Custom Debian Distributions
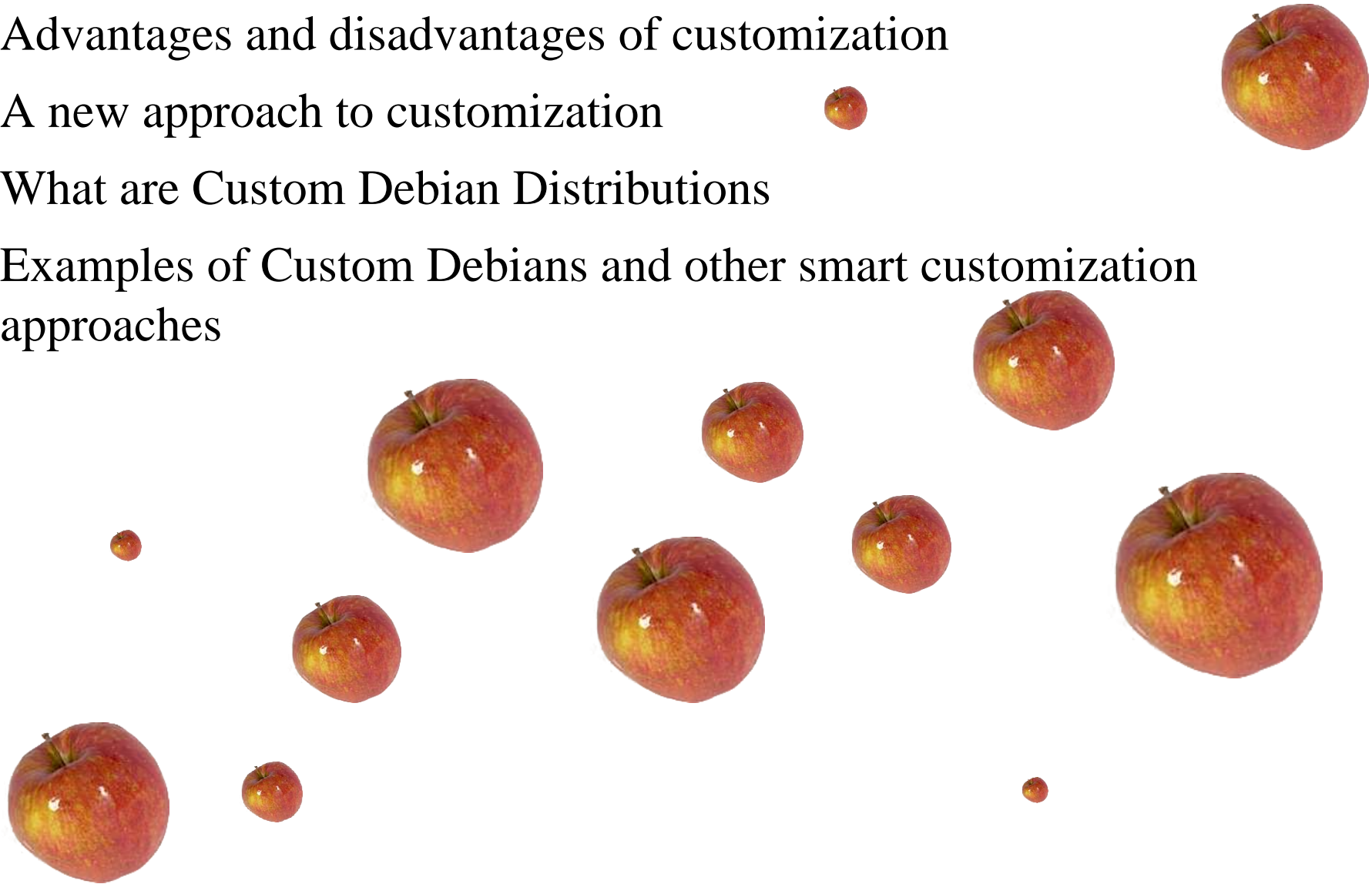
Current and future.

Jun 23, 2005

27 slides
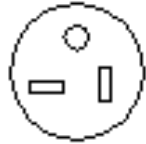
Enrico Zini (enrico@debian.org)

What I'll be talking about

1) Advantages and disadvantages of customization

2) A new approach to customization

3) What are Custom Debian Distributions

4) Examples of Custom Debians and other smart customization approaches

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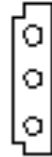
Customization

NEMA 5-15P
15A 125V

NEMA 5-20P
20A 125V

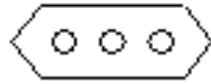NEMA 6-15P
15A 250V

Mate-N-Lok

AS3112

BS 1363

CEE 7/VII

CEI 23-16/VII

DEMKO
107/10
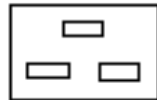
JIS 8303

SEV 1011

IEC 60320-1
C 13 Plug
C 14 Inlet

Reverse
IEC 60320-2-2
Sheet E Plug
Sheet F Inlet

IEC 60320-1
C 19 Plug
C 20 Inlet
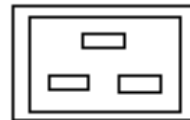
Reverse
IEC 60320-2-2
Sheet I Plug
Sheet J Inlet

Everyone has different needs.

