

CERN E. Linux 3 Preview

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CERN Linux

<http://cern.ch/linux> linux.support@cern.ch

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CERN E. Linux 3 Preview

- ✓ What is CERN E. Linux 3
- ✓ CERN Customization
 - ✓ Automated system updates
 - ✓ Configuration Management
- ✓ (Few) Customization Details
- ✓ Legal issues
- ✓ Red Hat compatibility



What is CERN E. Linux ?

- ✓ **CERN assembled Linux distribution**
 - ✓ **Recompiled from sources of Red Hat Enterprise Linux 3 (AS/ES/WS)**
 - ✓ **Customized to integrate in the CERN Computing Environment**
 - ✓ **Added / changed software**
 - ✓ **Possible long-term support product**
 - ✓ **Subject to CERN-wide discussion (and funding !) ...**



CERN Customization(s)

- ✓ All components recompiled from RHEL sources are included (Red Hat did not ship some ...)
- ✓ Some components customized:
 - ✓ Kernel with added set of patches (not yet ..)
 - ✓ Some configuration 'wizards' changed (..)
- ✓ Some products are updated
 - ✓ Mozilla 1.5 (instead of 1.4) - From Fedora Core 1
 - ✓ OpenOffice 1.1 (instead of 1.0) - From Fedora Core 1



CERN Customization(s)

- ✓ **Added software**
 - ✓ Openafs, Heimdal Kerberos 5, Kerberos 4, CASTOR client, pine ...
- ✓ **Red Hat software update mechanism replaced**
 - ✓ Red Hat up2date cannot be used (server-side – Red Hat Network is RH proprietary)
- ✓ **Added Configuration Management system**
 - ✓ To provide users with sensible site defaults and allow update of these



Software Management

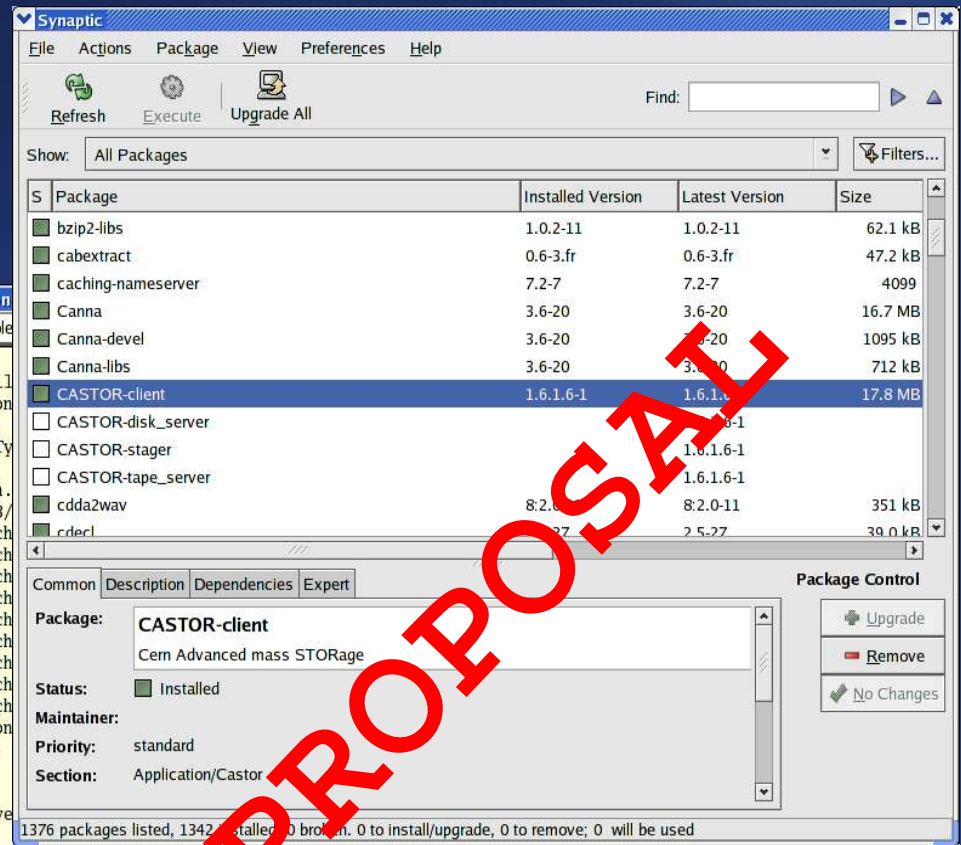
✓ Based on APT (Advanced Package Tool)

