



MC Production on OSG



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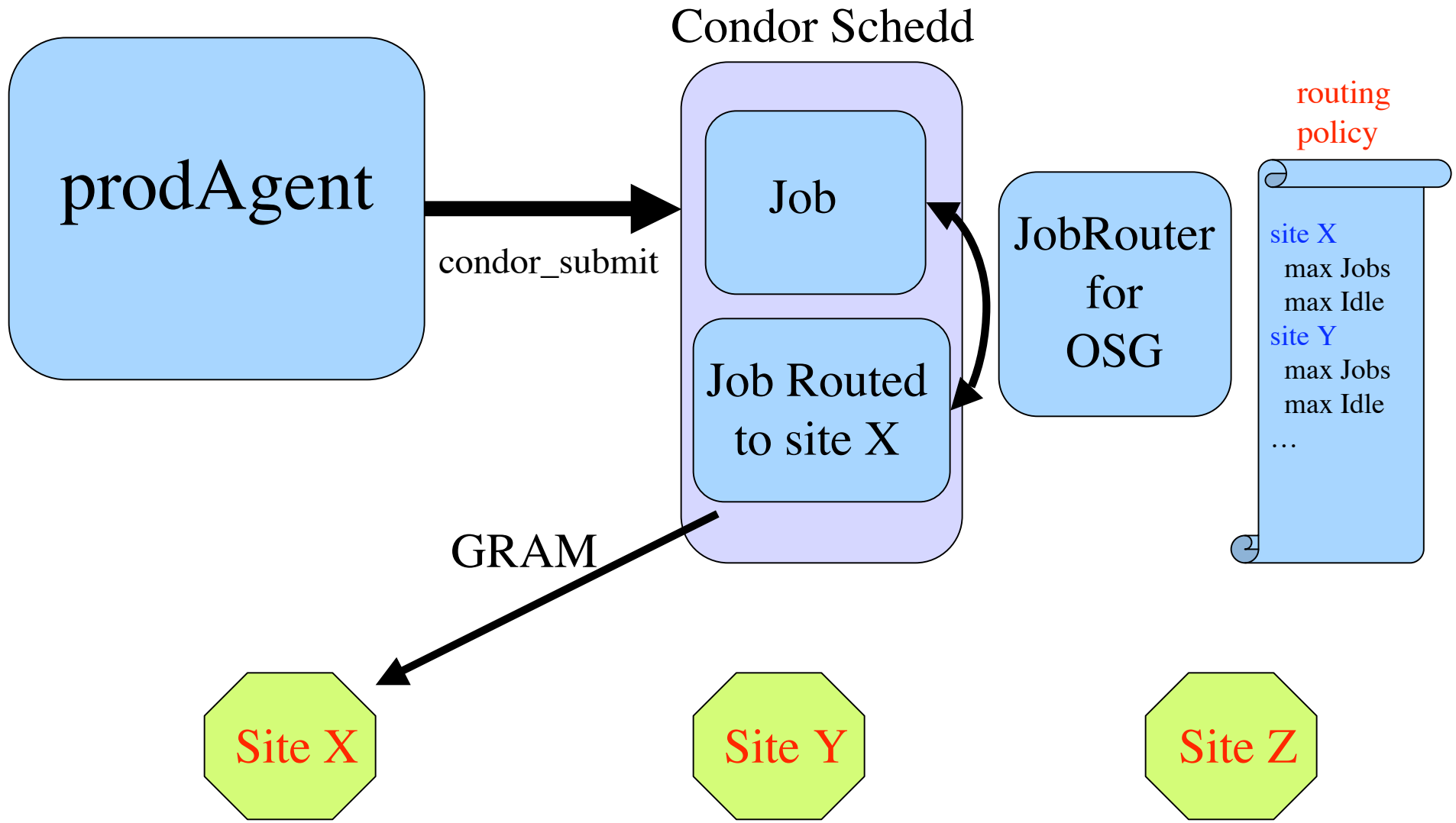
CMS Production in a Nutshell



- Successful large scale MC production in OSG includes :
 - CSA06, CSA07, CSA08
 - Spring07, Spring08, Summer08, Fall08, Winter09
- MC production is part of the CMS DataOps task.
- Maarten & I are coordinating (also handling several PA's ourselves) production since March 2008.
 - Covering resources and time zones in OSG and LCG.
 - Keeping track of availability of CMSSW and other needed production softwares at T2 sites before mass production.
 - Monitoring and integrating the availability/stability/reliability performance metrics into production plans.
 - Sample custodality planning at T1s & prioritizing WFs in T2 regions, handing them to operators, and working with sites.



