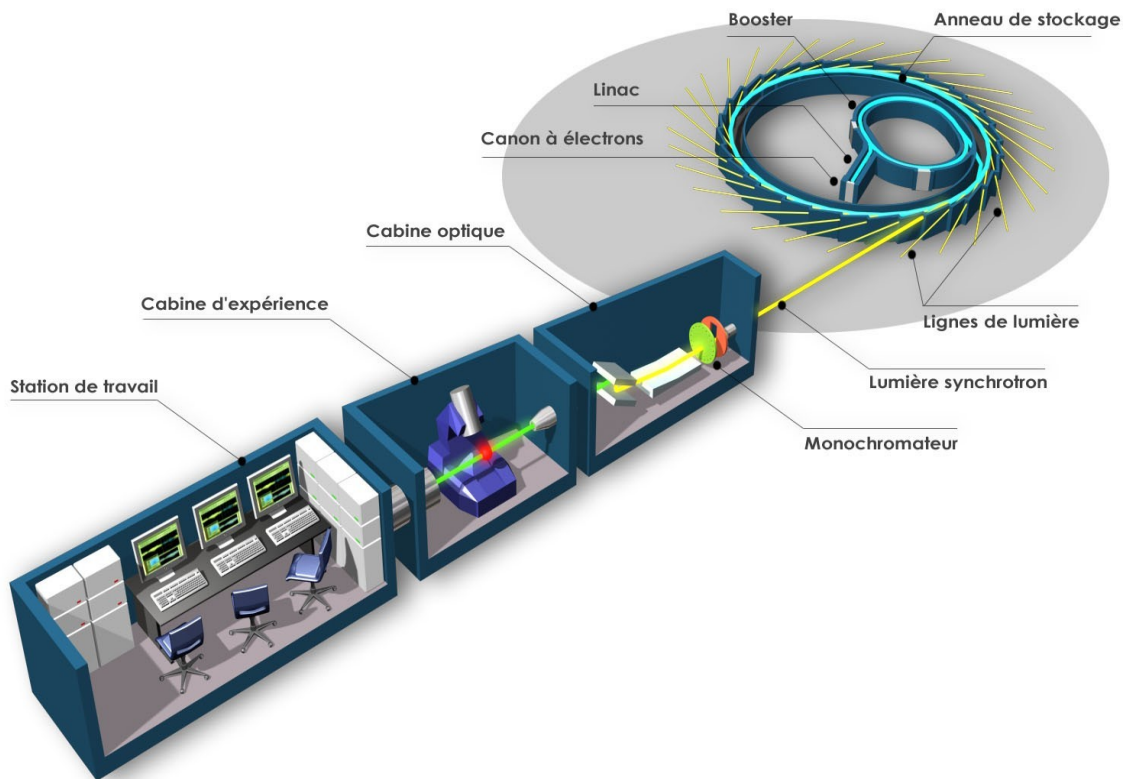


Passerelle Usage at Soleil

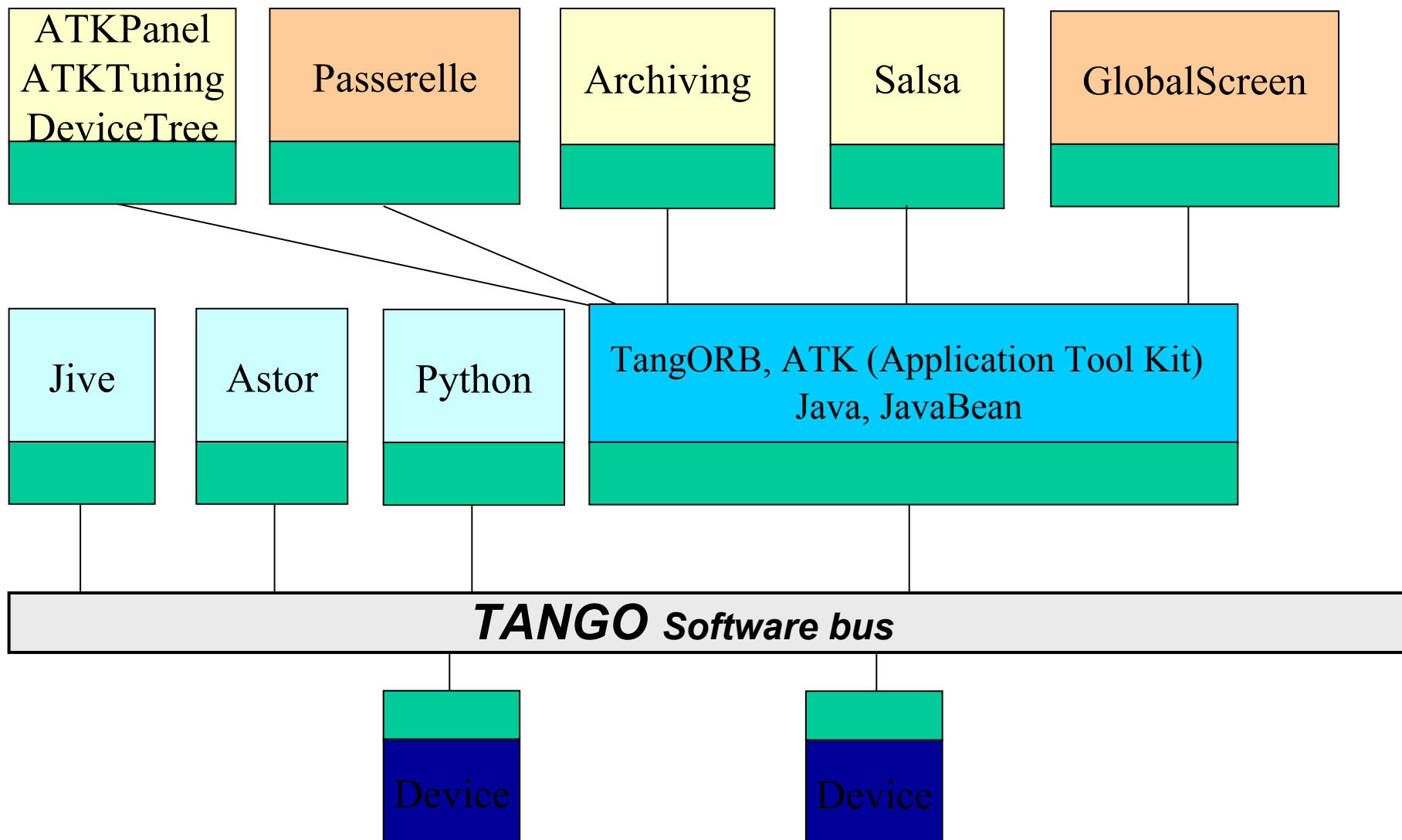
G. Abeille, S. Pierre-Jose,
Sep. 2009



- Introduction: Soleil Strategy for UserApplications Development
- The Soleil process driving tool: Passerelle
- Globalscreen/Passerelle Integration

- To avoid developing an entire system from scratch but to use existing applications.

- Provide tools to allow users to develop as much as possible their own application without any programming knowledge for:
 - ✓ Acquisition sequences: Passerelle
 - ✓ Supervision: ATK Widgets
 - ✓ Integration for supervision and acquisition sequences: GlobalScreen

