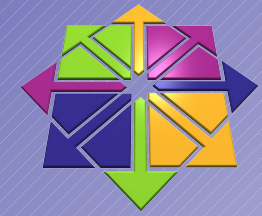
# CentOS Infrastructure



External mirrors sync to `msync.centos.org` that uses Geo::IP enabled pdns to give geographically close internal mirror server.

CentOS has 153 external mirror sites spread around the world.

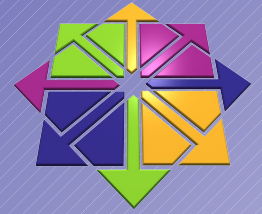
# CentOS Infrastructure



## CentOS Mirror Locations

Australia - 3	Hungary - 1	Romania - 3
Austria - 2	India - 1	Russian Federation - 1
Bangladesh - 1	Indonesia - 1	Singapore - 2
Belgium - 2	Ireland - 1	Slovenia - 2
Brazil - 1	Israel - 3	South Africa - 1
Bulgaria - 1	Italy - 3	Spain - 3
Canada - 3	Japan - 5	Sweden - 2
Chile - 4	Korea, Republic of - 3	Taiwan - 5
China - 5	Luxembourg - 1	Turkey - 1
Czech Republic - 4	Netherlands - 4	Ukraine - 1
Denmark - 2	New Zealand - 1	United Kingdom - 6
Finland - 2	Norway - 1	United States - 49
France - 5	Poland - 4	Venezuela - 1
Germany - 6	Portugal - 2	
Greece - 4	Puerto Rico 1	

# CentOS Infrastructure



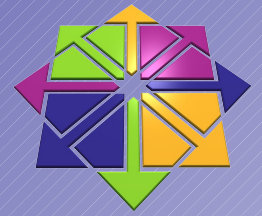
Not all mirrors are available all the time.

CentOS has background tasks that check mirror availability and currency and update dynamic mirror lists.

So the end user (and yum) should always get a current list of mirrors.



# CentOS Infrastructure



To limit internal server bandwidth use, CentOS redirects iso downloads to a list of current external mirrors close to client.

Currency of isos is checked for both version and architecture and individual .iso files are redirected to mirrors that have them.

.isos are also available by Bittorrent

Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://isoredirect.centos.org/centos/4/isos/i386/

CentOS Support

UserDocs/GettingMadwifi - MadW... Web Server Statistics for Combin... http://isoredir...s/4/isos/i386/

<p><b>Linux Server</b> Website with information on linux servers <a href="http://www.linuxer.com">www.linuxer.com</a></p>	<p><b>Linux</b> Find the right linux. See our linux directory &amp; guide <a href="http://www.LinuxCatalog.net">www.LinuxCatalog.net</a></p>	<p><b>Want Linux Jobs?</b> Then we've got all the jobs you'll ever want on Workcircle. <a href="http://www.WorkCircle.com">www.WorkCircle.com</a></p>	<p><b>Cheap Server Colo</b> 1000GB, 8 IP's, web reboot for £50/month. No set-up, no frills. <a href="http://www.ukshells.co.uk">www.ukshells.co.uk</a></p>
---	--	---	--

Ads by Goooooogle

**CentOS on the Web: [Mailing Lists](#) | [Mirror List](#) | [IRC](#) | [Forums](#) | [Bugs](#) | [Donate](#)**

In order to conserve the limited bandwidth available .iso images are not downloadable from mirror.centos.org , however the following links should be current:

Mirrors Verified Fri Feb 23 17:49:26 2007 UTC

Actual Country -

<http://mirrors.dedipower.com/centos/4.4/isos/i386/>  
<http://anorien.csc.warwick.ac.uk/mirrors/centos/4.4/isos/i386/>  
<http://www.mirror-service.org/sites/mirror.centos.org/4.4/isos/i386/>  
<http://mirror.inetc.co.uk/centos/4.4/isos/i386/>  
<http://mirror.bytemark.co.uk/centos/4.4/isos/i386/>

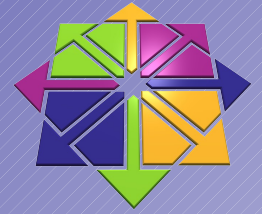
Nearby Countries -

<http://ftp.heanet.ie/pub/centos/4.4/isos/i386/>  
<http://ftp.nluug.nl/ftp/pub/os/Linux/distr/CentOS/4.4/isos/i386/>  
<http://mirror.su.se/mirror/centos/4.4/isos/i386/>

Done

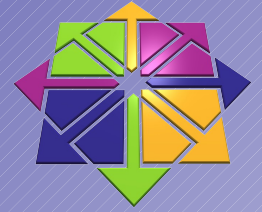
rt73

# CentOS Infrastructure



CentOS uses nagios for server monitoring and cacti for server bandwidth monitoring.

