- Performance overview January - June 2018

ATLAS T2 VO REPORT

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CHIPP-CSCS face 2 face - 21 June 2018

Availability - HammerCloud AFTs and PFTs

Historic view for "panda_queues_all" from 00:00 01.01.2018 to 00:00 15.06.2018

Show 100 entries Search:

PANDA queue	SITE Name	TIER	CLOUD	History plot time bin = 330 hours	offline		brokeroff		online		NoQueue		test	
					%	count	%	count	%	count	%	count	%	count
ANALY_CSCS	CSCS-LCG2	T2D	DE		2.59	4	0.19	2	94.64	22	0	0	2.05	10
ANALY_CSCS-HPC	CSCS-LCG2	T2D	DE		3.67	6	0.29	3	90.26	22	0	0	5.26	10
ANALY_UNIBE-LHEP	UNIBE-LHEP	T2	ND		1.27	2	0.1	1	94.94	34	0	0	3.16	23
ANALY_UNIBE-LHEP-UBELIX	UNIBE-LHEP	T2	ND		1.27	2	0.1	1	94.46	27	0	0	3.64	16
CSCS-LCG2	UNDEFINED	UNDEFINED	UNDEFINED		1.53	2	24.33	3	73.34	14	0	0	0.27	5
CSCS-LCG2-HPC	CSCS-LCG2	T2D	DE		2.42	4	24.33	3	70.03	14	0	0	2.69	5
CSCS-LCG2-HPC_MCORE	CSCS-LCG2	T2D	DE		4.26	6	0	0	92.52	18	0	0	2.69	5
CSCS-LCG2_MCORE	UNDEFINED	UNDEFINED	UNDEFINED		2.99	4	0	0	95.15	19	0	0	1.34	7
UNIBE-LHEP	UNIBE-LHEP	T2	ND		1.09	2	24.33	3	71.25	14	0	0	2.81	5
UNIBE-LHEP-UBELIX	UNIBE-LHEP	T2	ND		0.03	1	24.33	3	74.62	20	0	0	0.49	12
UNIBE-LHEP-UBELIX_MCORE	UNIBE-LHEP	T2	ND		0.03	1	0	0	98.95	22	0	0	0.49	12
UNIBE-LHEP_MCORE	UNIBE-LHEP	T2	ND		1.09	2	0	0	95.53	18	0	0	2.86	7

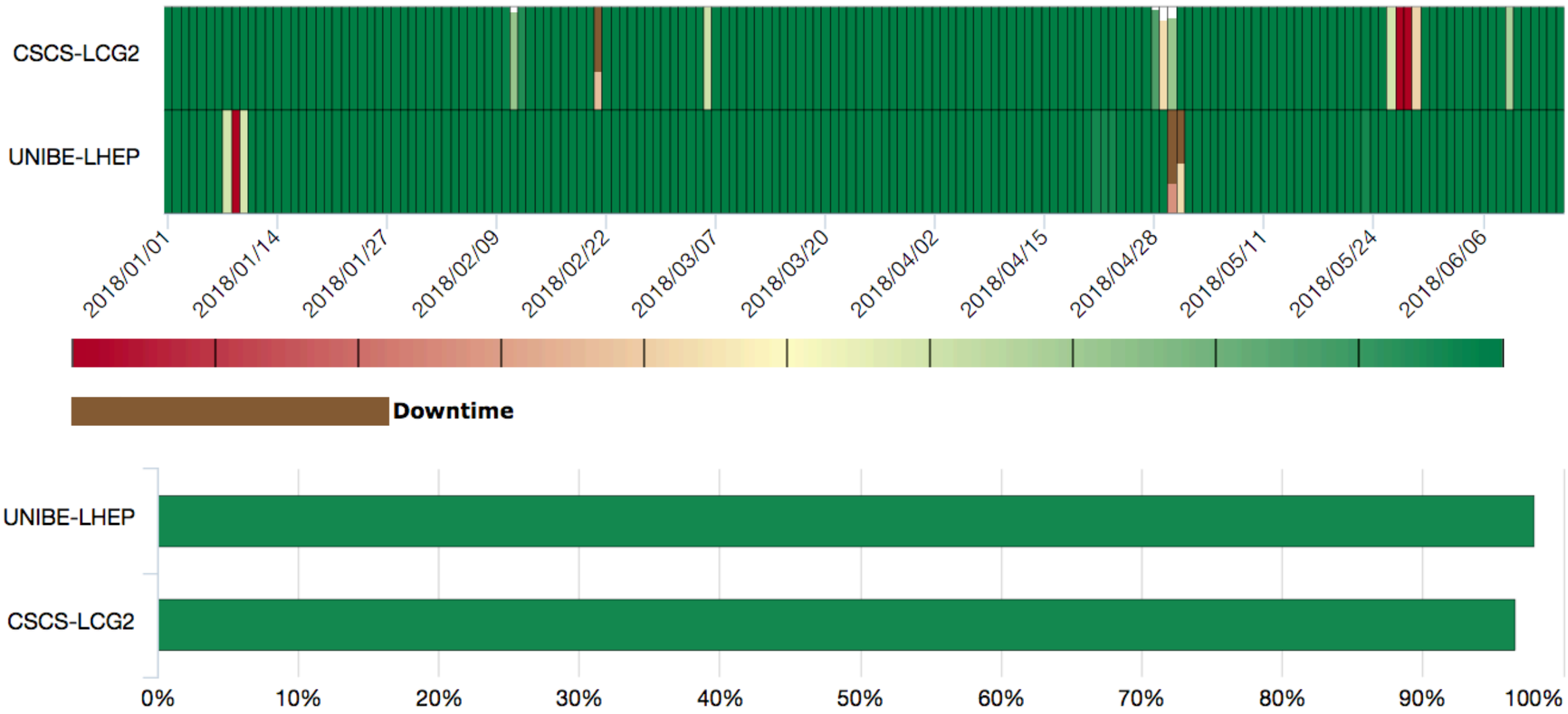
Showing 1 to 12 of 12 entries First Previous 1 Next Last

