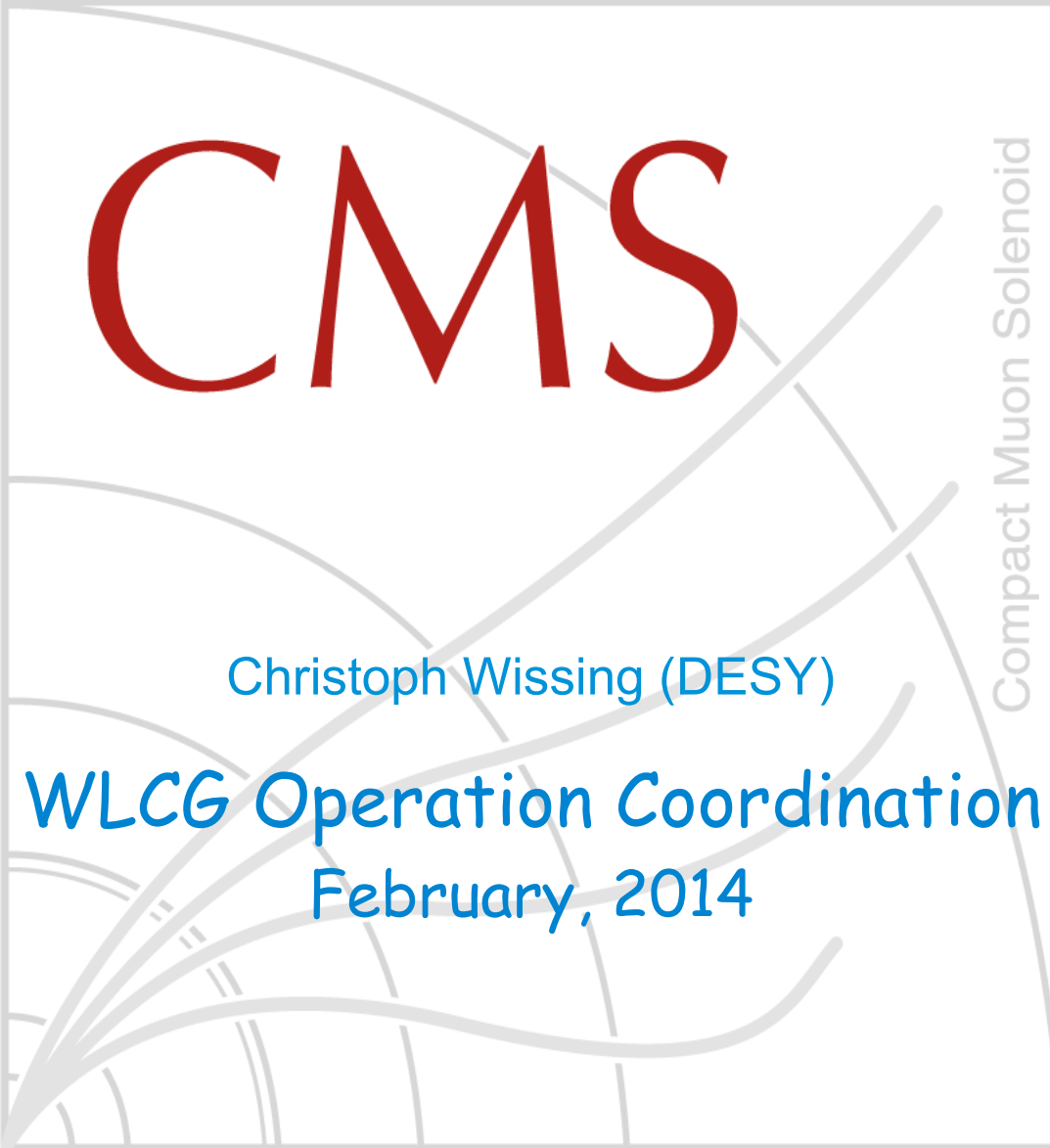


# CSA14\* Plans

\*Computing, Software and Analysis ~ STEP for other experiments



The logo for the Compact Muon Solenoid (CMS) experiment. It features the acronym 'CMS' in large, bold, red letters at the top. Below it, the text 'Compact Muon Solenoid' is written vertically in a smaller, grey font. In the center, the name 'Christoph Wissing (DESY)' is written in blue. Below that, the text 'WLCG Operation Coordination' and 'February, 2014' is written in blue. The background of the logo consists of several curved, grey lines that suggest the structure of the solenoid.

CMS

Compact Muon Solenoid

Christoph Wissing (DESY)

WLCG Operation Coordination  
February, 2014



- Many opportunities to improve existing Computing Model
- Less strict boundaries in the (originally) tiered site structure
  - Prompt RECO needs to run in Tier-0 and Tier-1
  - Processing workflows at (suited) Tier-2s – Analysis jobs also at Tier-1s
- More dynamic data placement and access
  - Automatized creation and remove of file replicas
  - Jobs might access data over the WAN
- Evolution of software
  - Multi-core jobs
  - Multi-threaded frame work
- New major release of distributed analysis tool: CRAB3
- Reasons enough to run quite some exercises before Run2 data taking





## Goal:

Demonstrate functionality and scale of improved Data Management system

Time line: April 30<sup>th</sup> 2014

## Objectives:

- Disk/tape separation at Tier-1
  - Manage Tier-1 storage resources in the new mode
- Data Federation
  - Full deployment and production operations of Xrootd servers at T1s and 90% deployment of the T2s
  - Demonstrate running cross-site production between T1s and in well-connected geographic regions with T2s
- Prototype of automated data placement and cache release





## Goal:

Demonstrate full production scale of new CRAB3 distributed analysis tool

Time line: June 30<sup>th</sup> 2014

## Objectives:

- Demonstrate ability to sustain full scale of CMS analysis
  - 20k cores in use
  - 200k jobs/day
  - On average 300 distinct users per week
- Produce end-user data products and register into data management system
- Exercise retry handling and global queue monitoring





Goal: Exercise the full system for organized production

Time line: 31<sup>st</sup> October 2014

Objectives:

- Utilize Agile Infrastructure (CERN-CC & Wigner) at 12k cores level
- Run multi-core reconstruction at T0 and T1
- Demonstrate 500Hz prompt RECO at T1, use 20k cores for simulation reconstruction at Tier-2
- Demonstrate HLT usage in interfill mode
  - Reduced start-up latency and checkpointing
- Demonstrate ability to increase effective computing capacity by including “opportunistic resources”
- Demonstrate a sustainable “small MC request” system on dedicated resources





- Primarily sample preparation + user analysis
  - Will (mainly) use new CRAB3 tool
  - Sample will be placed and accessed at Tier-2s
- Prepare large scale sample preparation at a similar scale to early 2015
- Time line: in summer (tentative)
  - We will give updates during regular WLCG coordination operation meetings





- Savannah-GGUS migration
  - Most technical issues set, include them in (one of the) next GGUS releases
  - Run both trackers in parallel, moving operations more and more to GGUS
  - Finish still in 1<sup>st</sup> half of the year
- Move to global Condor pool
  - Run production and analysis through one system
- Use glExec
  - Sites are almost ready
  - Tuning of scheduling policy to ensure proper SAM test execution
- Finalize CVMFS migration
  - Really in the tails now