# CentOS Infrastructure

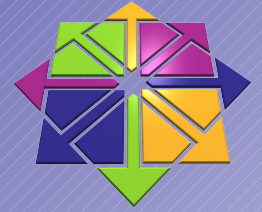


CentOS busiest week so far was when 4.4 was released and our internal mirrors pushed out 20.74 Terabytes.

External mirrors will have pushed out considerably more that week.

We expect an exponential increase from 4 to 5, as there was from 3 to 4.

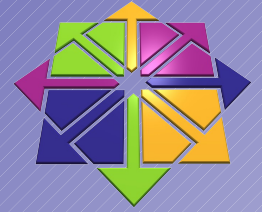
# CentOS Infrastructure



CentOS is consistently among the top 10-15 projects downloaded from [mirrorservice.org.uk](http://mirrorservice.org.uk)

Our Geo:IP enabled mirror redirect system spreads that load amongst our geographically diverse mirrors and gives better download for clients.

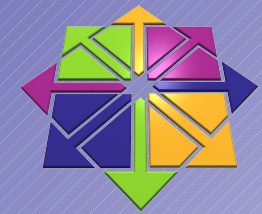
# CentOS Infrastructure



Best estimate of CentOS usage is that it is installed on many millions of servers and workstations worldwide.

Cluster users that we know of run CentOS on in excess of 2000 nodes.

# CentOS Infrastructure



CentOS is the  
15<sup>th</sup> most  
popular Linux  
distribution on  
Distrowatch.  
(12 months  
2006)

content filter, web access to calendars, contacts, task list and notes; Asterisk PBX and VoIP modules. This release is alpha quality. There are still a few missing features and only preliminary testing has been completed. Please do not install this version in a production or live environment!" See the project's [testing page](#) for details about known issues and ways to report bugs. Download: [community-4.1-alpha1.iso](#) (440MB, [MD5](#)).

## Distribution Release: BOSS GNU/Linux 1.1

The BOSS development team has announced the release of [BOSS GNU/Linux 1.1](#), India's first operating system with an ambitious goal of supporting all official languages in the country: "BOSS Tarang v1.1 released with the following features: refined set of packages; Firefox (v2.0b2) compiled with Indic language printing support; Thunderbird replaces Evolution; update-manager added for daily system updates; Java Runtime included; read and write facility with NTFS partitions; USB webcam modules included; now we can install BOSS from Windows; graphical installer; faster system start-up and login; user-friendly GNOME desktop; simplified menu organization..." Visit the project's [main Wiki page](#) to read the full release announcement. [Download](#) the installation or live CD from here: [BOSS-11Tarang-i386-v1.1-220207.iso](#) (690MB, [MD5](#)).

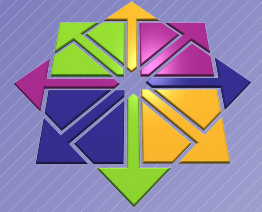
Data span:

Year 2006

Refresh

Rank	Distribution	H.P.D*
1	<a href="#">Ubuntu</a>	2640-
2	<a href="#">openSUSE</a>	2027▲
3	<a href="#">Fedora</a>	1444▲
4	<a href="#">MEPIS</a>	1045▲
5	<a href="#">Mandriva</a>	1015-
6	<a href="#">Damn Small</a>	841-
7	<a href="#">Debian</a>	819▲
8	<a href="#">PCLinuxOS</a>	774▲
9	<a href="#">Slackware</a>	648-
10	<a href="#">Gentoo</a>	618-
11	<a href="#">KNOPPIX</a>	615▲
12	<a href="#">FreeBSD</a>	499▲
13	<a href="#">Kubuntu</a>	480-
14	<a href="#">Vector</a>	413-
15	<a href="#">CentOS</a>	409-
16	<a href="#">Zenwalk</a>	404-
17	<a href="#">Puppy</a>	394-

# CentOS Infrastructure



With success comes responsibility ...

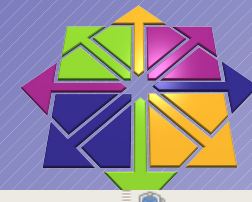
Tuttle .... Hey CentOS has invaded my website –  
get your stuff off or I'll call the FBI ...

I am the city manager from Tuttle, Oklahoma ...

I am computer literate and have 22 years in  
computer systems engineering and operation ...



