The European Synchrotron

How management of software (blissinstaller) works at ESRF

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BLISSINSTALLER: OUTLINE

- Constraints from scientists
- Constraints from equipment
- Constraints from my group
- No interaction w/ Linux
- Solutions:
  - blissinstaller
  - blissbuilder
- Used on beamlines

CONSTRAINTS FROM SCIENTISTS

- Do NOT touch something that works!
- Make sure detector X, that I bought 3 weeks ago, is working yesterday!
- Computing service did an update: No impact for me!
- Local mods override ESRF's
- No mix online data analysis and data taking!

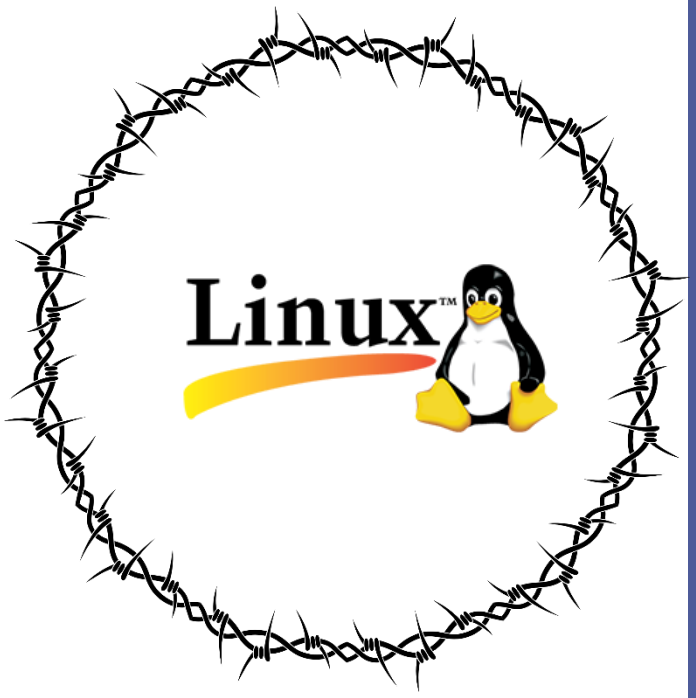
CONSTRAINTS FROM EQUIPMENT

- SPEC (our sequencer) does not like new equipment
- Latest Device Server or the one from 2015?
- Easy to install new drivers without being root – little or no OS interaction

CONSTRAINTS FROM MY GROUP

- Same solution everywhere
- Easy to see Central vs Local modifications
- Easy to build a package to distribute (versioned)
- Clearly see if our soft or something else:
  - no specific python
  - easy to remove our soft (PATH)

NO INTERACTION W/ LINUX



- New kernel ⟶ No impact
- Only PATH for user
- However our software need a lot of fixed variables:
  - LD_LIBRARY_PATH
  - PYTHONPATH
  - Beamline number etc.
- Two users traditionally
  - opid01
  - blissadm

WHY A SPECIFIC SOLUTION?

- Started in 2002:
  - Solaris, SuSE, Redhat and debian
  - all native OS installers needed root access
  - no competence to make native OS packages
- Needed to handle
  - Dependencies
  - Pre and post-install scripts
- Store install in database

UPDATING CRITICAL SOFTWARE 1

- Stability vs latest software
  - Stability first, no need for latest
  - A need to be informed of new releases nicely
- Special care to inform on faulty software
  - Need to update faulty software
  - Need to know on which machines the faulty software is
- Scientist is the ultimate initiator of an installation

