

# The interface between AstroGrid and S.Co.P.E.-GRID

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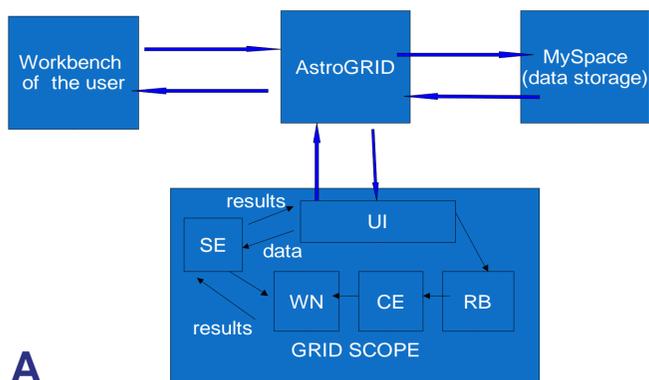
## Abstract

The goal of the work was to create interface between the ASTROGRID and GRID infrastructures. Our interface allows a ASTROGRID user (who has an ASTROGRID certificate but no GRID certificate) to start computational tasks on the Grid from the ASTROGRID Workbench. "Grid\_launcher" has been implemented and tested on :  
 VONeural\_MLP (supervised clustering),  
 VONeural\_SVM (supervised clustering),  
 SExtractor (extraction of object-catalogs from astronomical images),  
 SWARP (resample and co-add FITS images using any arbitrary astrometric projection defined in the WCS standard).  
 All these programs are registered inside CEC of ASTROGRID.

## GRID-launcher work-flow:

A - schema, B - the work-flow from AG to WN, C – the work-flow from WN to AG.

