ES

Disclaimer
Please excuse any (even big) mistakes due to my limited knowledge of POOL internals!
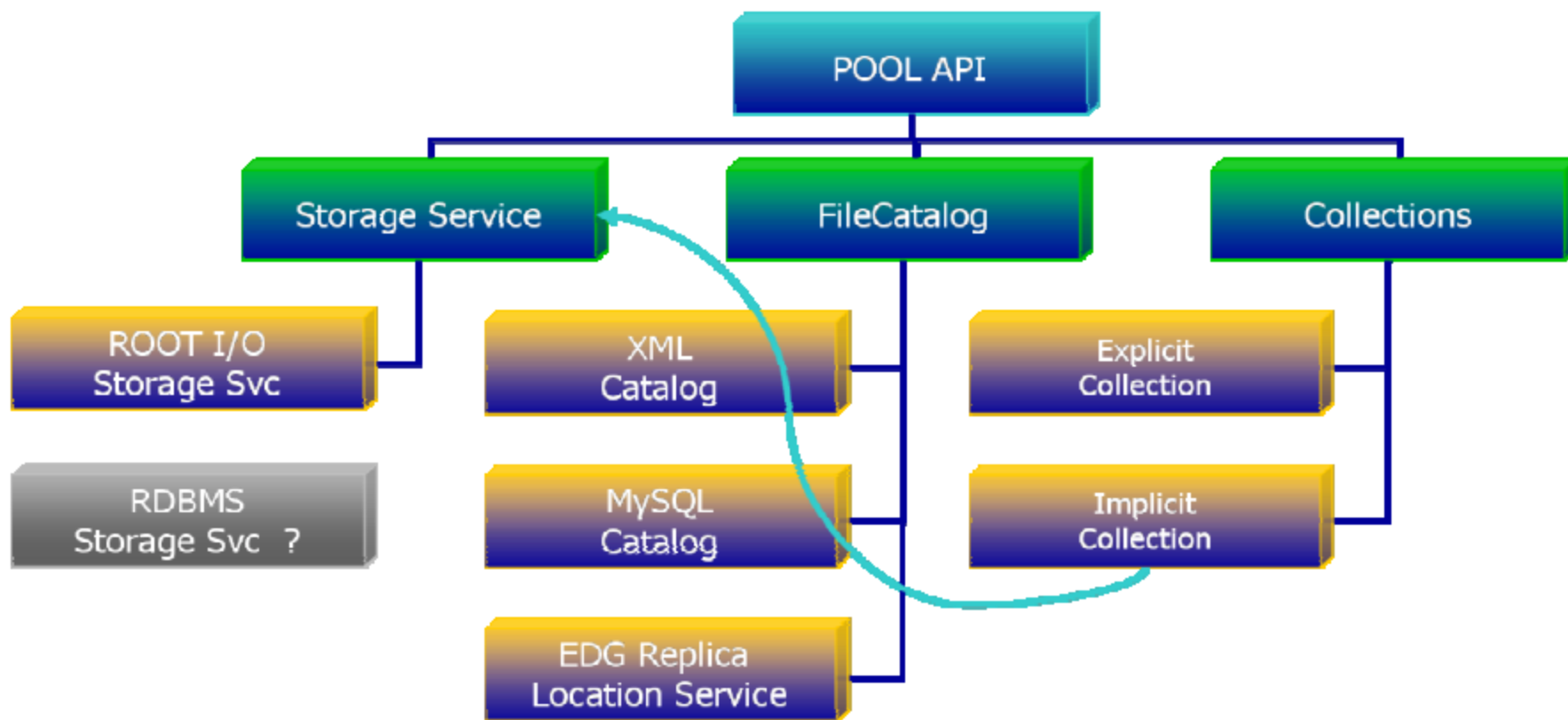
POOL
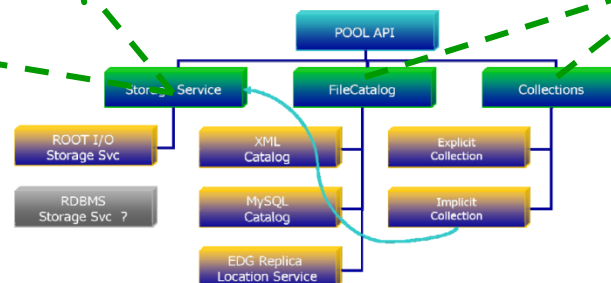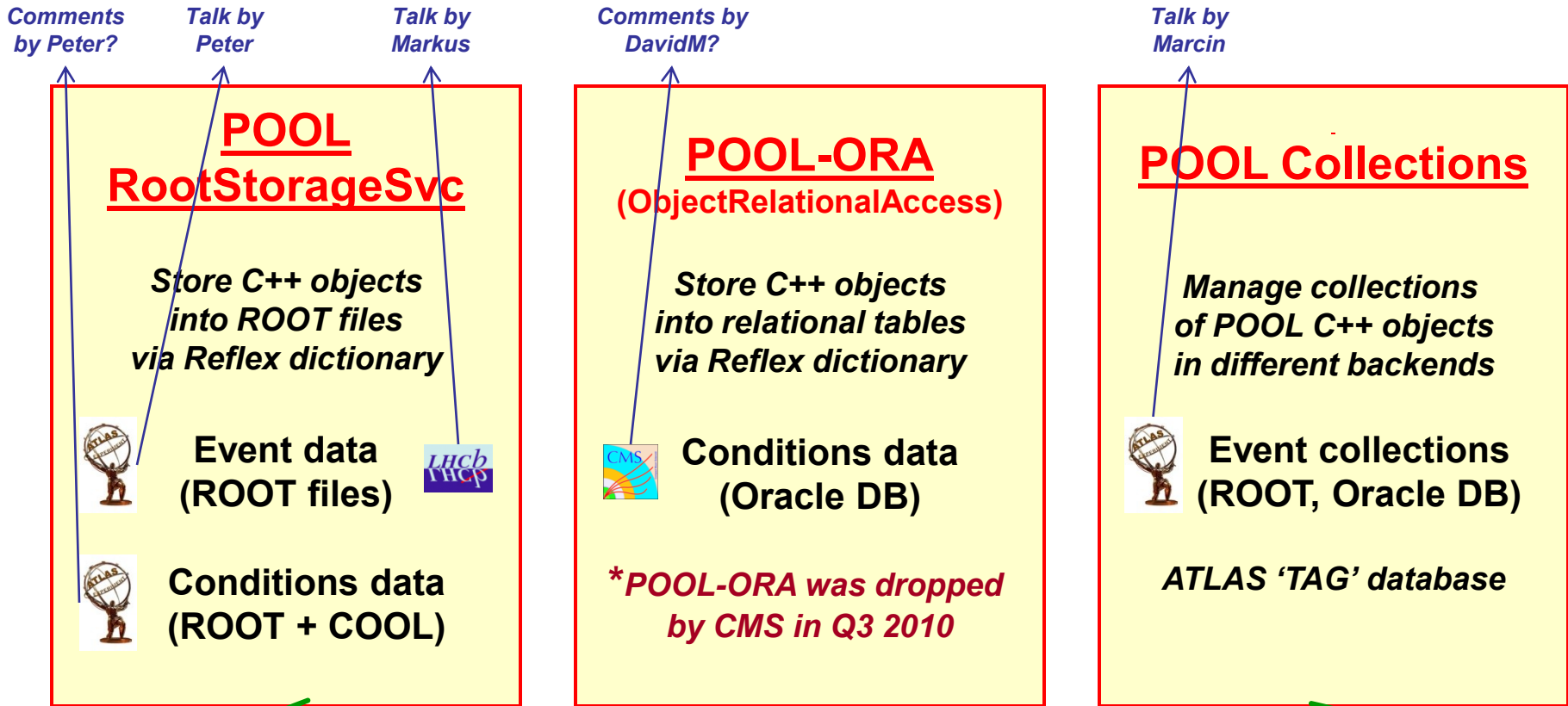## Overview of usage in ATLAS and LHCb

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ATLAS and LHCb discussion about POOL,
1st December 2010

The minutes of the last two POOL meetings
in August 2008 and September 2009 are attached to the agenda.