Routing CMS Jobs to OSG

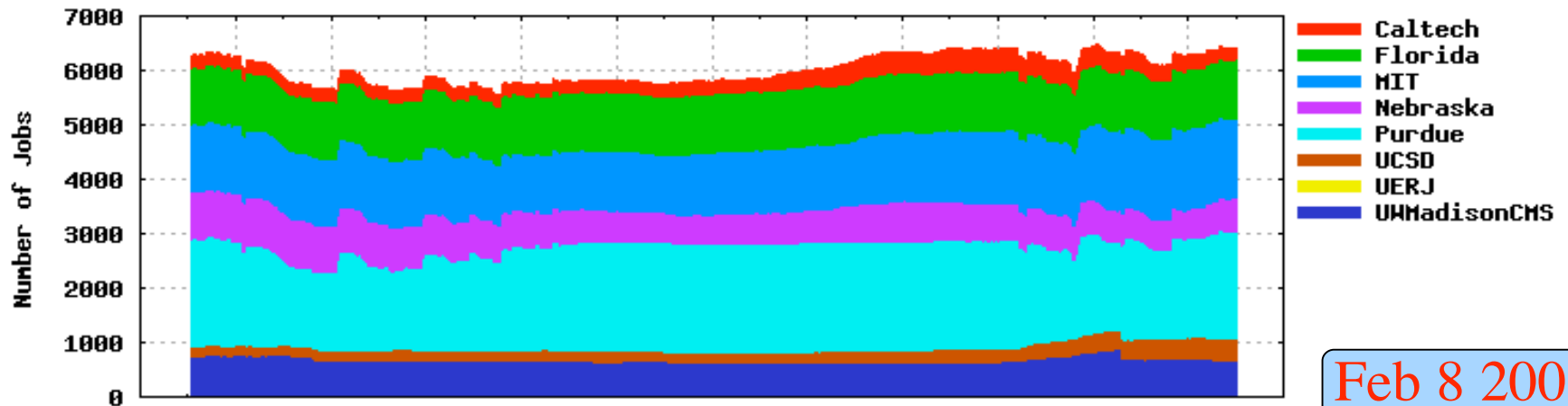




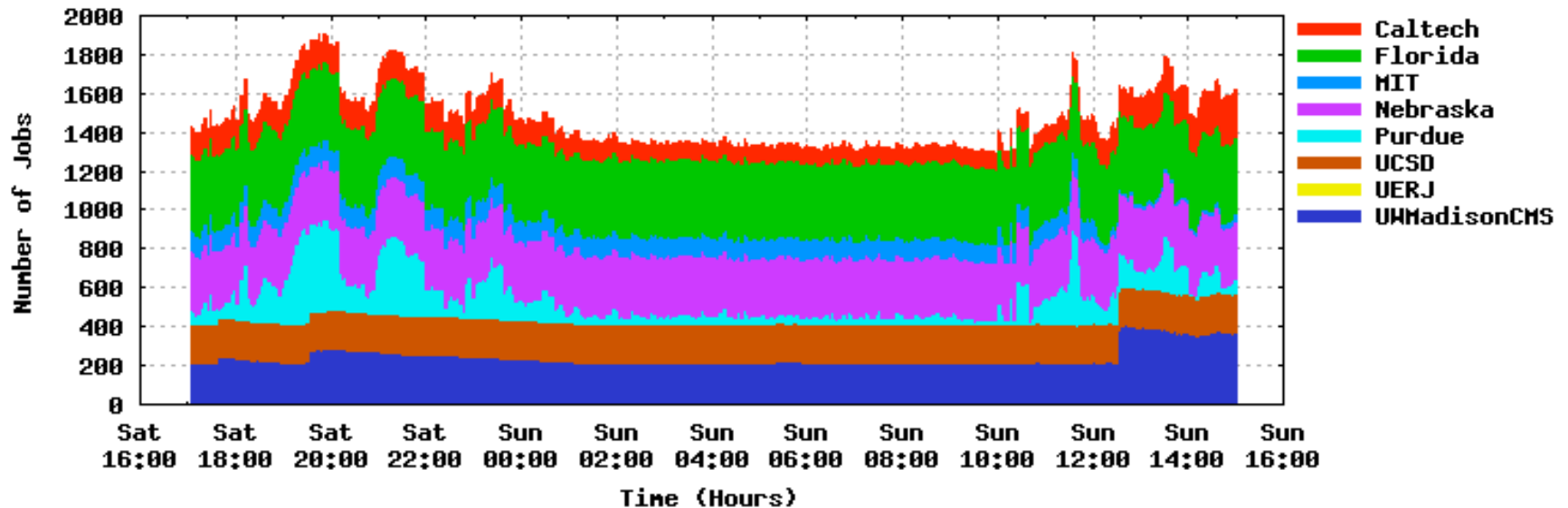
Running/Idle Job Monitoring



cnsprod's routerqRun-caraway Jobs (updated Feb 8, 2009)