✓ Command Line interface

✓ Graphical interface

✓ CERN written
configurable
automatic
update
mechanism

```
jarek@lart:/home/jarek - Root Console
Password:
[root@lart jarek]# apt-shell
Reading Package Lists... Done
Building Dependency Tree... Done
Welcome to the APT shell. Type '?' for help.
apt> update
Get:1 http://linuxsoft.cern.ch/linuxsoft/ubuntu/ DSC 1.0.2-11 [62.1 kB]
Hit http://linuxsoft.cern.ch/linuxsoft/ubuntu/ Packages 47.2 kB
Hit http://linuxsoft.cern.ch/linuxsoft/ubuntu/ Release 4099 B
Get:2 http://linuxsoft.cern.ch/linuxsoft/ubuntu/ DSC 7.2-7 [16.7 MB]
Hit http://linuxsoft.cern.ch/linuxsoft/ubuntu/ Packages 1095 kB
Hit http://linuxsoft.cern.ch/linuxsoft/ubuntu/ Release 712 kB
Get:3 http://linuxsoft.cern.ch/linuxsoft/ubuntu/ DSC 3.6-20 [17.8 MB]
Hit http://linuxsoft.cern.ch/linuxsoft/ubuntu/ Packages 351 kB
Hit http://linuxsoft.cern.ch/linuxsoft/ubuntu/ Release 39.0 kB
Reading Package Lists... Done
Building Dependency Tree... Done
apt> upgrade
apt> install lcm
lcm is already the newest version.
apt>
```



Configuration Management

✓ Quattor toolkit based

✓ Plus local extensions

✓ Allowing standalone operation

✓ Manual, weekly, daily and onboot actions

✓ Site defaults for:

✓ Openafs client

✓ Kerberos 4 and 5 setup

✓ ... other software packages (zephyr, pine)

✓ ...



PROPOSAL



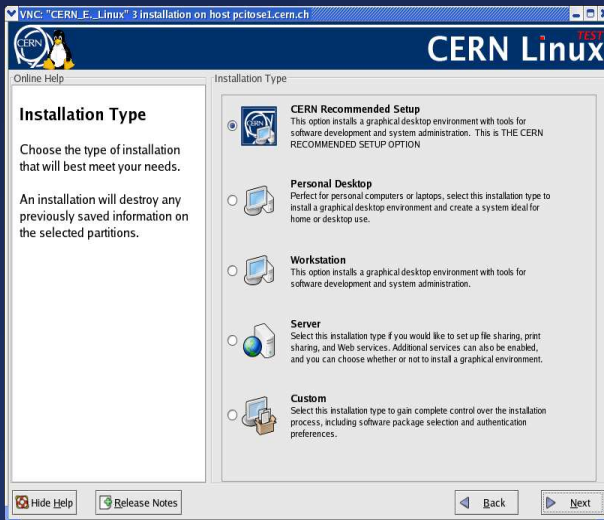
CERN Linux

<http://cern.ch/linux> linux.support@cern.ch

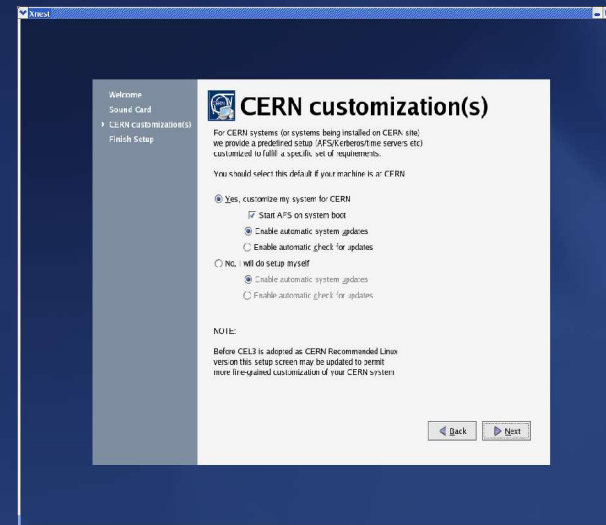
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(Few) Customization details

