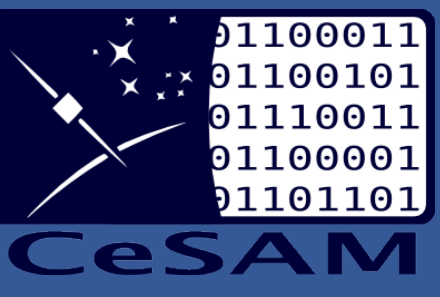


# CeSAM : The Astrophysical Data Center of Marseille

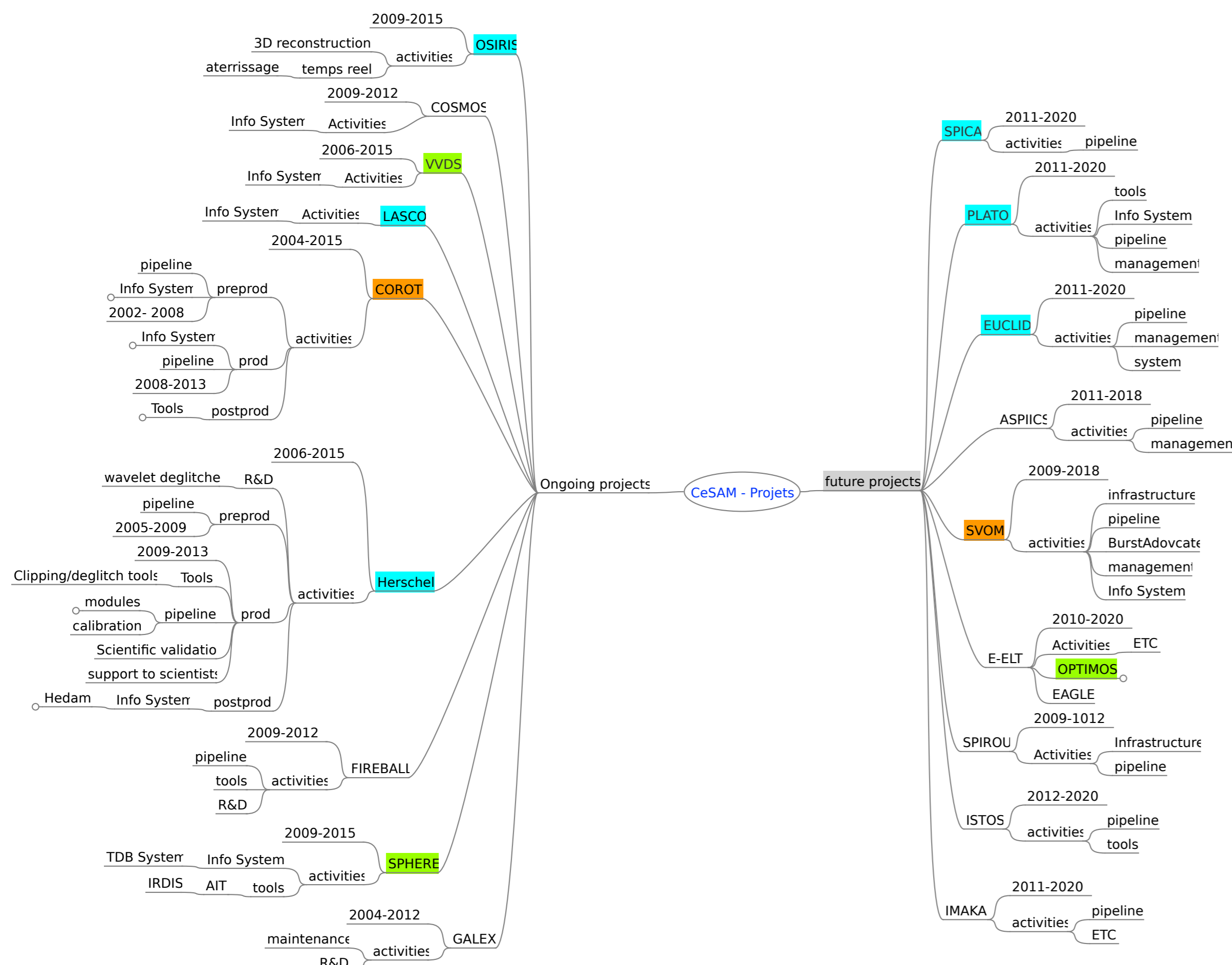
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## Abstract

