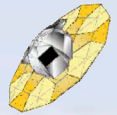


GAIA

**CU system definition and architecture:
planned activities and planning**



Architecture & technical coordination WP

■ GWP-T-602-00000 Architecture and technical coordination of the CU6

◆ GWP-T-602-10000 Define System Architecture

Activities:

- Define Requirements:

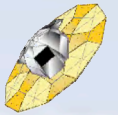
- Functional requirements
- Interface requirements
- Performance requirements
- Data storage requirements
- Operations schedule

- Design:

- Define data model
- Design system

◆ GWP-T-602-40000 System Administration

Activities: install and maintain hardware (for development, integration, and operation phases) and development tools

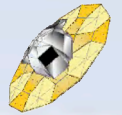


terminology

- **Functional analysis:** what has the CU system to do? What are its (main) functions and fluxes (from the scientific point of view)?

- **Architecture:** how to design the system to implement “at best” these functions?
Design = plan (as for a house) : identify the s/w components (both scientific (algorithms) ones and support (host framework) ones), their dependencies, their interfaces, the common s/w, ...
cf AQ diagram

- **System Architecture:** deals with both s/w and h/w topics.



Architecture & technical coordination WP : main deliverables

■ GWP-T-602-10000 Define System Architecture

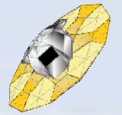
- Define Requirements :
 - Functional requirements: functional analysis dedicated document and Software System Specifications (SSS in ECSS-E40 as Requirements Baseline documents)
SSS : the highest level description of the software in term of requirements and constraints.
 - Interface requirements: Interface Control document (ICD) and Interface Requirements document (IRD), both separately managed for CU external interfaces and for CU internal interfaces
ICD: describes in detail the interfaces, IRD: defines requirements dedicated to interface management.
 - Other requirements (computing, data storage, network, ... resources): in Software System Specifications.
- Design:
 - Design system : Software Design Document (SDD in ECSS-40, part of the Design Definition File (DDF))
SDD : description of the software architectural design.

■ GWP-T-602-40000 System Administration

To install and maintain hardware (for development, integration, and operation phases) and development tools:

Developer hardware: in laboratories for DU developments, CNES DPC for host framework

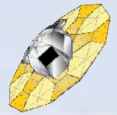
Integration and operation hardware: at CNES DPC (Data processing Centre)



Architecture & technical coordination WP : proposed planning (*)

- Requirements definitions:
 - Functional requirements:
 - Functional analysis**: dedicated document finalized **by mid May 2006**
 - Software System Specification (SSS)** finalized **by end of 2006**
 - System Software Test Plan finalized by end of 2006
 - Software Requirements Specifications (SRS) in preliminary version by end of 2006.
 - Interface requirements:
 - CU external interfaces** document (ICD & IRD) : first version (as complete as possible !) **by June 2006**
 - CU internal interfaces** document (ICD & IRD) : first version **by end of September 2006**
 - **Other requirements (computing, data storage, network, ... resources)**: documented **by end of 2006** (data storage requirements by October)
- Design:
 - **Design system : Software Design Document (SDD)** : completed by end of 2007, but **first elements**, including s/w units integration and data access “rules”, available **by end of December 2006 (allowing to start “operational“ s/w developments)**
 - Define data model (solution chosen to manage data (at DPC level), data management schema, ...) : first elements for Spring 2007, completed by end of 2007.

(*) : it's a « theoretical » planning, supposes a good availability of information and key personnel in 2006! CNES particularly plans during 2006 to study each main s/w component with its responsables to better know its design and needs



Functional analysis progress status

■ *Functional analysis done for the following functions :*

- ◆ *Extraction*
- ◆ *Single-transit analysis*
- ◆ *Calibration*
 - *Into the daily processing*

■ *To be done :*

- ◆ *Faint stars sanity checks*
 - *Into the daily processing*
- ◆ *Multi-transits processed data analysis*
- ◆ *Multi-transits spectra analysis*
 - *Into the half-yearly processing.*