CDF VO report

Aidan Robson (for the CDF Offline Group) OSG, 18 August 2011

Background

General purpose detector on the Tevatron
Running in current "Run 2" configuration for ~10 years
Tevatron end date 30 September 2011.

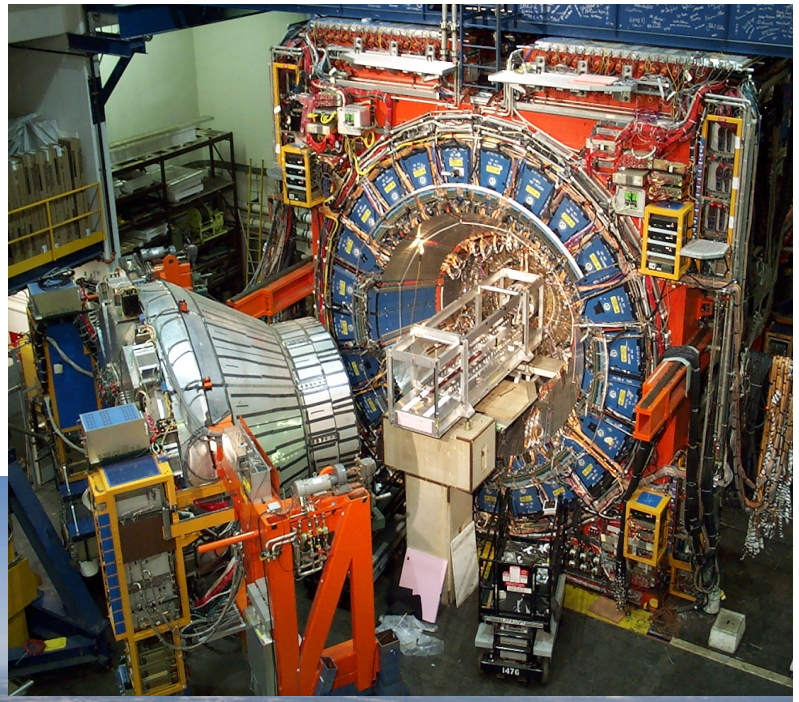
O(500) authors

Broad physics programme
–flagship measurements:

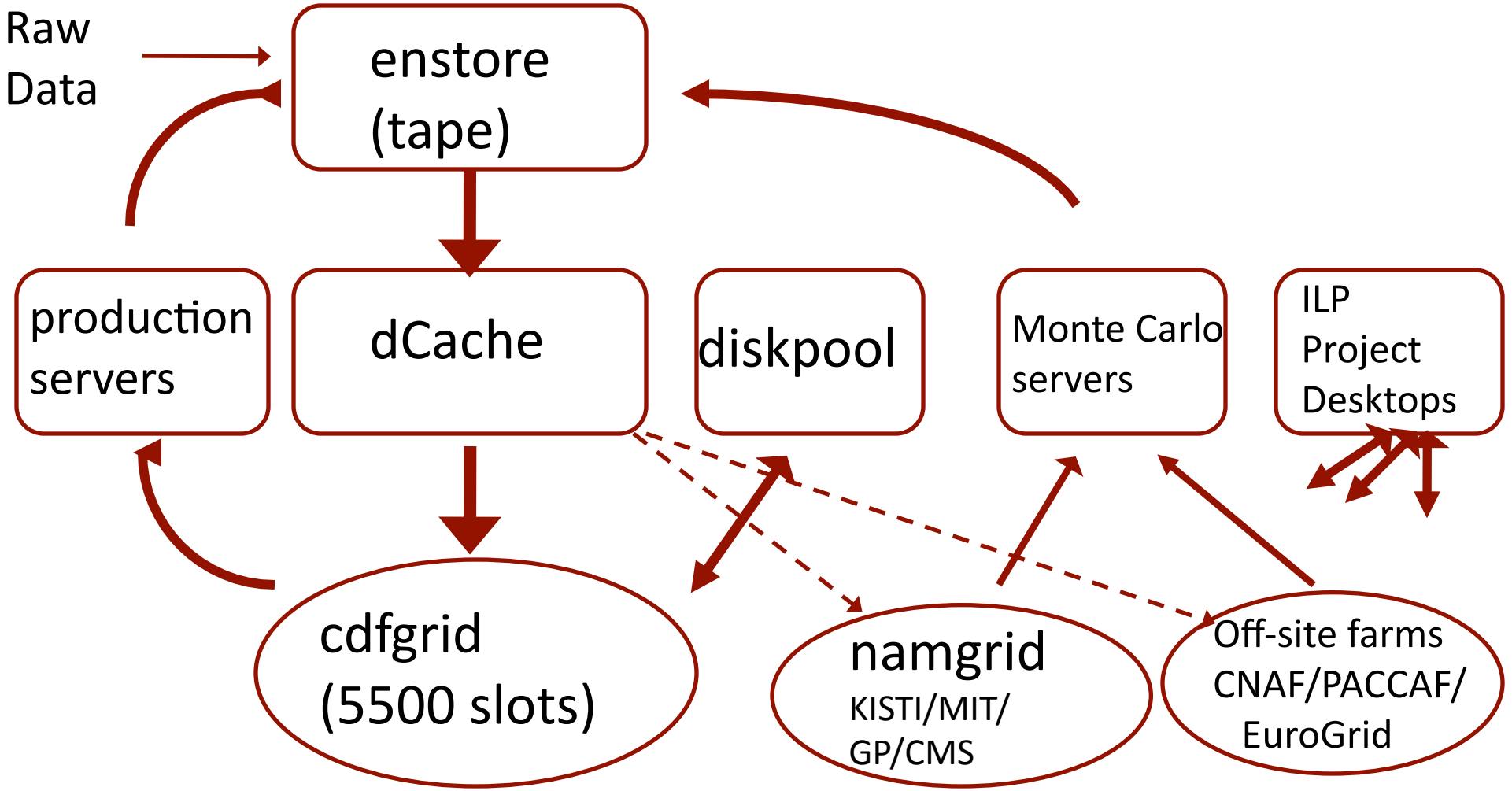
- W boson mass
- top quark mass
- Higgs search