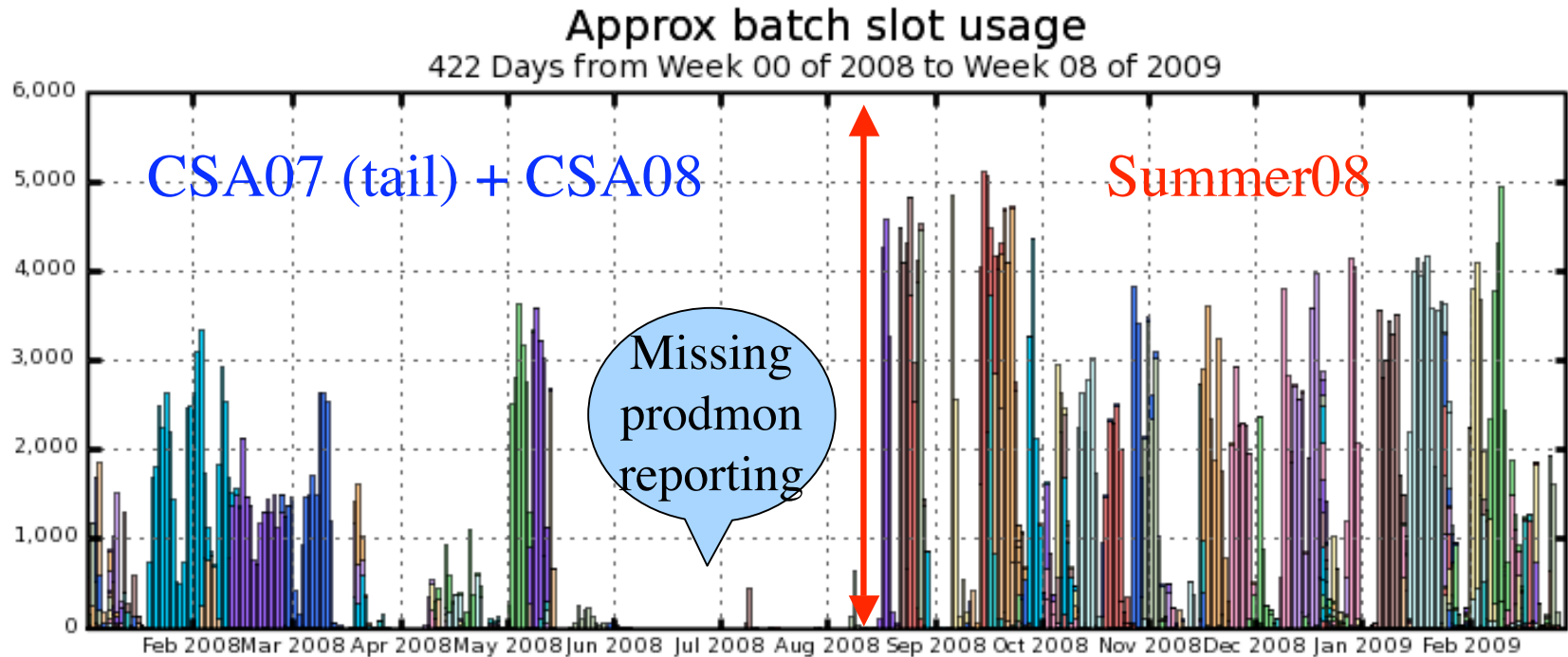


cnsprod's routerqIdle-caraway Jobs (updated Feb 8, 2009)





Resource Usage in OSG



- Summer08-MinBias-IDEAL_V9_RAW_v1
- Summer08-QCDpt3000-IDEAL_V9_RAW_0_12_9_patch1_v2
- Summer08-QCD_EMenriched_Pt30to80-IDEAL_V9_RAW_v1
- Summer08-QCD_EMenriched_Pt80to170-IDEAL_V6_v1
- Summer08-QCD_EMenriched_Pt30to80-IDEAL_V9_RAW_0_12_7_v1
- Fall08-QCD250to500-madgraph-IDEAL_V9_RAW_0_12_7_v1
- Summer08-QCD250to500-madgraph-IDEAL_V9_RAW_v1
- Summer08-QCD_EMenriched_Pt20to30-IDEAL_V6_v1
- PreCSA08-MuonPT5-STARTUP_V2_v2
- Summer08-HCALCaIMinBias-IDEAL_V9_RAW_0_12_5_v1

Maximum: 5,109 , Minimum: 0.00 , Average: 1,248 , Current: 0.15

Purdue added more slots just in time for the summer08 production.



US T2 Job Slots : Outlook



Site	Job Slots	# of CEs	General Comments
Caltech	Upto ~ 450	1 (C)	???
Purdue	Upto ~ 2000	2 (1 C, 1 P)	NCSD? and NFS mount disappears
Nebraska	Upto ~ 700	1 (P --> C)	Less slots during and 1 to 2 months(*) after pbs --> Condor migration
Florida	Upto ~ 1100	4 (3 C, 1 P)	HPC the biggest & MG WFs a pain.
UCSD	Upto ~ 700	2 (C)	???
MIT	Upto ~ 1200	1 (C)	Powerful/extra CEs for load bal ?
Wisc	Upto ~ 1100	2 (C)	SLHC sim jobs dominated this year !