Until recently, three* sets of packages were used by the experiments

Comments by Peter?   *Talk by Peter*   *Talk by Markus*

Comments by DavidM?

Talk by Marcin

POOL RootStorageSvc

Store C++ objects into ROOT files via Reflex dictionary

Event data (ROOT files)

Conditions data (ROOT + COOL)

POOL-ORA (ObjectRelationalAccess)

Store C++ objects into relational tables via Reflex dictionary

Conditions data (Oracle DB)

*POOL-ORA was dropped by CMS in Q3 2010

POOL Collections

Manage collections of POOL C++ objects in different backends

Event collections (ROOT, Oracle DB)

ATLAS 'TAG' database

POOL API

Storage Service   FileCatalog   Collections

ROOT I/O Storage Svc   XML Catalog   Explicit Collection

RDBMS Storage Svc ?   MySQL Catalog   Implicit Collection
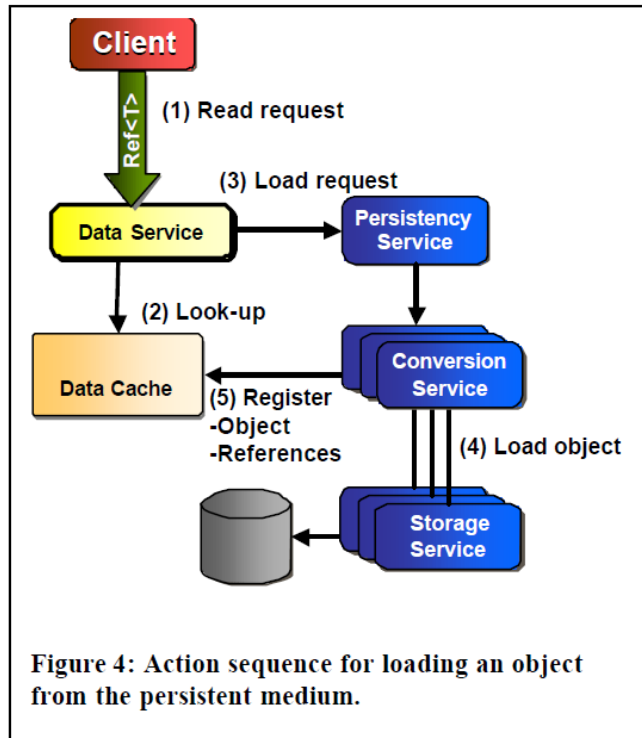
EDG Replica Location Service

Figure 4: Action sequence for loading an object from the persistent medium.
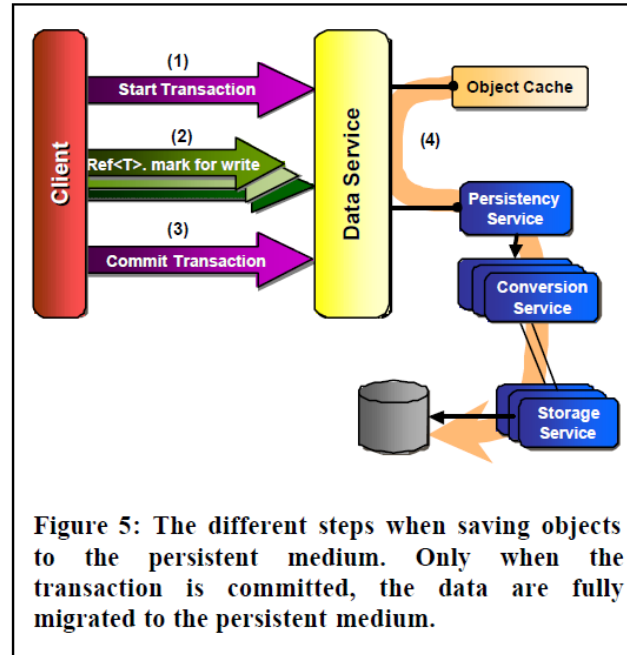
Figure 5: The different steps when saving objects to the persistent medium. Only when the transaction is committed, the data are fully migrated to the persistent medium.

