SEAL Summary and Plans

LCG-AA Internal Review

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Work Packages

Foundation	Foundation and Utility Libraries and Plug-in Manager
MathLibs	Math Libraries Support and Coordination
Dictionary	LCG Object Dictionary
Framework	Component Model and Basic Framework services
Scripting	Scripting Services
Grid	Grid Services (not yet active)
Documentation	Education and Documentation

Next Steps: Foundation

- Utility libraries development
  - Hash maps
  - … others on demand
- Plugin Manager
  - Work on the negative feed-back
  - Development of utilities to diagnose problems
  - Interfacing to dictionaries libraries
- Education
  - Teach how to use SEAL itself
  - Teach how to use Boost

Next Steps: MathLibs

- Support for GSL
  - Recommendation to use GSL
  - Consultancy (contact with GSL developers)
- Support for CLHEP
  - Active participation in maintenance
  - Consultancy
- New Minuit
  - Evolve prototype to a finish product
  - Integration into analysis tools (ROOT, PI, …)

Next Steps: Dictionary

- Implementation of new reflection model
  - Overcome some existing limitations (typedef,...)
- Extending and creating dictionaries of popular packages on demand
  - CLHEP, ...
- New language gateways
  - Java gateway under investigation
- Keep an eye on:
  - The eXtended Type Information (XTI)
  - Common dictionary between CINT and LCG

Next Steps: Framework

- New Services
  - *Whiteboard* service
    - » object repository
  - *Dictionary* service
    - » loading of dictionary libraries on-demand
- New implementations
  - More *Configuration* service back-ends
- Corrections and re-designs are foreseen and possible
  - From feedback of experiments and POOL

Next Steps: Scripting

- Python Bindings
  - Further study the interoperability between Boost and SWIG
  - Delay decision until confronted with real problem
  - Training and consultancy
- PYLCGDict
  - Migrate much of functional core from C++ to Python exploiting Python's metaclasses.
  - Support more natural Python features (eg iterator protocol)
- PyROOT
  - Undergoing performance improvements
  - Unify core with PyLCGDict ?, Gateway ROOT -> Python

Next Steps: Grid

- Waiting for the ARDA outcome
- We expect that there will be a need to interface to some of the ARDA services from applications (framework)
  - Modeled as SEAL components
  - Provide Python bindings