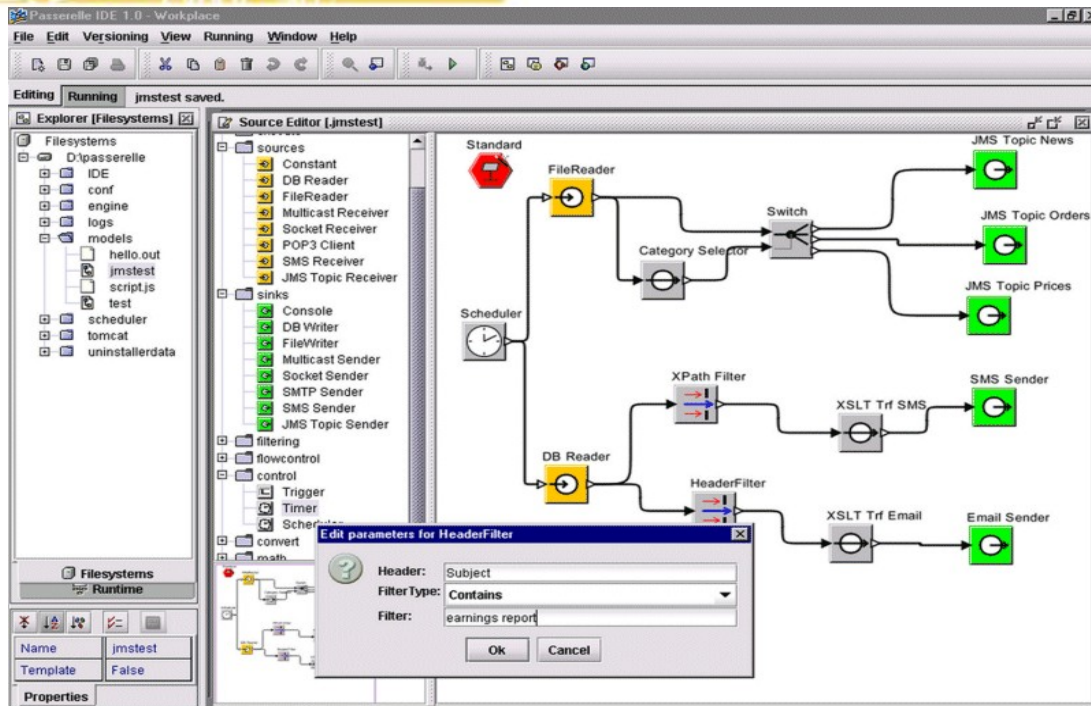


PASSERELLE

The Soleil Process Driving system

PASSERELLE

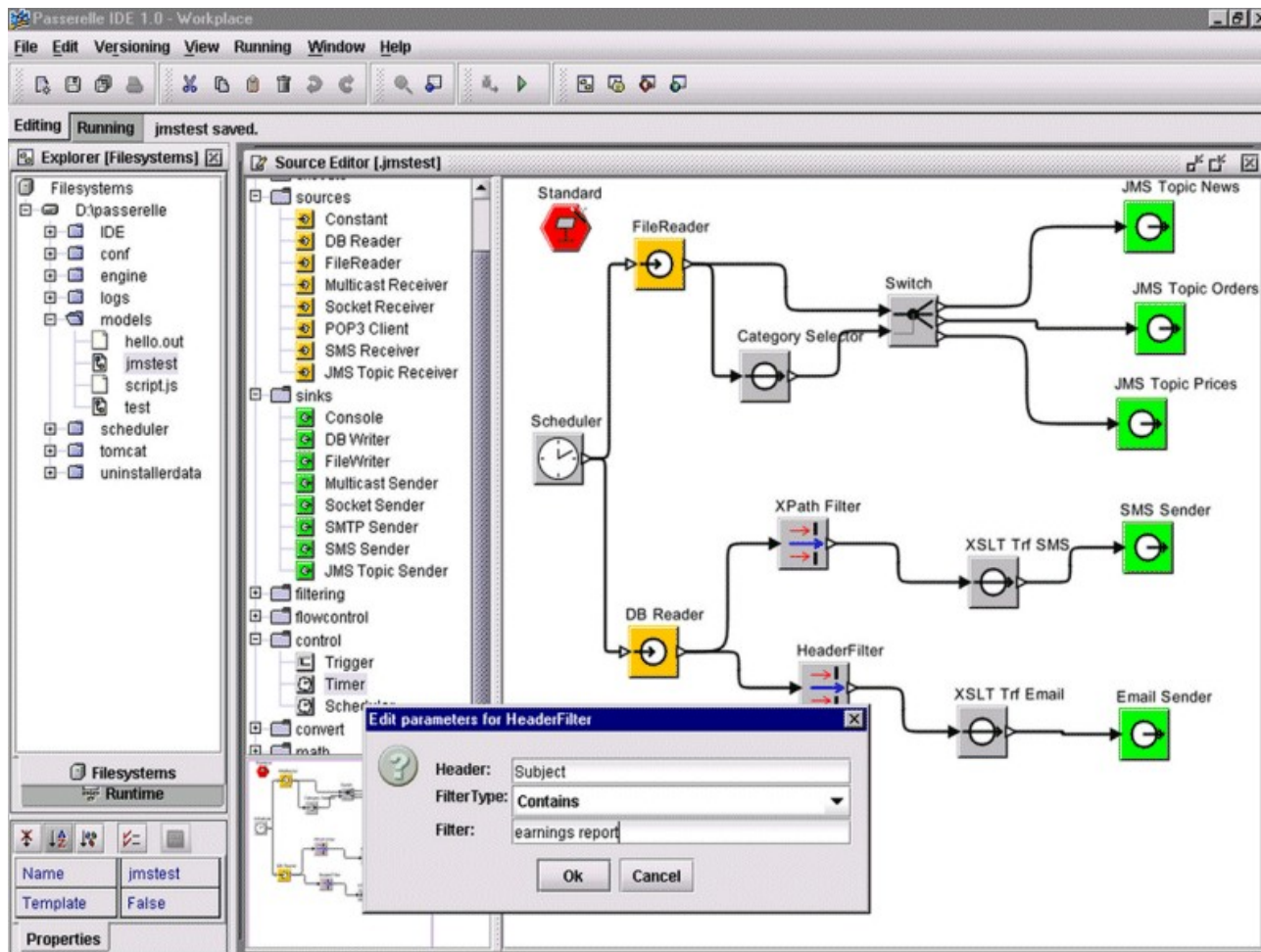
allow to
graphically
design
sequences by drag
and drop
and execute them