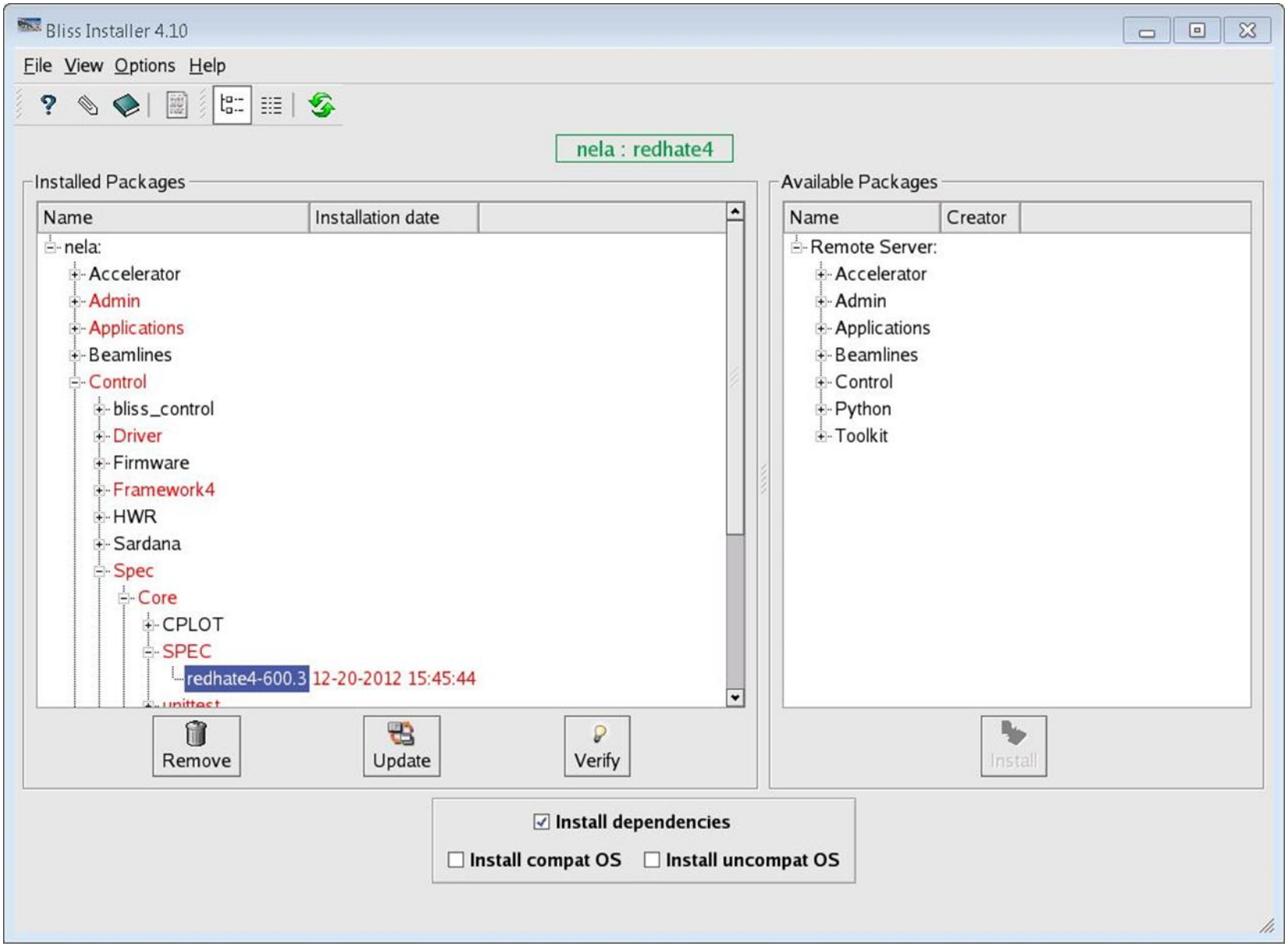
UPDATING CRITICAL SOFTWARE 2

- Central database of software:
  - Find which machine need upgrade
  - Planning and follow up is easier
- Extra with central database: non standard installs signaled in our database

