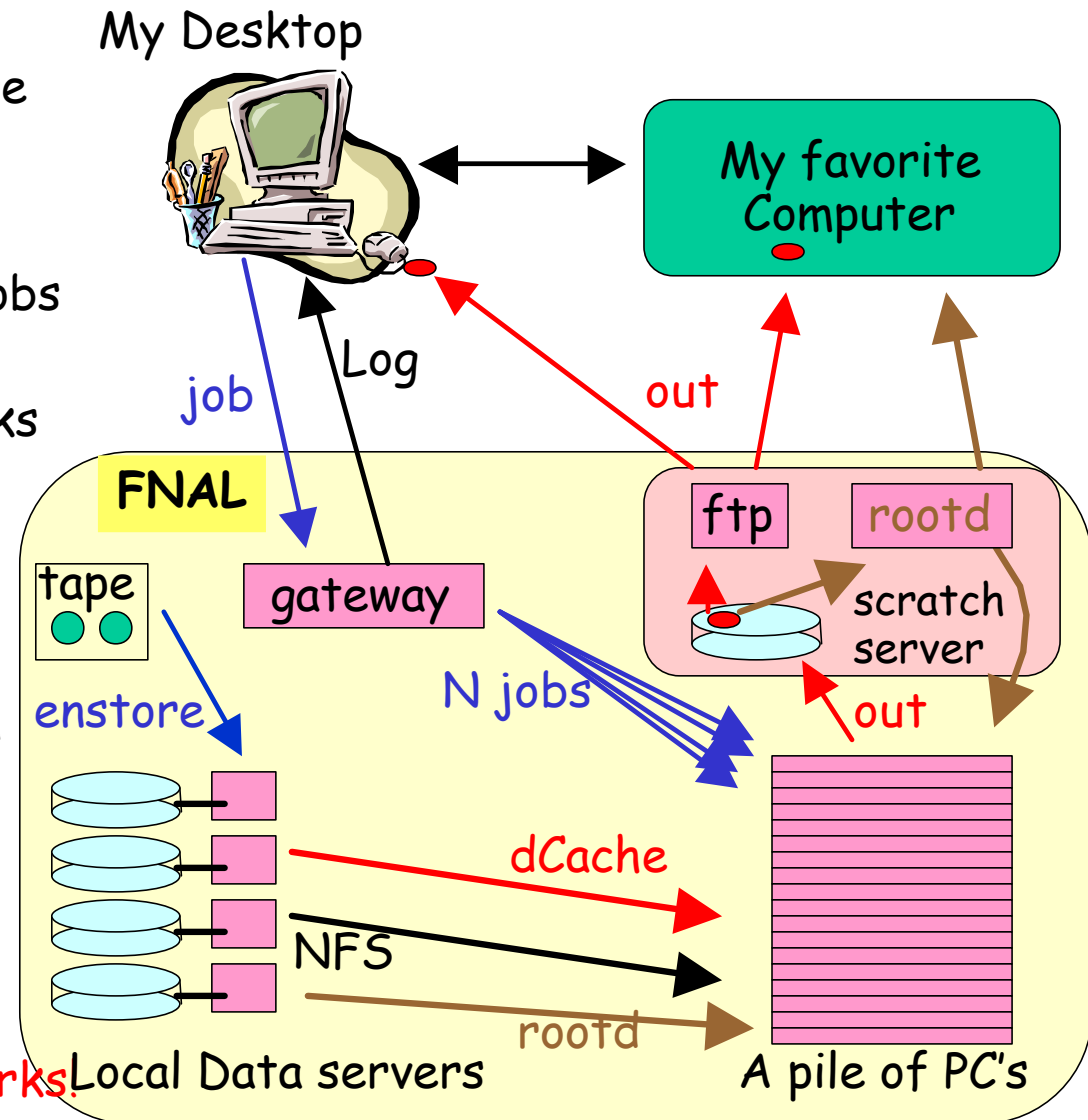# CAF@Tier1 (CNAF): Update

A. Sidoti, INFN Pisa and University

Outline:

- Status: Report after one month of CAF@CNAF
- Plans for the future (Preparing Summer -Fall 2003)

CDF Central Analysis Farm

- Compile/link/debug everywhere
- Submit from everywhere
- Execute @ FNAL
  - Submission of N parallel jobs with single command
  - Access data from CAF disks
  - Access tape data via transparent cache
- Get job output everywhere
- Store small output on local scratch area for later analysis
- Access to scratch area from everywhere

- **IT WORKS <u>NOW</u>**
- Remote cloning in progress works!