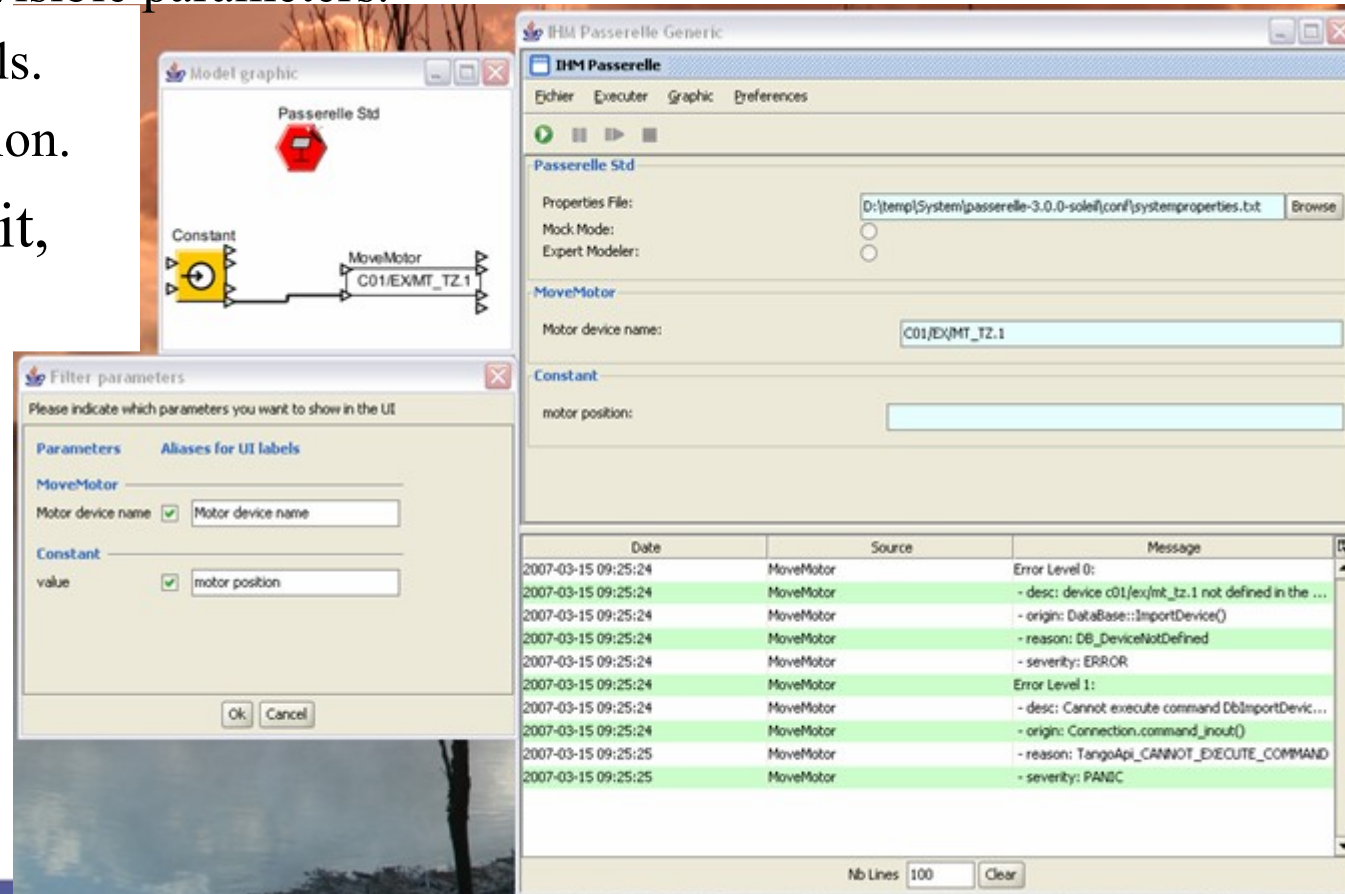
- PASSERELLE is provided by a company called ISENCIA
 - ✓ That realized process driving for industrial companies.
- PASSERELLE is based on an environment for scientific simulation: PTOLEMY (developed by the Berkeley University)

