Customising Debian

Working with the Greather Debian world

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21 slides
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What we'll be talking about

1)Advantages and pitfalls of customization

2)Who is in the Greather Debian and their approach

3)Technical infrastructure available today

4)Technical infrastructure available tomorrow

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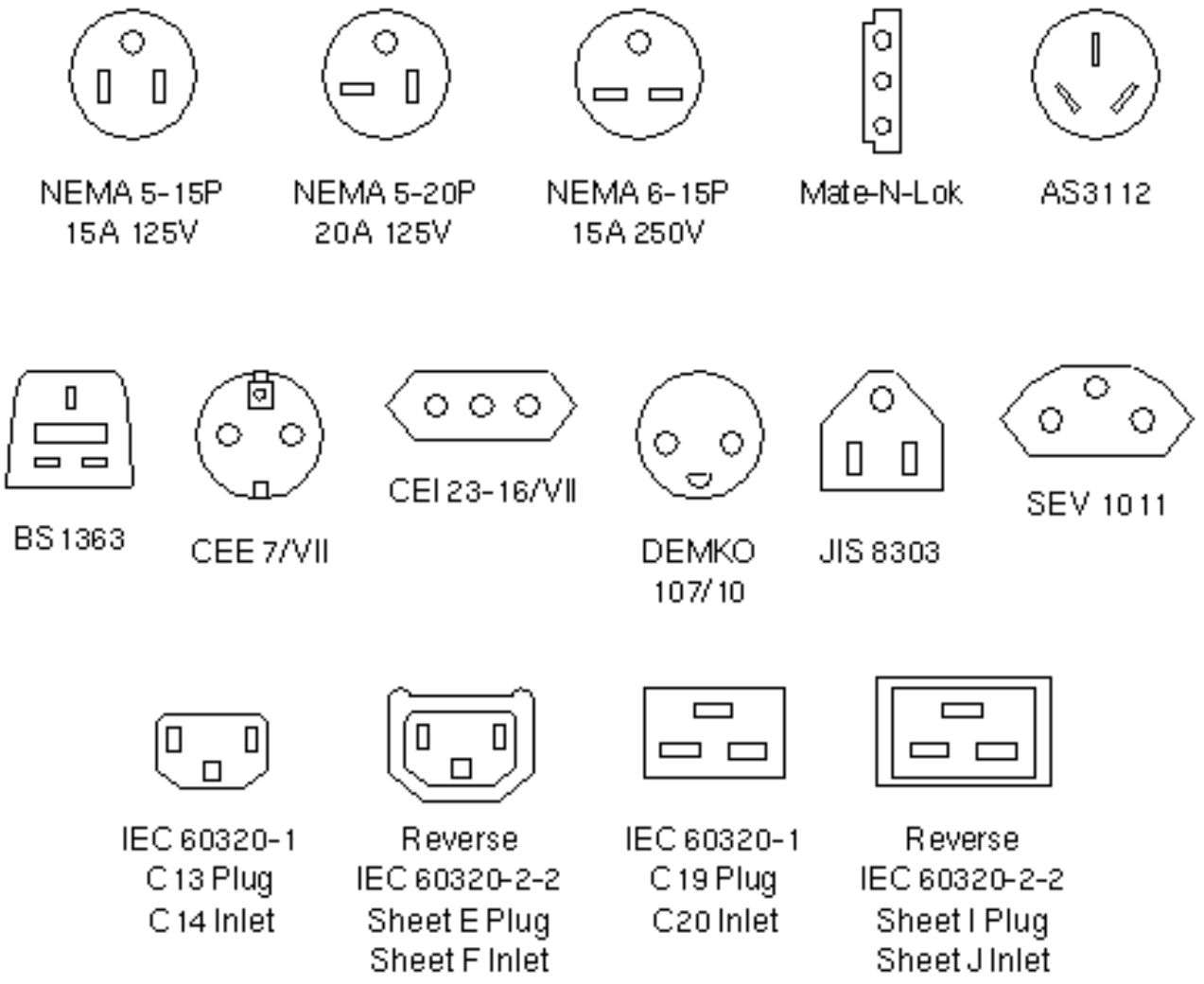
Customization



Everyone has different needs.

