TAURUS Workshop

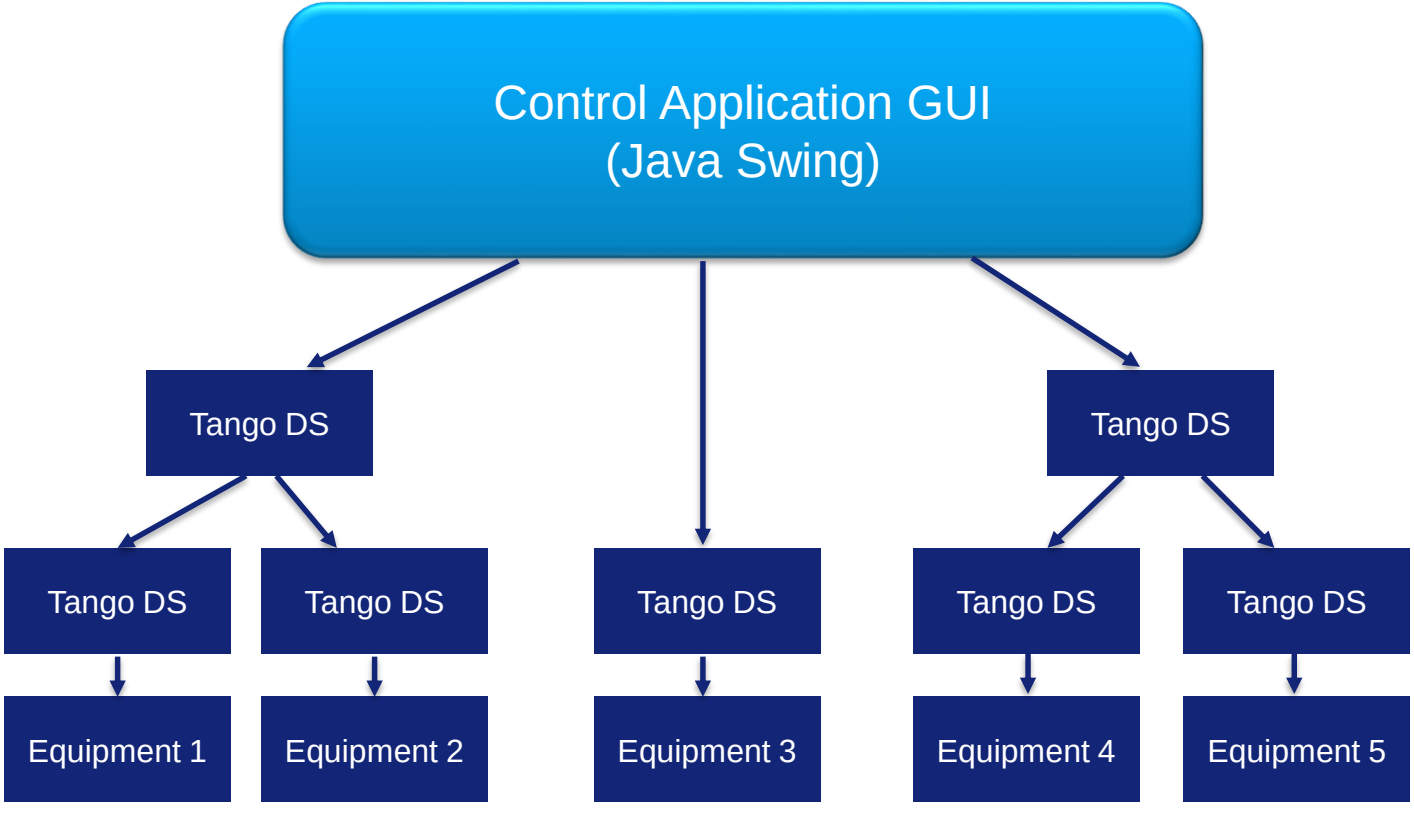
14-15 March 2023

Accelerator Control GUIs at ESRF

F. Poncet

ESRF | The European Synchrotron

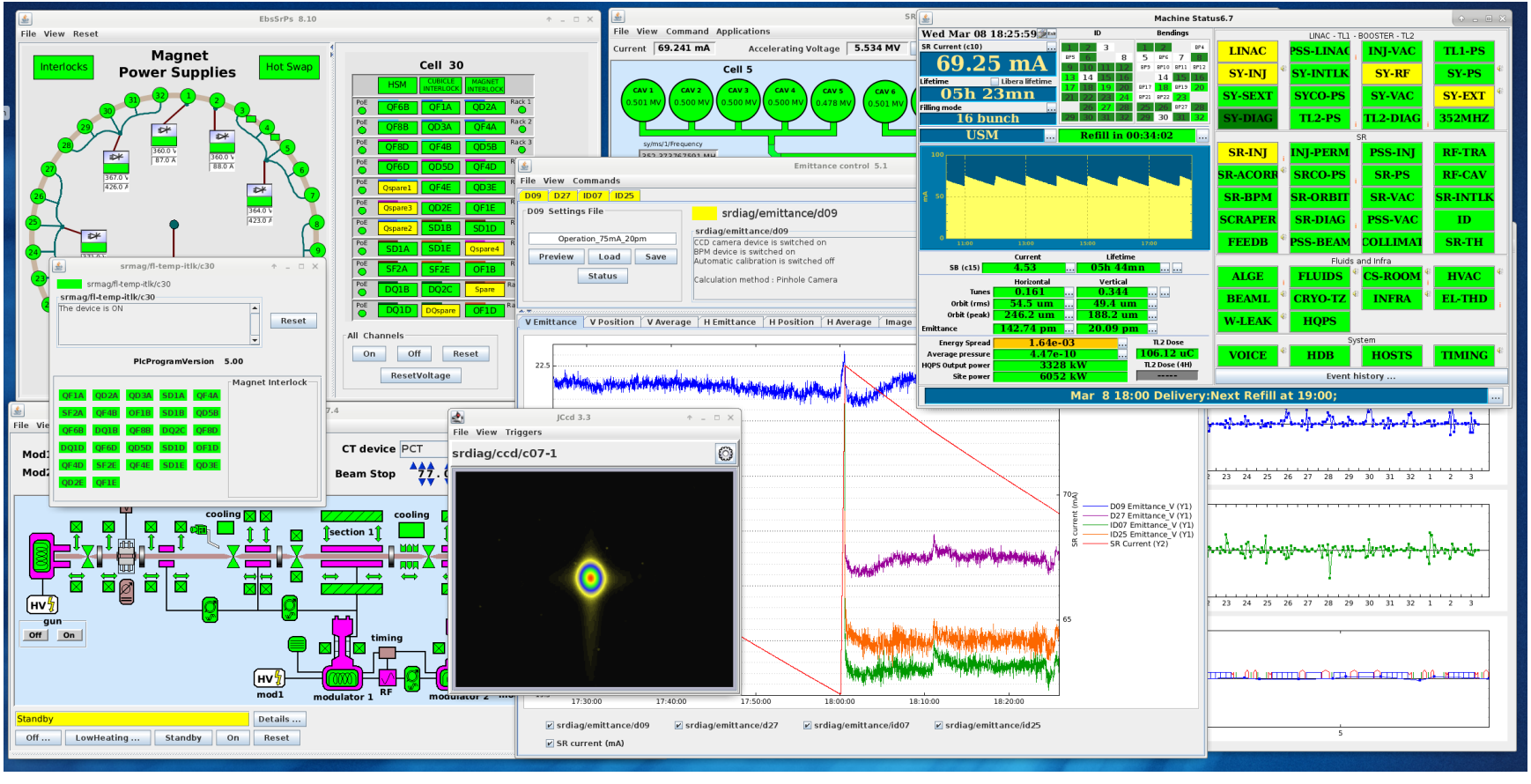
CURRENT STATUS : ARCHITECTURE



ACCELERATOR CONTROL SYSTEM FIGURES

- 371 Controlled hosts (control PC and VMs)
- 2 820 Tango servers running
- 5 159 Tango classes
- 23 227 Tango devices
- 417 678 Device properties
- 153 489 Attribute properties