Advantages of customization

Software is more appropriate and more efficient

- It has less unneeded functionality

- It is easier to document and support

- It requires less time to be adapted

- It can have a specialised user community

- It can talk a specific language or jargon

- It does what **you want right after you install it**

- **Even the installer does what you want :)**
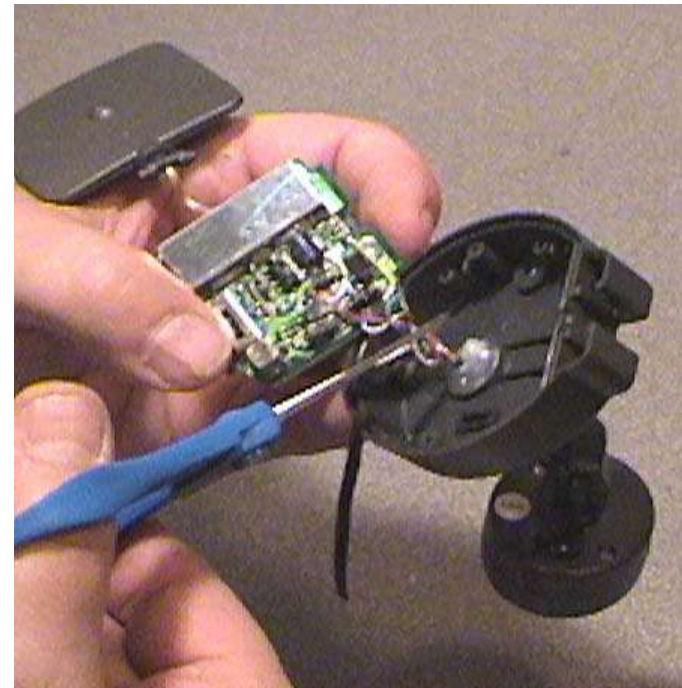
Problems of customization

Customized software has a higher cost

- Know-how is harder to find

- Support is harder to find

- The development community is smaller

- There may not be enough resources to develop it further

- One-time costs are shared by a smaller number of entities

The main cause of these problems is
divergency from mainstream development

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Advantages without disadvantages

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

- Existing software can be selected to build a custom system

- Existing software can be configured to be a part of a custom system

- Existing software can be extended to include needed features

- Existing software can be made configurable to exclude unneeded features

- All of these things can be done as a part of the main developer community

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The Custom Debian approach

to creating operating systems

also known as:

The last, final step towards Total World Domination!

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Definition of CDD

Custom Debian Distributions: distributions derived from Debian which are still 100% Debian

(successful revolutions need simple ideas)

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CDD HOWTO

1) Take Debian

2) Select Packages

3) Configure Packages

4) Rule the world

Aim at being 100% policy compliant

If you need special software, package it in Debian

If you need special configurations, work with maintainers

If you need stable software, fix bugs and submit patches to the BTS

If you need translations, work with Debian translators

If you need security, work with the Debian security team

(when it works like this, the World Takeover is complete)

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Why it works

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Extreme Customization

Debian is a wad of wet clay: CDDs give it a shape!

With CDDs you finally can:

- Work with what you like!

- Choose your users!

- Market to specific groups

- Provide (sell?) user support

- Foster specific user communities

- Create targeted documentation!

- Solve specific problems!

Make people (and yourself) satisfied and happy!

(successful revolutions happen when people are happy with it)

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First magic of CDDs

Once you cooperate with Debian
You cooperate with all the others

(successful revolutions are made by lazy revolutionaries)

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Summary so far

It is possible to do customization while minimizing divergency.

