



Enabling Grids for E-science

# Practical using EGEE middleware: Putting it all together!

[www.eu-egee.org](http://www.eu-egee.org)



- **We've separately used:**
  - AA
  - Simple Workload Management (WM)
  - Information System (IS)
  - Data management (DM)
- **The goal of this practical is to show how:**
  - JDL can bring the IS, DM, WM together for more realistic applications on a grid
  - Scripting can be used to build on the basic commands

- 1. Job that writes results to a SE:  
a programme used by the MAGIC project**
  - 2. Scripting to run multiple jobs**
  - 3. Running job “close” to SE with required input data**
- The web page leads you through submitting all these, then invites you to explore what is happening whilst the jobs run.**



# Grid Training for the MAGIC Grid How To submit Corsika?

Harald Kornmayer

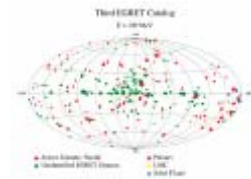
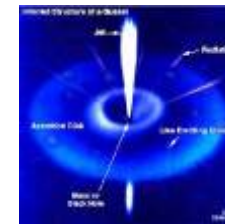
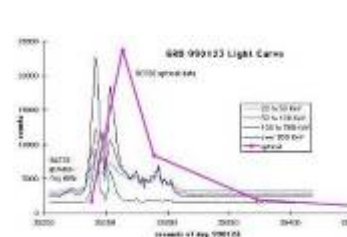
IWR, Forschungszentrum Karlsruhe

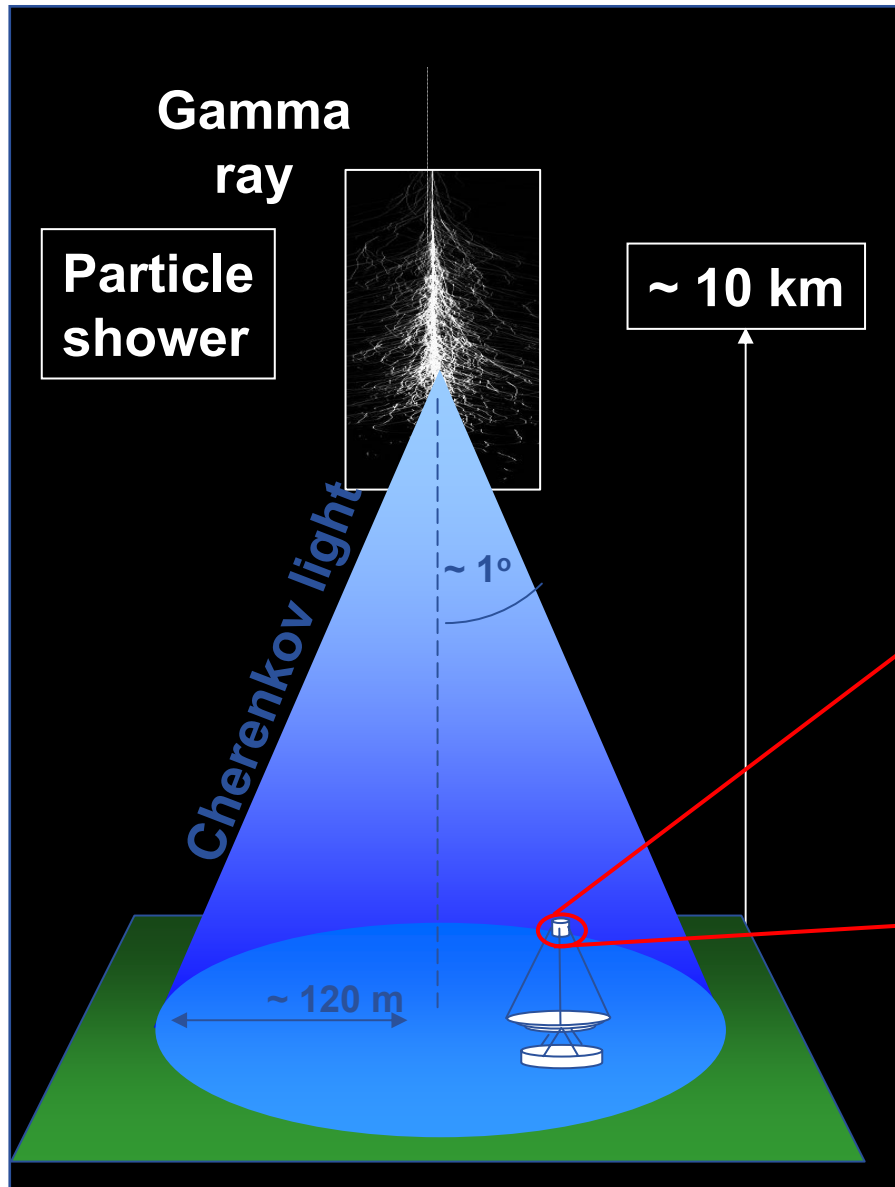
in cooperation with EGEE Training group (NA3)

