Survey Data to Alignment Objects

Parser class in AliROOT.
Data repository and registration in AliEn.
Detector survey to alignment code readiness.

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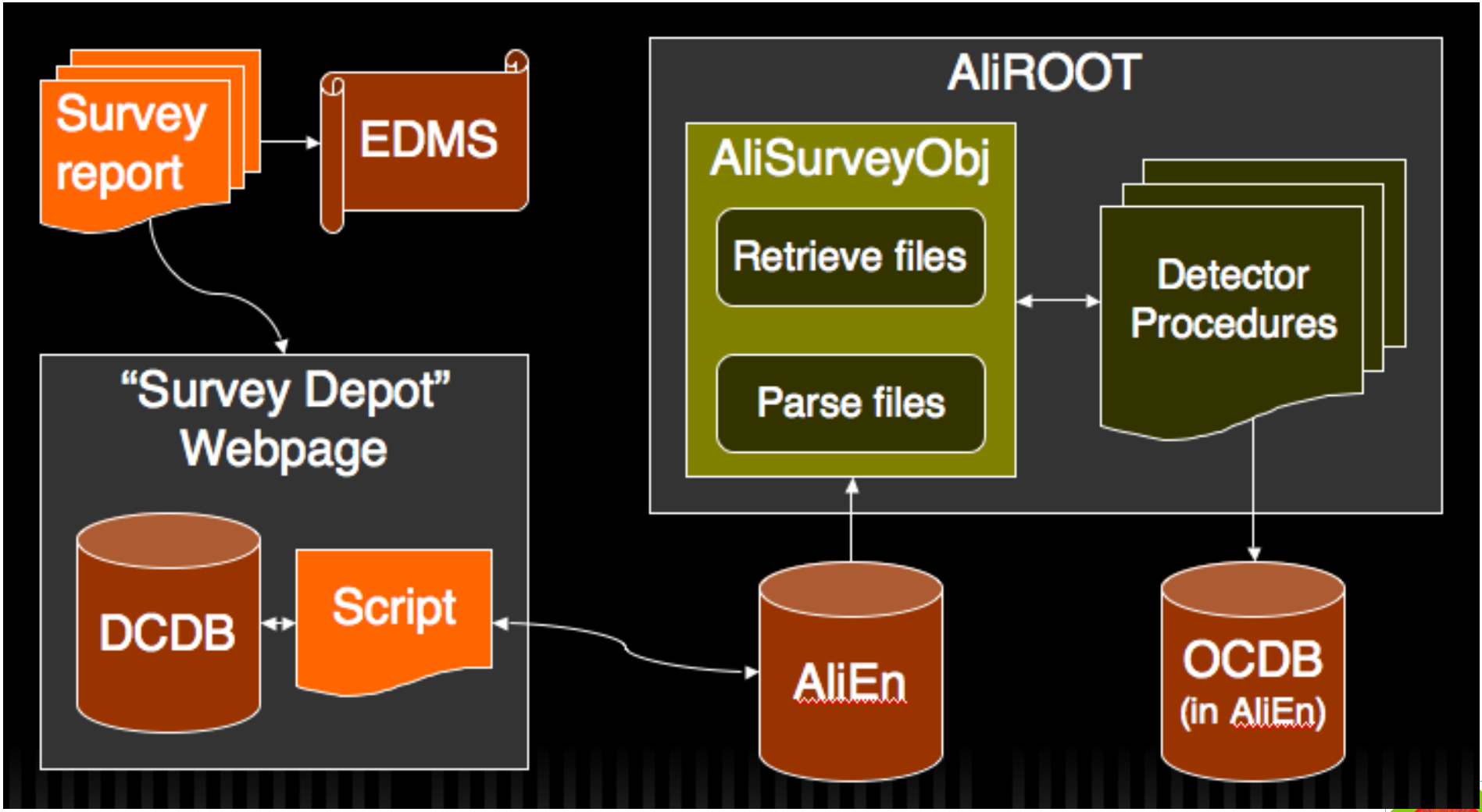
Outline

