

# PROOF on demand and on the Grid

POD  
PROOF on Demand

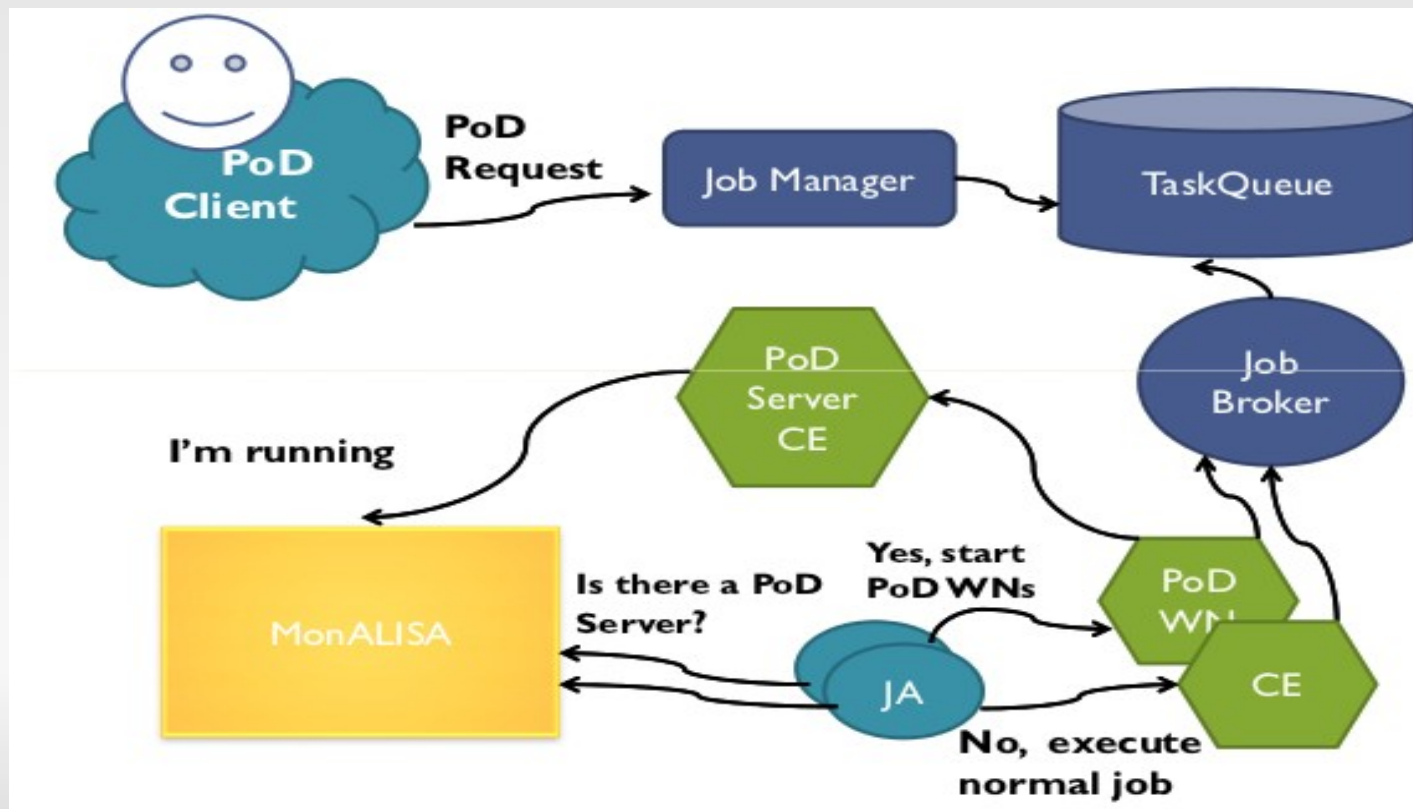


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# PoD on AliEn

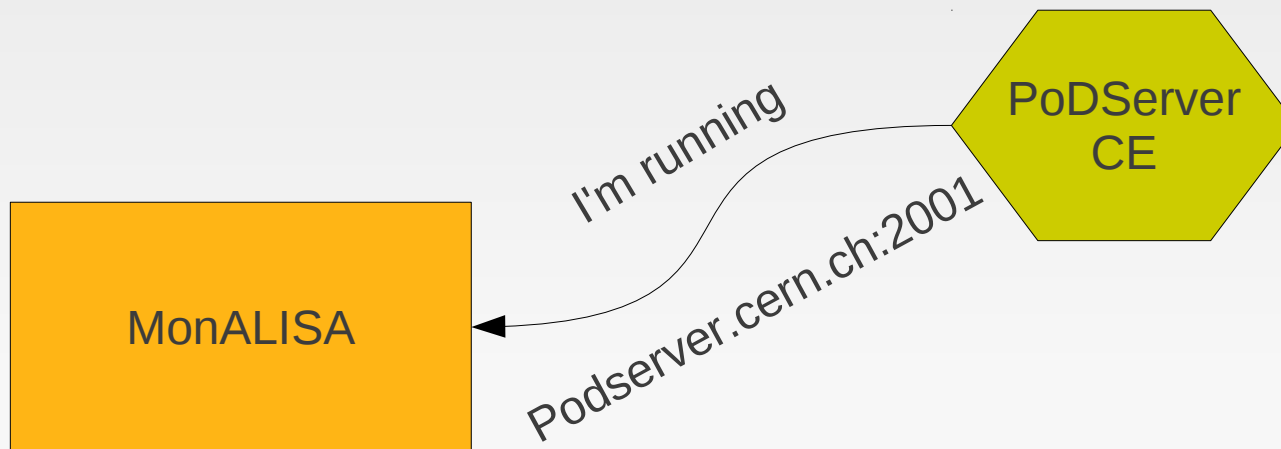
The objective of the integration of PoD in AliEn is to provide a dynamic parallel analysis facility cluster at the user request as a Grid service:

- easy to use and transparent to the user:
  - by submitting a PoD request job to AliEn.



# The PoDServer

- Is started within AliEn:
  - By submitting a PoDStartServer job;
  - Picked up by dedicated CE;
