



| The European Synchrotron

How management of software (blissinstaller) works at ESRF

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- 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



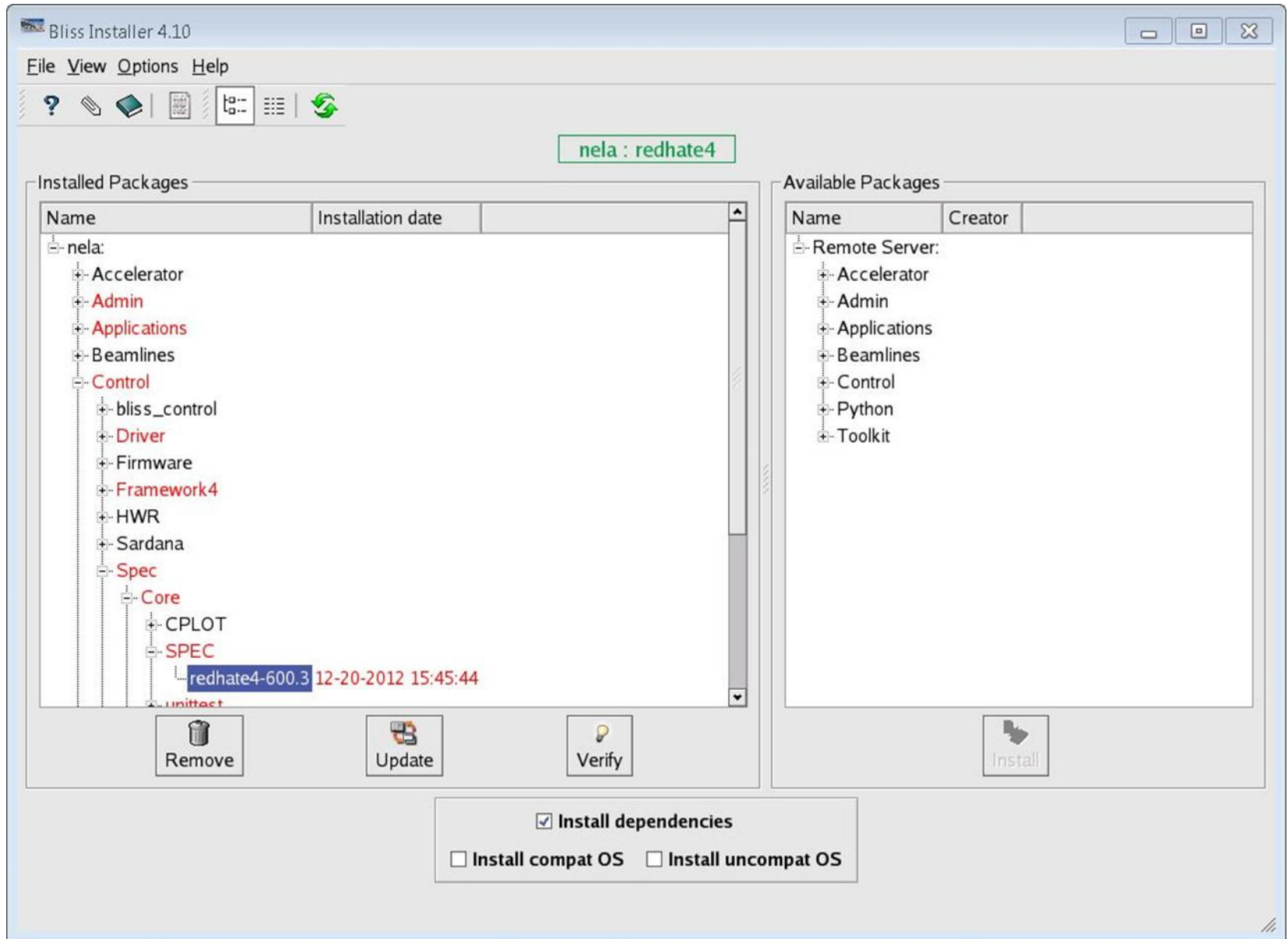
- **Central database of software:**
 - Find which machine need upgrade
 - Planning and follow up is easier
- **Extra with central database:**
 - non standard installs
 - signaled in our database