1. Infrastructure
   - Overview
   - Current Status
   - Latest Developments
2. Detectors Procedures
   - What Is Needed
   - Status

Dataflow


Survey report
EDMS
AliROOT
AliSurveyObj
Retrieve files
Parse files
Detector Procedures
"Survey Depot" Webpage
DCDB
Script
AliEn
OCDB (in AliEn)

Status Overview

- Survey group (TS/SU) regularly uploading reports to the DCDB.
- Synchronization between DCDB and AliEn re-implemented in DCDB.
- New version of the AliSurveyObj parser class is available and being used by the detectors.

Schema To Store Raw Survey Files In AliEn

The adopted schema to store the Raw Survey files in AliEn is the following:

- **Base Folder** `/alice/data/Reference/`
- **Specific Folder** `<Detector>/RawSurvey/<RepYear>/`
- **Filename** `<RepNumber>_v<RepVersion>.txt`

Example:

`/alice/data/Reference/HMPID/RawSurvey/2005/598379_v1.txt`

These raw survey files sit outside the OCDB as they are not year or run dependent.

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  - All operations are logged in detail
- Created and maintained by Bartosz Orlewicz and Mateusz Piwek (DCDB)

AliSurveyObj Changes I

- When writing the final AliAlignObjs to CDB the metadata should be correctly filled. It should contain at least the numbers of the Survey Reports used to create it.
- The `Fill(..)` and `FillFromLocalFile(..)` methods now require as argument a pointer to an AliCDBMetaData object. Only the Comment is set in this object.

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- Example:

```
AliCDBMetaData *md = new AliCDBMetaData();
AliSurveyObj * s1 = new AliSurveyObj();
s1->SetGridUser("rsilva");
s1->Fill("V0", 835615, md);
// Comment has:  "Alignment object based in
// Survey Report with EDMS Number 835615."
```

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- Example:

```
ListReports(); // Lists all reports
ListReports("SPACEFRAME"); // spaceframe reports
ListReports("hmpid"); // hmpid reports
ListReports("", 2006); // all reports from 2006
```

Detector Procedures

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- Gather information:
  - Which reports are needed and make a request to TS/SU to upload them!
  - Sometimes the reports a detector needs were made for other detectors!
  - Ideal positions of the fiducial marks (hardware drawings, etc. . .)
  - Determine which volumes have to be alignable

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- Code in AliROOT (macro or class):
  - Use AliSurveyObj to import the report data into AliROOT
  - Obtain the displacements and rotations for each alignable volume by comparing the ideal with the measured positions
  - Create an AliAlignObj and write it to the OCDB

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  - Have externally produced data during construction at NBI.
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- HMPID
  - Code is *still* almost ready.
  - The rotations and displacements are extracted/calculated but not saved to an AliAlignObj in OCDB.
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- MUON
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  - Working on a macro to create AliAlignObjs. Still not in to CVS.

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  - Code in CVS now uses AliSurveyObj.
- TPC
  - Data in DCDB.
  - Code in CVS.

Detector Procedures

Status IV

- TRD
  - Code in CVS but still doesn't use AliSurveyObj.
  - The rotations and displacements are extracted/calculated but not saved to OCDB as AliAlignObj.

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Status IV

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  - The rotations and displacements are extracted/calculated but not saved to OCDB as AliAlignObj.
- VZERO
  - Data in DCDB.
  - Code done.

Status Overview Table

OVERVIEW	ACORDE	EMCAL	FMD	HMPID	ITS			MUON	PHOS	PMD	TOF	TPC	TRD	TZERO	VZERO
					SDD	SPD	SSD								
Surveyed															
Data in Survey Depot (DCDB)															
Code in CVS															
Uses AliSurveyObj															
Produces AliAlignObj												?			

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Thank you!