# CentOS Infrastructure



Applications Places System 10:29 AM

Apache HTTP Server Test Page powered by CentOS - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://mirror.centos.org/mirrorscripts/noindex\_new.html

CentOS Support

## Apache 2 Test Page

powered by CentOS

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page it means that the Apache HTTP server installed at this site is working properly.

---

**If you are a member of the general public:**

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting [www.example.com](http://www.example.com), you should send e-mail to "webmaster@example.com".



**About CentOS:**

**The Community ENTERprise Operating System** (CentOS) is an Enterprise-class Linux Distribution derived from sources freely provided to the public by a prominent North American Enterprise Linux vendor. CentOS conforms fully with the upstream vendors redistribution policy and aims to be 100% binary compatible. (CentOS mainly changes

**If you are the website administrator:**

You may now add content to the directory `/var/www/html/`. Note that until you do so, people visiting your website will see this page and not your content. To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

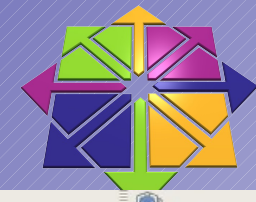
You are free to use the images below on Apache and CentOS Linux powered HTTP servers. Thanks for using Apache and CentOS!

Powered by **APACHE 2.0**  

Done

XChat: lance... lance@localh... www.centos... Asterisk Base... centos-fosde... [centos - Goo... www.centos... Apache HTTP...

# CentOS Infrastructure



Applications Places System 10:27 AM

CentOS System Administration - Free Book Download - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://www.linux-books.us/centos\_0007.php

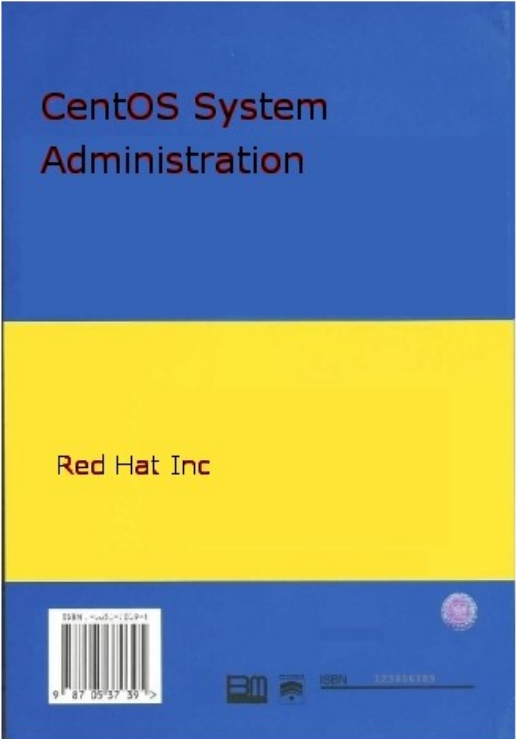
CentOS Support

CentOS System Administra...

## CentOS System Administration

ISBN : - [Order a printed copy of this book from Amazon --UNAVAILABLE--](#)

[Peter Kitson](#)



For your free electronic copy of this book please verify the numbers below.  
(We need to do this to make sure you're a person and not a malicious script)

89703

Numbers

89703

Download

Ads by Goooooogle

[Linux Belgium](#)  
Linux experts: support, medewerkers consultants & opleidingen  
www.linuxbe.com

[UNIX & Open Systems](#)  
Raise your system knowledge by our Designed Training.  
www.trendus.com

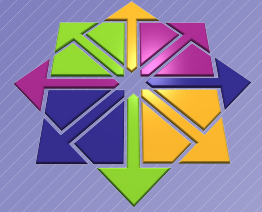
[Redhat Linux for Less](#)  
Bargain Prices on Redhat Software On-Site Technical Expertise  
www.mce.com

[Linux or Windows?](#)  
Read the Linux vs Windows report from Techworld before you decide  
www.techworld.com/

Done

XChat: lance\_po... lance@localhost... www.centos.org... Asterisk Based V... centos-fosdem2... [centos - Google... CentOS System ...

# CentOS Infrastructure

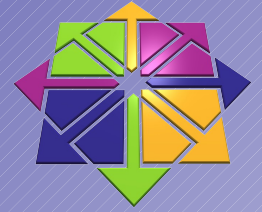


CentOS community is CentOS biggest asset

Wikipedia says :-

There are other distributions derived from RHEL's source as well, but they have not attained the surrounding community which CentOS has built; CentOS is generally the one most current with Red Hat's changes.

# CentOS Roadmap



CentOS must be doing something right ...

