



Project Builder: A GPL build system solution

Bruno Cornec

Open Source and Linux Profession

EMEA Lead



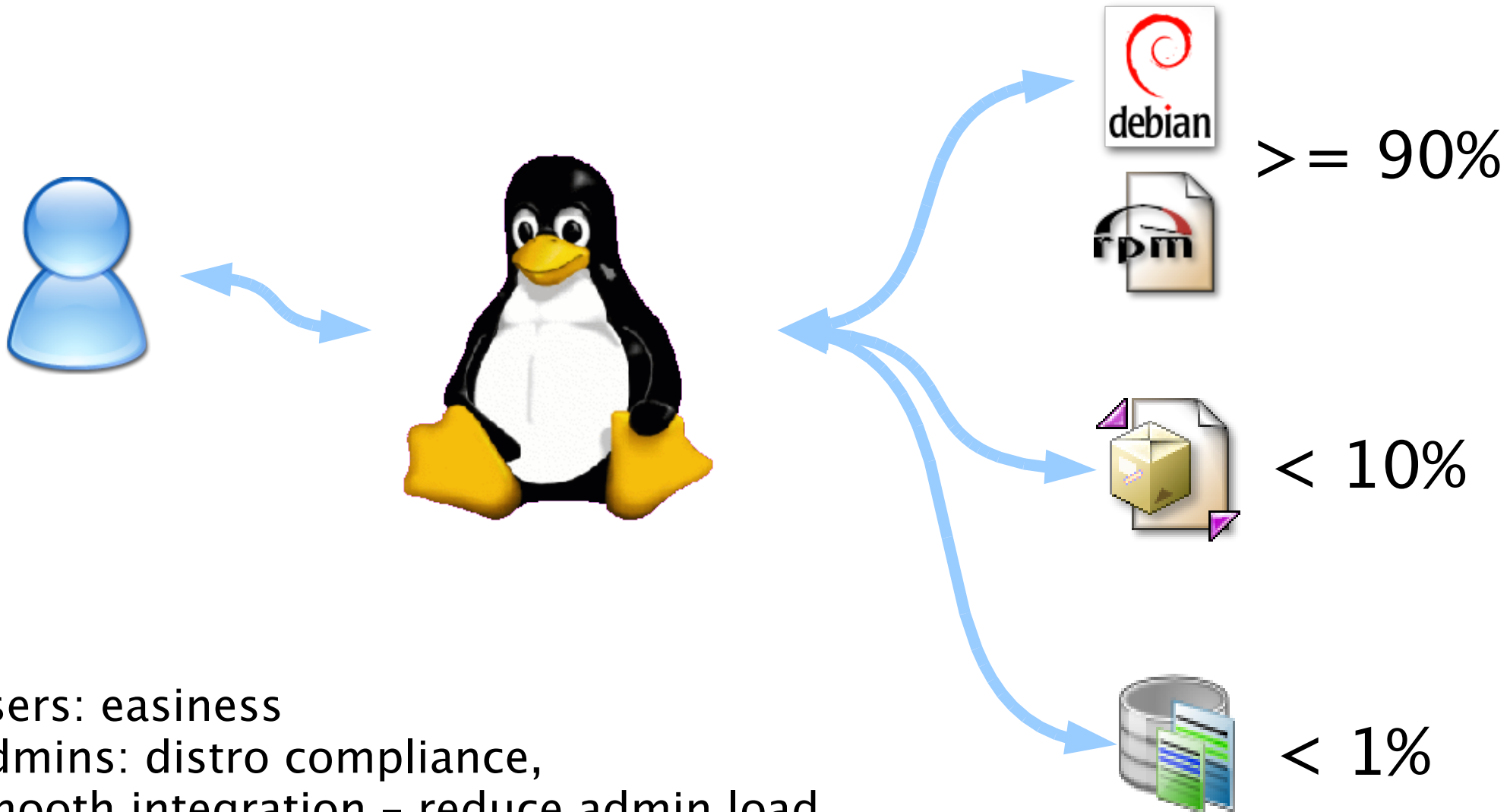


- Software engineering since 1988
 - Mostly Configuration Management Systems (CMS), Build systems, quality tools, on multiple commercial Unix systems
- Discover Open Source & Linux (OSL) & first contributions in 1993
- Full time on OSL since 1995, first as HP reseller then @HP
- Currently...
 - Technology Architect on OSL for the HP/Intel Solution Center, Grenoble
 - OSL HP Ambassador
 - EMEA OSL HP Profession Lead
 - Solutions Linux Conference board member
 - MondoRescue project Lead
 - Dploy.org project Lead
 - Project-Builder.org project Lead
 - LinuxCOE contributor





Users / Sysadmins environment:

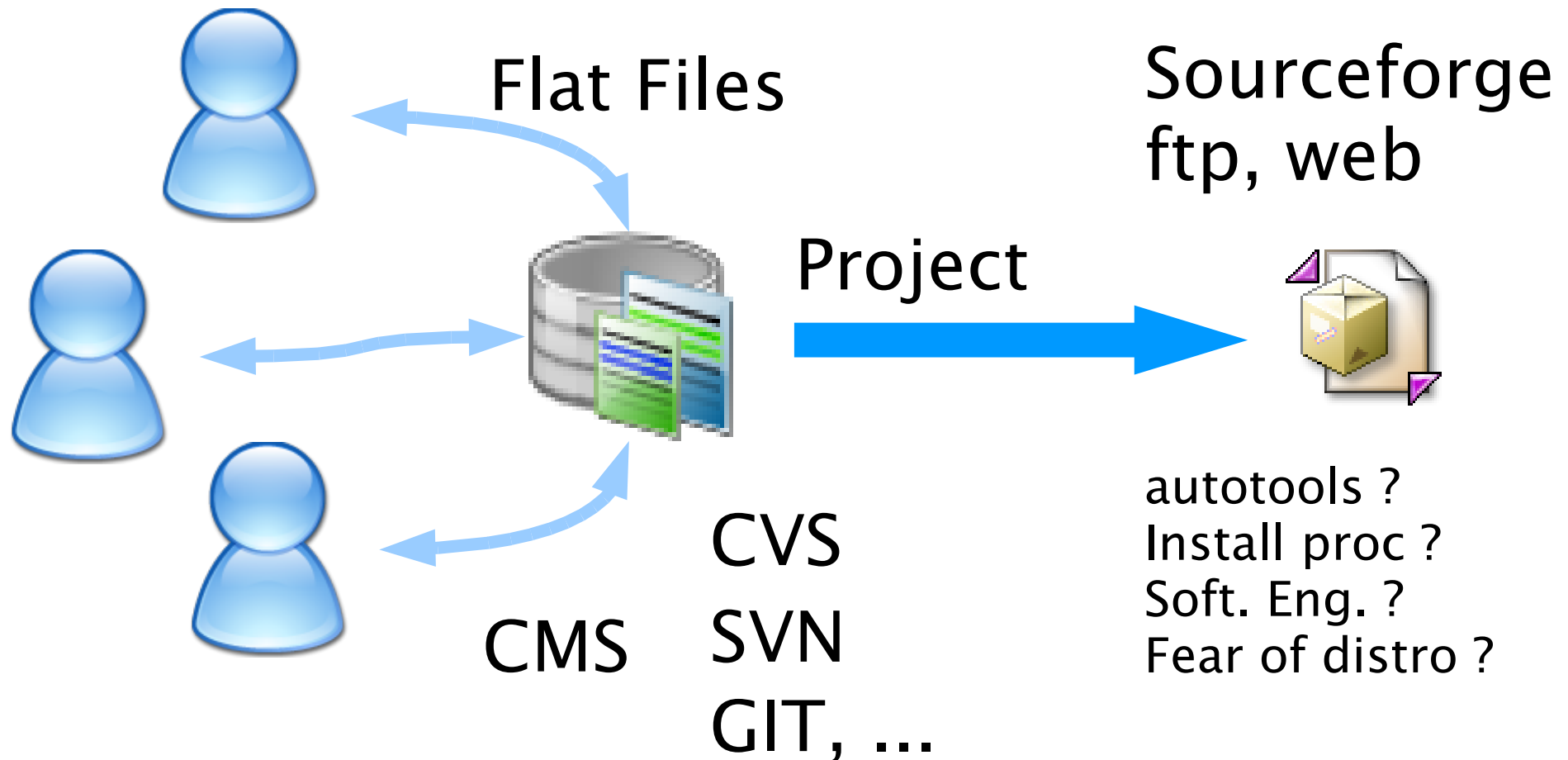


Users: easiness

Admins: distro compliance,