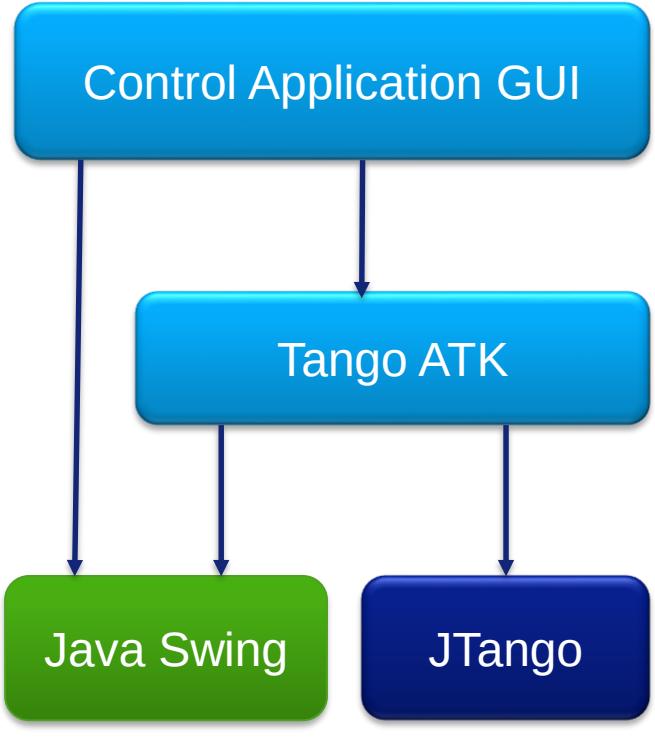
ACCELERATOR CONTROLS GUI EXAMPLES



GUIS CHARACTERISTICS AND FIGURES

- 130 Java GUI applications deployed and used in operation. Many of them also include expert sub-panels
- All of them are desktop standalone applications
- 100% of these applications are developed by our team (ACU)
- Among them lots of medium complexity applications and a few very complex applications
- The number of tango devices connected to one application : up to 2 000
- Pure clients talking to Tango devices. The control logics are coded inside the device servers not in GUI applications
- In addition to the above applications, more than 60 dashboards based on Jdraw Synoptic made by non programmers : equipment responsibles or operators

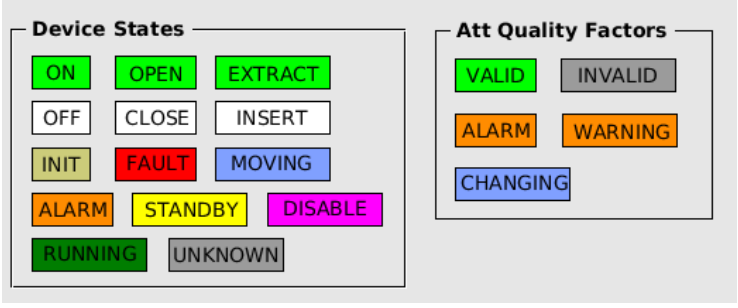
Java applications based on Tango ATK framework

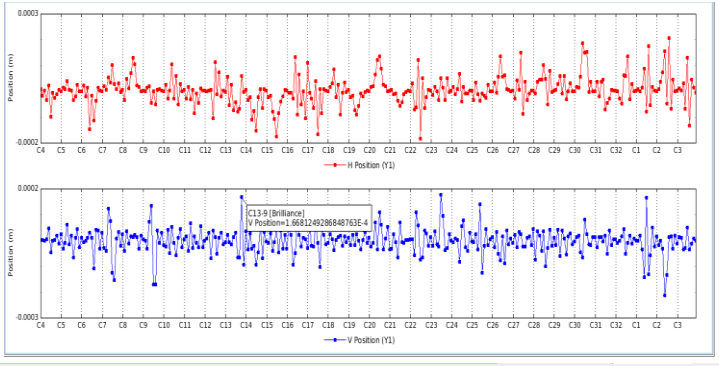


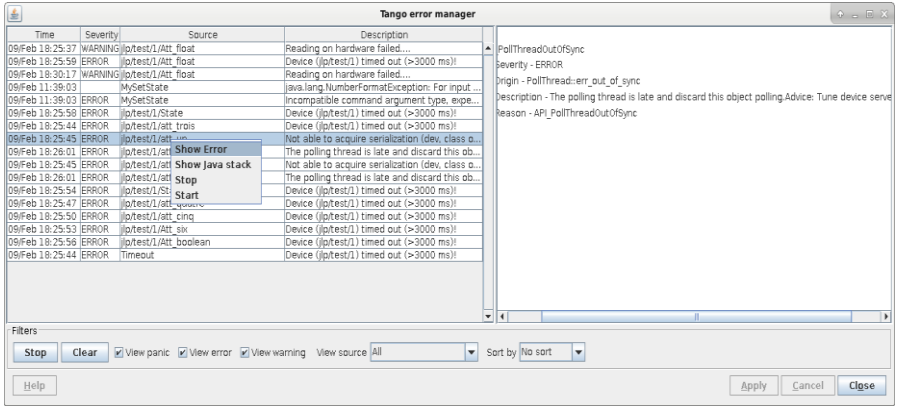
HOMOGENOUS LOOK & FEEL

- Color code, ToolTips, conventions
- Same tools for chart, plots
- Error handling and windows : popup and history
- Synoptic drawings

