

# U.S. CMS S&C Report

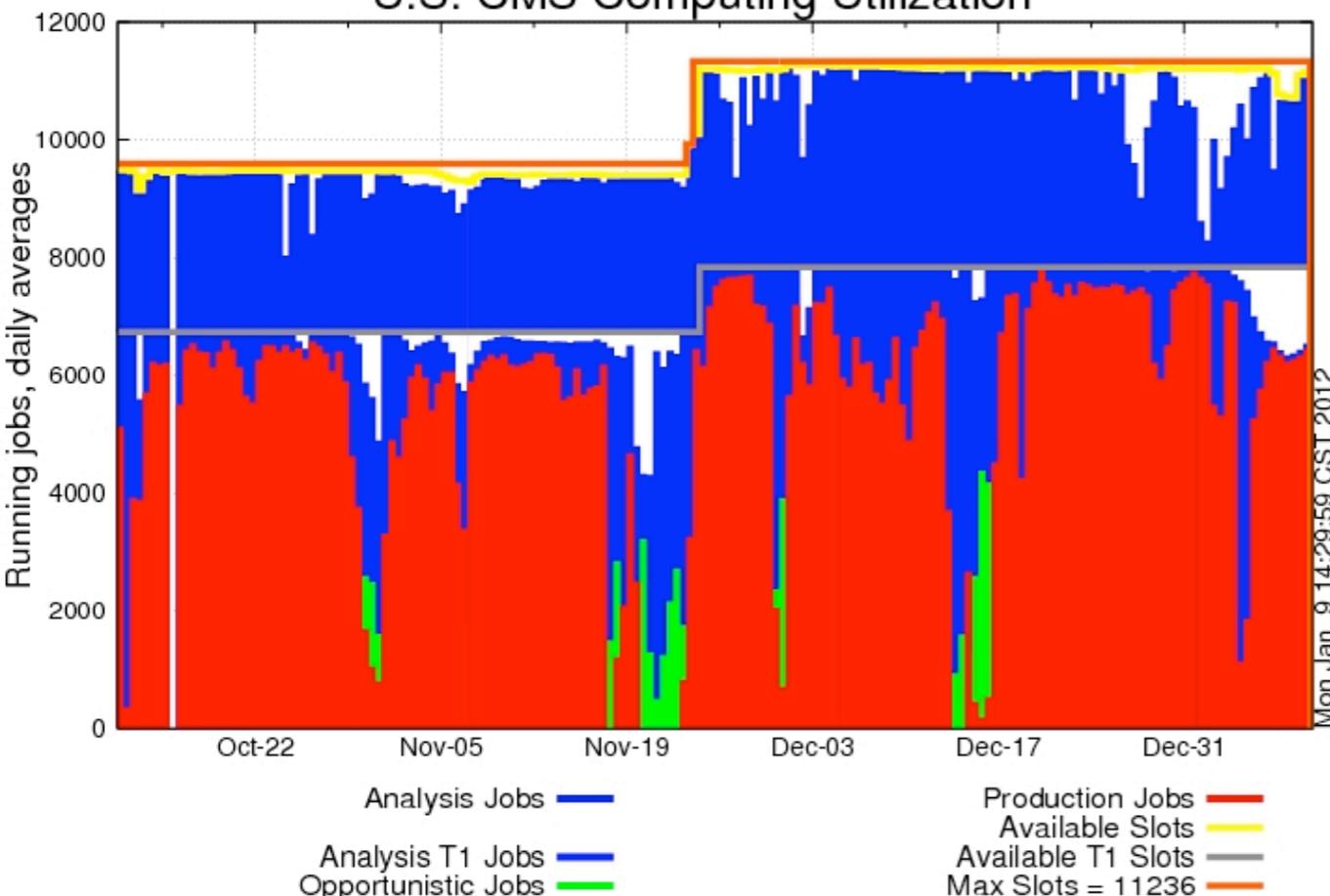
DOE/NSF LHC Ops Program Meeting



