Client Consolidation TF

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Task

- Restart of the TF at last EGI CF in Garching
- New proposal until the end of April, before the AHM
- Recommendation regarding CLI and client side API for EMI

What else we did

- Client Survey
- API comparison
- Both can be found in the Wiki or on request
- Had a very productive meeting in Brussels on April 19th-20th

Assumptions

- Recommendation must be implemented by end of 2012
- Language wrapping should be avoided
- We want a single API for multiple language implementations
- Neither UCC nor URC will adopt EMI-ES
- HiLA Shell has never been intended as a production client
- Graphical clients and workflows are out of scope
- ARC would like to provide only one interface to their CE
  - Could be EMI-ES
- Current CREAM implementation using gSOAP should be replaced

Scenarios

- Document considers three main scenarios
- Additionally summarises some others
- Some scenarios were assumed to be out of scope right from the start

Client Comparison

CLI (demo)	HiLA Shell CLI (demo)	CLI	CLI (prod.)
SAGA	HiLA		libarcclient
???	emi-es-client	CREAM C++ lib	EMI-ES adaptor

Scenario A

- New client and libraries based on SAGA

CLI	API	C++ library	Java library	Python library
new based on the existing SAGA clients	SAGA specification	SAGA C++	jSAGA	Bliss (pure Python SAGA implementation)

Scenario A

- Advantages
  - SAGA API well-defined
  - Implementations available
- Disadvantages
  - Separate adaptor for each language implementation
  - Completely new CLI required
  - NotifyService and Delegation not supported
  - Other general SAGA problems
- Consequences
  - None of the existing CLIs get new developments
  - All effort put in EMI-ES SAGA adaptor and new CLI

Scenario B

- The HiLA API and the ARC CLI

CLI	API	C++ library	Java library	Python library
ARC CLI	HiLA	new library or the libarcclient modified	HiLA	SWIG-wrapped C++

Scenario B

- Advantages
  - ARC CLI production quality
  - Many existing users
  - Credential handling and data staging
  - HiLA is a native Java API with clean interface
- Disadvantages
  - HiLA API does not support all EMI-ES features
  - ARC CLI would need adaptation
- Consequences
  - New developments for ARC CLI, HiLA, libarcclient

Scenario C

- The libarcclient API and the ARC CLI

CLI	API	C++ library	Java library	Python library
ARC CLI	libarcclient	libarcclient	new library or HiLA modified	SWIG-wrapped C++

Scenario C

- Advantages
  - ARC CLI production quality
  - Many existing users
  - Credential handling and data staging
- Disadvantages
  - libarcclient API does not support full EMI-ES feature set
  - sustainability of new Java library questionable
- Consequences
  - new developments in ARC CLI and libarcclient
  - new developments in HiLA or new Java library

Recommendation

- Scenario C

CLI	API	C++ library	Java library	Python library
ARC CLI	libarcclient	libarcclient	new library or HiLA modified	SWIG-wrapped C++