smooth integration - reduce admin load

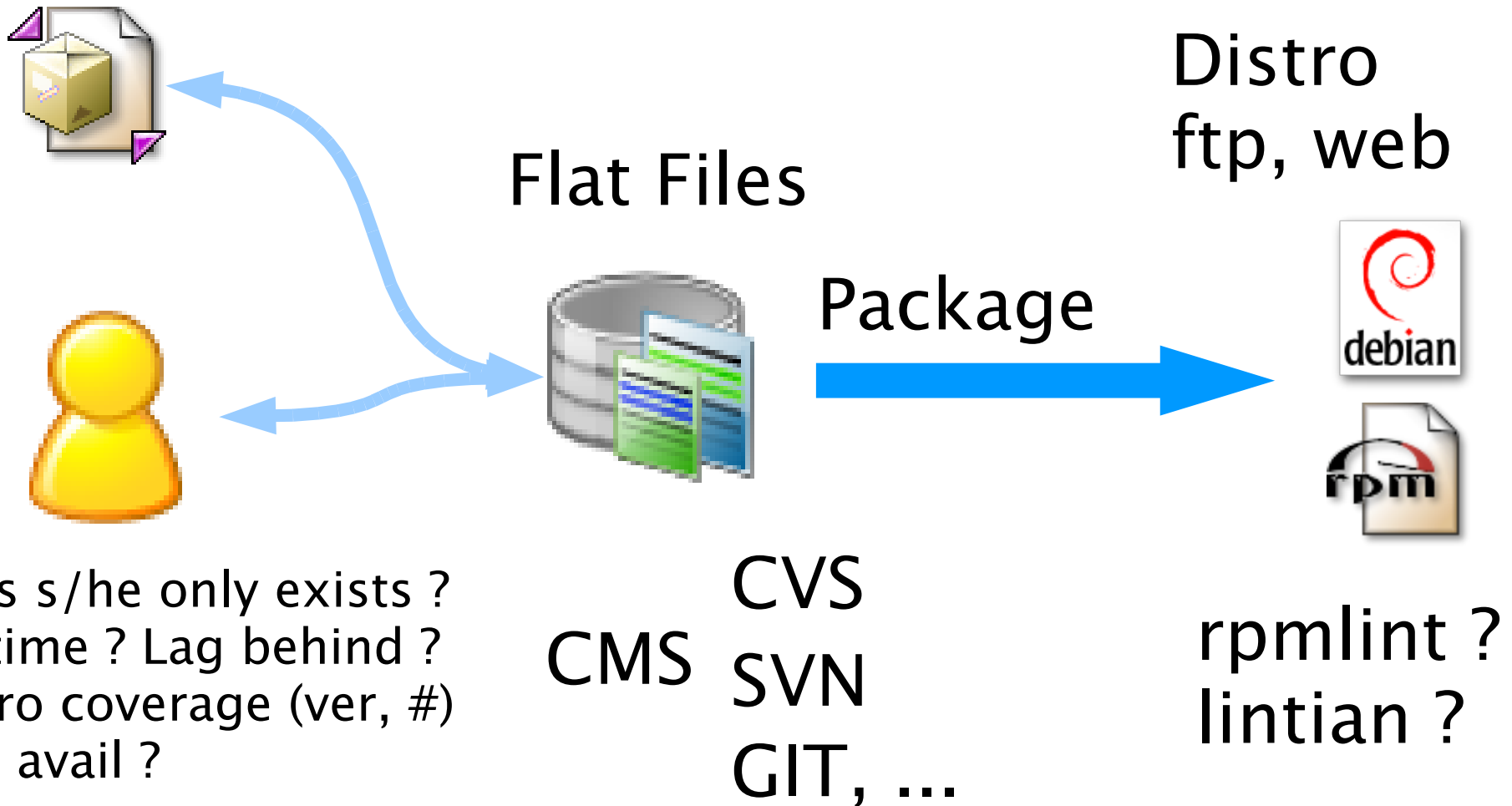


Developers environment:





Packagers environment:





- Packaging should be a project concern as well as coding, testing, installing, especially for smaller projects
- Package early, package often
- Use packaging as your only way of delivery (not a dream)
Overhead minimal, maximum benefit
- Packaging is in fact a marketing activity based on a technical content



- I'm a sysadmin so I want to deal with packages only (deployment server integration)
- I'm a developer so I want to ease my tests without screwing up my system
- I'm a packager so I want to streamline that work for new projects I'm interested in packaging
- I'm the marketing department of my own project and use packages as a “competitive advantage”
- I'm a software engineer and want no duplicate of code nor information
- Founding no tool existing to help me doing all that, I started writing one to scratch my own itch



- Project-builder main goal is to help you build and manage packages being agnostic:
 - CMS agnostic (no CMS but guys it's 21st century now, SVN, CVS,)
 - Distro agnostic: RPM, deb, ebuild, slack based, ... 51 distros at the moment - RPM repository built
 - Build environment agnostic: local, VM (QEMU, ...), VE (mock, pbuilder...)
- Value-add:
 - Set of existing Vms/VEs
 - Macro system with perl variables
 - Skeleton generation
 - No project impact

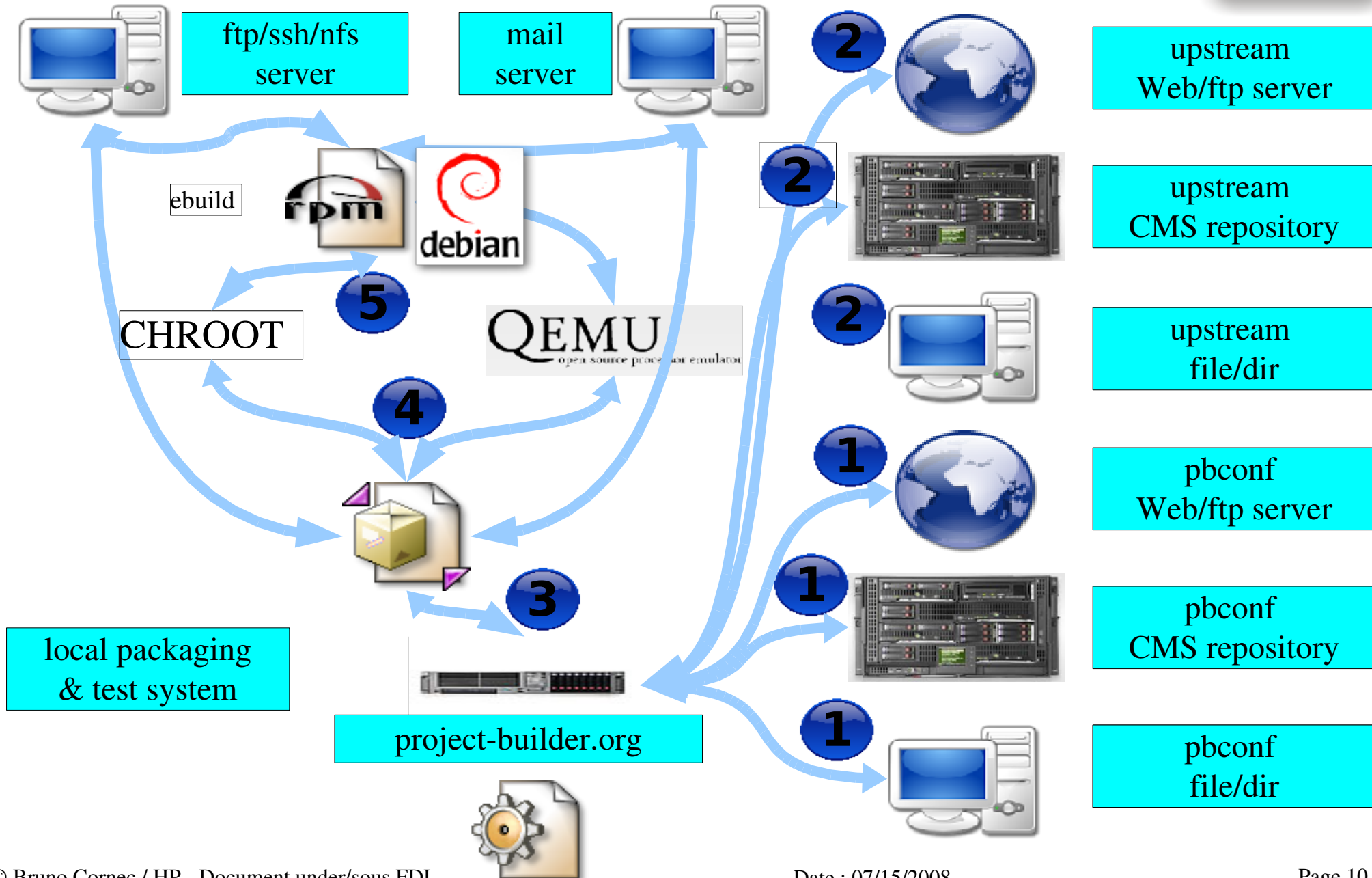


- V0.1–v0.4: script shells – linked to mondorecue – Usage of QEMU to generate cross distros packages
- V0.5 (08/2007): rewritten in perl, keeping the principles, independent of the project – pbconf in the project – filtering support with macros – PoC state
- V0.6: support multiple versions, perl conventions
- V0.7: perl env var substitution in conf files for macros – first usage for mondorecue and itself including VM.
- V0.8: functionaly similar to the original scripts (except ML, announces, ...). Multi CMS support. Trac BR. Removes AppConfig dep
- V0.9: re-architecture for less project impact (pbconf outside of project, multi-conf file support, CMS independance, VM/VE, ...)



Project-Builder.org

Architecture





cms2build: Create tar files for the project under your CMS. CMS supported are SVN and CVS parameters are packages to build if not using default list

build2pkg: Create packages for your running distribution

build2ssh: Send the tar files to a SSH host

pkg2ssh: Send the packages built to a SSH host

build2vm: Create packages in VMs, launching them if needed and send those packages to a SSH host once built VM type supported are QEMU