  - Advertises itself to AliEn by publishing information to MonALISA;
    - host name and port number on which it is listening;

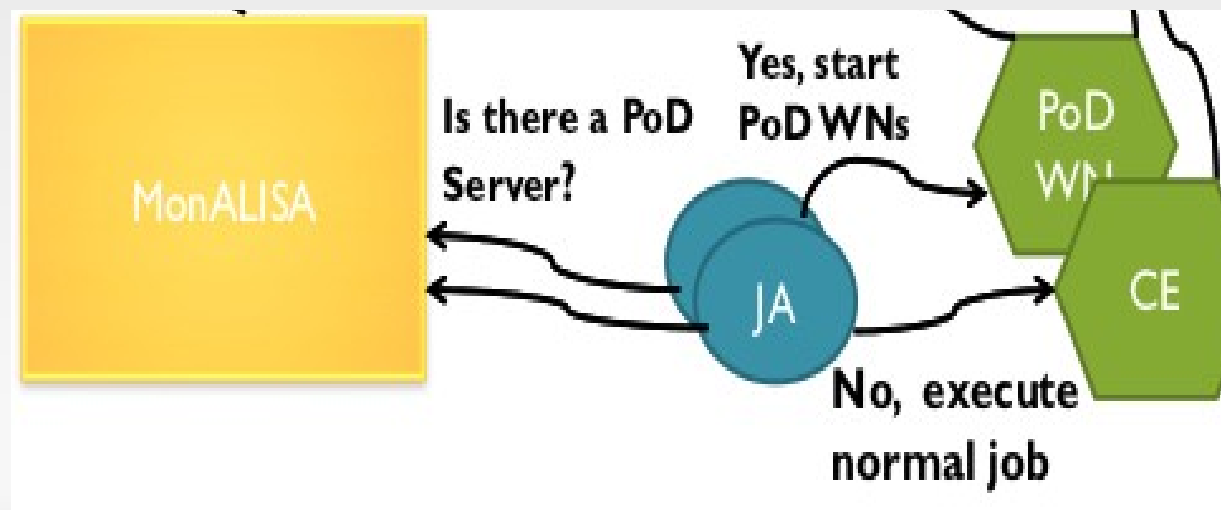


# The PoDServer

- Is running on a PoD-aware server machine;
  - 1 CPU, 2GB of ram, 10GB of disk space, Ubuntu 11.04 64bit;
  - PoD doesn't need anything special.
- User requests a PoD Server by submitting a job on AliEn:
  - Minimum and a maximum number of workers;
  - Maximum time of waiting to get the max number of workers.
- As soon as a PoD server has aquired the predefined set of workers, it stops advertising itself to MonALISA.