Projects that are based on CentOS

Asterisk at Home / trixbox

Rocks Cluster

Strongbolt Linux

Nuonce Bluequartz

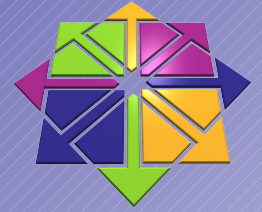
BU Linux

SME Server

Literom ERP

Elastix

# CentOS Roadmap

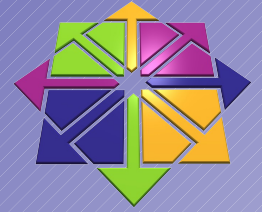


Applications that run on CentOS:

any that run on Red Hat Enterprise Linux

(some may not be certified – oracle,db2 etc – but they do work, and work the same as they do on RHEL.)

# CentOS Roadmap



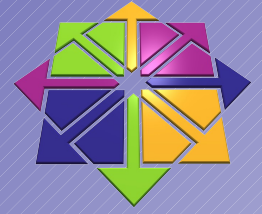
Applications that say they run on CentOS :

cpanel

ispconfig

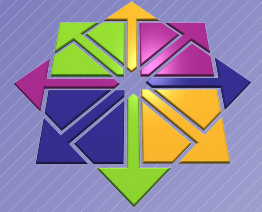
greenplum/bizgres

# CentOS Roadmap



So what of the future for CentOS ?

# CentOS Roadmap



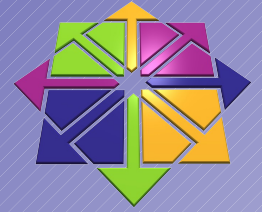
CentOS will always be **free**

**free** as in GPL freedoms

**free** as in free to download and use



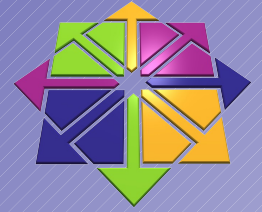
# CentOS Roadmap



CentOS resists change

The aim is to be 100% identical to upstream.

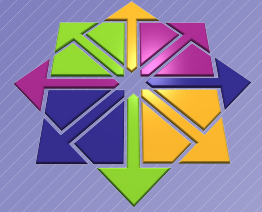
# CentOS Roadmap



CentOS will continue to track upstream, release as often and update for as long.

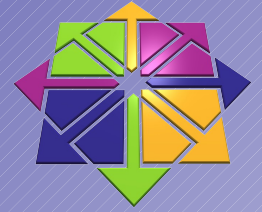
CentOS already provides fasttrack repos and will support 4.5.x releases

# CentOS Roadmap



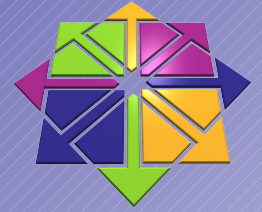
CentOS will expand the range of additional software that can be used, in additional CentOS repos and by working with dag, rpmforge, karan.org , fedora extras

# CentOS Roadmap



CentOS will look to provide migration tools from previous (and current) Redhat, Fedora and Oracle releases, as well as tools for upgrades between CentOS versions.

# CentOS Roadmap

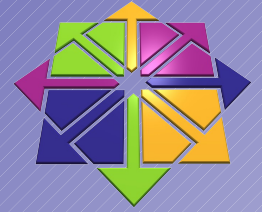


CentOS has a newly created qa team that will improve the quality of releases.

The qa team is composed of different people than the developers.

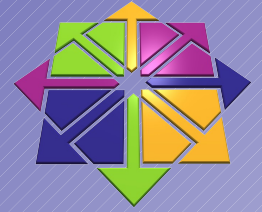
Some have been on upstream qa team since 5.0 days and earlier.

# CentOS Roadmap



CentOS will develop income streams by providing consultancy services and establishing CentOS approved support, hosting, consulting and training networks.

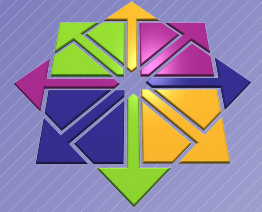
# CentOS Roadmap



Income will be used to manage and pay developers for development and consultancy work.

It is hoped to employ core developers full time on CentOS within 1 to 2 years.

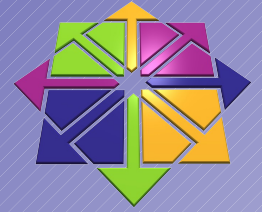
# CentOS Roadmap



Expect to see CentOS on more architectures :-  
sparc, niagara, ppc, ppc64, itanium,  
embedded – arm



# CentOS Roadmap



Expect to see a new CentOS website ..... soon