270 PhD theses in Run 2, 26 in CY10

~40 papers submitted to journals so far in CY11

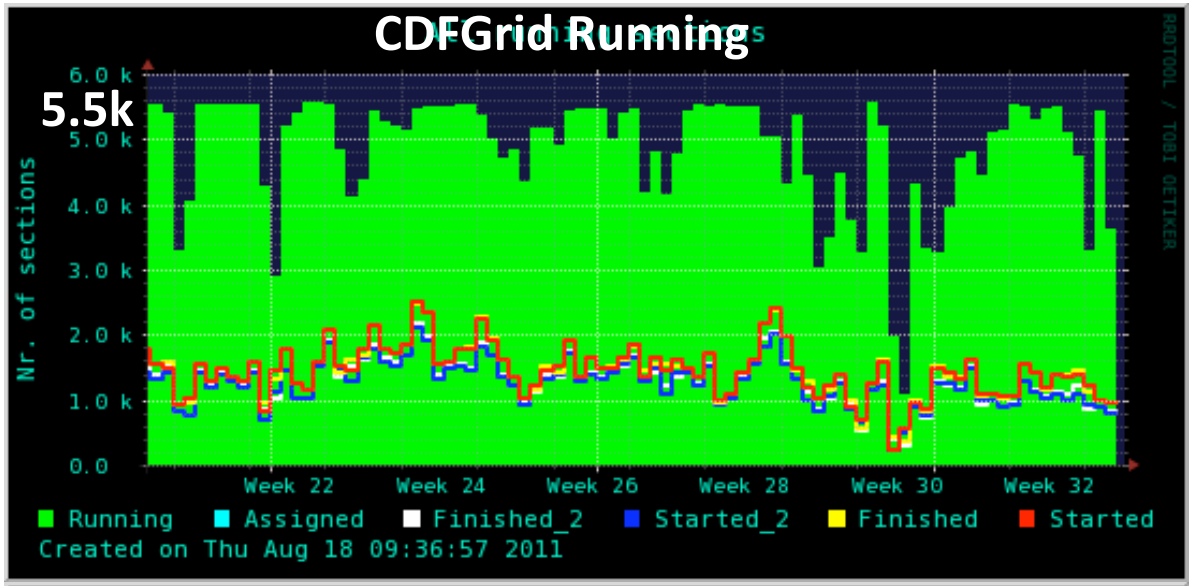


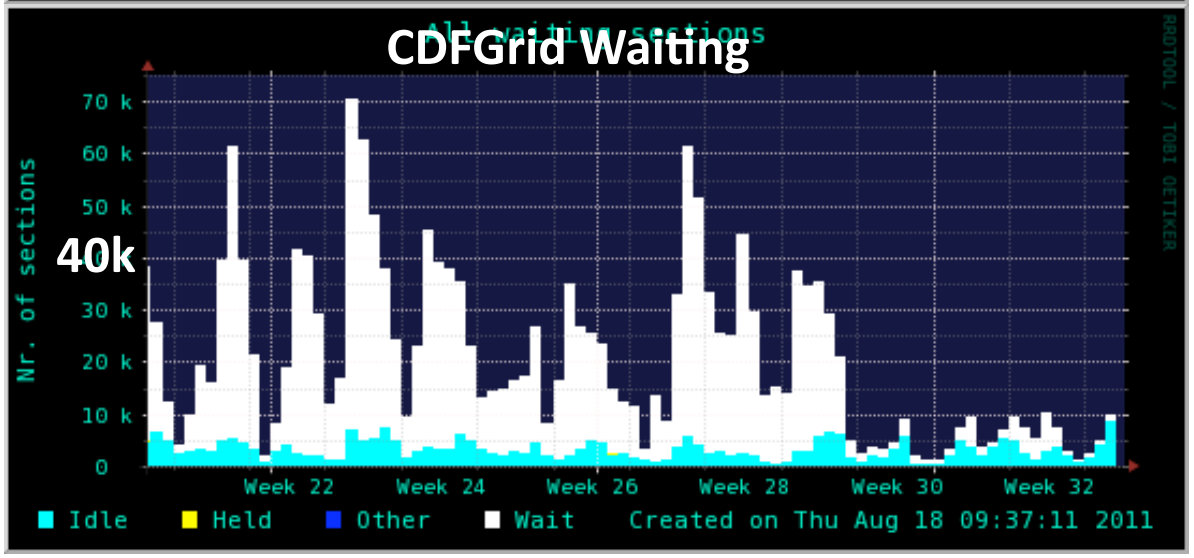
Computing infrastructure



Current operation mode:
Calibrations, reconstruction ("production"), reduced dataset-making ("ntuples")
all done centrally but on generic user farm, also used for analysis.

