

II Project plan for 2004

SC2, 16 April 2004

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Project Overview

- ❖ Physicist Interface (PI) started in mid Nov'02
 - Review with experiments to define workplan
 - Project proposal to SC2 end Jan'03
- ❖ Four development areas identified
 - Analysis Services, Analysis Environment , Pool & Grid PI, Event & Detector Visualization
- ❖ Only Analysis Services really pursued
 - Revision and evaluation of AIDA interfaces
 - Development of a C++ AIDA binding for ROOT histograms
 - Development of C++ and python tools for AIDA (based on SEAL)
 - Creation of a repository of blueprint compliant analysis toolset

❖ Resources (2003):

- V.I. (20%), Andreas Pfeiffer (40%), Lorenzo Moneta (50%), visitors from *Accademia Sinica*



Analysis Services in 2004

- ❖ **Complete AIDA binding to LCG/AA Software**
 - ❑ Interface to new Minuit
 - ❑ Interface to Pool collections
 - ❑ Interface to a white-board
- ❖ **Resources:**
 - ❑ V.I. (20%), Andreas Pfeiffer (20%), Lorenzo Moneta (20%), visitors from
Academica Sinica



Open issues: Analysis Environment

❖ Python

- ❑ ATLAS, CMS and LHCb have all an interactive environment in python based on their own framework
- ❑ LCG/AA tools seem to fit well in them. SEAL provides support utilities
- ❑ Integration of other tools already exported to python (such as HippoDraw or KDE) has been demonstrated to be easy
- ❑ A full binding to root has been provided by LCG/AA

❖ ROOT/CINT

- ❑ Besides ALICE software, very little LHC experimental software has been exported to root/cint
- ❑ No LCG/AA software is accessible from root
- ❑ No experience in importing in the root environment external software “asis”

❖ GUI

- ❑ No agreement exists on a common toolkit for building and integrate GUI components.



Open issues: PI vs ARDA

❖ Is it a real issue?

- ❑ The experience from integrating SEAL, POOL & PI in the experiment frameworks (either in C++ and python) has demonstrated that well designed component are easy to bind together without any need of strong coupling
- ❑ A light weight adapter layer is always welcome
 - Capture common use cases (inside a given application)
 - Avoid trivial code duplication
 - Translate coding idioms
 - Ease maintenance
- ❑ PI may provide a set of tools to ease the deployment of its analysis services in a distributed computing environment as seen through ARDA services
 - Histogram manager that matches ARDA dataset catalog



Possible future role for PI

- ❖ **PI main mandate is to provide AIDA analysis services to LHC experiments in C++ and python**
 - ❑ Implementing AIDA binding to LCG software and ROOT
 - ❑ Providing interoperability with other AIDA implementations
 - ❑ Acting in AIDA to support LHC use cases
 - ❑ Developing tools and light-weight layers that help physicists to integrate analysis services with other software (in particular LGC one)
- ❖ **PI can also act as common repository for**
 - ❑ Statistical analysis toolkits
 - ❑ Data-mining engines
 - ❑ Data visualization tools