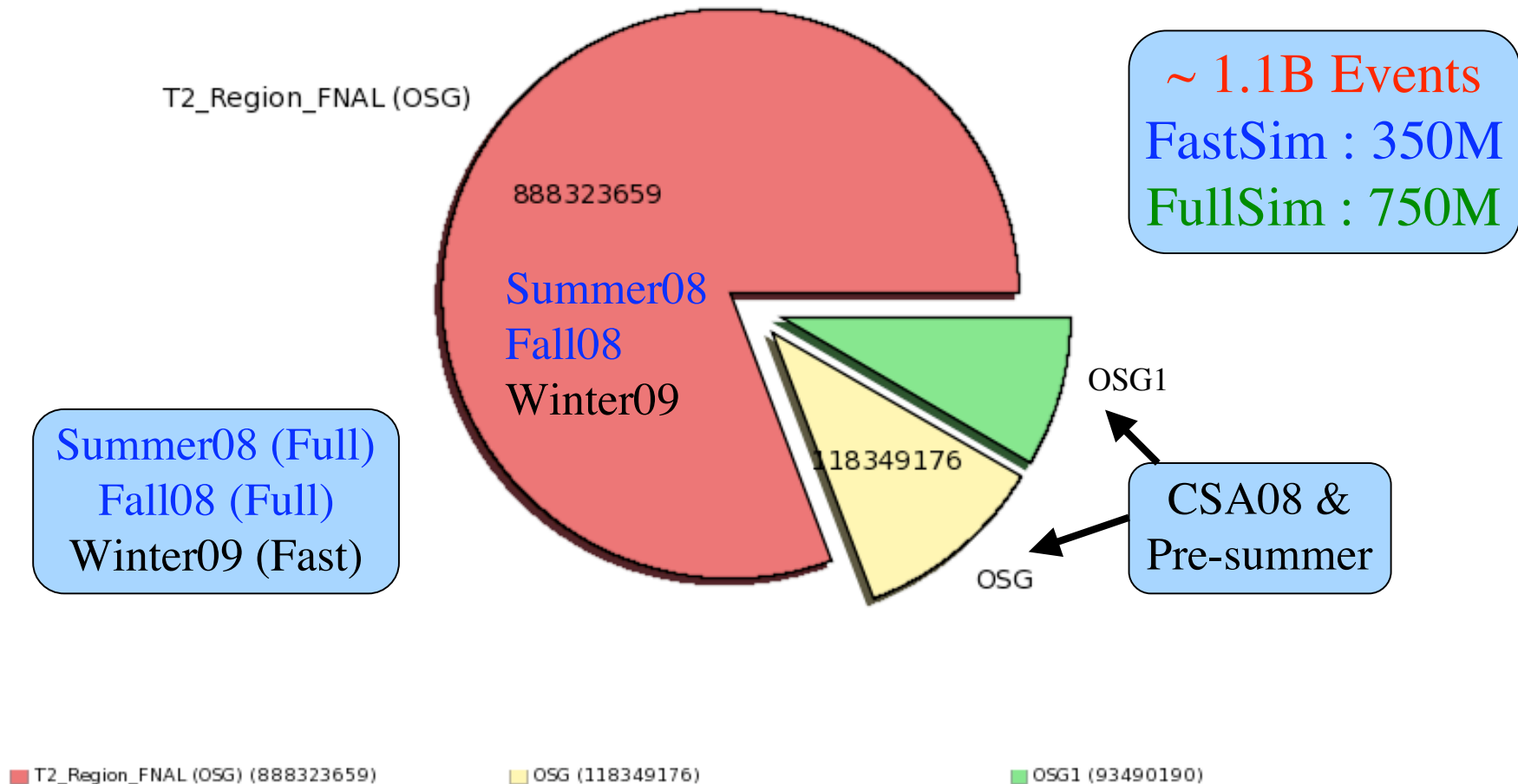
- Max slots at all the sites are not available simulataneously all the time.



OSG Prod Stats : 2008