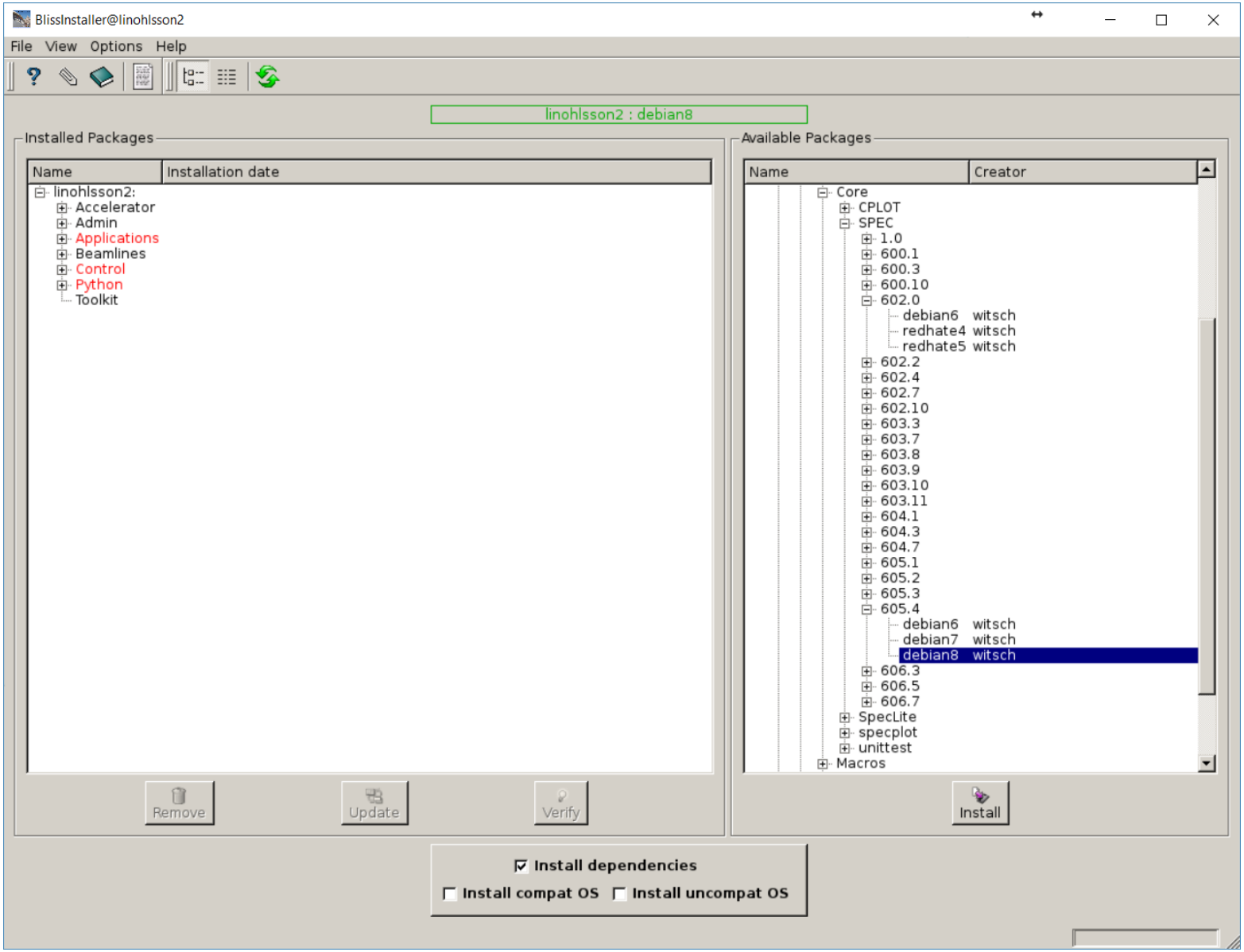
OUR ISLAND WITH OUR SOFTWARE

- Our installation in:
  ~blissadm
- opid01 user have PATH:
  - ~blissadm/local/bin:~blissadm/bin
- All executable wraps
  . blissrc
  - Setting up of our environment from one file:
    BLISS_ENV_VAR
- Reminder local mods:
  ~blissadm/local

