Passerelle Usage at Soleil

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Oct. 2009
SOLEIL team and our expectations from this meeting

Soleil Strategy for User Applications Development

The Soleil process driving tool: Passerelle

GlobalScreen / Passerelle Integration
ICA Team: Informatique Control and Acquisition
- 13 persons + 3/4 contractors
- C++ and Java developers

Our missions
- Control System for the Machine and the 25 Beamlines
- Data Acquisition Tools

Our expectations from this meeting
- Promote the Passerelle tool in others institutes.
- Be involved in the EDNA project to:
  - address the concept of on-line data analysis.
  - develop some Java modules based on Passerelle
  - and expand it at SOLEIL
    - Currently in test in Proxima1 a macromolecular crystallography beamline (Andrew Thompson, Pierre Legrand)
    - In the future in Tomography beamlines...
Avoid developing an entire system from scratch but use existing applications.

- i.e : Tango framework
- Same Soleil distribution for the machine and the beamlines

Provide tools to allow users to develop as much as possible their own integrated application without any programming knowledge as:

- GlobalScreen ➔ Set of Soleil Java widgets based on Tango to supervise the control
- Passerelle ➔ Realize Acquisition sequences
- Finally each beamline has developed its own GlobalScreen Integrated Acquisition to pilot the control system and configure, start/stop Acquisition sequences.
The Soleil software architecture

ATKPanel
ATKTuning
DeviceTree

Passerelle

Archiving

Salsa

GlobalScreen

Jive

Astor

Python

TangORB, ATK (Application Tool Kit)
Java, JavaBean

Device

Device

TANGO Software bus
PASSERELLE

The Soleil Process Driving system
Passerelle users’ environments:

IDE: development, configuration, execution, debugging:

[Diagram of IDE environment]

IDE: IDE (Integrated Development Environment) provides the following capabilities:
- Development: code writing and management
- Configuration: project setup and environment configuration
- Execution: running the applications
- Debugging: testing and fixing errors
Graphical panel on top of any Passerelle sequence.

Possibility for users to customize it:
- Selection of the visible parameters.
- Parameters’ labels.
- Panels organization.

Allow to launch it, and visualize user logs.
Passerelle users’ environments: Bossanova

➢ Is a batch editor:
  ✓ Can be batch several Passerelle sequences

![Batch Editor](image)

Generic GUI:
The parameters for the step OBX_Position_Insert

Batch Editor:
The list of sequences to execute
Passerelle users’ environments: Passerelle Manager

- A web server to remotely:
  - Configure/launch/stop sequences
  - Monitor all running sequences
  - Search for history in logs

- Do also versioning management of the sequences
Main Soleil Processes

- Beamline initialization:
  - E.g. set all motors in reference position
- Beamline alignment:
  - E.g. find the good positions of the equipments depending on the position of the beam
- Beamline Acquisition:
  - E.g. CCD acquisitions, scans…
- Machine initialization
  - E.g. Setting power supplies
Find the intersection position of 2 lines:

- scans several times the gap of the slit
- The scanning zone is more and more precised
GlobalScreen/Passerelle integration
What is GlobalSCREEN?

- Commercial tool developed by Ordinal Technologies
- A java environment which supports java Bean technology.
- Tool which propose a user friendly GUI to carry out java applications by drag and drop.

Passerelle is available in GlobalScreen with:

- The Generic GUI
- Or widgets

For 7 Beam Lines, PASSERELLE is integrated:
Diffabs, Cristal, Ode, Swing, Proxima1, Tempo, Antares
Automatic Alignment on Proxima 1

Passerelle Generic GUI
ANTARES Beamline

Passerelle Widgets

Index

Beamline
- Main Synoptic
- Vacuum Synoptic
- Survey Synoptic
- Help

Experiments
- LED
- Photoemission
- Photoemission (ARPES)
- Energy Scan
- NEKAPS (CAS)

Pizza
- Dominos

ARPES

SCIENTA REGION 1
Multi-Region Acquisition

Transmission
- Lens Mode
- Acquisition Mode
- Low Energy
- Energy Scale
- High Energy
- Step Energy
- Step Time

Detector
- X Min
- X Max
- Y Min
- Y Max

Data Recorder
- storage/recorder/datarecorder

ANTARES

Project Directory: marx/antares-soileu/com-antares
Sub Directory: 2009/Shutdown5-6
File Name: sl_Traian_2009-09-30_14-03-04
Technical Data Configuration: Text
NkEntry Name: H_26_Test_11
Global Post Record: Extracting model: generic_scan
NkEntry Post Record: Do nothing
Selected data model: default

Details History Admin