

# Computing Infrastructure

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# WP CI – plan

- Target of this WP is to provide to the participants a software / hardware infrastructure where deploy and develop algorithms needed to simulation and data analysis.
- This WP should be intended as *transversal* to the entire project as it will interface with all WPs.
- The *Planck* data, about 100 TB, will be maintained online to cross check simulation and results with respect Observation.

# WP CI – Plan

- Two software environment will be made available as they have different requirement on libraries and amount of core to be used :
  - the simulation environment (principally based on Planck Levels and PlanckSkyModel) used to deploy and run massive simulation.
  - the data analysis environment (principally based on Planck standard libraries) aimed at development and running of algorithms necessary to exploit the data analysis.

# WP CI – How

- To create a Software infrastructure able to satisfy the simulation requirements (roughly estimated in  $10^{20}$  Flop) INAF-Oats will be made partially available the following hardware:
  - HotCat → 400 Cores HP DL560 G9, Infiniband 40 Gbps, RAM 16 GB/core as main computation queue
  - Planck Cluster → 240 cores (Xeon SixCore E5645 2,40Ghz), Infiniband 40 Gbps, RAM 6 GB/core for test and development.
  - Both Cluster will share a 200 TB scratch storage + 100 TB of Planck Data.

# WP CI – inputs

- To start creating the environment we will need detailed SRD (Software Requirement Document) or , to quickly start, a list of tools and packages that the community plan to use.
- Remember that the computational cost of the data reduction is dominated by the processing of simulations, and its impact is comparable to the cost required to generate synthetic data. In *Planck* the core used in running on real data were minimal compared with the once used in simulations.