October 2005

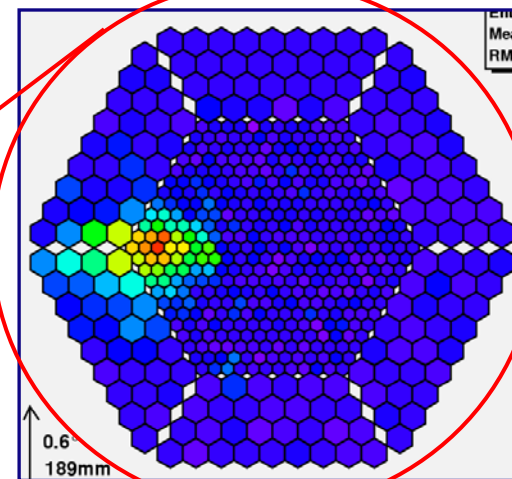


- **Ground based Air Cerenkov Telescope 17 m diameter**
- **Physics Goals:**
  - Origin of VHE Gamma rays
  - Active Galactic Nuclei
  - Supernova Remnants
  - Unidentified EGRET sources
  - Gamma Ray Burst
- **MAGIC II will come 2007**
- **Grid added value**
  - Enable “(e-)scientific” collaboration between partners
  - Enable the cooperation between different experiments
  - Enable the participation on Virtual Observatories