OUR ISLAND WITH OUR SOFTWARE

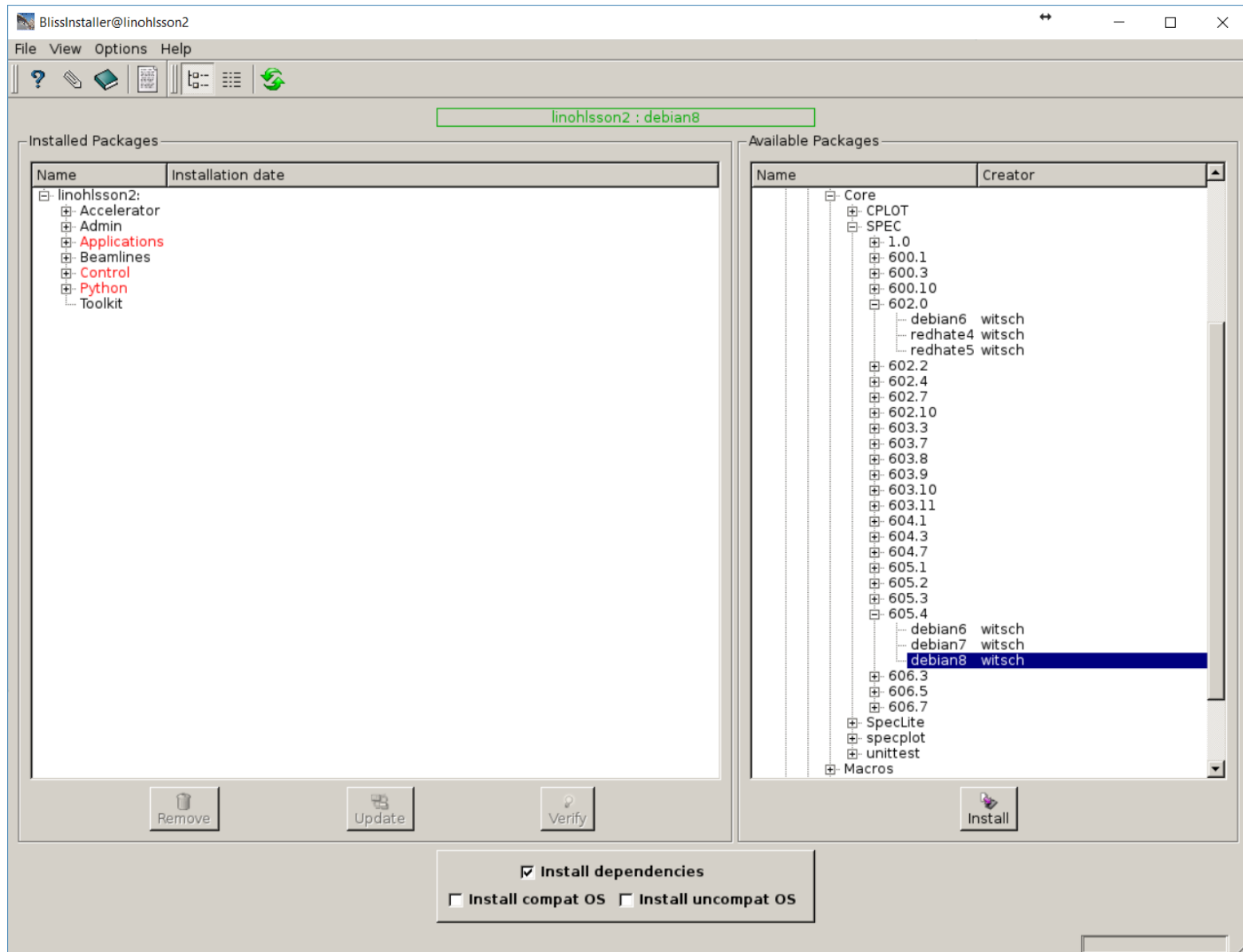


- Our installation in:
~blissadm
- opid01 user have PATH:
 - ~blissadm/local/bin:~blissadm/bin
- All executable wraps
. blissrc
 - Setting up of our environment
from one file:
BLISS_ENV_VAR
- Reminder local mods:
~blissadm/local