✓ Installation



“CERN Recommended Setup” choice



CERN Setup options on first boot



CERN Recommended Setup Workstation



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(Few) Customization details

✓ Maintenance



check for updates (automatic or manual)

download of updates



CRS
WS

Automatic installation

automatic update enabled

sysadmin e-mail notification

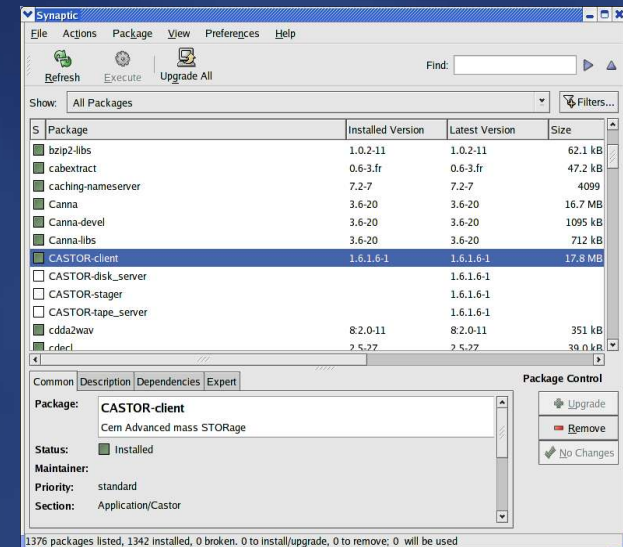
automatic update disabled - sysadmin e-mail notification



```
jarek@lart:/home/jarek - Root Console - Konsola
New Shell Root Console
PINE 4.58 MESSAGE TEXT Folder: INBOX Message 1,246 of 1,248 ALL
Date: Fri, 5 Mar 2004 04:28:09 +0100
From: root <root@localhost.localdomain>
To: root@localhost.localdomain
Subject: [UPDATE] - SUCCESS on lart: Fri Mar 5 04:01:01 2004

System update on lart run at Fri Mar 5 04:01:01 2004 result:
Inst rpmbd-redhat [cel3-0.20040301] (cel3-0.20040303 NoName:cel3 en/CERN Linux)
Conf rpmbd-redhat (cel3-0.20040303 NoName:cel3 en/CERN Linux)

--
See: http://cern.ch/linux/updates for how to configure
your system for automatic updates
Linux.Support@cern.ch
```



Manual installation of updates (also additional software installation and removal)



CERN Linux

<http://cern.ch/linux> linux.support@cern.ch

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Legal issues

- ✓ Source of all software included is under GPL or other free license (MIT, BSD etc...)
 - ✓ Freely available from [ftp.redhat.com](ftp://ftp.redhat.com)
- ✓ Red Hat EULA for RHEL 3 says:
 - ✓ Binaries obtained from Red Hat cannot be freely redistributed.
 - ✓ Red Hat logo and trademarks cannot be used without permission
 - ✓ Trademark Policy should be respected
 - ✓ “Title to the Software and any component, or to any copy, modification, or merged portion shall remain with the aforementioned, subject to the applicable license”.
- ✓ And ... there are others: Fermi LTS 3.0.1, WhiteBox Linux, Caos Linux



Red Hat Compatibility

- ✓ It is the goal !
- ✓ Fermi LTS 301 / Whitebox ... others:
 - ✓ ALL should be binary compatible
- ✓ If NOT -> Tell us ... it is a bug ... not feature ...
- ✓ Binary-only products compiled for RHEL 3
AS/ES/WS should run
 - ✓ Maybe after some tweaking of /etc/redhat-release
 - ✓ But without support