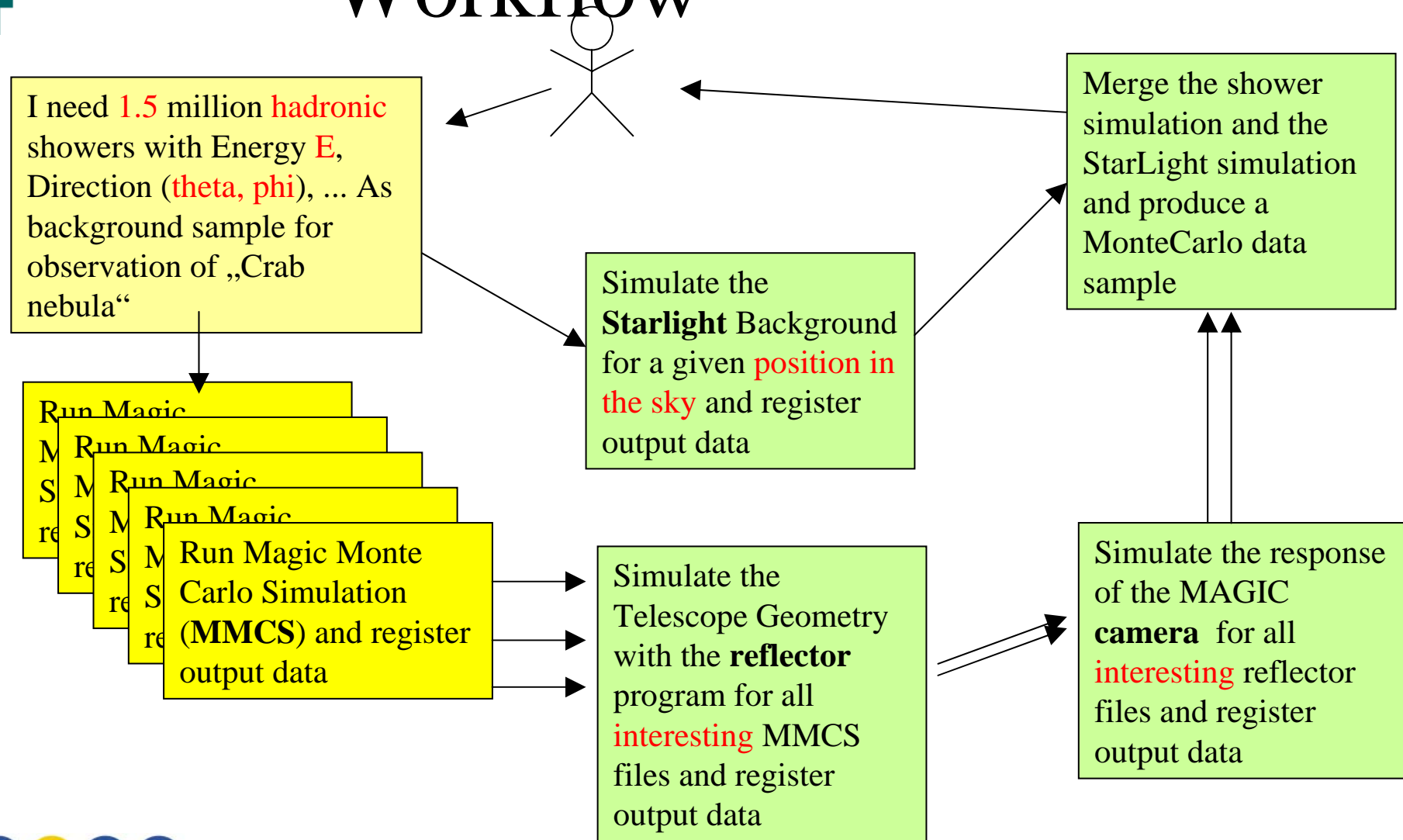
Cherenkov light Image of particle shower in telescope camera



