The Computing Model of the Experiments at PETRA III

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Experiment Control at DESY (Photon Science Dep.)

DORIS: 4.5 GeV, ~30 BLs

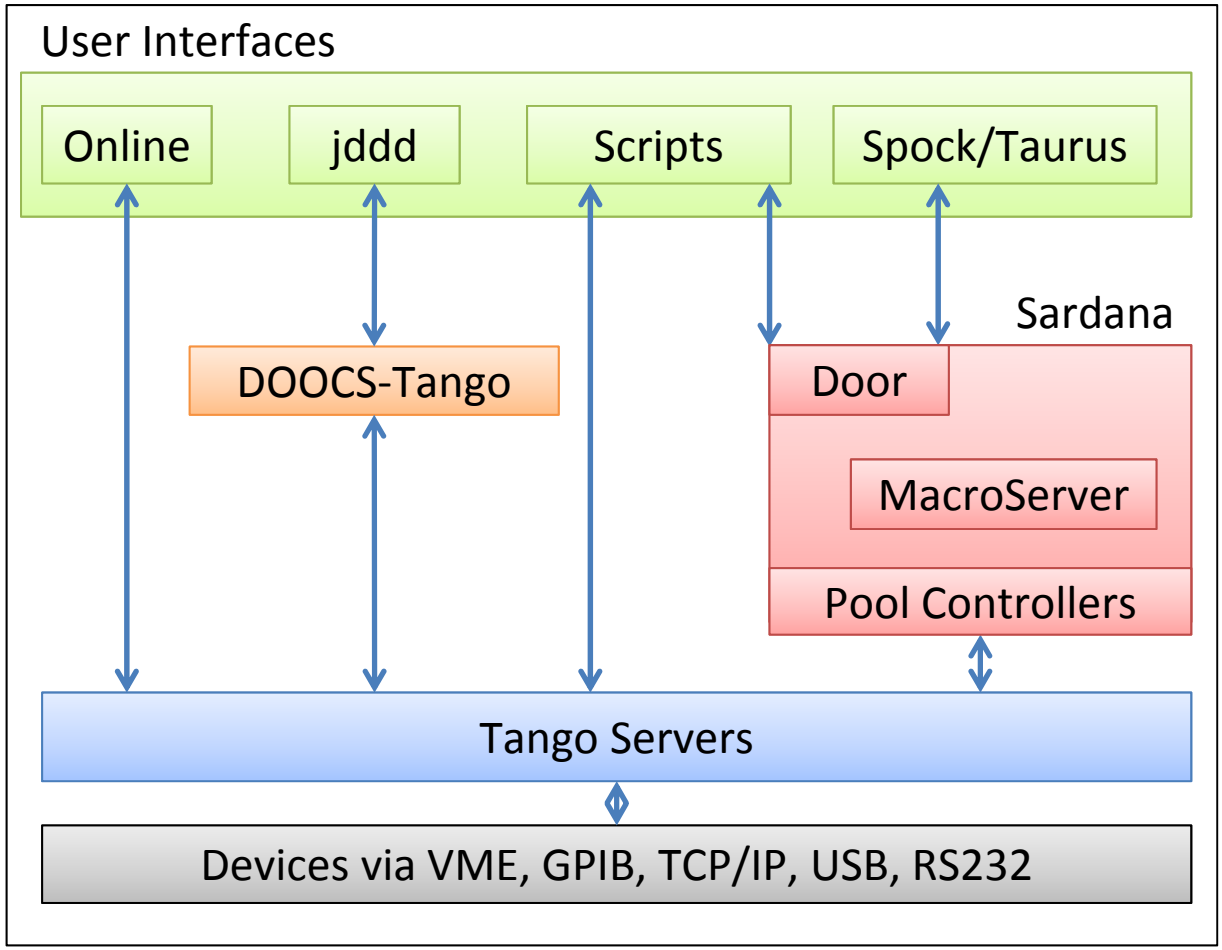
FLASH: 180 eV, 5 BLs

PETRA III: 6 GeV, 2.3 km, 1 nmrad, 14 BLs

Goals for PETRA III

- Complex beamlines need a distributed system
- Sustainability requires a modular approach
- Flexibility is a pre-condition to serve user groups
- Integrate data management and data processing

The PETRA III Experiment Control System



- Online
  Experiment control program
- jddd
  Synoptic display for BL overview
- Scripts
  Python, Perl (Online)
- Spock
  Sardana command line interface
- Taurus
  Sardana GUIs, utilities