Merge events written (Sum: 1100163025)





LCG Prod Stats : 2008

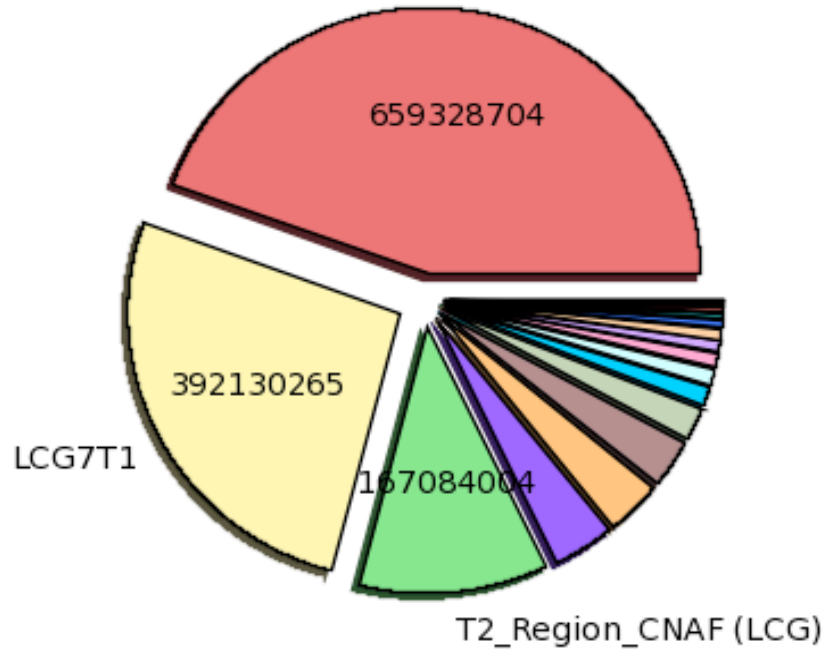


Merge events written (Sum: 1481680468)