CdfGrid

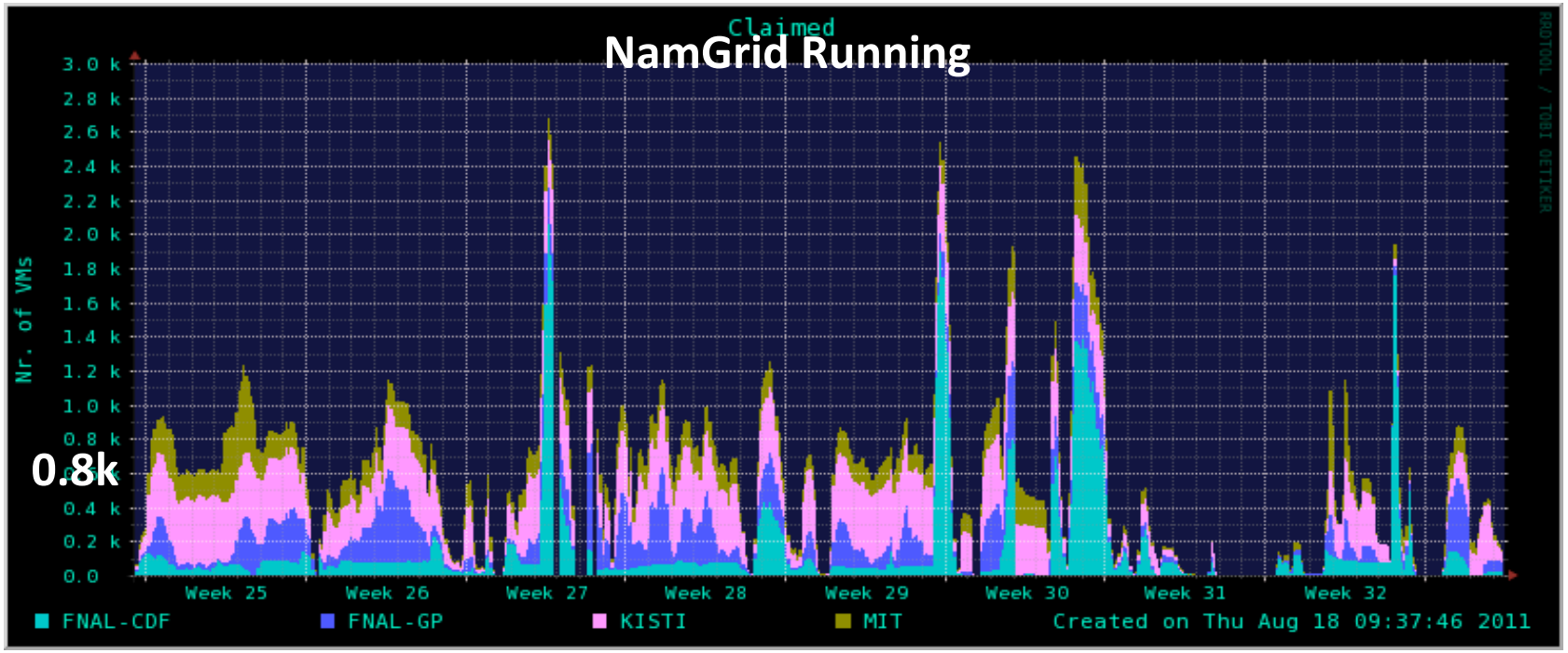




5.5k slots
Regular node retiral/replacement
Primary location for
    data-handling jobs
Kept fairly full

Custom frontend software for CDF users, interfaced to standard condor/grid middleware

NamGrid



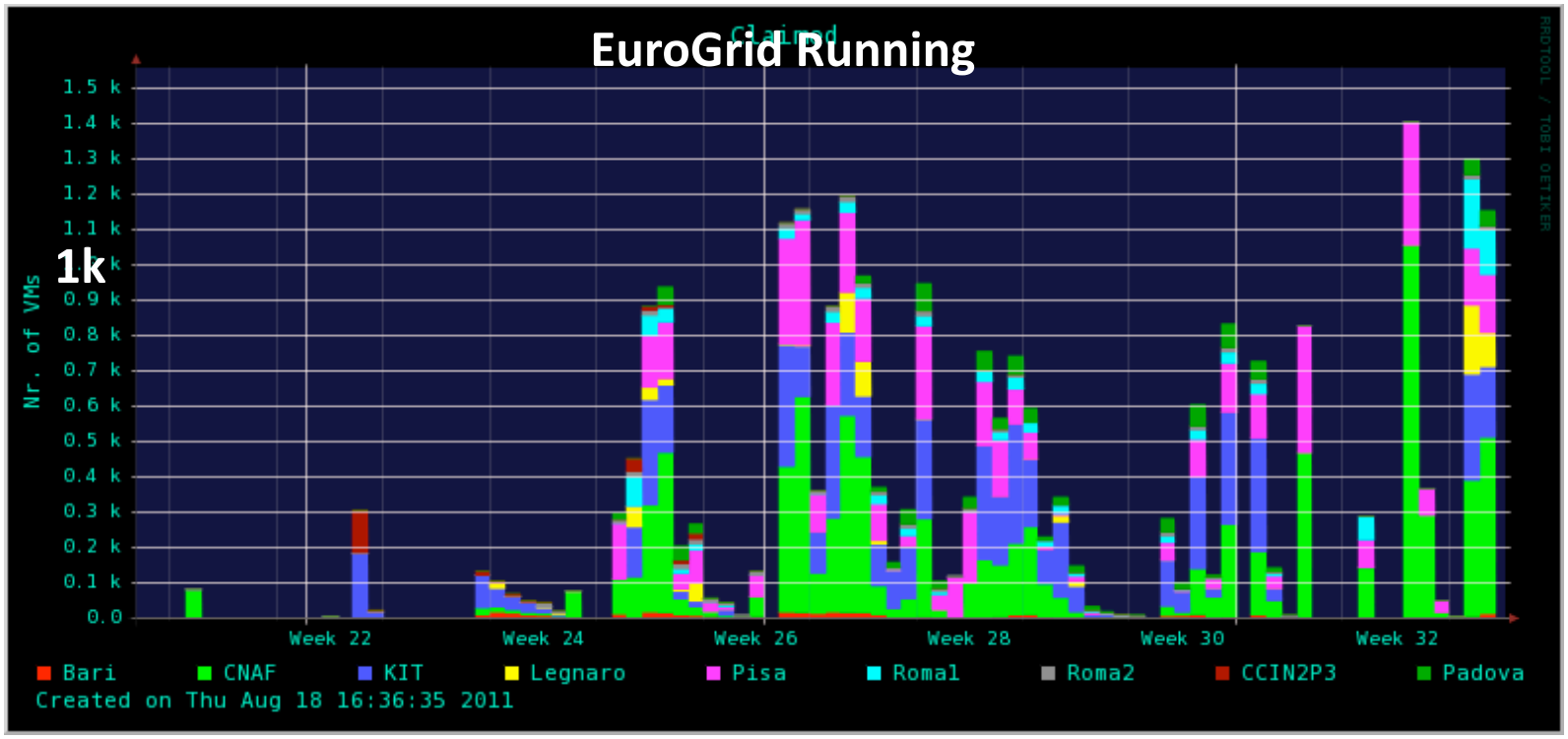
NamGrid entry point provides access to offsite resources at Kisti and MIT
Also opportunistic use of FNAL-GP and FNAL-CMS, and backfilling of CdfGrid
Baseline ~800 slots