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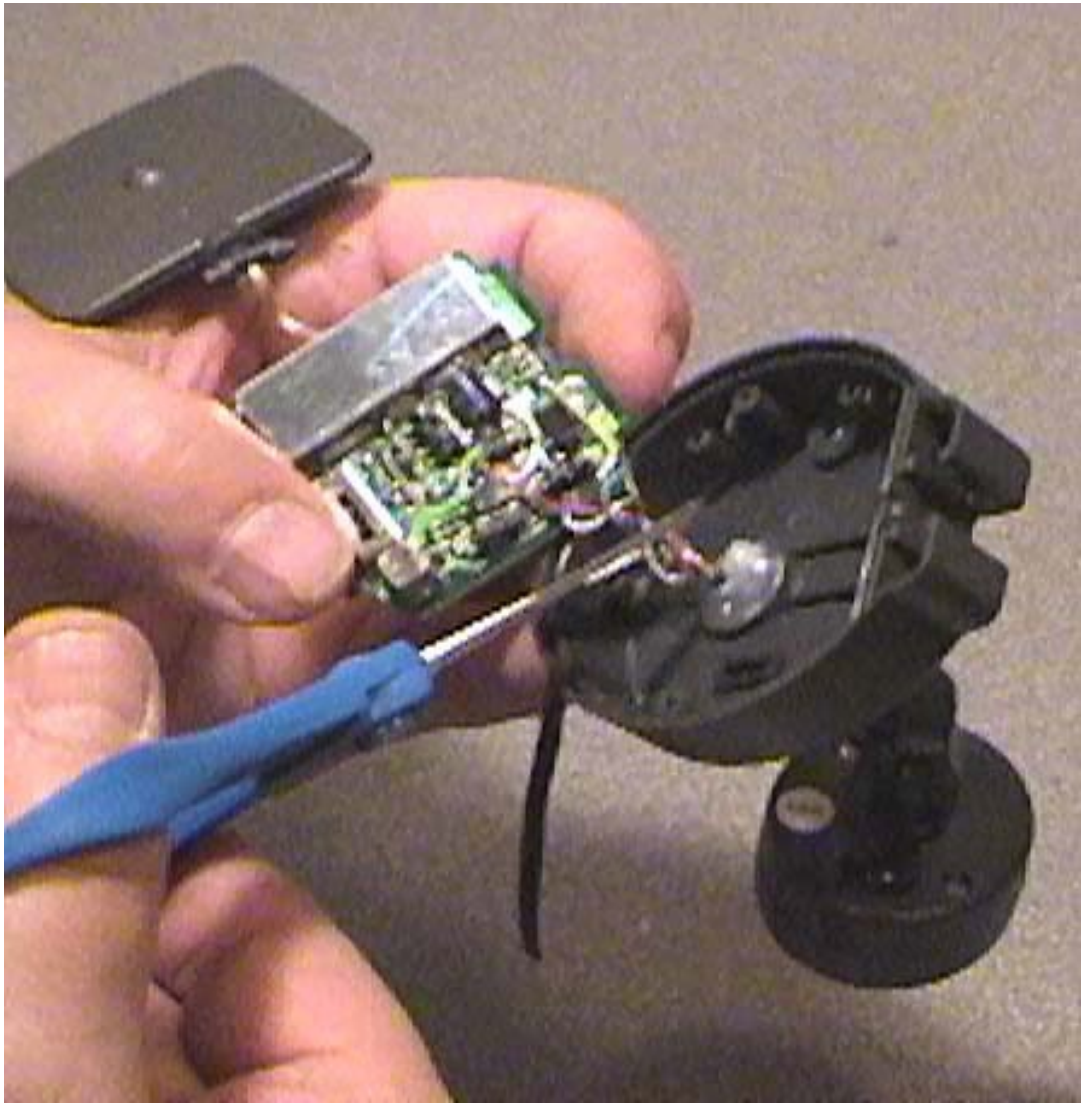
Advantages of customization



You get exactly what you need.

