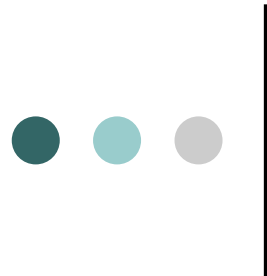# Experiment Dashboard for the LHC experiments and Grid Reliability

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On behalf of the Dashboard team:
J. Andreeva, B. Gaidioz, R. Rocha, P. Saiz
(+ J. Herrala, TaoSheng Chen, FuMing Lin...)

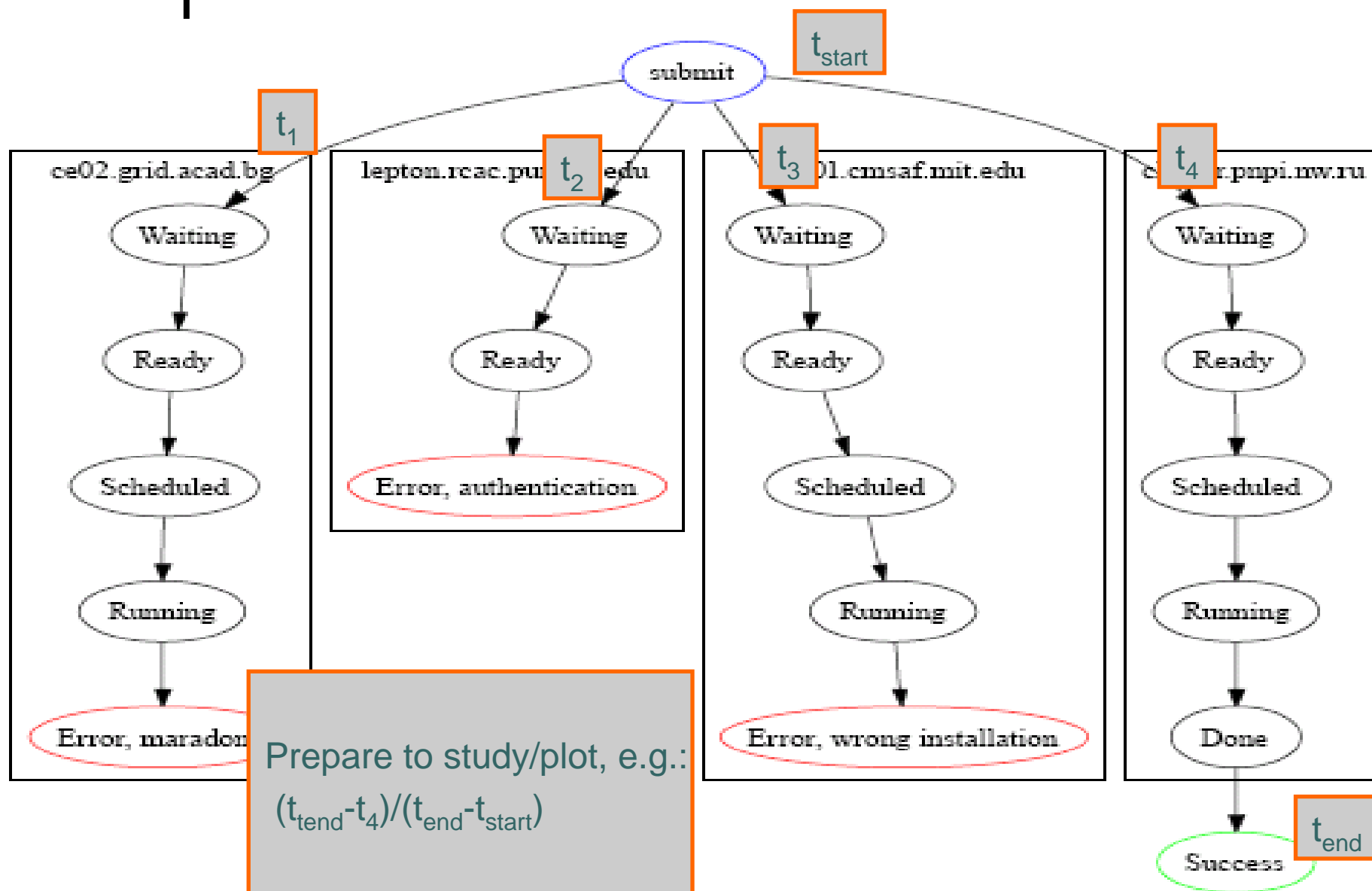See also: LHCC referees meeting 29th of January 2007 and latest GDB meeting (10th of January 2007)