# PoD Workers

- Other PoD jobs are assigned to “normal” CEs;
- By default the JobAgent checks MonALISA if there is a free PoD server available:
  - If yes, the WN becomes PoD worker node;
  - If not, the WN executes normal jobs;

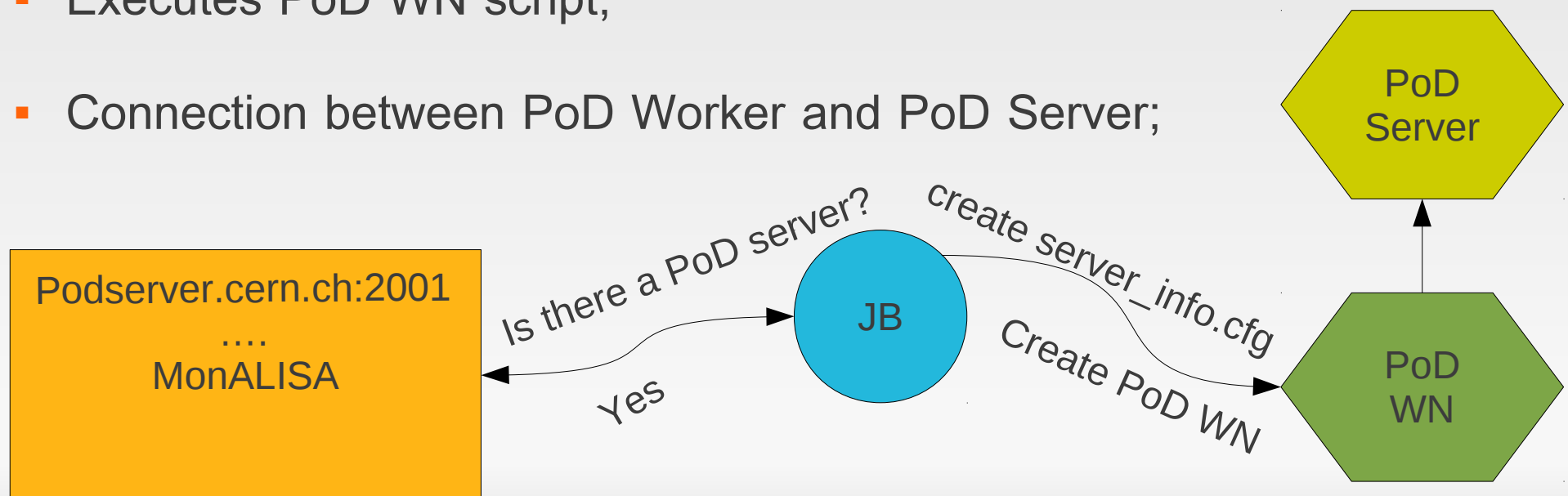


# PoD Workers

- It stops to check MonALISA as soon as it gets a free PoD server:
  - Starts worker!
- Or as soon as the timeout expired:
  - Executes normal jobs.
- The PoDCheckServer procedure is running in each JobAgent for a predefined amount of time (TIMEOUT) ;
  - If there is no server, the procedure will check X time before to start taking normal jobs;
  - These parameters are configurable from LDAP;

# PoD Workers

- Once detected that there are some requests from PoD Server the JobAgent will start the PoD Worker on the standard worker node:
  - Creates PoD WN package on the WN;
    - PoD has to be preinstalled;
  - Executes PoD WN script;
  - Connection between PoD Worker and PoD Server;



# PoD Workers and the site

- A PoD WN starts its own xproofd daemon.
- We can control and handle each PoD worker individually.
- The PoDcheckServer procedure will run in the VOBox as part of the JobAgent:
  - No need to install it!
- Site administrators just need to install PoD;
  - Set up configuration parameters:
    - E.g. Number of PROOF WNs allowed.



# PoD Workers & PoDServers

- Alien-PoD worker node gets:
  - List of free server nodes that need workers in the last minute;
- Currently, the first free PoDserver that is on the MonALISA list is the one that will execute the next PoD job.
- Choose better the available PoDserver:
  - The nearest one to reduce the network traffic and system overheads.

# PoD Workers & PoDServers

- Selecting the closest PoD Server:
  - By making each MonALISA VoBox service starting a web server with a similar layout as alimonitor (PoDMonALISA);
  - PoDServer sends his information to the closest PoDMonALISA service he has in the environment;
  - The JobAgent asks the information to the closest PoDMonALISA service too.

# Demo