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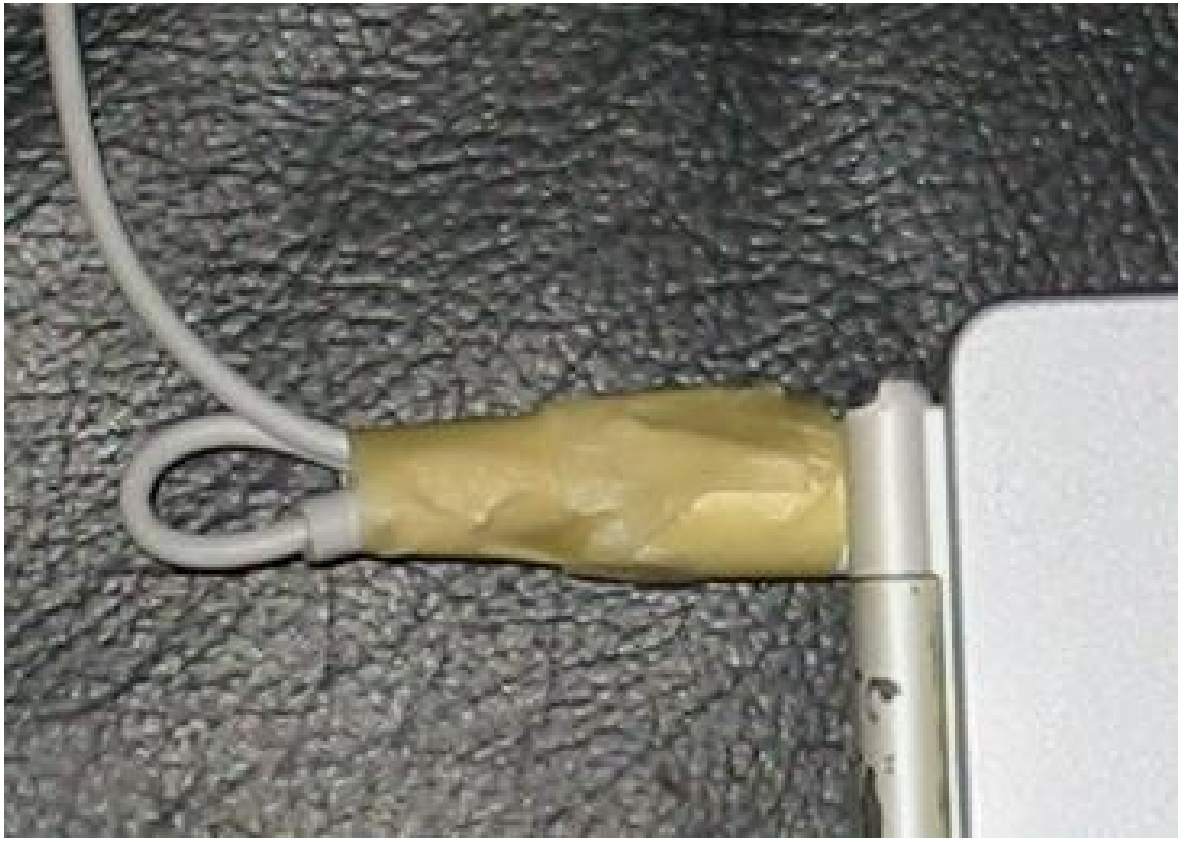
Problems of customization



You have to maintain it.

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Advantages without disadvantages

With Free Software there is a way past the dilemma:
customization without diverging

- *Select* existing software to build a custom system
- *Configure* existing software to be part of a custom system
- *Improve* existing software to do exactly what you need
- Make existing software configurable to *exclude unneeded features*
- Do all of this *inside* the main developers community