The "Centre de données Astrophysiques de Marseille" (CeSAM) from "Laboratoire Astrophysique de Marseille" (LAM) has been set up to provide access to quality controlled data via web based applications, tools, pipelines developments and VO compliant applications to astrophysical community. This poster describes the organization, the infrastructure, tools and development already available to download. It includes DAL, SOS, ETC, CoRoT tools and project's data interfaces that are described in other posters.

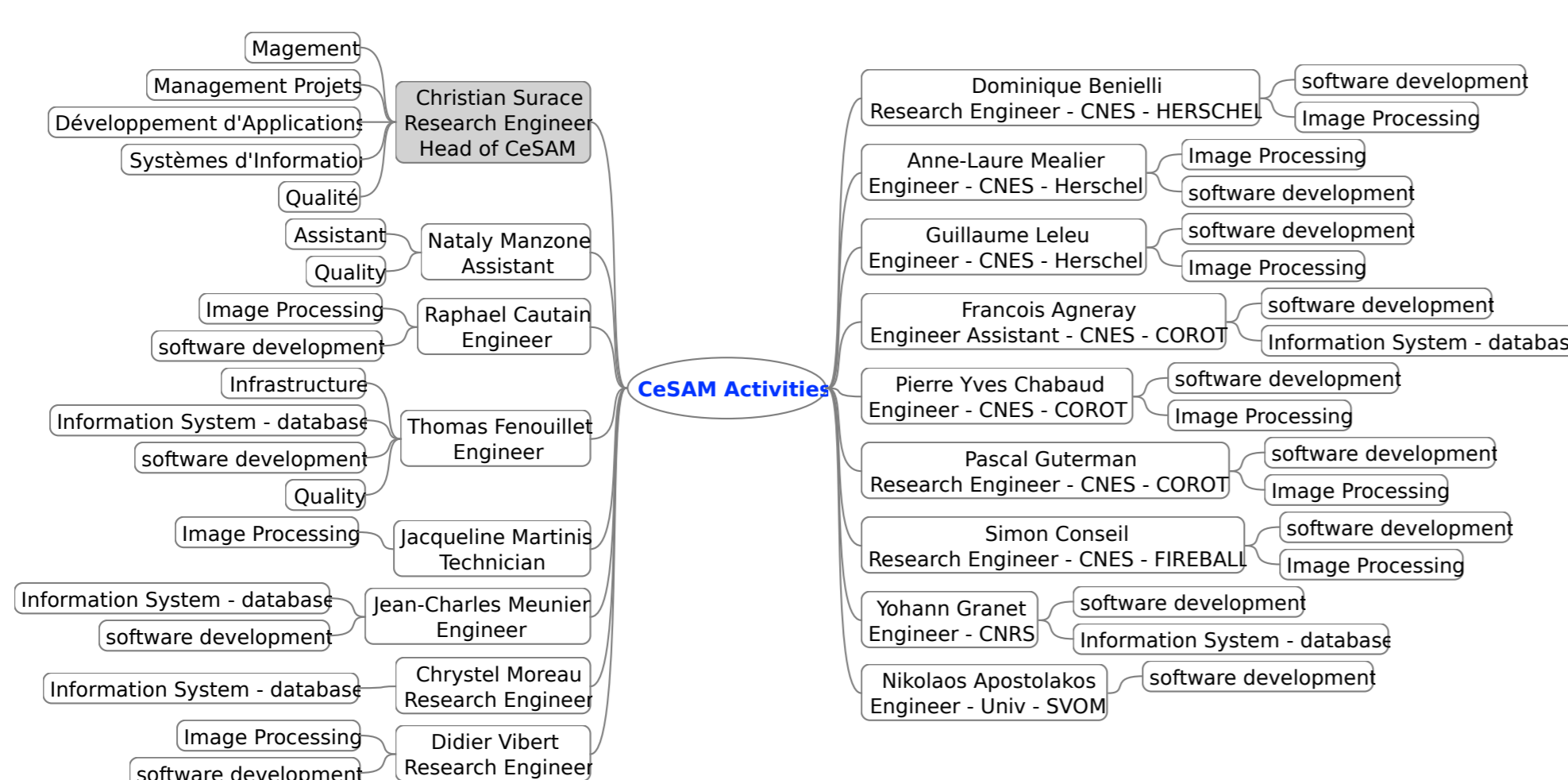
## Projects



## Tools

- ▶ CIGALE Code Investigating GALaxy Emission has been developed to study the evolution of galaxies by comparing modelled galaxy spectral energy distributions (SEDs) to observed ones from the far UV to far IR. CIGALE is a software that extends the SED fitting up to the far infrared (development : JAVA, ICE)
- ▶ EMPhot-prior Photometry of astrophysical sources, galaxies and stars, in crowded field images to estimate the flux in a low resolution band using prior information and using a Bayesian approach under the Poisson noise assumption. (development IDL,C)
- ▶ VO DAL the VO DAL is an interface layer based on Struts to give access to data using VO-compliant queries including SSA, SIA, ConeSearch it is based on access to metadata database and makes use of pgsphere facilities this tool is available on requests from the authors (development : JAVA, TOMCAT - postgresSQL)
- ▶ ETC-42 is a VO compliant exposure time calculator. The goal is to provide a generic Exposure time calculator open enough to be able to add his own instrument, source, site and characteristics ( JAVA development - XML - embedded database)
- ▶ SOS is designed to perform analysis on light curves data (development : IDL)
- ▶ PAD : Detections Analysis prgram : is an exoplanet detection validator software (using folding and multi visualisation techniques) (development : IDL)
- ▶ AITAS is an archiving system for AIT data. It is automatically built up from the data themselves and provide access to multi-criteria forms to select data. (development : JAVA, Servlet)
- ▶ CRT : CorotTool is a step by step interactive analysis detection pipeline of corot exoplanets search (development: IDL)

## Activities



## contacts

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 You can find a html version:  
[http://lamwws.oamp.fr/Publication/ADASSXX/CeSAM\\_Poster\\_P013/](http://lamwws.oamp.fr/Publication/ADASSXX/CeSAM_Poster_P013/)