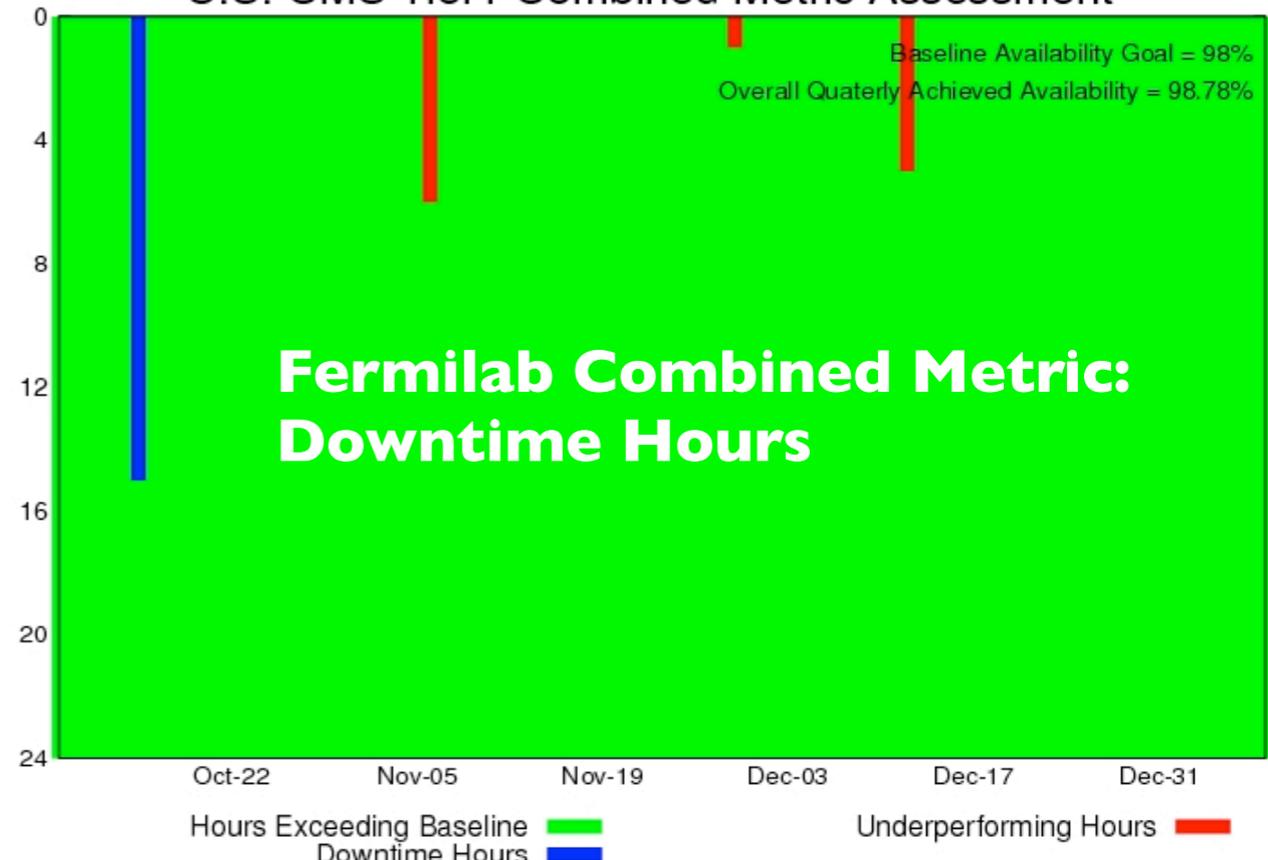
O Gutsche/FNAL reporting for  
LAT Bauerdick/FNAL, KBloom/UNL