HOMOGENOUS LOOK & FEEL





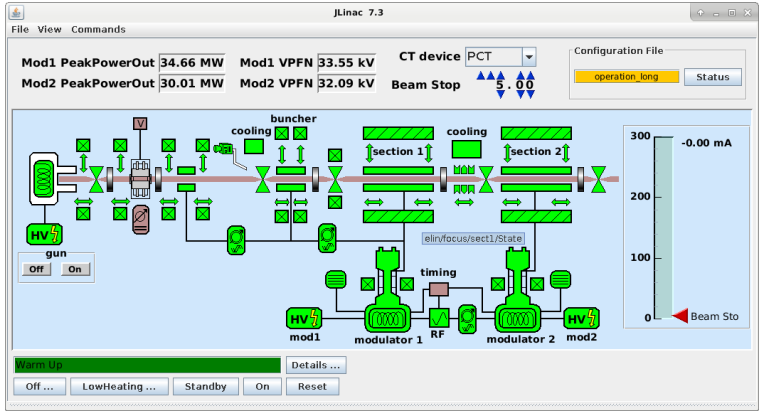


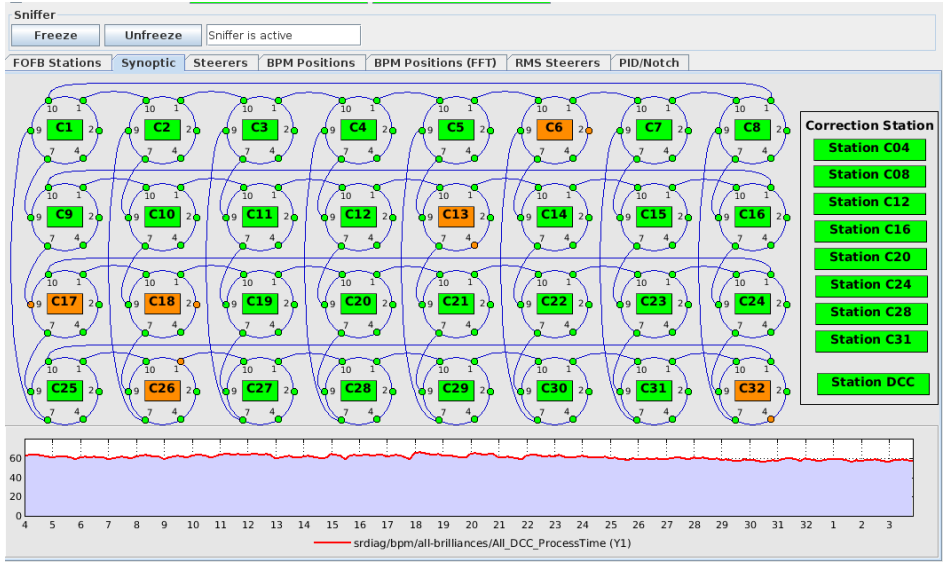
HOMOGENOUS LOOK & FEEL

Synoptic drawings

The unique tool at ESRF which allows to build a simple GUI with zero programming. The equipment experts and/or the operators can build a GUI in autonomy.

This tool is included in Tango ATK.





FUTURE OF JAVA AND SWING

- ## Oracle Support for Java
  - ✓ Oracle Supports Java : see the oracle document “Java Client Roadmap Update” last updated May 11, 2020
  - ✓ Latest LTS release Java 17 and the next LTS release Java 21 is planned for September 2023
  - ✓ A non LTS release every 6 months and one LTS release every 2 years according to the **Oracle Java SE Support Roadmap**

- ## Oracle Support for AWT and Swing
  - ✓ In Oracle document “Java Client Roadmap Update” last page : *Oracle will continue developing Swing and AWT across all supported releases as a core Java SE technology*

FUTURE OF TANGO JAVA API

- **JACORB**
  - ✓ There is no update or apparent activity on this project since 2017
  - ✓ Are the JACORB source codes included inside the Jtango project so that they are compiled / recompiled with Jtango ?
  - ✓ What will be the future of Tango Java clients : AtkPanel, Jive, Astor, HDB++ tools and clients?
- **JEROMQ**
  - ✓ It is still updated. The last release jeromq-0.5.3 December 2022
- **Jtango**
  - ✓ ESRF : for the moment no contributor (Since Pascal's retirement)
  - ✓ SOLEIL : Main contributor
  - ✓ S2 Innovaltion
  - ✓ Are we going to actively maintain Jtango? Resources? What about JACORB and JEROMQ?

FUTURE OF JAVA GUIS AT ESRF

- JAVA and Swing support ✓
- JEROMQ ✓
- JACORB 👈
- JTANGO ?

MANY THANKS FOR YOUR ATTENTION