BLISSINSTALLER



SPECIFIC VERSION

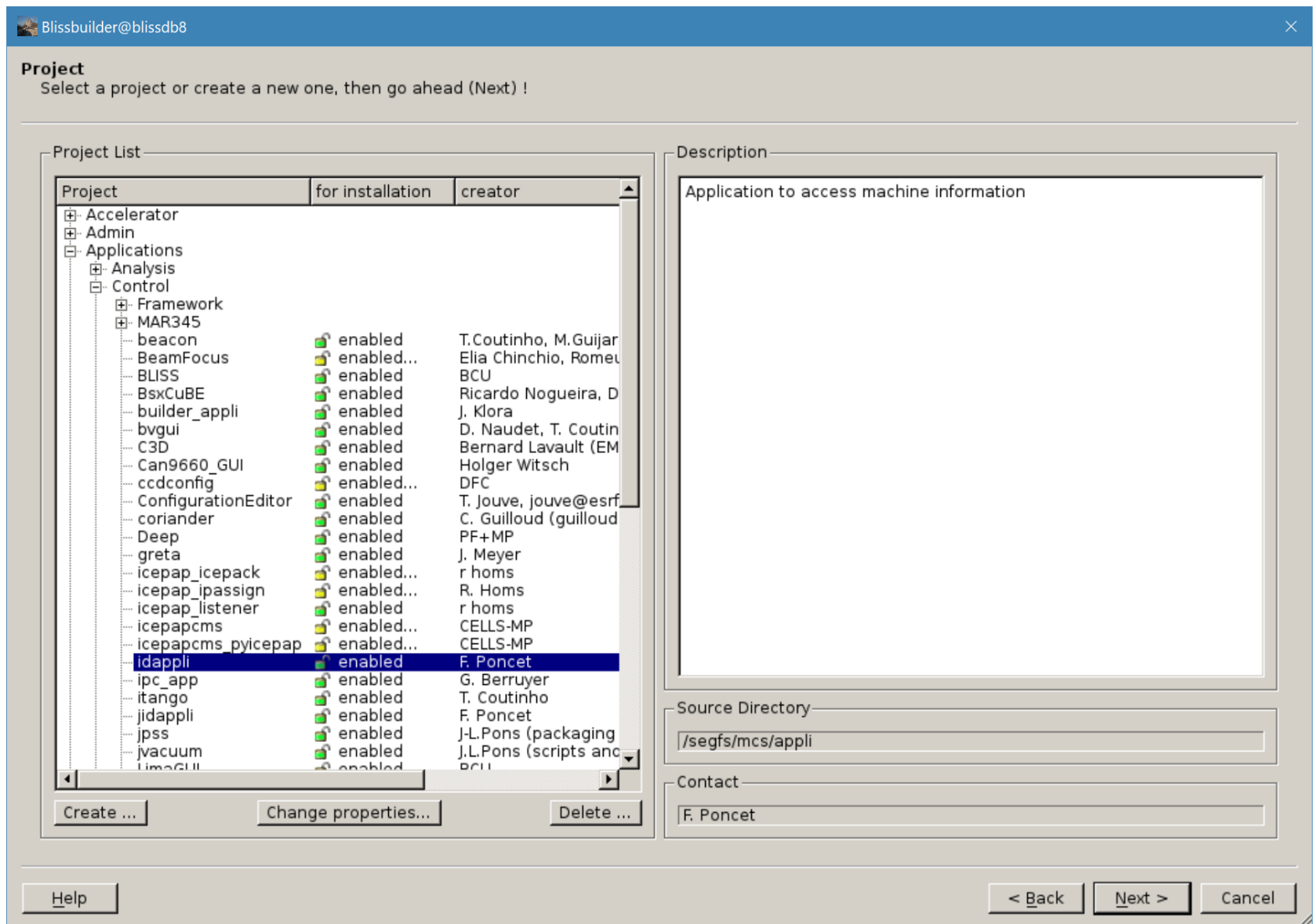




- Another qt tool for building software
 - Easiest to see with screen shots



SCREENSHOT 1



SCREENSHOT 2

Blissbuilder@blissdb8

Files: You are working on project "idappli" Version 9.1
Setup your package architecture and add the files.