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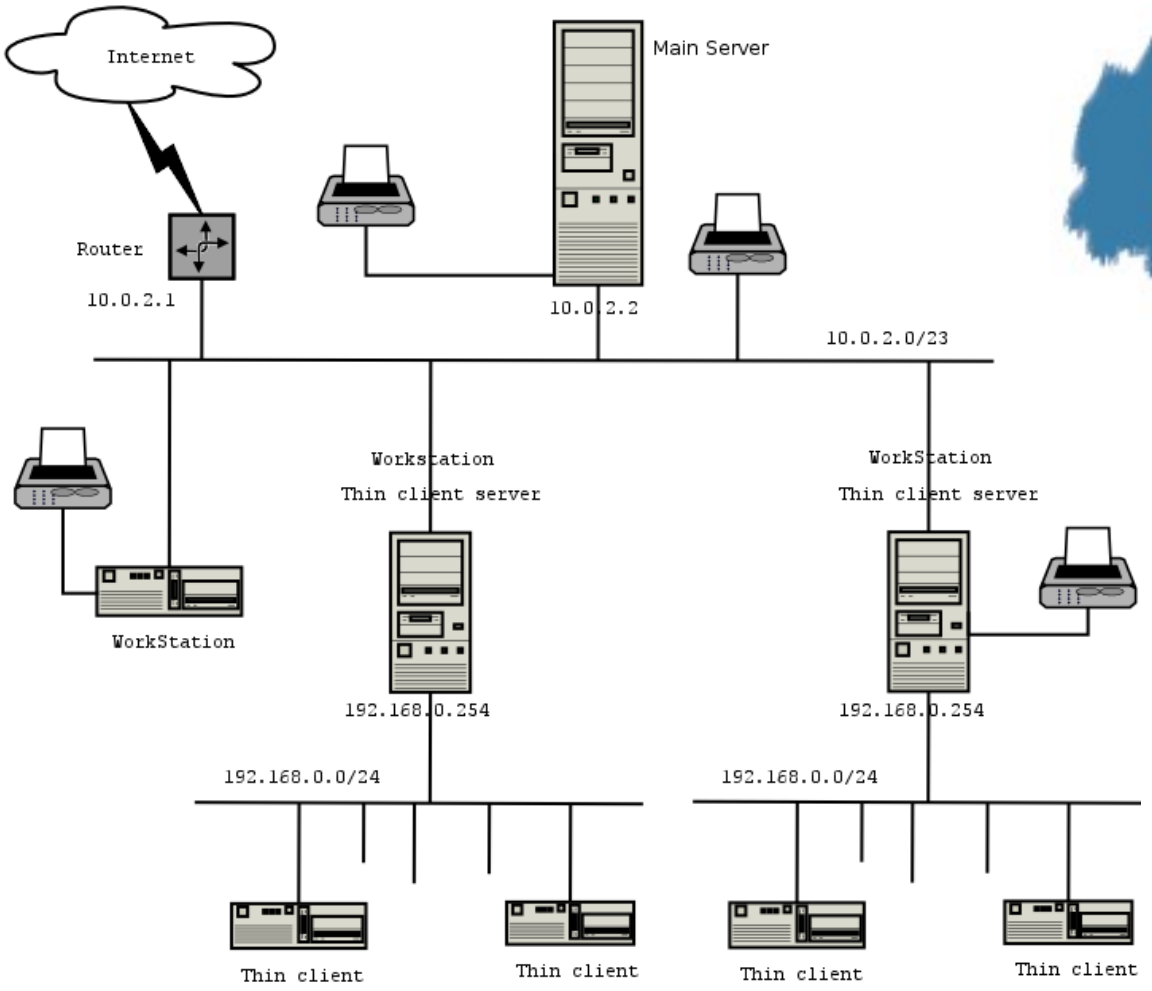
How people do it with Debian

99% Debian: DebianEdu/Skolelinux



Started in Norway in 2001, then merged with Debian-Edu.
3 years later, in various reports: "the only computer solution that takes the schools' needs and resources seriously" (Statskonsult report #18, Dec 2003)

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99% Debian: DebianEdu/Skolelinux

From Joey Hess' TODO-list for SkoleLinux (2005):

We want Sarge to release as soon as possible, including all the packages Debian Edu want and need to be able to release the next major release of Debian Edu with packages only from Sarge.

To be able to release Debian Edu with package only from Sarge, we need to make sure:

- *the packages in Sarge can be installed out of the box with the configuration we want to use in Debian Edu*
- *all the packages we want are included in Sarge*

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Other Custom Debian examples

Debian-Med Debian-Junior

My laptop

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Around Debian: Knoppix

Knoppix is a Debian snapshot with added packages.

Further customizations:

`http://www.knoppix.net/wiki/Knoppix_Customisations`

(lists more than 90)

Around Debian: Ubuntu

Ubuntu is diverging from Debian, but tries to converge again every 6 months (after every release).

Further customizations:

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To make a distribution you need to...

- Identify your target users, tasks, market...

- Select packages
- Provide your own extra packages
- Provide your own default configuration
- Customise the installer
- Brand the system
- Create a package archive
- Create Cds

- Quality assurance, user support, ...

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Package selection

- dpkg --get-selections ; dpkg --set-selections
- Using a task file

  plug new files in /usr/share/tasksel/

- Using *metapackages*

  A metapackage is a package whose sole purpose exists to depend on other packages.
  Examples of metapackages: `med-imaging`, `junior-internet`, `kde-devel`, `gnome-desktop-environment`

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Custom configuration

Non compliant with policy

- Hardcode it in packages
  dpkg-repack or dpkg-source -x ; edit; debuild
- Create packages that overwrite the configuration files of other packages
  debian/postinst:
  cp /usr/share/evilpkg/nfs-exports /etc/exports

Avoid at all costs:

```
Modified (by you or by a script) since installation.
What would you like to do about it?  Your options are:
    Y or I  : install the package maintainer's version
    N or O  : keep your currently-installed version
      D     : show the differences between the versions
      Z     : background this process to examine the situation
 The default action is to keep your current version.
```

Custom configuration

Policy compliant (saves headaches)

- Debconf preseeding
  denconf-get-selections / debconf-set-selections
- Pluggable configuration snippets
  /etc/apt.conf.d/ , /etc/logcheck/ignore.d.server/ ...
- Multi-level configuration
  # Read Debian default configuration
  include /usr/share/pkgname/defaults
  # Settings can be changed and overridden here:
  ...