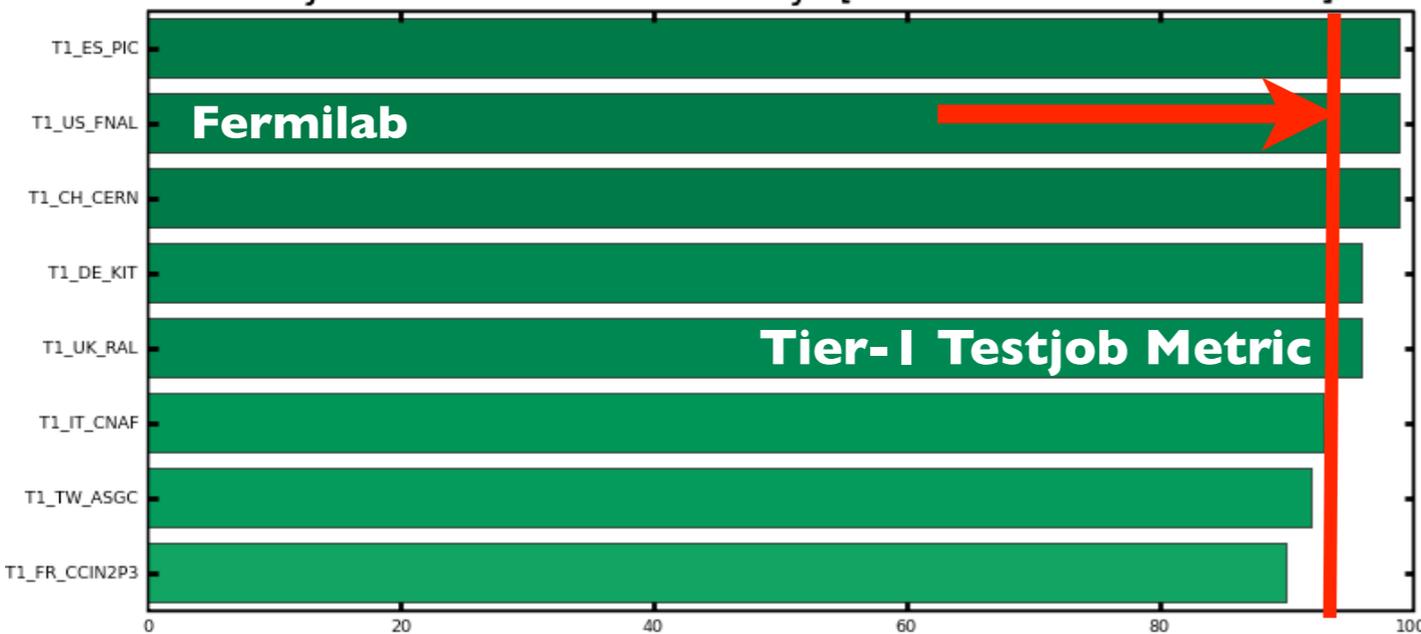
### U.S. CMS Computing Utilization



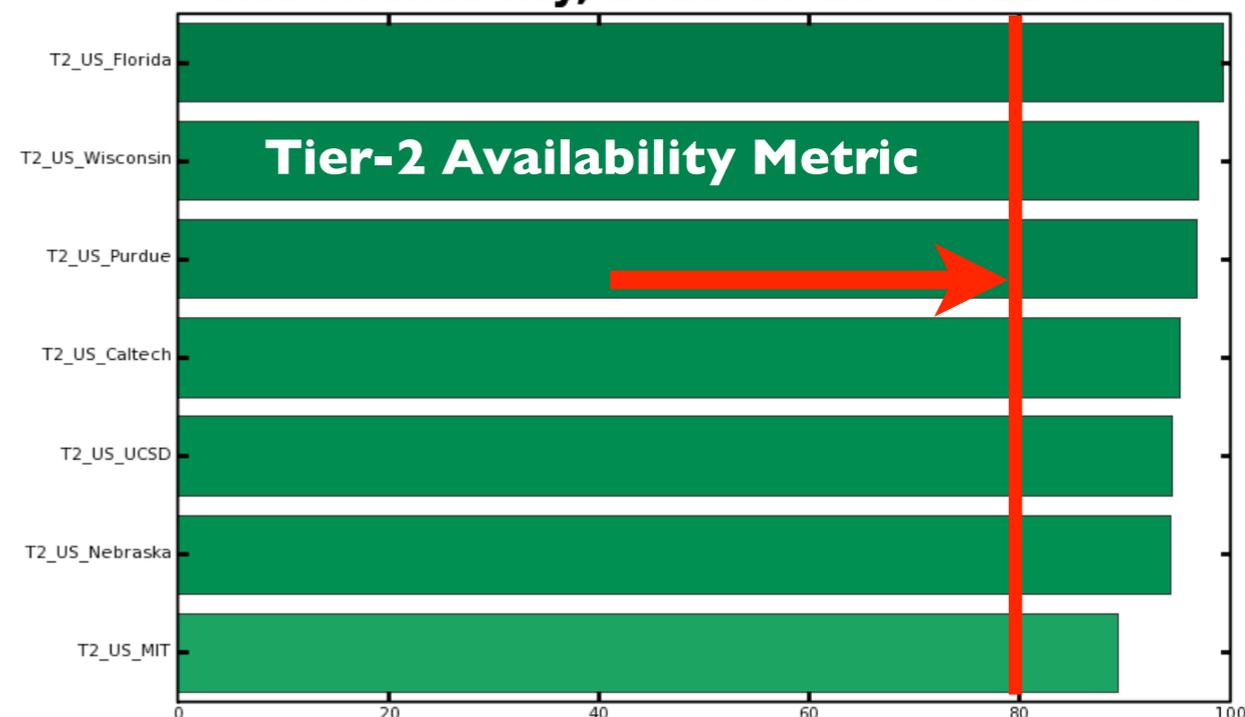
### U.S. CMS Tier1 Combined Metric Assessment