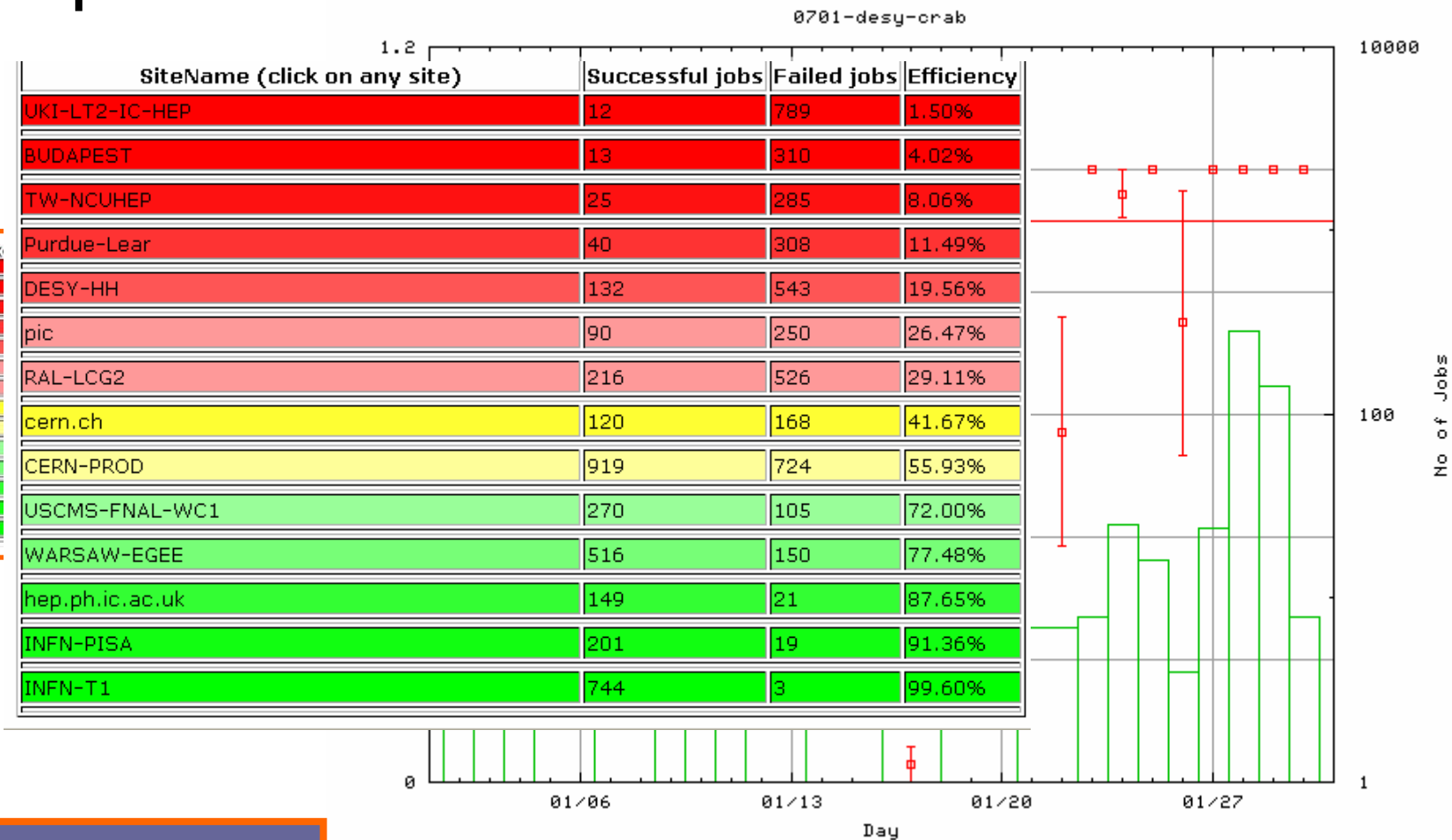# Two different "views"

