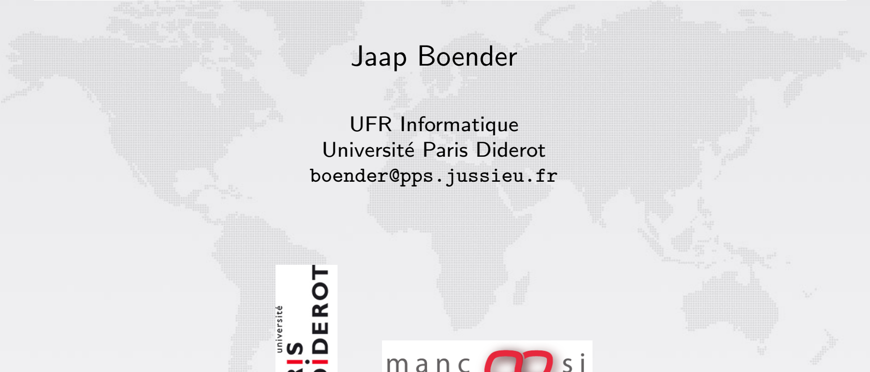
Mancoosi tools for the quality assurance of distributions, part II



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The general idea

- Dependencies and conflicts aren't just local
- Dependencies have different meanings
- Idea: unify and abstract
- Get the semantics behind the syntax

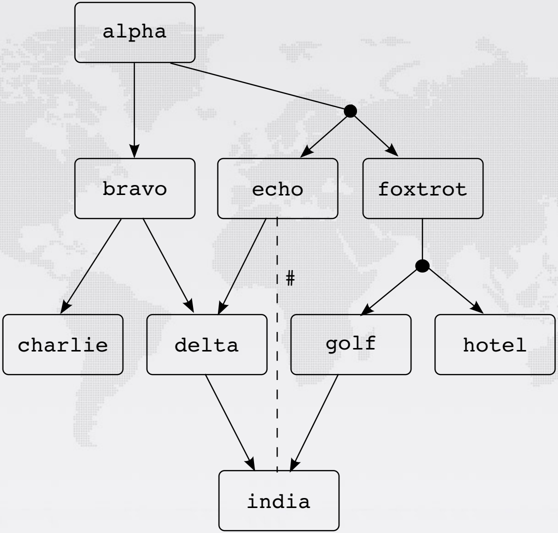
Strong dependencies

- Are there important packages?
- Idea: packages that everybody needs
- How to measure this?

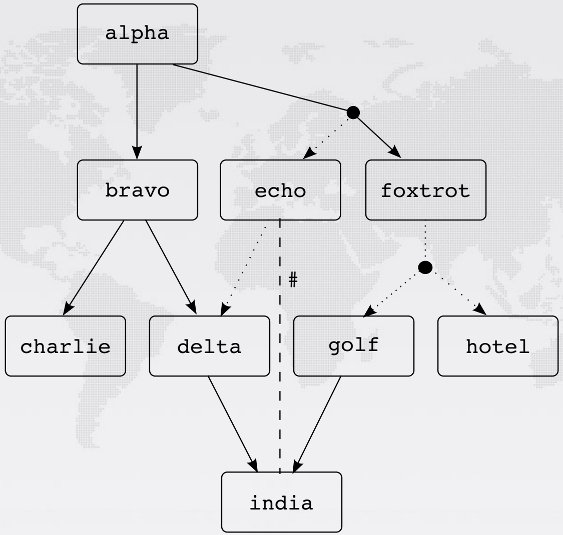
Strong dependencies

- Are there important packages?
- Idea: packages that everybody needs
- How to measure this?
- Strong dependency: Every installation of A includes B
- Can be checked using SAT
- Good approximation of importance

Strong dependencies: example



Strong dependencies: example



Strong dependencies: table

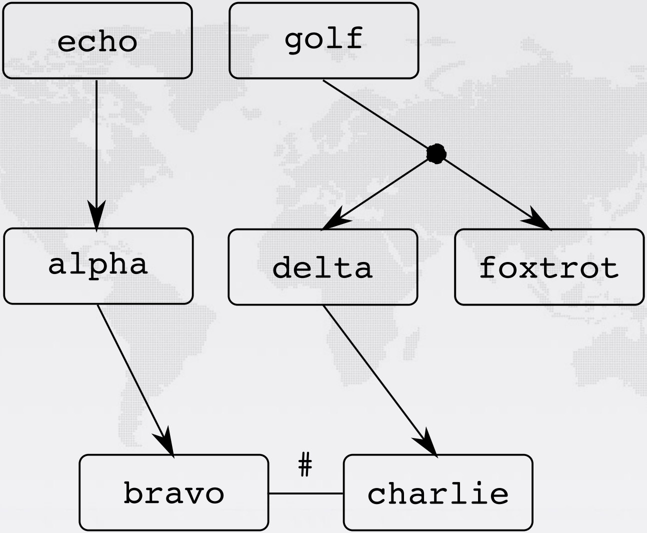
From Debian squeeze:

libc-bin	24815	1
gcc-4.4-base	24816	42
libgcc1	24814	3254
libselinux1	18123	64
zlib1g	19543	1831
libbz2-1.0	17435	180
liblzma2	17207	23
libattr1	17115	60
xz-utils	17054	4
coreutils	17065	25

Strong conflicts

- A and B can never be installed together
- Many strong conflicts: problem
- Strong conflicts have a root
- Allows to track down problems

Strong conflicts: example



Reporting

```
2362 ppmtofb-0.32-0.1:
 2362 (python-2.5.2-3 <-> ppmtofb-0.32-0.1)
* atomix-2.14.0-1 (conjunctive)
- conflict: python-2.5.2-3 - ppmtofb-0.32-0.1
- dependency: gconf2-2.22.0-1 -> python-2.5.2-3
- dependency: libgnome2-common-2.20.1.1-1 -> gconf2-2.22.0-1
- dependency: libgnome2-0-2.20.1.1-1 -> libgnome2-common-2.20.1.1-1
- dependency: atomix-2.14.0-1 -> libgnome2-0-2.20.1.1-1
(...)
```