<http://ptolemy.eecs.berkeley.edu/ptolemyII/>

➤ IDE: *development, configuration, execution, debugging:*



- 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



The screenshot displays the IHM Passerelle Generic application interface. It includes a menu bar (Echier, Executer, Graphic, Preferences), a toolbar with play and stop icons, and a main workspace showing a 'Passerelle Std' model graphic with a 'Constant' block and a 'MoveMotor' block (C01/EXMT_TZ.1). A 'Filter parameters' dialog box is open, allowing users to select which parameters to show in the UI. The log window at the bottom shows a table of error messages.

Date	Source	Message
2007-03-15 09:25:24	MoveMotor	Error Level 0:
2007-03-15 09:25:24	MoveMotor	- desc: device c01/exmt_tz.1 not defined in the ...
2007-03-15 09:25:24	MoveMotor	- origin: DataBase::ImportDevice()
2007-03-15 09:25:24	MoveMotor	- reason: DB_DeviceNotDefined
2007-03-15 09:25:24	MoveMotor	- severity: ERROR
2007-03-15 09:25:24	MoveMotor	Error Level 1:
2007-03-15 09:25:24	MoveMotor	- desc: Cannot execute command DbImportDevic...
2007-03-15 09:25:24	MoveMotor	- origin: Connection.command_inout()
2007-03-15 09:25:25	MoveMotor	- reason: TangoApi_CANNOT_EXECUTE_COMMAND
2007-03-15 09:25:25	MoveMotor	- severity: PANIC

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

The screenshot displays the 'Tempo BeamLine Main Synoptic' software interface. The window title is 'Tempo BeamLine Main Synoptic'. The interface includes a menu bar with options like 'Vacuum Synoptic', 'Main Synoptic', 'Survey Synoptic', 'view_TempM1', and 'Maestro'. Below the menu bar, there is a 'Choose your sequence' dropdown menu set to 'LEED_position.moml'. The main area is divided into two panels: 'Batch' and 'Parameters'. The 'Batch' panel shows a table with columns 'Order', 'Step', 'Com...', 'Nb', and 'Enable'. The 'Parameters' panel shows 'Parameters for step 5 : OBX_Position_Insert (passerelle)' with a 'Command Name' field set to 'Insert'. A context menu is open over the 'Batch' table, listing actions like 'Add', 'Delete', 'Move up', 'Move down', 'Insert Step before', 'Insert Step after', 'Copy', and 'Paste' with their respective keyboard shortcuts.

Order	Step	Com...	Nb	Enable
1	LEED_position (passerelle)		1	<input checked="" type="checkbox"/>
2	Origine_position (passerelle)		1	<input checked="" type="checkbox"/>
3	OBX_Position_Insert (passerelle)		1	<input checked="" type="checkbox"/>
4	Sputtering_position (passerelle)		1	<input checked="" type="checkbox"/>
5	OBX_Position_Insert (passerelle)		1	<input checked="" type="checkbox"/>

Context Menu:

- + Add (Ctrl+Shift-A)
- Delete (Ctrl+Shift-D)
- ↑ Move up (Ctrl+Shift-Up)
- ↓ Move down (Ctrl+Shift-Down)
- ↶ Insert Step before (Ctrl+Shift-A)
- ↷ Insert Step after (Ctrl+Shift-A)
- 📄 Copy (Ctrl-C)
- 📄 Paste (Ctrl-V)

The screenshot shows the Passerelle Manager web interface. The browser address bar indicates the URL: `http://127.0.0.1:8080/passerelle-manager/jsessionid=6ale5c0a5747m?wicket:interface=:1:1:3::#`. The page title is "Passerelle Manager" and the current view is "Job Definition".