- It allows to customize without losing quality and progress

- It brings you external feedback and know-how

- It increases the possibilities of innovation

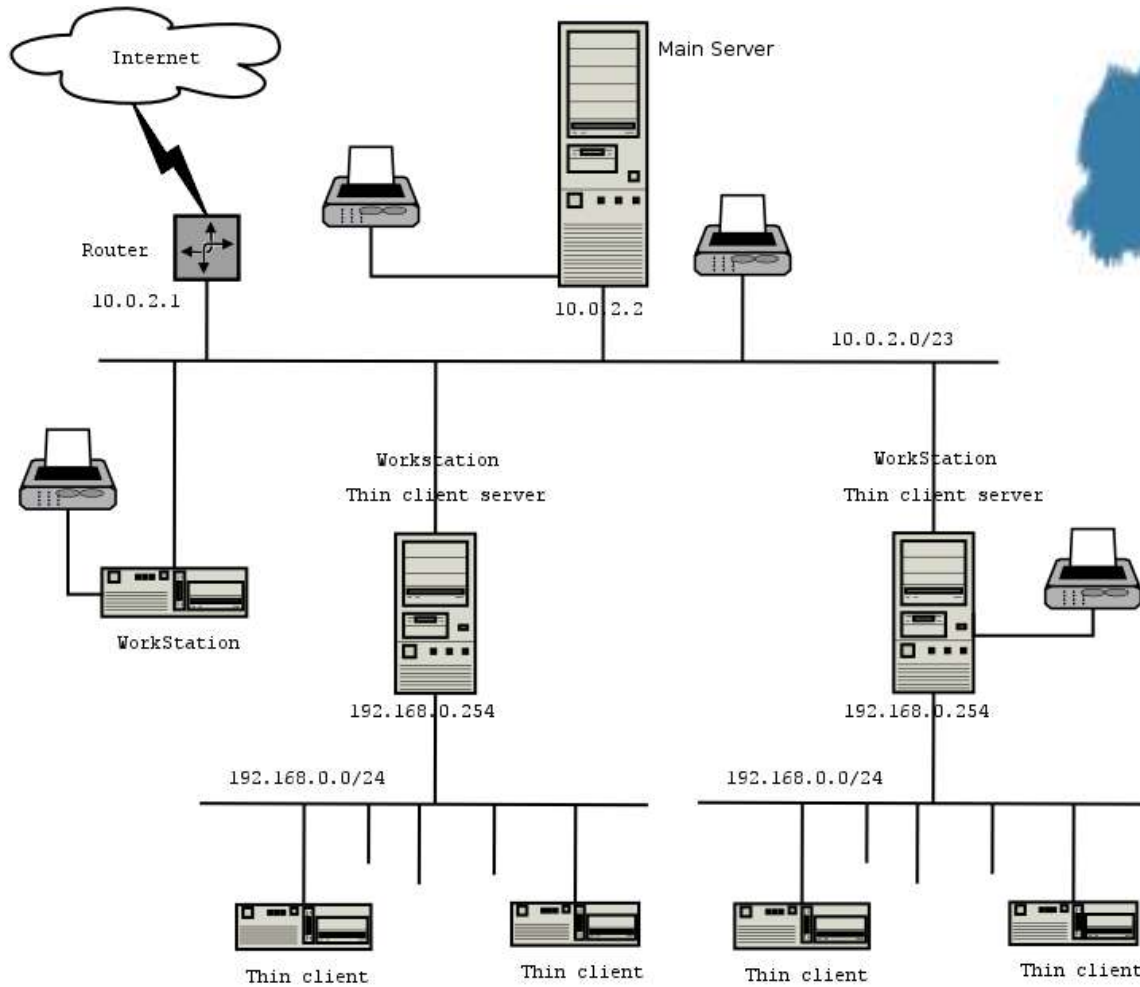- It can put you in touch with groups with the same needs for customization

This has many advantages, but it may require some changes on how we work

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Some examples

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Debian-Edu/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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Debian-Edu/Skolelinux

From Joey Hess' TODO-list for SkoleLinux:

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

Other Custom Debians

LLIUREX

GNU/Linux
Debian-BR-CDD
Custom Debian Distribution

AGNULA · ist

debian·np

Debian-Med

Some other examples which are not CDDs, but they get the idea

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Ubuntu

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

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How to do it

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Issues involved

- Package selection

- Package configuration

- Building CDs and other ways of distribution

- Communication

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Package selection

- metapackages

- debtags

- cdd-dev, cddtk

- all of this together

Package configuration

- debconf preseeding

- multi-level configuration

- cfengine and tweaks

- user-level configuration (menus, profiles)

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Building CDs and more

- debpartial-mirror
- debian-cd
- simple-cdd
- more to come (live CDs, more integration with cdd-dev/cddtk...)

Communication

- Alioth project: cdd.alioth.debian.org

- Mailing list: debian-custom@lists.debian.org

- Subversion repository

Question time.

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Some suggestions

Have in the team someone who is an active part of the community.

- They already know how things work, technically and socially

- They can mediate between the community and the other developers

- They can keep local modification updated and in line with new development

- They can bring in new know-how

- They can keep the project networked with other similar groups, and help forming synergies

Distribute your software as part of Debian.

- It can be brought to a wider audience making it more useful

- It can be brought to a wider audience making it more tested