Future: Online → Sardana

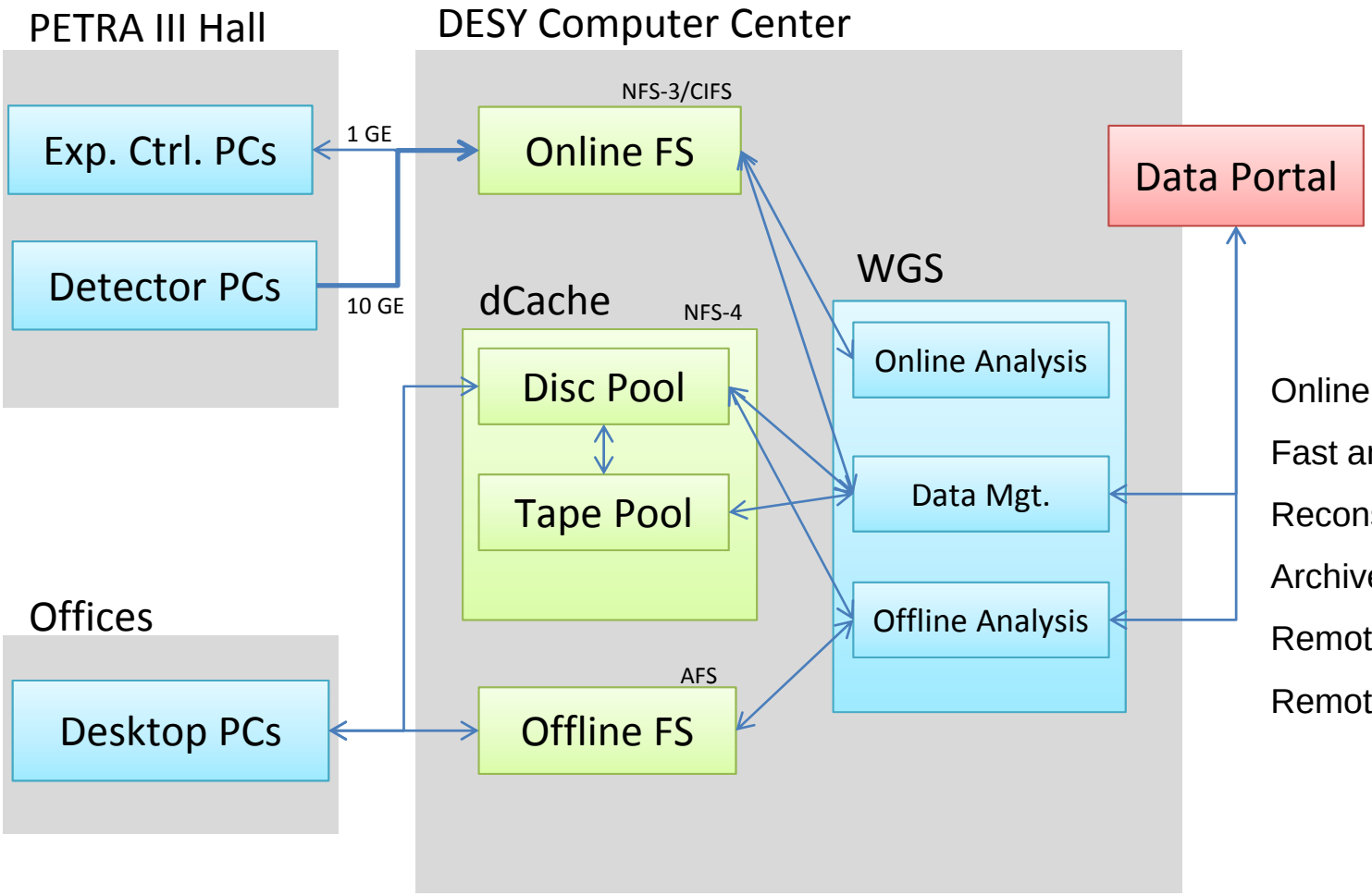
- Modular: Servers, Scripts, Macros, jddd, Taurus appl.
- Flexible: GUIs, CLI, Scripts, Tango

jddd: DESY-MCS

Sardana: ALBA, et. al.

Tango: ESRF et. al.

Data Management and Data Processing



Online buffering

Fast analysis

Reconstr./simulation/analysis

Archive

Remote data access

Remote work flow control