At the top, there are "Update" and "Cancel" buttons. Below that, the "Name" field contains "My passerelle model" and the "Group" field contains "Default". The "Description" field is empty. The "Job Type" is set to "Passerelle Model".

The "Passerelle Model" section shows a file named "exampleModelForWebFormEditor.moml".

The "Model Parameters" section contains a table with one parameter:

Name	Value
sampleModelParameter	Hello from model parameter

The "Director Parameters" section contains a table with several parameters:

Name	Value
timeResolution	1E-10
Properties File	
Mock Mode	<input type="checkbox"/>
Expert Modeler	<input type="checkbox"/>
Validate Initialization	<input checked="" type="checkbox"/>
Validate Iteration	<input type="checkbox"/>

The "Actors Parameters" section contains a table with several parameters:

Name	Value
Constant	
value	sampleModelParameter
Console	
PassThrough	<input type="checkbox"/>
Chop output at #chars	90
Regular Expression Filter	
Expression	Hello.*

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

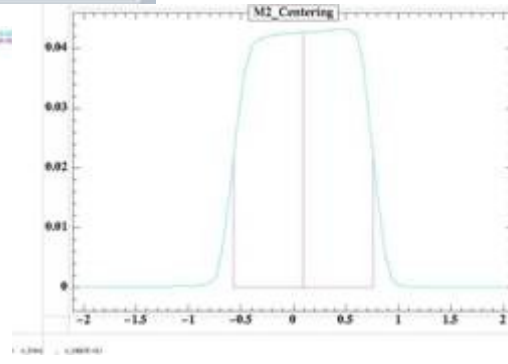
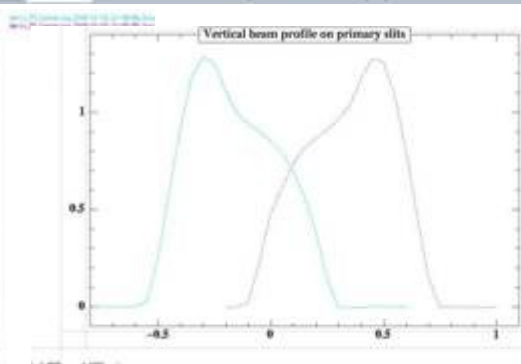
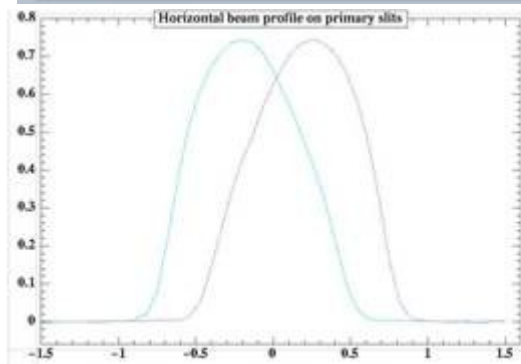
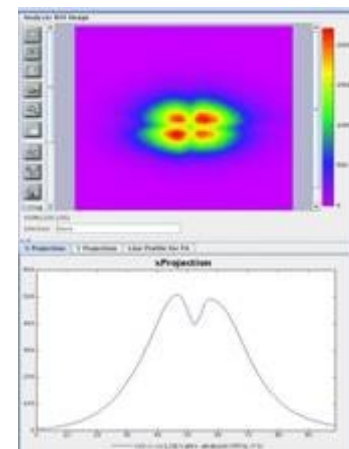
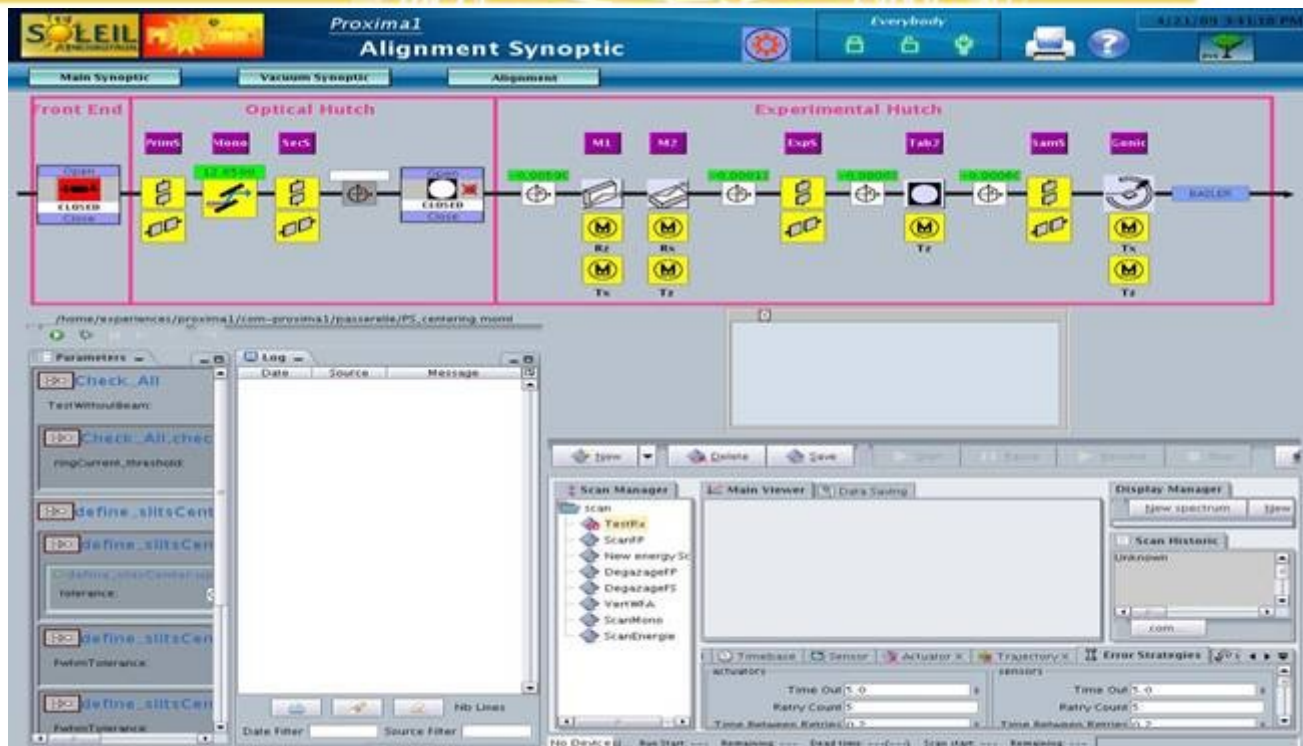
- Do also versioning management of the sequences