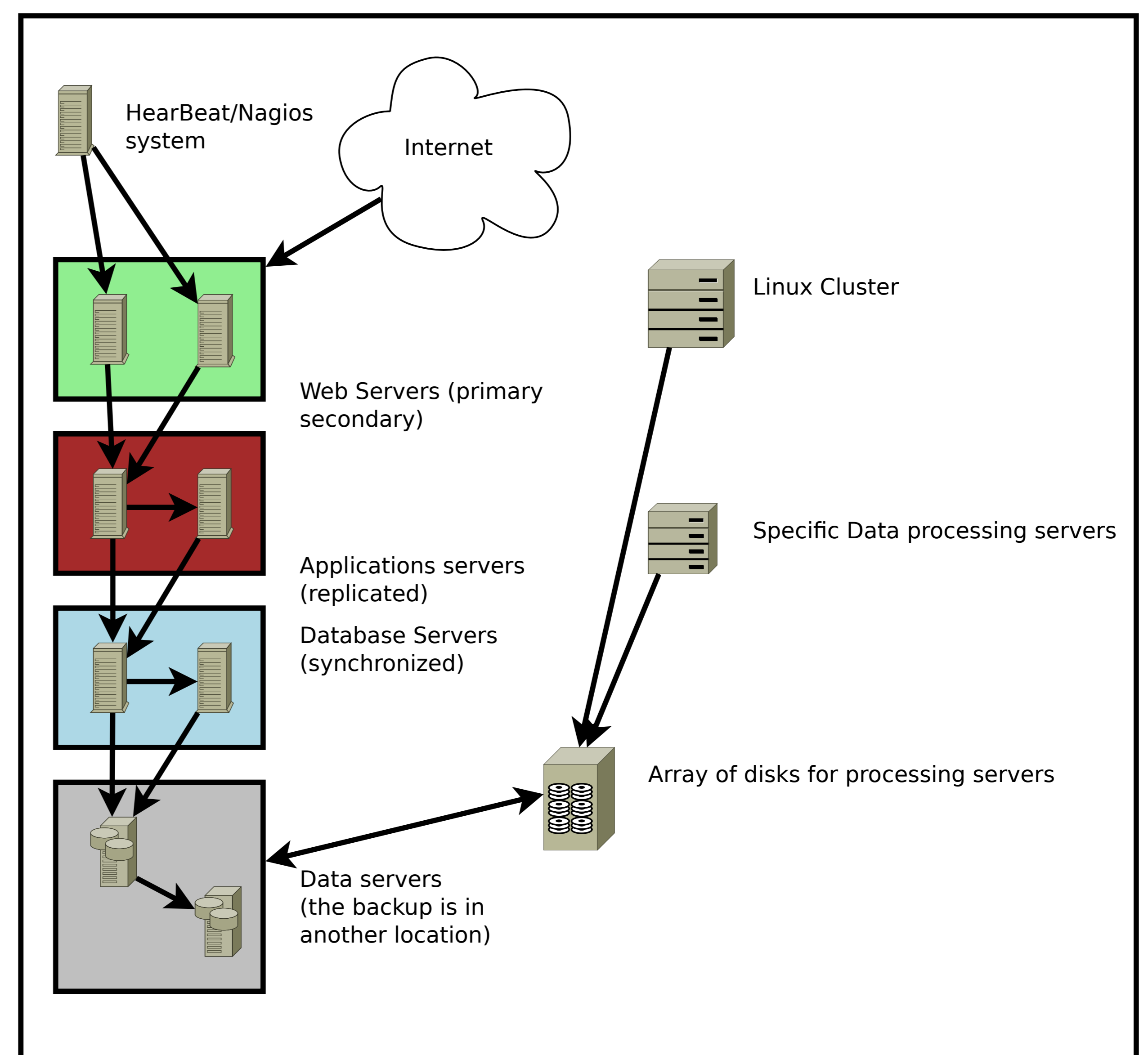
## CeSAM

New astrophysical projects provide large amount of data and need high quality checks. Based on its 5 years experience and its implication in international projects the former DIS (Departement d'Informatique Scientifique) from LAM has evolved in data center : The CeSAM (Centre de données Astrophysique de Marseille). Its activities are ranging from Information system design and concepts to astrophysical software. Its competences range from images, spectra, data, signal processing, Database and application development to applications and database systems administration. Sixteen engineers belong to this data center and participate to more than 18 projects Missions of CeSAM are :

- ▶ to design and provide systems to projects
- ▶ to design, develop and maintain Informations systems for controlled quality data from LAM
- ▶ to design, develop and maintain tools for projects and astrophysic community
- ▶ to design, develop and maintain pipelines packages
- ▶ to ensure a scientific support (on applications, infrastructures, databases and pipelines)
- ▶ to give expertise on R&D for data processing.

## Infrastructure

Under the hood:



The next step will be the complete virtualization of the 3-tiers system to a cluster of virtual servers.

## References

Websites:

- ▶ LAM : <http://www.oamp.fr/lam>
- ▶ CeSAM : <http://lamwws.oamp.fr/cesam>
- ▶ HeDaM : <http://hedam.oamp.fr>
- ▶ exodat : <http://lamwws.oamp.fr/exodat>
- ▶ CENCOS : <http://cencos.oamp.fr>
- ▶ Phototheque : <http://lamwws.oamp.fr/phototheque>
- ▶ CIGALE : <http://cigale.oamp.fr>
- ▶ DAL(VO): <http://lamwws.oamp.fr/DAL>

Poster in ADASS XX:

- ▶ Overview of CeSAM tools and services for CoRoT mission (P011)
- ▶ EMphot: photometric software with Bayesian priors. Application to GALEX (P012)
- ▶ FASE : Future Astronomical Software Environment : How to include tools and systems into FASE Environment (P014)
- ▶ The HST-COSMOS & zCosmos information system (P015)
- ▶ The Herschel Database in Marseille(P016)
- ▶ ETC42 a VO compliant Exposure Time Calculator (P017)