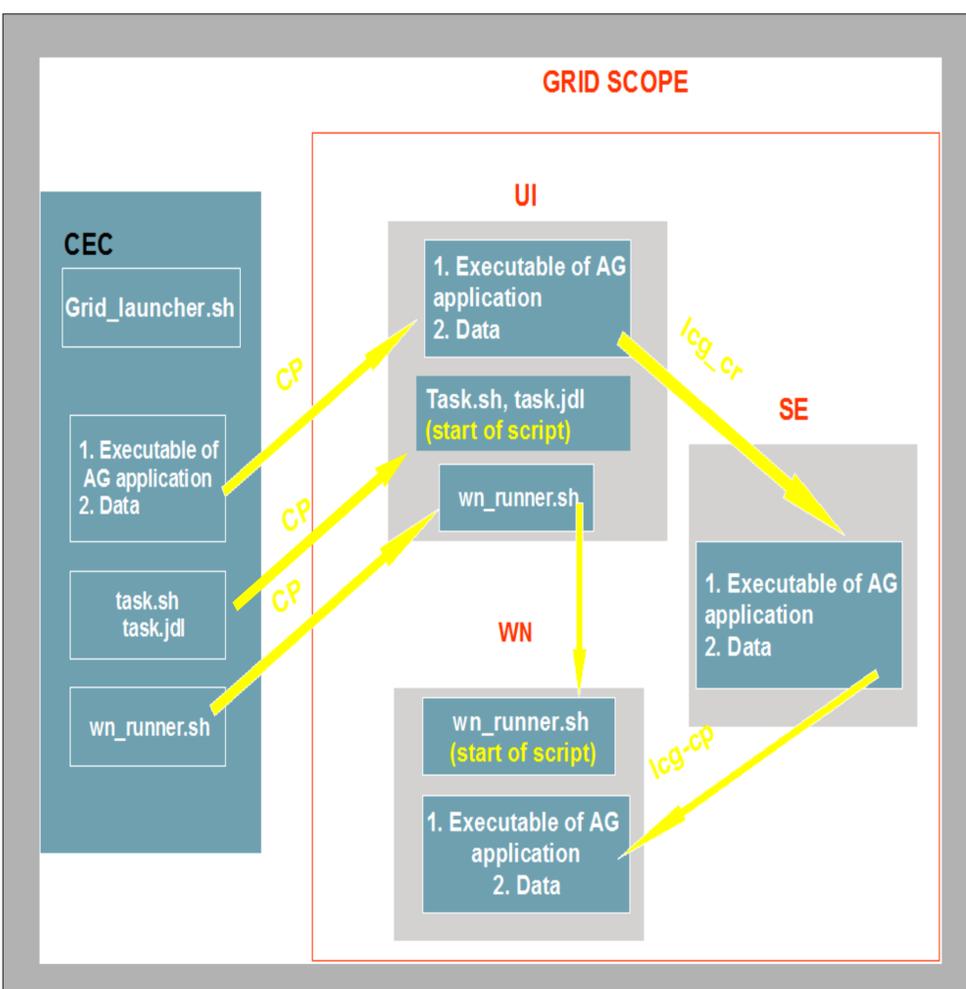
### GRID-Launcher work-flow



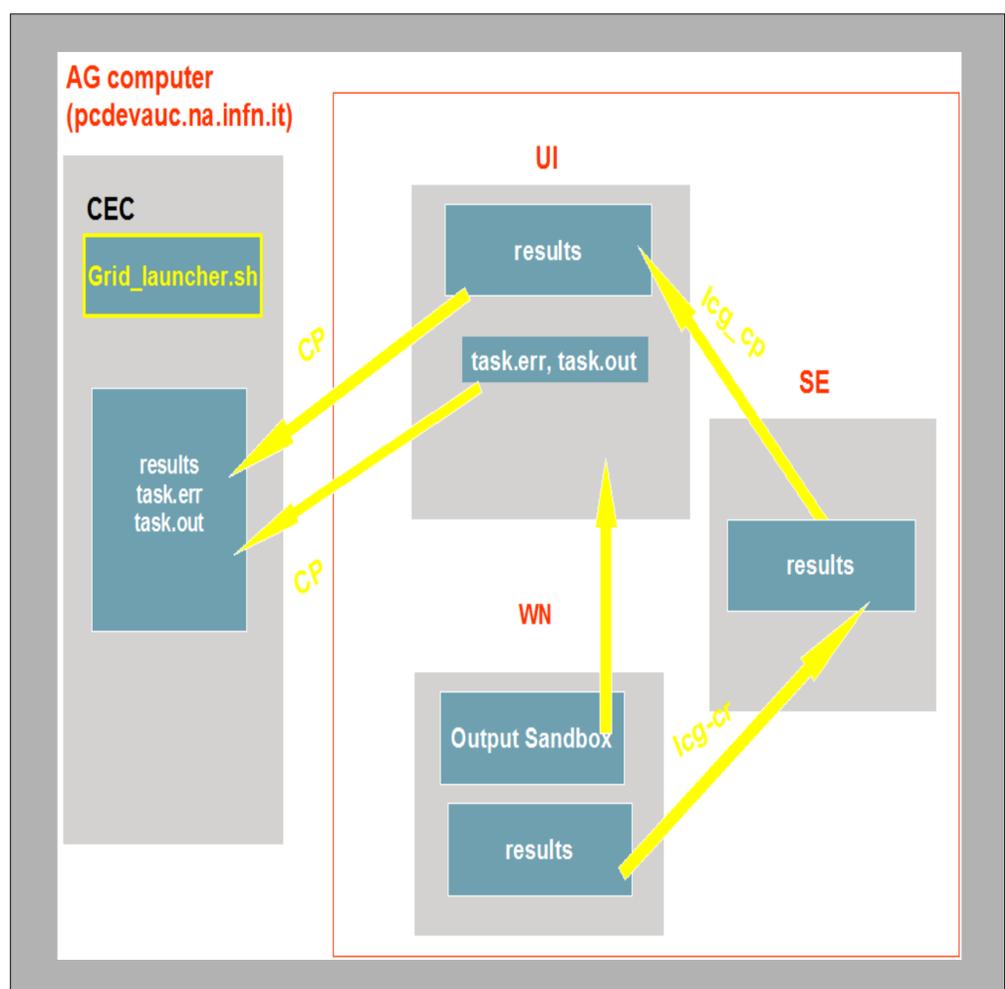
A

### The workflow of the job is following:

- "Grid\_launcher"
  - takes the user input from the Workbench of Astrogrid;
  - collects all the needed files, tabs and programs;
  - wraps them in an archive and sends it to the Scope-GRID UI. (The Authentication on Scope is done by means of public keys exchange).
- The Scope UI receives data and programs from "GRID\_launcher", unpacks them and translates them to Grid job format.
- Once the GRID job jdl file is ready, "GRID\_launcher" starts it in Grid (from an AstroGrid node); periodically checks the status; and then (when job is finished) retrieves the results.
- "GRID\_launcher" receives the data archive, unpacks it and puts the results into the "MySpace" data storage of AstroGRID.



B



C

**UI** - User Interface, **CE** - Computing Element, **WN** - Worker Node, **SE** - Storage Element, **CEC**—Common Execution Connector web-service for command-line applications (AG), **AG** - AstroGrid.