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

GlobalScreen/Passerelle integration

- for 6 applications BL the acquisition is also integrated : Diffabs, Cristal, Ode, Swing, Proxima1 and Tempo.

The screenshot displays the Maestro software interface for the SOLEIL D13-1 synchrotron. The main window is titled 'Maestro' and includes a top navigation bar with tabs for 'Main Synoptic', 'Vacuum Synoptic', 'Survey Synoptic', 'Survey Table', and 'Maestro'. On the left, there are two main panels: 'reglages' (controls) and 'applications' (acquisitions). The 'reglages' panel contains icons for Monochromator, Mirrors, Slits, Girder/Tables, and Diffractometer. The 'applications' panel shows buttons for 'SALSA', 'CAPOEIRA', and 'TUMBA'. Overlaid on the main window are several smaller windows: 'Passerelle' (Parameters for step 1: ScanBossonova (passerelle)), 'Charleston 0.4.3 - 2008-11-20 10:38:24' (Image Management, Image 2D Fitting, Histogram), and 'Analyzer ROI Imag' (Analyzer Input Image, Analyzer ROI Image, Line Profile for Fit, Y Projection, X Projection). The 'Analyzer ROI Imag' window shows a color scale from 0 to 45 and a line profile plot. The 'Charleston' window shows various parameters for image fitting and ROI selection.



Parameters

Axe1

PositionTx: 1.45
PositionTy: -1.0
Number of Lines: 1

Axe2

PositionTx: 1.45
PositionTy: -1.1
Number of Lines: 1000
Delay: 1

DataRecorder

ODE [Start]

Project Directory: /home/.../...
Sub Directory: SOURCE
File Post Name: SOURCE
Recording Model: [None]

Position	Coordinates	Status
1	1.45, -1.0	OK
2	1.45, -1.1	OK
3	1.45, -1.1	OK