Build here your package architecture.

Only the platforms selected from within the previous step, are available in the above list.

Source directory: /segfs/mcs/appli

Name	Size	Type	Date
app-defaults		Folder	3/13/1
app-help		Folder	12/10
app-uid		Folder	12/10
apps		Folder	9/16/1
bin		Folder	9/13/1
etc		Folder	12/10
hpux10.2		Folder	12/21
redhate4		Folder	9/13/1
MOTIF		Folder	9/13/1
OLD		Folder	2/28/1
gaps	1.2 MB	File	9/29/0
greta	406 KB	File	11/16
idappli	1.2 MB	File	3/13/1
staticmon	1.7 MB	File	7/25/0
xdevmenu	172 KB	File	3/6/0
xdevmenu_taco	104 KB	File	3/6/0
redhate5		Folder	8/14/0
redhate5_32		Folder	8/14/0
redhate5_64		Folder	8/17/0
s700		Folder	12/10
solaris		Folder	10/5/0
solaris7		Folder	10/5/0
solaris9		Folder	3/6/0
suse64		Folder	12/21
suse72		Folder	3/6/0
bitmaps		Folder	12/21
doc		Folder	12/21
dxr_files		Folder	12/21

BLISSADM directory:

File	Platforms	Source
root	All	
applications	redhate4	
idappli	redhate4	
app-defaults	redhate4	/segfs/mcs/a
IDApplication	redhate4	/segfs/mcs/a
redhate4	redhate4	/segfs/mcs/a
idappli	redhate4	/segfs/mcs/a
bin	redhate4	
idappli	redhate4	/segfs/mcs/a

☐ All the platforms

Platforms: redhate4

Reset ...

Help < Back Next > Cancel

SCREENSHOT 3

Blissbuilder@blissdb8

Dependencies: You are working on project "idappli " Version 9.1

Choose dependencies with other projects and platforms.
Use the binary operators to set a release number dependency.

My Project

☒ Whole project

redhate4

Other Projects

name

- Accelerator
- Admin
- Applications
- Beamlines
- Control
- Python
- Toolkit

any

my project plat	depends on pr	where version is
redhate4	taco_lib	>= 3.4

Add

Delete

Help

< Back

Next >

Cancel

SCREENSHOT 4

Blissbuilder@blissdb8

Dependencies: You are working on project "LimaGUI " Version 1.0

Choose dependencies with other projects and platforms.
Use the binary operators to set a release number dependency.

My Project

☒ Whole project

src

Other Projects

name

- ☐ Accelerator
- ☐ Admin
- ☐ Applications
- ☐ Beamlines
- ☐ Control
- ☐ Python
- ☐ Toolkit

any

my project plat	depends on pr	where version is
src	PyLimaCore	>= 1.403
src	pyqtgraph	>= 1.1
src	Taurus	>= 1.23

Add

Delete

Help

< Back

Next >

Cancel



- **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

cra3	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](#)]

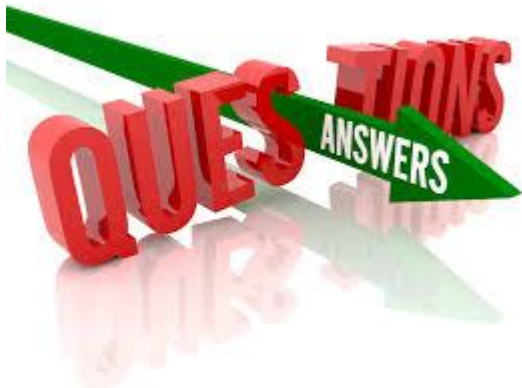
App. Name: Qub
Description: Qub : python/Qt widgets toolkit. This package is to install all Qub packages in one action.
Belongs to group: [Python/Modules](#)
Contact: guilloud@esrf.fr
Last built by: petitdem

Pack	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**



Thanks for listening!

Any Questions?