reconstruct:  
arrival direction, energy  
reject hadron background



# MAGIC Monte Carlo Workflow

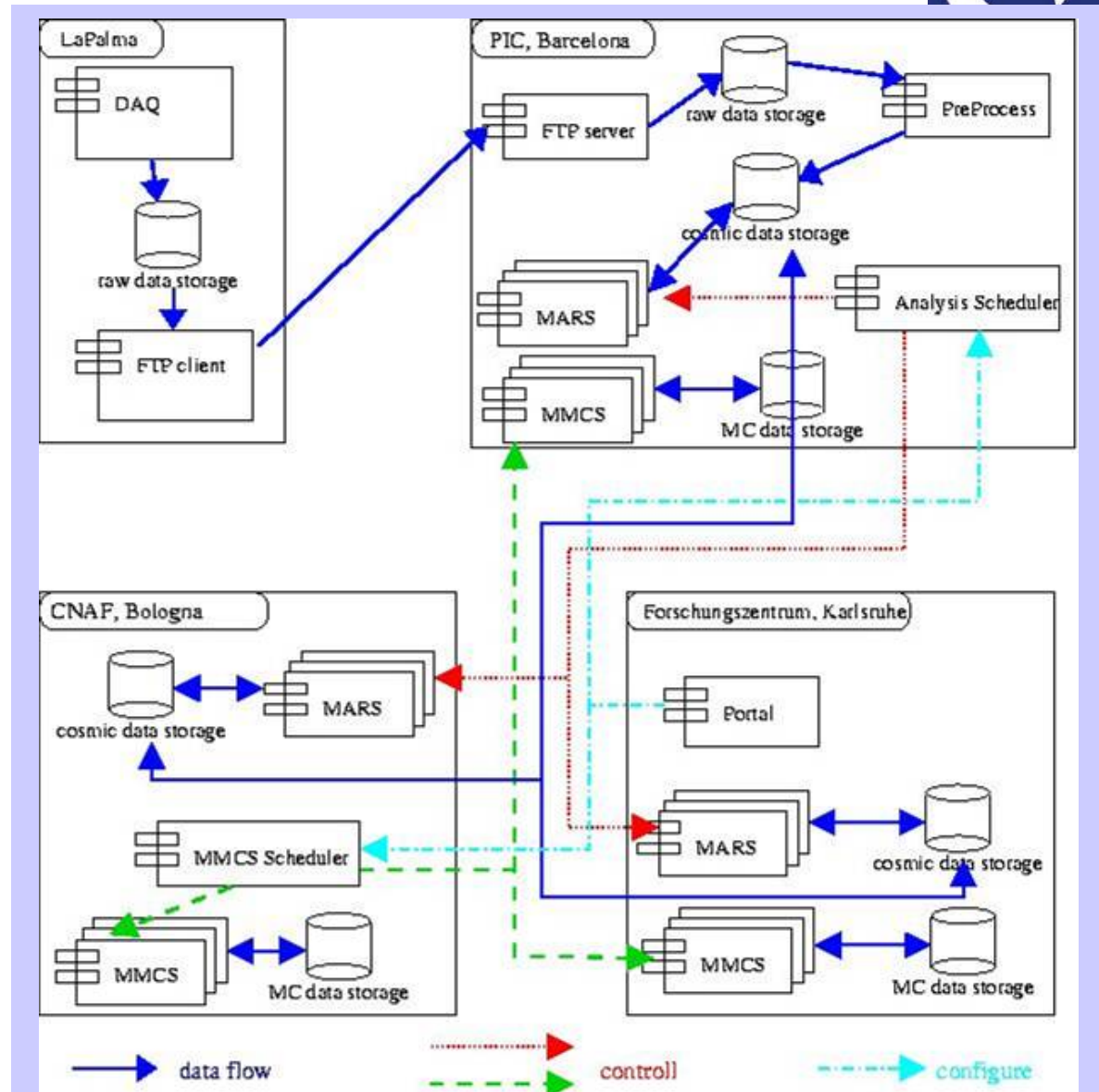




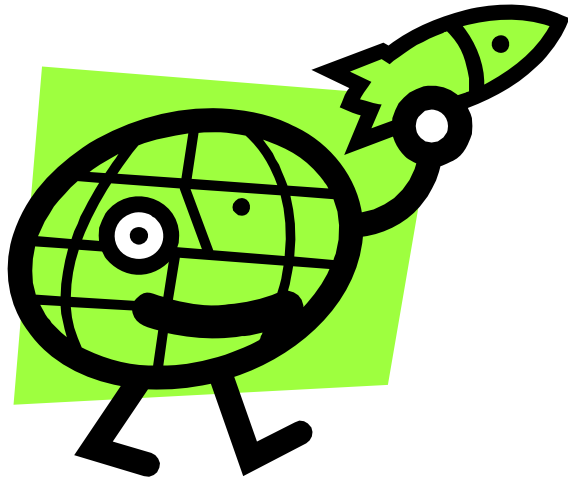
# MAGIC Grid – the idea



- Build a Grid system with
  - FZK (Germany)
  - CNAF (Italy)
  - PIC (Spain)
- MAGIC applied as a generic application for EGEE
- MAGIC got accepted with the air shower Monte Carlo simulation based on CORSIKA