My Desktop

My favorite Computer

FNAL

job

Log

out

tape

gateway

N jobs

ftp

rootd

scratch server

out

enstore

dCache

NFS

rootd

Local Data servers

A pile of PC's

CAF@CNAF:Status

Present configuration:
- One head node
- 5 Worker Nodes (CPUs = 2 x WN)
    - Using hyperthread 4 CPU/WN -> 20 CPU
- (we started with 2 WN)
- 1 Data server (900 GB)

It was easy to add (thanks Felice):
- new WN to CAF@CNAF.
- new users (10 users are enabled to run jobs)

CAF@CNAF: Monitoring

Monitoring from fbsng
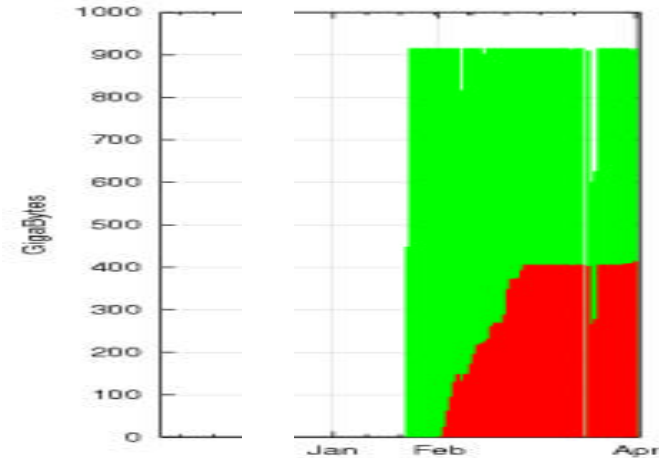

will be upgraded soon...

CAF@CNAF: Status II

Problems:
- Data access (e.g. need to copy ~O(400GB) from FNAL to CNAF). We can increase transfer rates (peak transfer rate was ~ 20Mb/s)
- Only Central electrons dataset is copied. -> Estimate a x2.5 increase (forward electrons and muons)
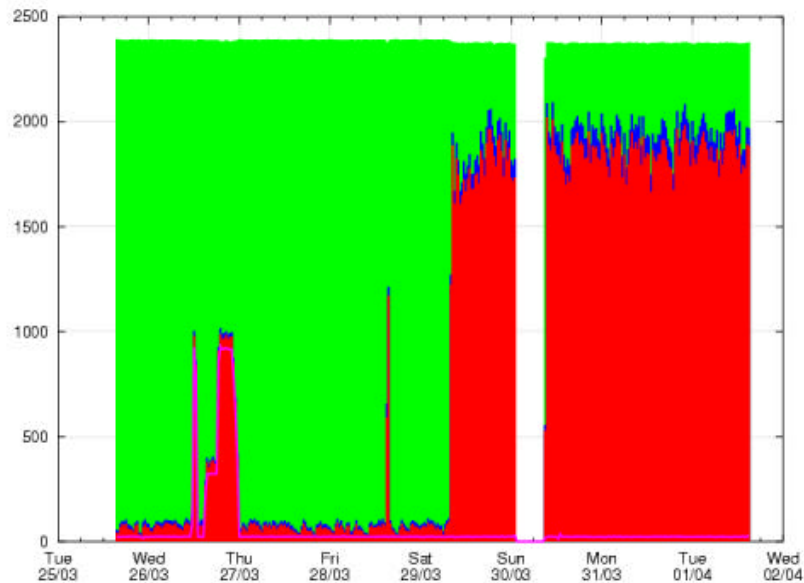

- For some jobs CPU time was 20% of real time. Job limited by I/O with nas4 and performance decreases as the number of process increases
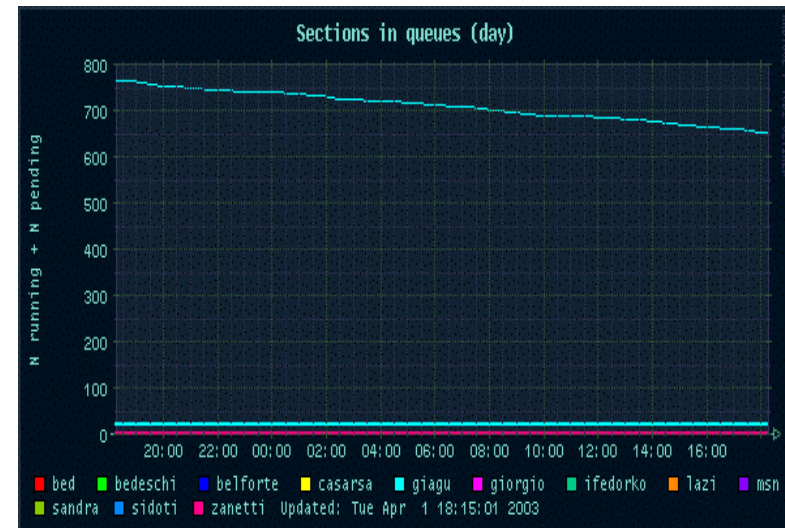
- Despite all we are happy and would like to increase CDF's hardware @CNAF

CPU status

Cpu status last week

1000 sections will finish in 10 days!

Monitor available at:
http://tier1.cnaf.infn.it/monitor/cdf
http://cdfhead1.cnaf.infn.it:8081

CDF@CNAF: Plans

Wish list:

- expand CAF@CNAF up to 16-40 Worker Nodes (x3-x12 more CPUs)

- Expand Data Server up to 3-5 TBytes (Estimated 200 pb^{-1} by June03).

- How much of this hardware can come from CDF? How much from Tier1?

->We should define the details: granularity of mass storage (part of big NAS? Payed by Tier1?). When to buy it?

- Time scale Summer-Fall 2003