BLISSINSTALLER



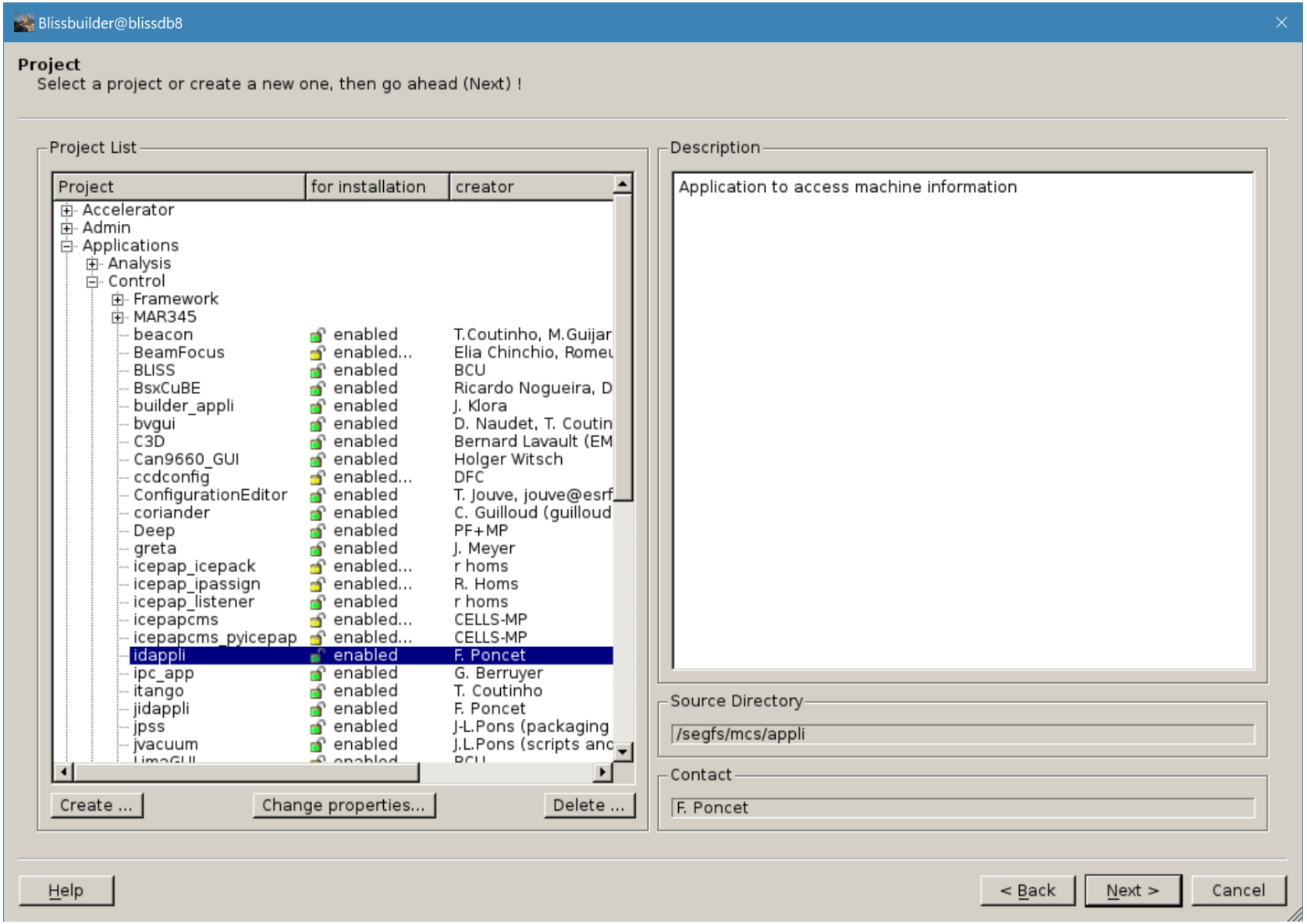
SPECIFIC VERSION



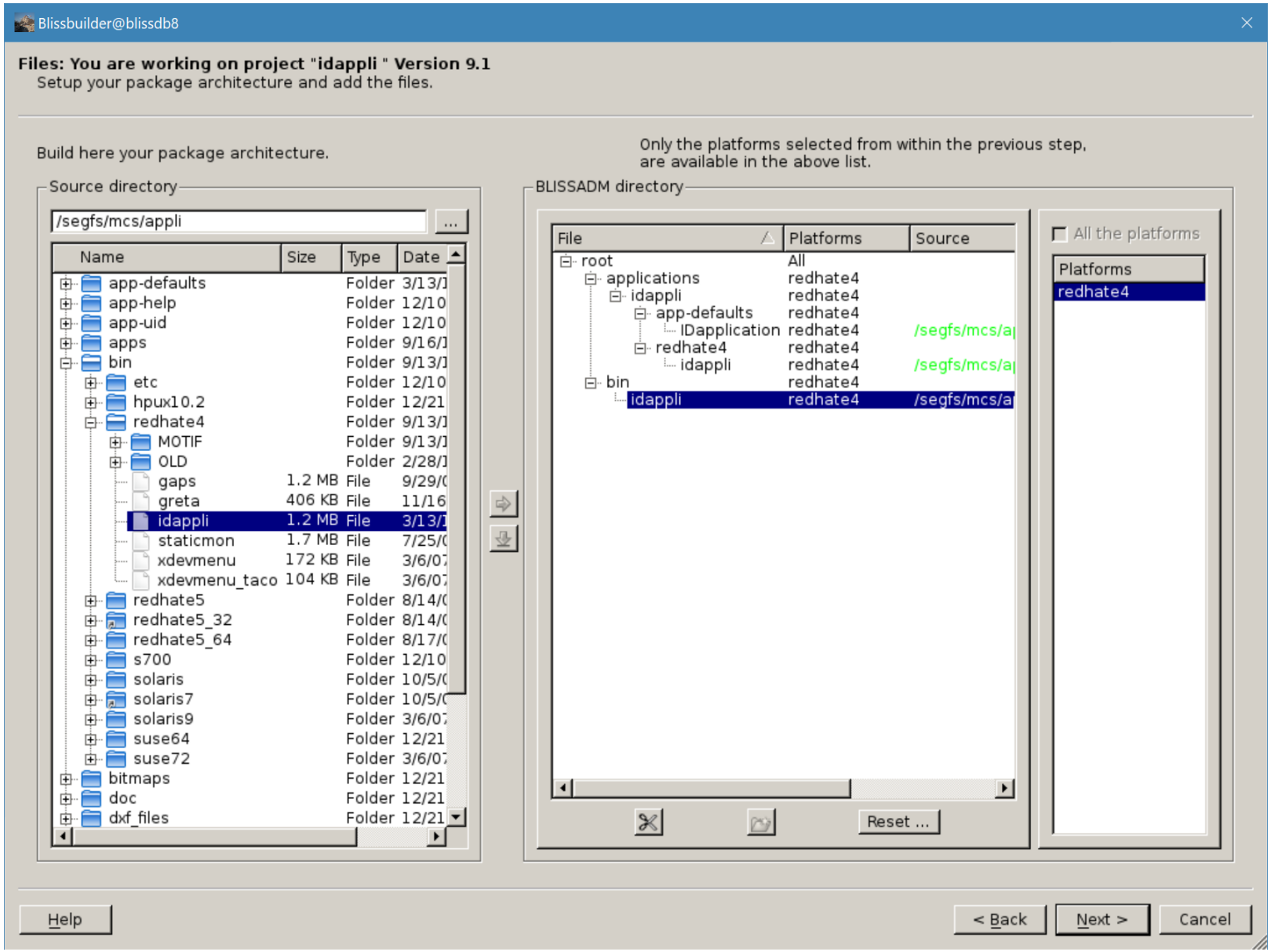
BLISSBUILDER

- Another qt tool for building software