# Workload Management System

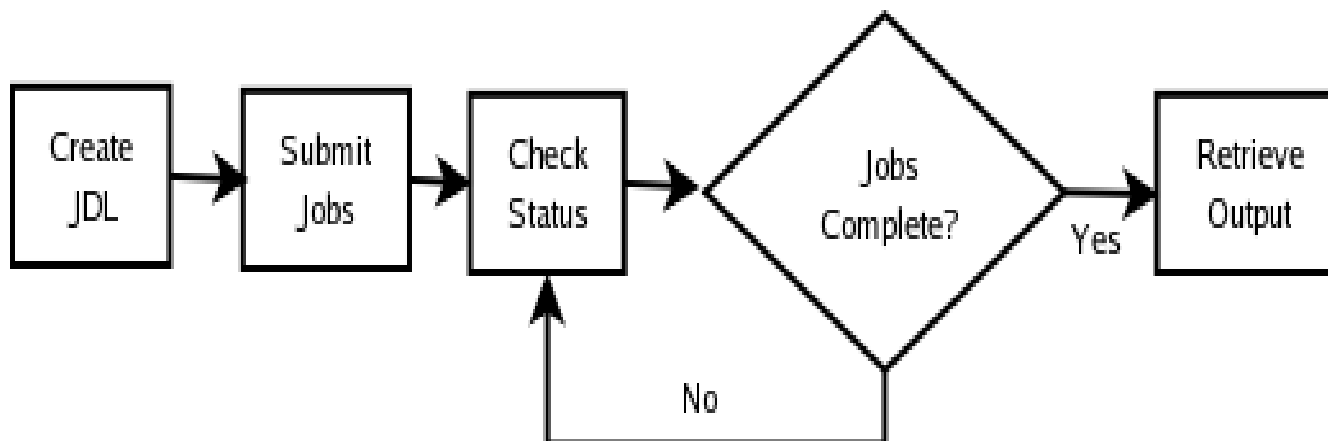
## More realistic examples

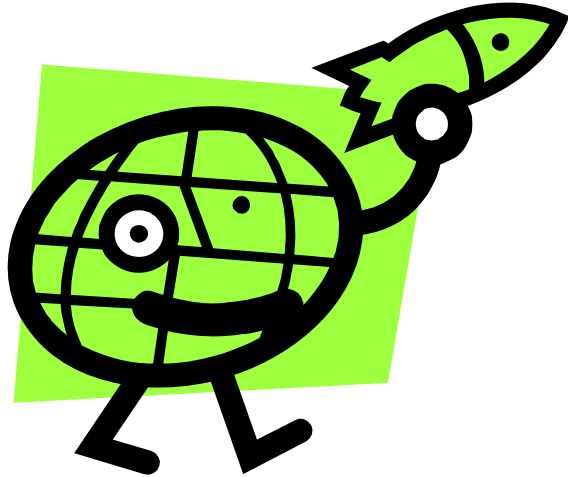
1. Job that writes results to a SE
2. Scripting to run multiple jobs

# EGEE A scripting example

Enabling Grids for E-science

- A common requirement is to run many concurrent jobs.
- This example gives you a pattern for this.
- We have seen that, to run a job on the grid
  - Create a JDL file
  - Submit job
  - Check the jobs status until it is complete
  - Retrieve output
- This process can be automated





## Workload Management System

### More realistic examples

1. Job that writes results to a SE
2. Scripting to run multiple jobs
3. Running job “close” to SE with required input data

- **GOAL:**

**Submit a job that does data management: it will retrieve a file previously registered into the catalog.**

**The JDL can be used so that only CEs “close” to SEs that have the files are used.**

- **Please access “further information” link from the agenda page.**
  - The web page invites you to run these examples, and then explore the JDL and (for case 2) the script used.