LCG7

~ 1.1B Events

T1 processing need to be subtracted



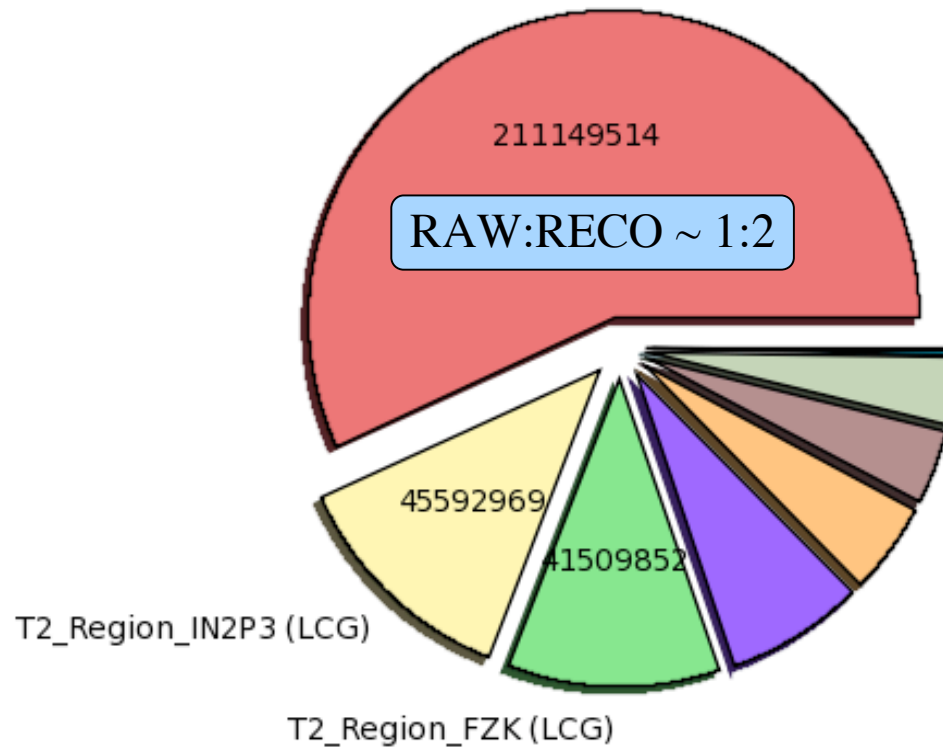
- LCG7 (659328704)
- LCG3 (52653096)
- T2_Region_PIC (LCG) (30168026)
- T2_Region_RAL (LCG) (12139813)
- LCG7_maarten (7298369)
- T2_Region_ (LCG) (1922904)
- T2_Region_CERN (LCG) (543508)
- LCG7T1 (392130265)
- T2_Region_IN2P3 (LCG) (48597517)
- T2_Region_FZK (LCG) (17344263)
- T2_Region_FZK(LCG) (10224579)
- LCG6 (5341855)
- LCG7_FZK (1335000)
- LCG2 (40922)
- T2_Region_CNAF (LCG) (167084004)
- LCG7-CCRC08 (43921588)
- T2_Region_AS GC (LCG) (15995987)
- LCG7_Wen (9477267)
- LCG1 (5277063)
- LCG5 (828000)
- MCLCG7OP10 (27738)



Stats (LCG & OSG) : 2009



Merge events written (Sum: 371665846)
T2_Règion_FNAL (OSG)



T2 production is
labelled with
T2_Region_xx



For clear
accounting

T2_Region_FNAL (OSG) (211149514)
T2_Region_CNAF (LCG) (27016424)
T2_Region_RAL (LCG) (12995813)

T2_Region_IN2P3 (LCG) (45592969)
T2_Region_PIC (LCG) (17701633)
T2_Region_CERN (LCG) (714789)