SIngle entry point great for users – downtimes not noticed

Offsite predominantly used for Monte Carlo generation and non-DH jobs.
However Kisti and CNAF (next slide) have significant disk and we stage data there.

Limited DH available at Kisti; CDF software at Kisti and MIT

EuroGrid



EuroGrid entry point provides access LCG resources in Italy, France, Germany, Spain.
New! No more job swallowing!

Limited DH available at CNAF
CDF software at some sites
Network transfer to Fermilab is good.

Site	Country
CNAF-T1	Italy
INFN-Padova	Italy
INFN-Bari	Italy
INFN-Legnaro	Italy
INFN-Roma1	Italy
INFN-Roma2	Italy
INFN-Catania	Italy
INFN-Pisa	Italy
FZK-LCG2	Germany
IN2P3-CC	France
IFAE	Spain
PIC	Spain

T2 sites, opportunistic access

Big sites where CDF has share thanks to local agreement

Supported by UCSD

CNAF head-node

glideinWMS

VO Frontend

GlideIn Factory

GRID site 1

Tier1 Farm

GRID site 2

Supported by CDF-Italy (~0.5 FTE) + local administrators

Jobs run on data
MC production

...

GRID site n

Issues that have arisen

Sites where we install CDF software need a few "non-standard" RPMs to be installed on workers – clearly unpopular with site managers. Trying to reduce.
– thanks to individual managers for accommodating.

Commissioning of Kisti as a stable site
– thanks to FNAL-based OSG team for support

— Would be good for OSG to be able to evaluate site "production readiness" / have a test suite (batch system stability / firewalls / …)

Starting to write large (>2GB) files (for efficient tape access) meant we started to run out of disk space on worker nodes where we were using all cores.
– Kisti upgraded disks

Commissioning of Eurogrid
– significant new resource enabled by OSG

Successful major data movement using SAM

Main problem seems to be power/cooling at FNAL…!

Plans

Tevatron stops colliding 30th September

However we have new data to process and analyse and legacy measurements to make.

Expect resource usage to remain flat for at least a further year before taper.

Resource needs will be re-evaluated every year;
Kisti/MIT/CNAF have agreements in place for a year.

Expect analysis to continue for ~5 years