Schedules and interfaces (backup notes)

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Interface example (e.g. ICD DATA-COM)

Responsables + Information →

Interface: I-DATA-COM-0006 Cherenkov Transparency Coeffi...
(CTC)

I-DATA-COM-0001: COM subsystem version: 1.0	
Information provided by:	
Name	WP sub-project
R. de los Reyes	COM-CCF
J.L. Contreras	DATA (DM)
A. Carossi	DATA (ARCH)
R. de los Reyes	DATA (PIPE-Cal)

Table 1: List of DATA-COM interfaces

1.1 Description of Data Interface

I-DATA-COM-0006: CTC	
Data Interface: CTC	
Description	Cherenkov Transparency Coefficient for atmospheric transmission characterization
Operation/information level	Per Telescope

https://portal.cta-observatory.org/WG/Central%20Systems%20Engineering/Lists/Interface%20Database/List%20of%20items%20no%20detail.aspx

Calibration information now in Redmine

CTA » DATA » PIPELINES » Calibration

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Array calibration

The calibration methods described in here are aimed to provide relative calibration between identical telescopes within a subsystem (**intercalibration**) and telescopes of different sub-systems (**cross-calibration**).

The development of the Calibration methods corresponds to the COM group. The implementation of different COM methods into corresponding DATA products is managed and described through the external interface DATA-COM.

The COM-CCF devices/methods in charge of the Atmosphere Calibration that has an ⟋ interface with DATA are:

- Octocopter (I-DATA-COM-3111)
- Laser-based array calibration (Central Laser Facilities) (I-DATA-COM-3121)
- Illuminator (I-DATA-COM-3141)

The different tasks performed by the Calibration Pipelines can be grouped in:

- integrate CCF device: internal DATA interfaces through which Pipelines will receive the data structures (I/O libraries) and DB structure from Data Model and Archive to be able to access the data when building the calibration modules or the rest of the Calibration Pipelines.
- implementation of algorithms: construction of the calibration modules
- integrate algorithms: integration of the calibration modules into the Calibration Pipeline (more critical for those which input is mainly the EVT or CAL events).
- test algorithms on partial array: those algorithms that depend on the number of telescopes have to be tested during the deployment of the telescopes on-site

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Atmosphere calibration

The calibration methods described in here are aimed to provide calibration of the atmosphere above the CTA0. This will be achieved using different atmosphere monitoring devices and methods. A detailed description of them together with the error budget expected for each of them within the CTA Calibration Strategy is documented in (⊡ https://portal.cta-observatory.org/recordscentre/Records/COM/COM-CCF/CTA_Calibration.pdf : COM-CCF/140616)

The development of the Calibration methods corresponds to the COM group. The implementation of different COM methods into corresponding DATA products is managed and described through the external interface DATA-COM.

The COM-CCF devices/methods in charge of the Atmosphere Calibration that has an ⊡ interface with DATA are:

- Raman LIDARS (I-DATA-COM-3001)
- All-Sky-Camera (ASC) (I-DATA-COM-3011)

The different tasks performed by the Calibration Pipelines can be grouped in:

- integrate CCF device: internal DATA interfaces through which Pipelines will receive the data structures (I/O libraries) and DB structure from Data Model and Archive to be able to access the data when building the calibration modules or the rest of the Calibration Pipelines.
- implementation of algorithms: construction of the calibration modules
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- test algorithms on partial array: those algorithms that depend on the number of telescopes have to be tested during the deployment of the telescopes on-site

The list of tasks (links between brackets) that will be performed through the listed interfaces are:

- Implementation of algorithms:

    - CTC (#8546)
    - Data selection using atmospheric parameters
    - Data correction
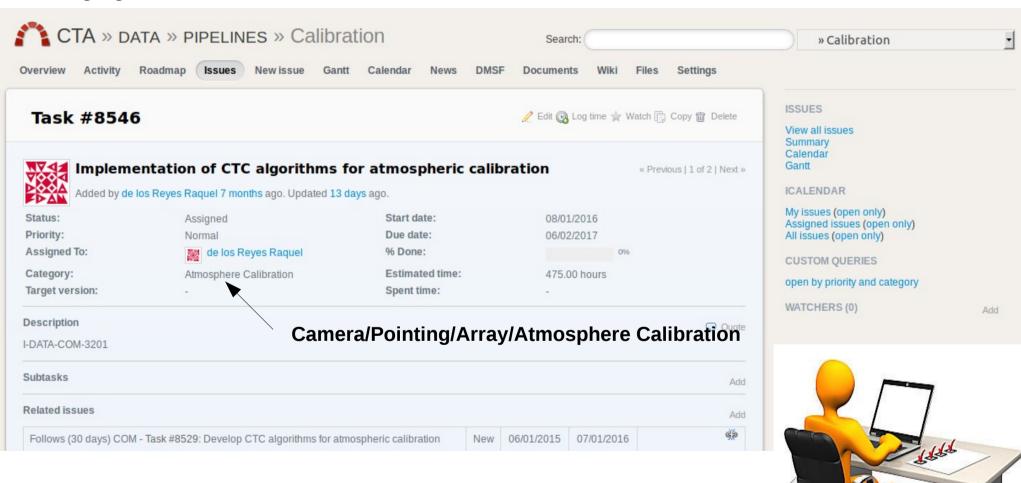   - ARCADE LIDAR

ICD tasks
(e.g. DATA-COM)

DATA WP involved

- COM-CCF pre-production phase:

    - *Receive feedback from CCF (during the CCF pre-production phase)* → DM, ARCH, MC(?)
    - *Integrate results* → DM, ARCH, MC(?)

- COM-CCF production phase:

    - *Construct data infrastructure* → DM, ARCH
    - *Integrate CCF device* → internal DATA interfaces
    - *Implementation of algorithms* → CCF / PIPE-CAL
    - *Integrate algorithms* → PIPE-CAL + CCF
    - *Test algorithms on partial array* → CCF + PIPE-CAL

Tasks
(ICD DATA-COM)

Managing of interfaces tasks in **Redmine**

Camera/Pointing/Array/Atmosphere Calibration

Tasks
(ICD DATA-COM)

- Management through Redmine tasks:
  - Status: **New**, **Assigned**, In Progress, Closed,...
  - Priority: Low, **Normal**, High, Urgent, Immediate.
  - Assigned To: **<empty>/person**
- CCF has priority → "Assigned" + <empty>
- Lack of CCF men-power: DATA will help → "New" + <empty> → EoI.

Data Pipelines Wiki

⚠ Who is available to work? What are the interests? If you want to help with the development of the Pipelines software, please add yourself to the ExpressionOfInterest and subscribe to the Pipeline Developers Forum

Backup slides

Why an ICD with DATA?

- DATA will provide the software for CTAO to do:
    - **CTA data production**: from raw data (DL0) to Science data (DL5).

ICD DATA-LST, ICD DATA-COM → DATA is ready to:
- Store your data.
- Re-produce at any time the calibration results.
- Apply your calibration results to the CTA analysis.
    - Access to all the produced Data levels.

ICD DATA-LST, ICD DATA-COM

ICD role

- **Not a "physical" interface → information and software development work.**

- **Feedback** to...

  - DATA with hardware information.

  - Telescopes+CCF with DATA products (validation).

- Set up support/implementation **responsibilities** of the Calibration methods.

ICD tasks: proposal

- General → **give feedback** to DATA about hardware.

- Data Model/Archive → **construct data structure** and storage (headers, DB, metadata, MC,...).

- Pipelines → **implementation of algorithms** (on-site and/or off-site).

- General → **test the DATA integration**.

- …