Status & Availability

9.03.2004

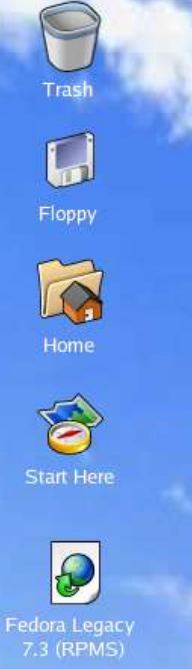
- ✓ First **test** version available now
 - ✓ For i686, ia64 and x86_64
 - ✓ Public **test** release 'really soon now'
 - ✓ System customization: 70% ready
 - ✓ Software management: 90% ready
 - ✓ Configuration management: 70% ready

✓ Certification start: **now....**

✓ Certification: tentative end: **1st May 2004**

But the last 5%
usually take 90% of
all the time....





Media Player

01:02 1. QUEEN - BOHEMIAN RH

128KBPS 44KHZ STEREO

EQ PL

SHUFF REP

INBOX (692) - Ximian Evolution

File Edit View Actions Tools Search Help

New Send / Receive Reply Reply to All Forward

Shortcuts

Summary

Calendar

Tasks

Contacts

Lists

Folders

Outbox Sent Tasks Trash

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Calendar

CERN Lists

CERT (2116)

LXdev (30)

MacOSX (20)

Cern Linux (20)

Conferences

Cross-Systems

Deletions

Drafts

INBOX (692)

internal_schema

Journal

Junk

Lists

BugTraq

Fedora (1103)

Fedora-Legacy

Notes

Subject contains CERN

From	Subject	Date
Julian Blake <Julian.Blake@cern.ch>	Netbooted CERN Linux 7.3.4 (...)	FEB 20 9:15 PM
Julian Blake <Julian.Blake@cern.ch>	[UPDATE] - SUCCESS ON lx...	Feb 27 10:08 AM
Jaroslav Polok <Jaroslav.Polok@cern.ch>	[SECURITY] CERN Linux 7.3.X...	Mar 01 1:35 PM

```

/afs/cern.ch/project
New Shell
drwxrwxrwx 3
drwxr-xr-x 3
drwxr-xr-x 4
drwxr-xr-x 14
drwxr-xr-x 5
drwxr-xr-x 3
drwxr-xr-x 7
-rw-r--r-- 1
drwxr-xr-x 5
drwxr-xr-x 6
drwxr-xr-x 19
[jarek@art] cd
[jarek@art] ls
extras i386 i
[jarek@art] ls
total 11
drwxr-xr-x 3 jpolok root 2048 Feb 10
drwxr-xr-x 3 jpolok root 2048 Feb 10
drwxr-xr-x 2 jpolok root 2048 Feb 10
-rw-r--r-- 1 jpolok c3 86 Feb 8
drwxr-xr-x 5 jpolok root 2048 Feb 8
-rw-r--r-- 1 jpolok c3 86 Feb 8
-rw-r--r-- 1 jpolok c3 137 Feb 8
[jarek@art] pwd
/afs/cern.ch/project/linux/cern/cel3
[jarek@art]

```

cernlinux.sti - OpenOffice.org 1.1.0

File Edit View Insert Format Tools Slide Show Window Help

/home/jarek/cernlinux.sti

Continuous 0.00" Black Color Blue 7

Questions?

- ✓ Based on APT (Advanced Package Mgmt.)
- ✓ Command Line interface
- ✓ Graphical interface
- ✓ CERN written configurable automatic update mechanism

Presentation

- Insert Slide...
- Modify Slide Layout...
- Slide Design...
- Duplicate Slide
- Expand Slide

Software / Configuration / Tech 1 / Tech 2 / Legal issues (?) / Current Status & Availa... / A Te

-2.43 / 5.04 0.00 x 0.00 57% Slide 7 / 13 cernlinux