  - Easiest to see with screen shots

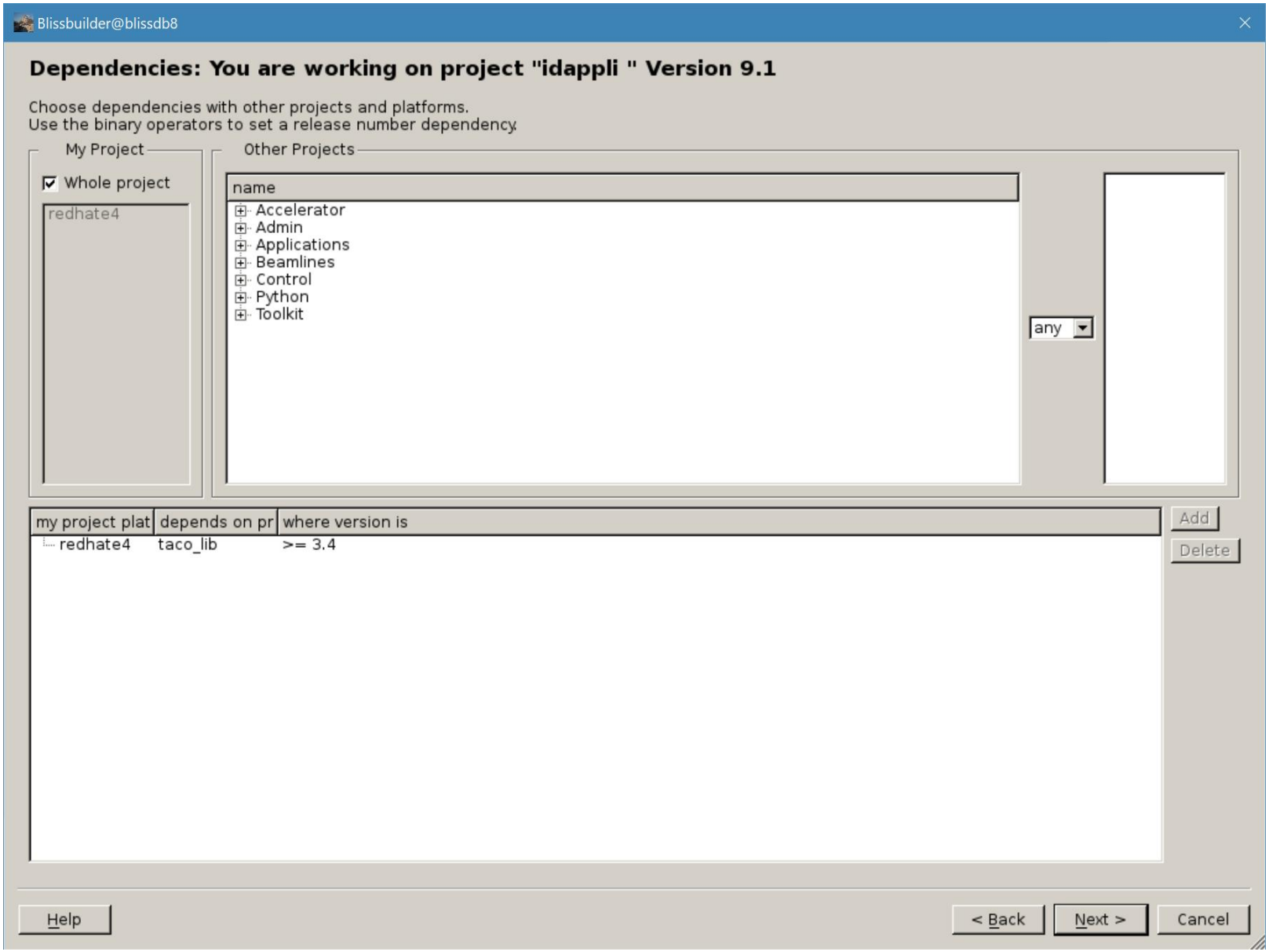
SCREENSHOT 1



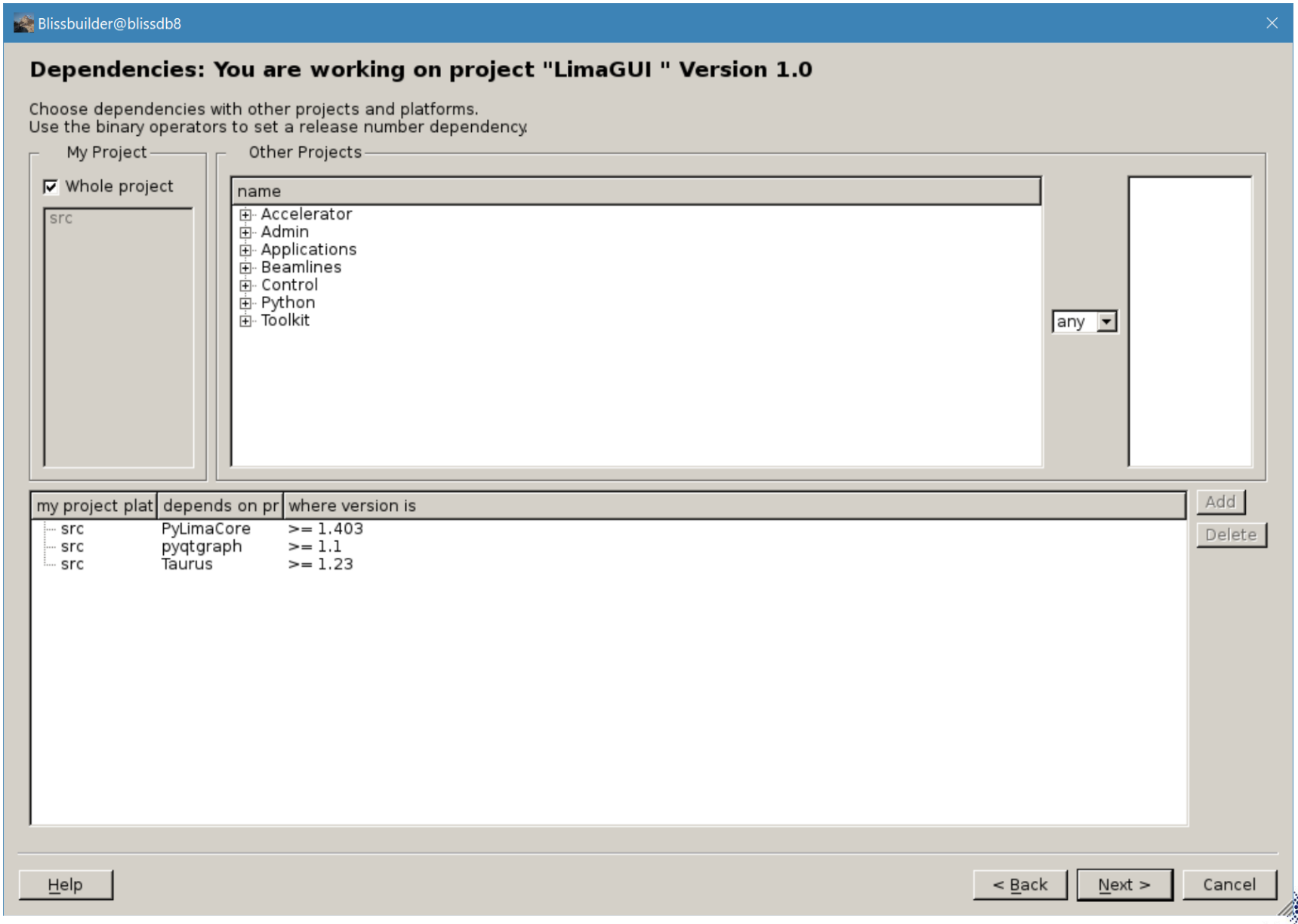
SCREENSHOT 2



SCREENSHOT 3



SCREENSHOT 4



ALL RPM BASED

- Behind all is rpm from rpm.org
  - RPM compiles for all Unixes
  - RPM deals with dependencies and has pre/post-install
  - Command line for local rpm queries inside ~blissadm
- Some support personnel can check rpm commands of local installs