DataSvc
(object cache)

PersistencySvc
(technology switch)

RootStorageSvc
(read/write using dictionary)

ROOT

Several of the functionalities in POOL duplicate those already present in the experiment frameworks (e.g. DataService cache in Gaudi)

	~2003?	~2010?	Future?
DataSvc	ATLAS LHCb CMS		
Persistency Svc		ATLAS	
RootStorage Svc		LHCb	LHCb ATLAS
ROOT		CMS	CMS

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POOL in ATLAS and LHCb – 1st December 2010

A. Valassi – 5

Other components

- ## DataSvc
  - *"DataSvc is used only by CMS."* *[October 2009]*
  - Is anyone still using it? Can we <u>drop</u> this?

- ## FileCatalog
  - *"Used by ATLAS. […] ATLAS could possibly adapt the LHCb solution of having the catalogue within Gaudi/Athena, so POOL file catalogue could be dropped."* *[October 2009]*
  - Is this used in ATLAS <u>*only*</u> via the collections packages?

- ## RelationalStorageSvc
  - Is it ok for ATLAS to <u>drop</u> this (or else take ownership)?

POOL_2_9_10 packages on AFS

• **AttributeList/**	**not used?**
• **cmt/**	**common (all)**
• **Collection/**	**collections (ATLAS)**
• **CollectionBase/**	**collections (ATLAS)**
• **CollectionUtilities/**	**collections (ATLAS)**
• **config/**	**common (all)**
• **DataSvc/**	**(was CMS)**
• **FileCatalog/**	**collections (ATLAS)**
• **ImplicitCollection/**	**collections (ATLAS)**
• **LFCCatalog/**	**not used?**
• **ObjectRelationalAccess/**	**(was CMS)**
• **PersistencySvc/**	**ROOT storage svc *(ATLAS only?)***
• **POOLCore/**	**common (all)**
• **RelationalCollection/**	**collections (ATLAS)**
• **RelationalFileCatalog/**	**not used?**
• **RelationalStorageService/**	**(was CMS)**
• **RootCollection/**	**collections (ATLAS)**
• **RootStorageSvc/**	**ROOT storage svc (ATLAS + LHCb)**
• **RulesFileCatalog/**	**not used?**
• **StorageSvc/**	**ROOT storage svc (ATLAS + LHCb)**
• **Tests/**	**common (all)**
• **XMLCatalog/**	**collections (ATLAS)**

- **Fast file merge?**
  - Is this still an issue or is it solved?

- **Using time-order in POOL GUID's for DDM?**
  - This question had been raised *[Simone Campana et al.]*

- **Storing collections and data in same ROOT files?**
  - *[From a discussion with Peter]*

- **Bypass the PersistencySvc?**
  - Probably one of the most discussed issues today…

Long-term plans for POOL?

- **We should eventually converge on a long term sustainability plan for the maintenance of POOL**
  - Role of IT (part of the funding is currently from EGI Inspire)
  - Role of the experiments
  - Possible integration with Gaudi

- **Common components?**
  - Storage service (ROOT storage service)
  - Persistency service?

- **Experiment-specific (ATLAS) components?**
  - Collection packages
  - File catalog