launchvm: Launch one virtual machine

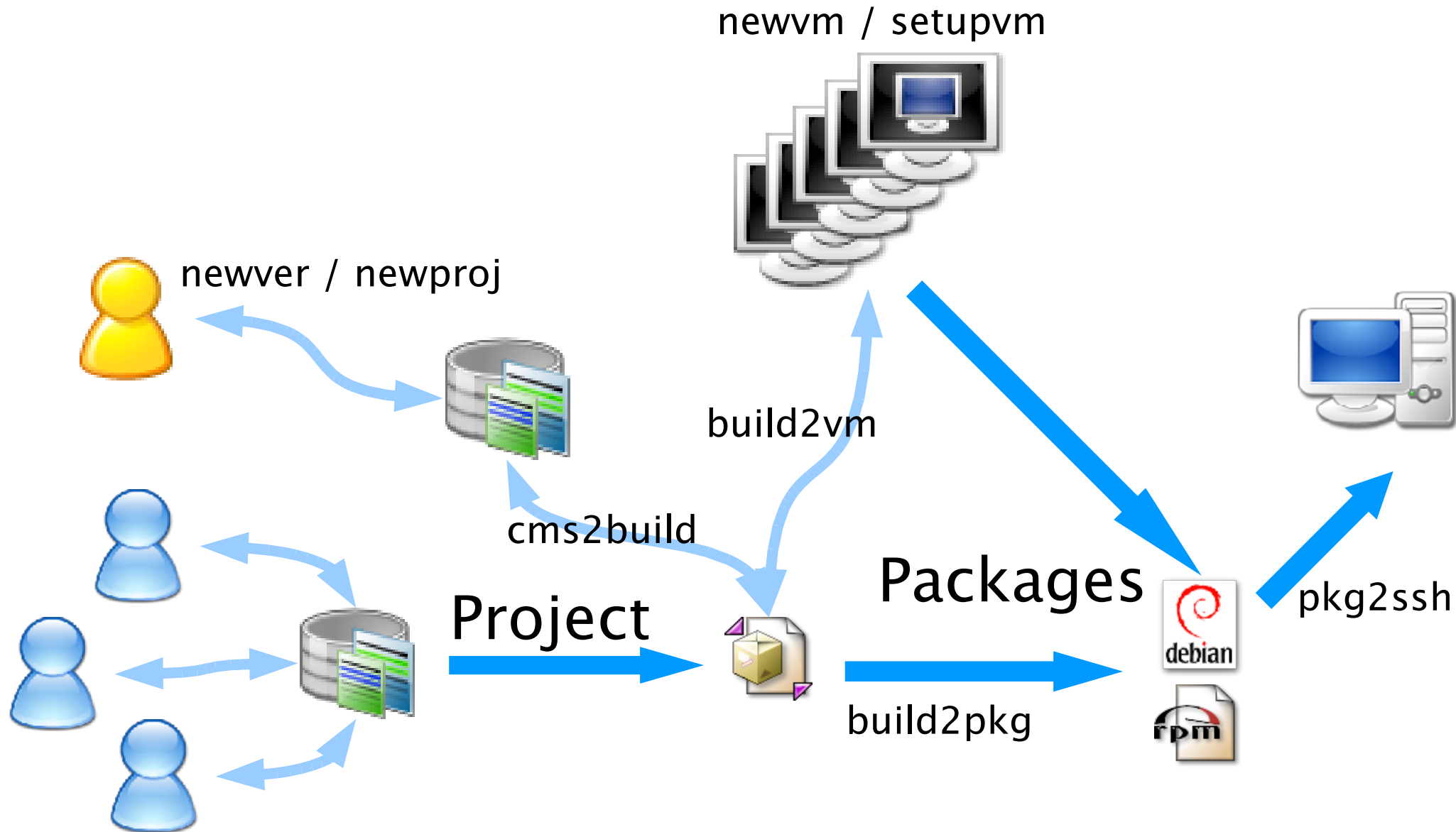
script2vm: Launch one virtual machine if needed and executes a script on it

newvm: Create a new virtual machine

setupvm: Setup a virtual machine for pb usage

newver: Create a new version of the project derived from the current one

newproj: Create a new project and a template set of configuration files under





- Better CVS support for LinuxCOE
- Tests on VEs (mock, pbuilder to be done)
- Other CMS (git, mercurial, ...)
- Other Vms (VMWare, Xen, ...)
- Multiple delivery means
- Look at interactions with Buildbot
- Add signature support
- Support per VM/VE options
- Build also debian repositories



Web Resources

Project-Builder Trac / Wiki

<http://trac.project-builder.org>

Open Source at HP

<http://opensource.hp.com>



Other tools: SuSE Build System,
Buildbot

“The evolution of FLOSS
and the Internet are
tightly coupled”



Contact

”Changes are never easy to make.
There is comfort and safety in tradition, but change must come, no matter how painful or expensive it may be.”

Bill Hewlett

Thanks

[Bruno_Cornec@hp.com](mailto: Bruno_Cornec@hp.com)

(Linux Solution Consultant in the
HP/Intel Solution Center)

<http://www.hp.com/linux>



Linus Torvalds, Richard Stallman, Eric Raymond, Nat Makarevitch, René Cougnenc, Eric Dumas, Rémy Card, Bdale Garbee, Hugo Rabson, Gallig Renaud, Andree Leidenfrost among others, for their work and devotion to the Open Source Software cause... and my family for his patience :-)