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Customise the installer

- Debian Installer hooks
  http://www.debian.org/devel/debian-installer/hooks
- Preseeding d-i questions
  http://www.debian-administration.org/articles/394
  http://www.enterprisenetworkingplanet.com/netsysm/article.php/3606721
  http://www.enterprisenetworkingplanet.com/netos/article.php/3608361
- Plugging in new udebs: `localudebs/`

`http://people.debian.org/~fjp/talks/debconf6/`

```
debconf-get-selections --installer > preseed.cfg
base-config base-config/late_command string apt-get install
  squid
debconf-get-selections |grep squid
debconf-set-selections -c preseed.cfg
linux26 preseed/file=/hd-media/preseed.cfg
  debconf/priority=critical
```


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Create a package archive and CDs

- debmirror, debpartial-mirror
- a big and complex archive can be implemented and maintained using the same infrastructure as Debian uses (dak)
- debian-cd
- simple-cdd

simple-cdd is a shell script that automates package selection, preseeding and creating a new installer image. It is a great starting point to start playing with customized Debian Cds.

Example simple-cdd task: French Debian Installation CD for Etch.

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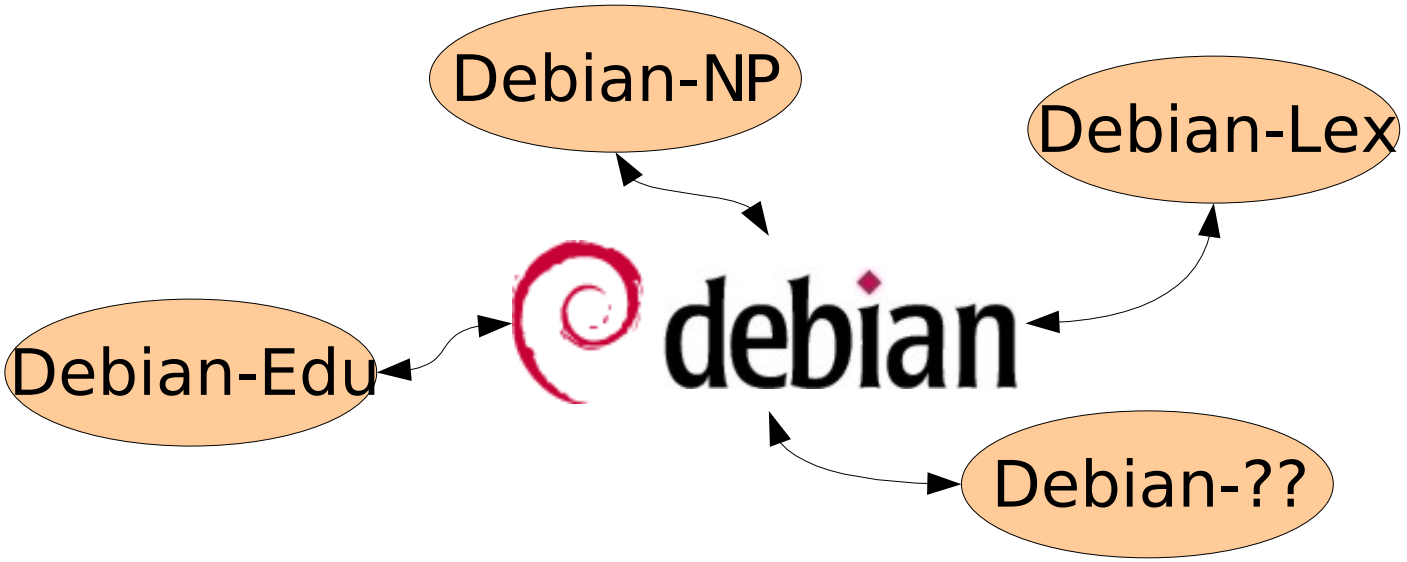
Custom Debian

Who makes Custom Debians contributes to Debian, and Debian improvements contribute to all Custom Debians.

When you do Free Software, you create *externalities*. With CDDs they are collected inside Debian, where they "fermentate" using powerfully creative *network economy* processes.

Everyone drinks the wine!



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Final summary: theory

It is possible to do customization while minimizing divergency.

- It allows to customize without losing quality and external improvements
- It brings you external feedback and know-how
- It increases the possibilities of innovation
- It can put you in touch with groups with the same customization needs

It has many advantages, but it mandates some parts of the development process.

Final summary: practice

- Select packages
- Preseed
- Add your own packages
- Wrap it together with simple-cdd
- Keep an eye on what happens in Debian
- Hire some Debian Developers :)