- Different "activities" to be considered
  - Analysis vs production, std submission vs pilot jobs
- Quality of Service:
  - Central concept: "job"
  - Success is eventual successful execution (modulo resubmission)
  - Wasted time? Wasted resources?
- Grid Reliability:
  - Central concept: "attempt"
  - 1 job fails once, it is automatically resubmitted and eventually succeed (transparent for user)
    - User view: OK (~Quality of Service)
    - Resource view: Bad (~Waste of Effort/Resources)

Job round-trip: 4 attempts on 4 CEs

t_{start}

t_1

t_2

t_3

t_4

ce02.grid.acad.bg   lepton.rcac.pu...edu   ...01.cmsaf.mit.edu   c...r.pnpi.nw.ru

submit

Waiting → Ready → Scheduled → Running → Error, maradon...

Waiting → Ready → Error, authentication

Waiting → Ready → Scheduled → Running → Error, wrong installation

Waiting → Ready → Scheduled → Running → Done → Success

Prepare to study/plot, e.g.:

$(t_{tend}-t_4)/(t_{end}-t_{start})$

t_{end}

Monthly reports (QoS)

SiteName (click on any site)	Successful jobs	Failed jobs	Efficiency
UKI-LT2-IC-HEP	12	789	1.50%
BUDAPEST	13	310	4.02%
TW-NCUHEP	25	285	8.06%
Purdue-Lear	40	308	11.49%
DESY-HH	132	543	19.56%
pic	90	250	26.47%
RAL-LCG2	216	526	29.11%
cern.ch	120	168	41.67%
CERN-PROD	919	724	55.93%
USCMS-FNAL-WC1	270	105	72.00%
WARSAW-EGEE	516	150	77.48%
hep.ph.ic.ac.uk	149	21	87.65%
INFN-PISA	201	19	91.36%
INFN-T1	744	3	99.60%

DESY (January 2007)
CMS users analysis

Summary pages (still in progress): Day-by-day for selected sites

http://laman.home.cern.ch/laman/dashBoard/summary.html

SiteName	ALICE	ATLAS	CMS				LHCB
CERN-PROD	no jobs	23 vs. 8 (74.19 %)	1365 vs. 125 (91.61 %)				1062 vs. 24 (97.79 %)
INFN-T1	no jobs	38 vs. 6 (86.36 %)	1334 vs. 3 (99.78 %)				366 vs. 17 (95.56 %)
pic	no jobs	25 vs. 10 (71.43 %)	508 vs. 24 (95.49 %)				152 vs. 2 (98.70 %)

508 vs. 24 (95.49 %)

cename		success	failed	efficiency
ce04.pic.es:2119/jobmanager-lcgpbs-cms		508	24	95.49

JobIds	# jobs	Successful?	Error message
See all the jobids...	1	Yes	user retrieved output sandbox
See all the jobids...	1	Yes	Job terminated successfully
See all the jobids...	1	Yes	user retrieved output sandbox
See all the jobids...	17	Yes	Job terminated successfully
See all the jobids...	2	Yes	user retrieved output sandbox
See all the jobids...	2	Yes	user retrieved output sandbox
See all the jobids...	2	Yes	user retrieved output sandbox
See all the jobids...	24	Yes	user retrieved output sandbox
See all the jobids...	28	Yes	user retrieved output sandbox
See all the jobids...	4	Yes	user retrieved output sandbox
See all the jobids...	4	Yes	user retrieved output sandbox
See all the jobids...	414	Yes	user retrieved output sandbox
See all the jobids...	8	Yes	user retrieved output sandbox
See all the jobids...	1	No	Job successfully submitted to Globus
See all the jobids...	2	No	Job successfully submitted to Globus
See all the jobids...	2	No	Job successfully submitted to Globus

How to use this information?

○ Propose to publish this information
  - Correlation with SAM missing (in data base already)
  - Round-trip information interesting?

○ Propose to agree with one person from a Tier1 before producing the first version
  - Tier1 only?
    - A-priori info for all sites can be extracted
  - The combination of QoS and daily view should be useful to improve the persormane of the centres
  - A couple of different activities to start with:
    - E.g. CMS CRAB (analysis) and LHCb production (pilot jobs)