Working with Debian at SOLEIL

Picca - Groupe Instrumentation and Coordination

25th June 2012

Instrumentation - Coordination
Who are we ?

Head

Prigent Pascale

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Laboratories

- Surface.
- Chemistry.
- biology.

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Transvers Engineers

- Lucile Roussier
- Olga Roudenko
- Stéphane Bac
- Frédéric-Emmanuel Picca

Instrumentation - Coordination
Duty of the Labs

surface, chemistry and biology

- users - sample preparation

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Coordination

- beamlines - beamlines (26)

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- Igor

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Instrumentation - Coordination
Duty of the Transvers Engineers

Developpement

- Scada GlobalScreen coordination and sometimes developpement. (UserLibraries)
- where we need scientific competencies.
    - Igor coordination. (control and data analysis)
    - hkl diffractometer library
    - dadimodo (proteine cristallography)
    - equivalent of cdtools (Circular Dichroism)
- prototype before integration into IT staff softwares.
    - lets understand what we are doing with beamline scientists before asking for an IT supported software which cost way more for our instituts.
    - Beware the never ending prototype . . .

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- we always need the latest version of this fantastic Library blabla which comes with its bunch of dependencies.
- users asked for data analysis software

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- The number of scientific software is the best on the market.

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- So virtualization seems to be a good trade off.
- this was not my idea :) - Alba Box (Carlos Pascual)

The AlbaBox

- just install VirtualBox on your computer then download the virtual image.
- Based on .deb packages
- After a discussion with their scientists they defined a list of softwares needed for their data analyses.
- We just need to do some packaging
- push to the debian repository
- generate the virtual image.
- distribute this virtual thing to the users

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Neuro Med comes to the rescousse

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- Maintaining a list of package usefull to our users.
- http://wiki.debian.org/SynchrotronRadiationSoftware

the package I am in charge of

- asymptote
- guidata
- guiqwt
- hkl
- lisaac
- tango
- pytango
- taurus
- remotetea
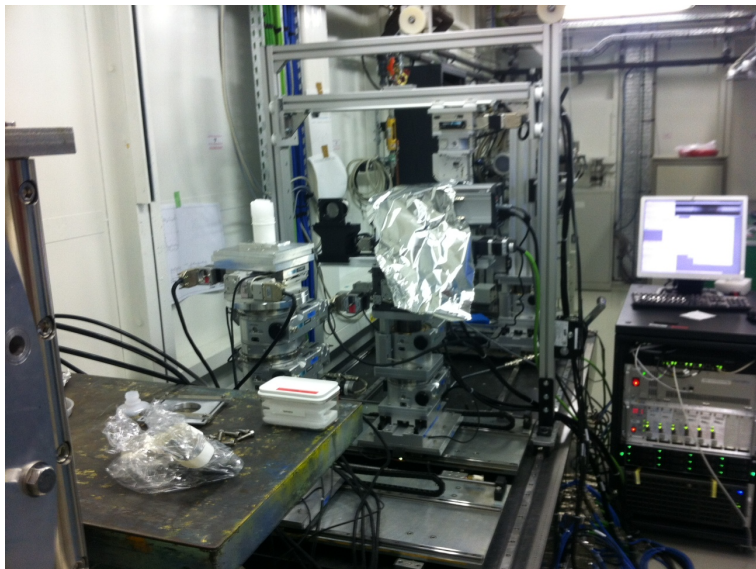- . . . the next one I will need in one of our software.

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- take care of your dependencies.
- it costs less than installing everythings on your own.
- do not forget that there is many of us.

IPANEMA

- Debian stable 6.
- AMD64 + librarie i686 pour les devices Tango SOLEIL
- 2 x 6 Core (physique) + Hyperthreading = 24 core virtuels.
- CPU : X5650 @ 2.67GHz
- RAM 348GB
- Baie RAID 16T ? RAID-6 + 2 hot spare
- 1x GP-GPU : Nvidia Tesla M2050 (Fermi) 3GB of Ram (OpenCL et/ou CUDA) (type GDDR5)
- Bus mémoire 1600MHz
- Caméra : Andor NEO, bande passante max : courante version firmware (3tap) 255MB/s
- Ce débit est atteint «facilement» par la camera (qui embarque un tampon de 4GB, le capteur peut générer jusqu'à 1.1 GB/s).
- À plus long terme, full (10tap) : 850MB/s (alors on aura la limitation du à la vitesse de transfert sur le RAID : SAS 6Gb/s en étant optimiste).

Thanks

apt-get install esrf