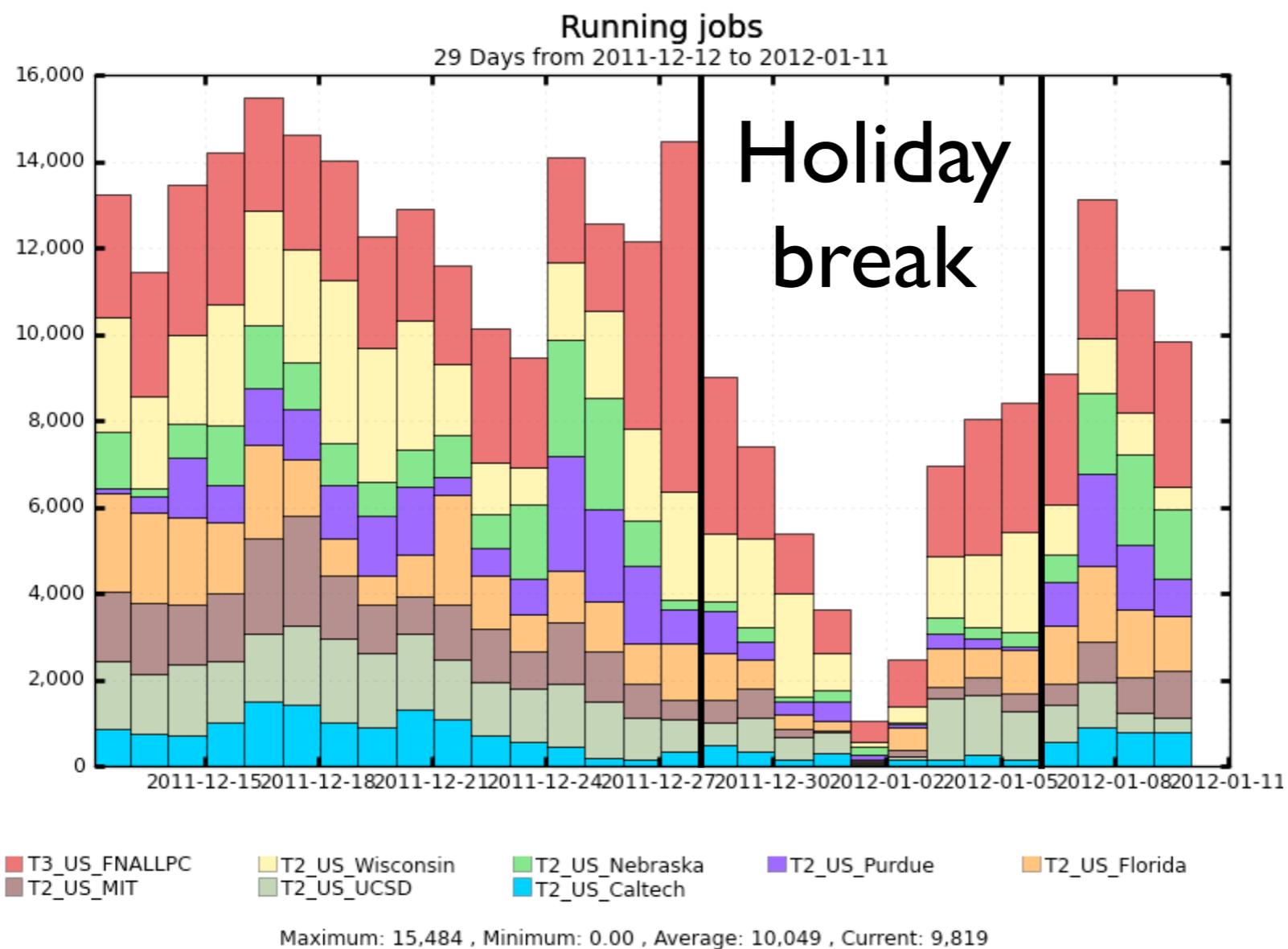


### Test Job Ranks for the last 91 days [2011-10-03 -> 2012-01-04]



### Site Availability, 2011-10-10 - 2012-01-09





Running  
Analysis Jobs at  
US T2/T3

- ▶ Good time for central processing as user activity decreases
- ▶ This year's break was special
- ▶ LHC collision energy will only be defined during the Chamonix workshop in February => no Monte Carlo Simulation was requested

- ▶ Re-reconstruction pass of complete 2011 MC sample with updated tracker alignment
  - ▶ 1.15 Billion events processed during the break
  - ▶ Total request for 2.7 Billion events
- ▶ Smaller re-reconstruction request of MC with very high number of PileUp events for studies of the trigger and software performance
  - ▶ Order of 300 Million events processed during the break
- ▶ In total, over 800 TB of new files archived on tape on the complete Tier-I level, 443 TB at FNAL alone
- ▶ LHE file production (generation of events and storage in xml file format) only at CERN and FNAL (special queues needed)
  - ▶ 3.5 Billion events generated out of 4.5 Billion events requested

- ▶ Software releases currently being cut and validation is ongoing
- ▶ Preparation for expected very high number of PileUp events
  - ▶ Task force to optimize code performance