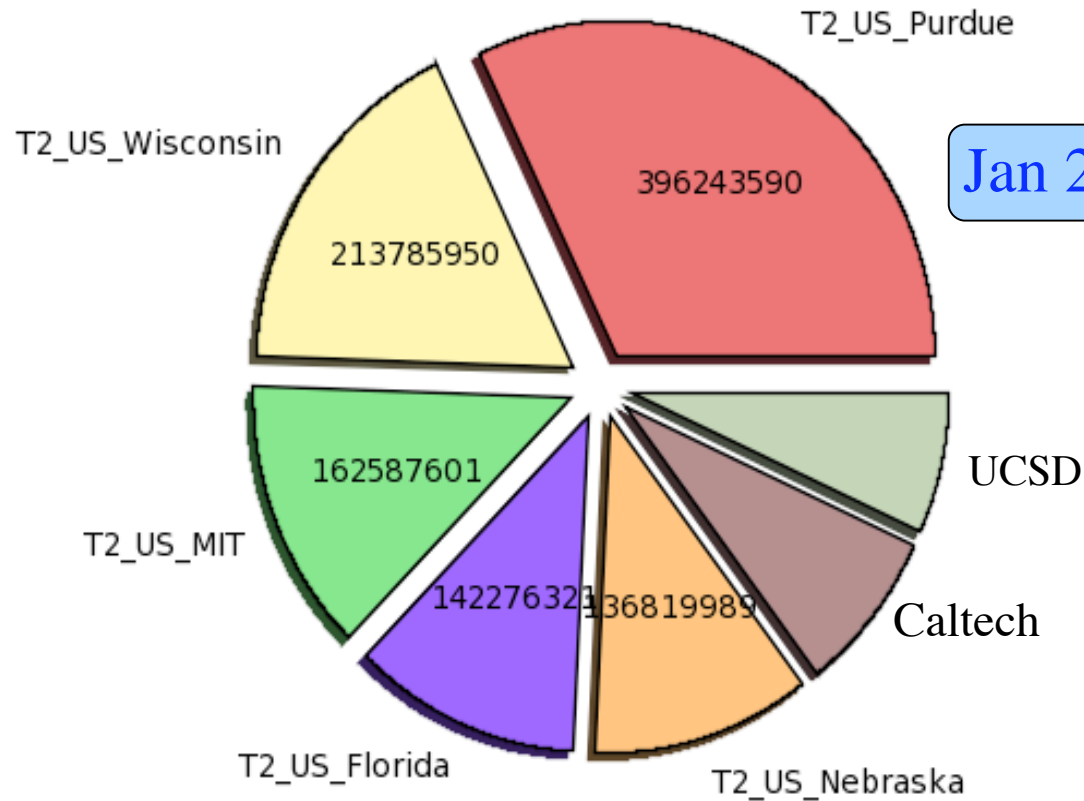
T2_Region_FZK (LCG) (41509852)
T2_Region_AS GC (LCG) (14689230)
T2_Region_NorduGrid (LCG) (295622)



Contribution of US T2s



Merge events written (Sum: 1232461283)