BLISSINSTALLER DATABASE: SCREENSHOT 1

crg3	D32	redhate5	local_desktop_viewer-redhate5-1.9-1	2014-08-18 14:59:04
xmas1	D28	debian6	local_desktop_viewer-debian6-1.9-1	2014-08-18 13:01:07
bcu-tmpvm1	ID00	debian6	local_desktop_viewer-debian6-1.9-1	2014-08-13 14:08:04
lid30a2	ID30	redhate4	local_desktop_viewer-redhate4-1.9-1	2014-08-12 16:20:03
surf5	ID03	debian6	local_desktop_viewer-debian6-1.9-1	2014-08-11 16:45:12
med2	ID17	debian6	local_desktop_viewer-debian6-1.9-1	2014-08-11 15:25:43
bibhelm	ID31	debian6	local_desktop_viewer-debian6-1.9-1	2014-08-11 10:23:00
callisto	ID19	redhate5	local_desktop_viewer-redhate5-1.9-1	2014-08-05 09:04:24
chandra	D05	redhate5	local_desktop_viewer-redhate5-1.9-1	2014-08-01 12:39:24
echem03	ID03	debian6	local_desktop_viewer-debian6-1.8-1	2014-07-29 15:28:39
moesr	ID18	debian6	local_desktop_viewer-debian6-1.8-1	2014-07-29 15:23:16
hexport	ID15	redhate5	local_desktop_viewer-redhate5-1.8-1	2014-07-29 13:55:34
piano	ID26	redhate4	local_desktop_viewer-redhate4-1.8-1	2014-07-29 12:59:28
ldp2	ID00	redhate4	local_desktop_viewer-redhate4-1.6-1	2014-07-16 15:12:13
dlsfrelon1	DLS	centos5	local_desktop_viewer-redhate5-1.6-1	2014-06-30 10:02:07
l-cb126-2	ID00	debian6	local_desktop_viewer-debian6-1.7-1	2014-06-27 11:39:06
lid269	ID26	debian6	local_desktop_viewer-debian6-1.7-1	2014-06-19 11:22:15
lid002	ID00	debian6	local_desktop_viewer-debian6-1.7-1	2014-06-17 10:01:50

BLISSINSTALLER DATABASE: SCREENSHOT 2

Beamline Instrument Software Support

[BLISS Database Tools | BLISS brother | BLISS Home]

App. Name: Qub
Description: Qub : python/Qt widgets toolkit. This package is to install all Qub packages in one action.
Belongs to group: Python/Modules
Contact: guilloud@esrf.fr
Last built by:: petitdem

Pack *click=computer installs*	Ver - Rel	Date	Release Notes	Enable (Y/N)	Created by
Qub	1.55 - 1	2013-08-28 14:39:31	- serveral small fix	1	petitdem
Qub	1.54 - 1	2013-05-16 14:47:45	- qt4: new version ;)	1	petitdem
Qub	1.53 - 1	2011-09-22 14:02:41	- qt3 : commit 59f88d4bf949a9d773e93f3e1dea59a69622ab30 Author: Cyril Guilloud Date: Fri Sep 16 11:22:27 2011 +0200 *redesign of the Brightness/Contrast /Gain/Gamma dialog with a QGridLayout *test function in .py -qt3 : commit 23d35c983b3171ff1cb9071f85a9123b91f9f758 *In case of qttools import failure, just set it to None as it is not widely used.	1	guilloud
Qub	1.52 - 1	2011-05-18 10:29:36	- qt3 : commit 127b4c0bfd41fab47ebbc0c104be42961114fbe1 Author: Cyril Guilloud Date: Wed May 18 10:04:58 2011 +0200 * no more use opencv	1	guilloud

QUESTIONS?

Thanks for listening!

Any Questions?