  - ▶ Task force to optimize performance of reconstruction (especially tracking)
- ▶ Preparation to utilize multi-core processing at the Tier-0
  - ▶ Prompt reconstruction will not be able to utilize 100% of the CERN resources without multi-core processing
  - ▶ Also test to overflow prompt reconstruction of some primary datasets to Tier-I sites

- ▶ News that OSG continuation proposal will be funded
  - ▶ thanks to DOE and NSF for continuing support!
  - ▶ working with OSG executive team to fine-tune plans and budgets
- ▶ Preparing forward-looking computing plans, in view of LHC upgrade
  - ▶ New “Upgrade” subtasks in CMS Offline and CMS computing
  - ▶ Collaboration between European and US initiatives on future technologies
    - ▶ WLCG Technical Evaluation Groups to define LHC requirements
    - ▶ OSG ET exploring collaboration opportunities with EU to provide technologies
  - ▶ CMS participated in “Grid computing: next decade” meeting in Zakopane
    - ▶ giving input on future computing needs to cyber-infrastructure providers
- ▶ Upcoming Networking meeting at Berkeley end of January
  - ▶ combined LHC OPN (T0-T1 n/w) and LHC ONE (T1-T2-T3 n/w) meeting
  - ▶ USCMS and USAtlas will participate
  - ▶ side meeting b/w CMS and Atlas to discuss forward-looking plans for LHCnet transatlantic networking