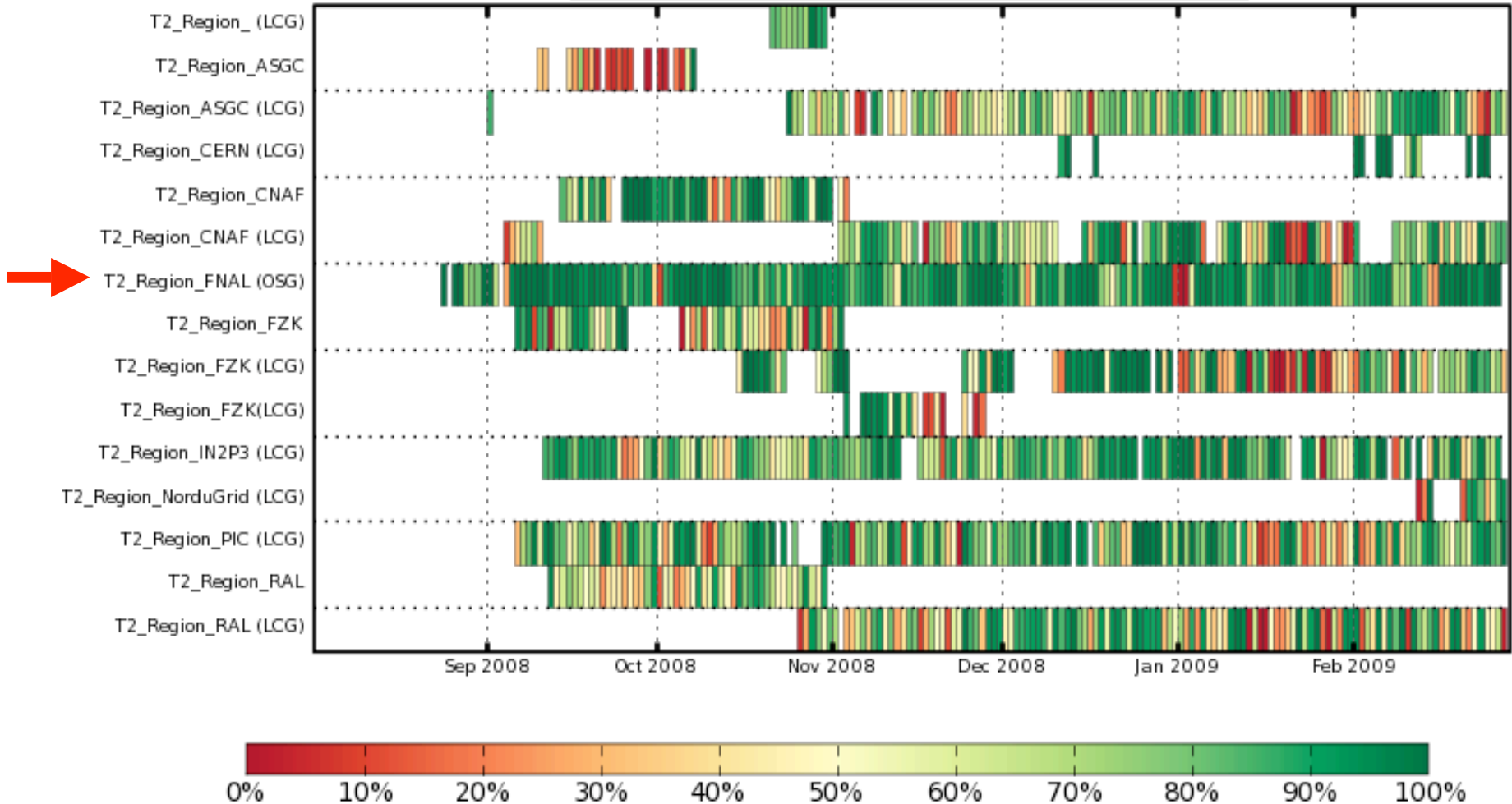
- T2_US_Purdue (396243590)
- T2_US_Wisconsin (213785951)
- T2_US_MIT (162587601)
- T2_US_Florida (142276321)
- T2_US_Nebraska (136819989)
- T2_US_Caltech (97053632)
- T2_US_UCSD (83694199)



Job Quality in OSG/LCG



Summer08 / Fall08 / Winter09





Job Quality : US T2s



Summer08/Fall08/Winter09





Summary



- Effective utilization of OSG (USCMS T2s) for MC production. All the US T2s are very productive, stable and highly reliable.
- Both production and xfer issues are addressed promptly by the T2 admins with help from dataOps group.
- Sites need to make sure that the CE, NFS/AFS, dCache services (srm, dccp) and PhEDEx are all healthy and stable for utmost productivity.
- Logs are available (@ Wisc web) to sites for prompt debugging.
- Add 2 Brazil T2s back in production again.
- Add/resume production at some of the USCMS T3s.
- Are you adding (or planning to add) more slots anytime ? Just let me know.
- Thanks to everyone (DISUN, OSG, CMS, USCMS T2s, and others) for working together to make this possible.