ATLAS T2 VO REPORT

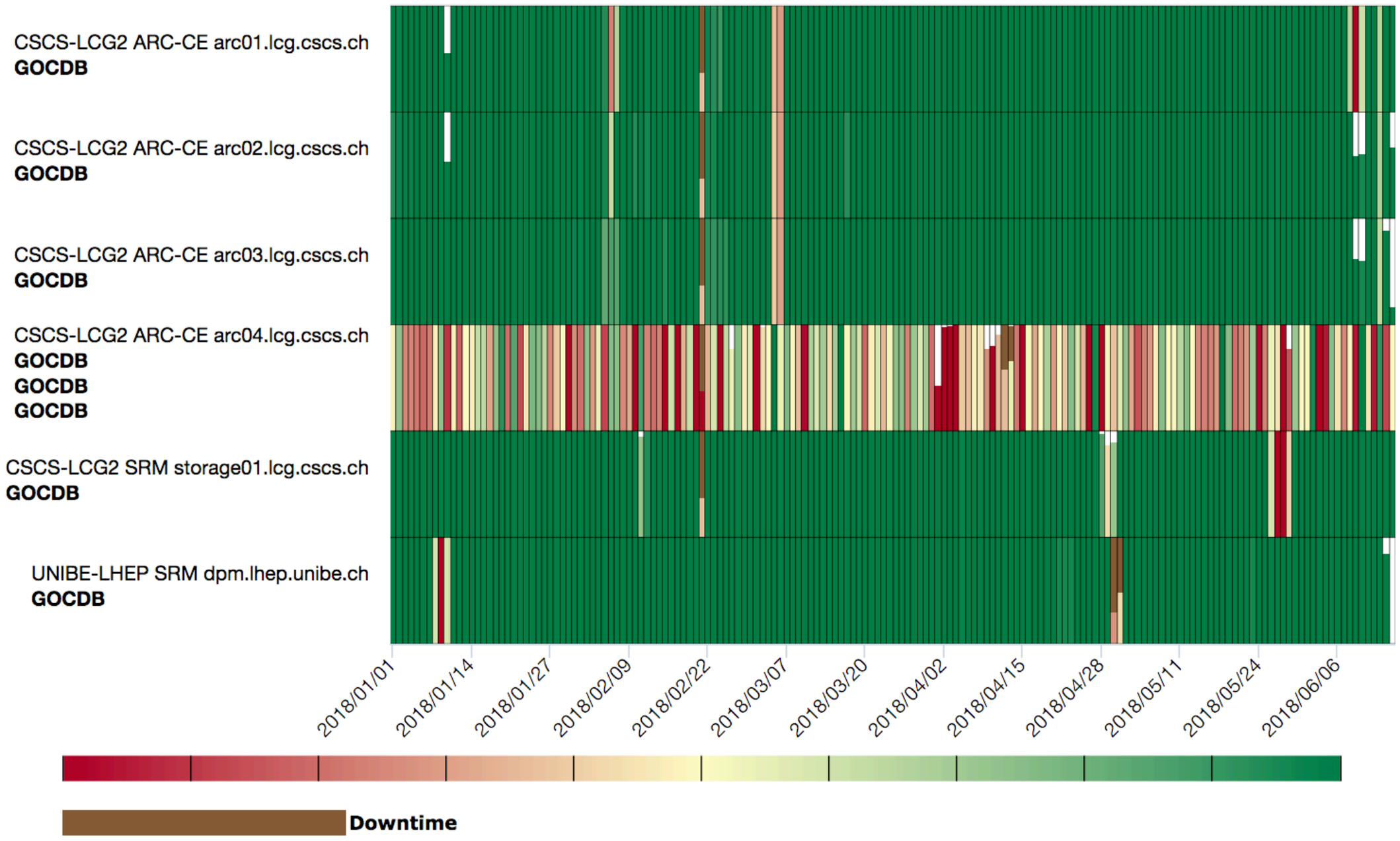
Availability

- **CSCS-LCG2**: *96.58% (rank 40 / 76* T2s - *was 46)*
- **UNIBE-LHEP***: 98.01% (rank 32 / 76* T2s - *was 32)*

Algorithm:
(CREAM-CE + ARC-CE + HTCONDOR-CE + GLOBUS) * (all SRMv2 + all SRM + all GRIDFTP)



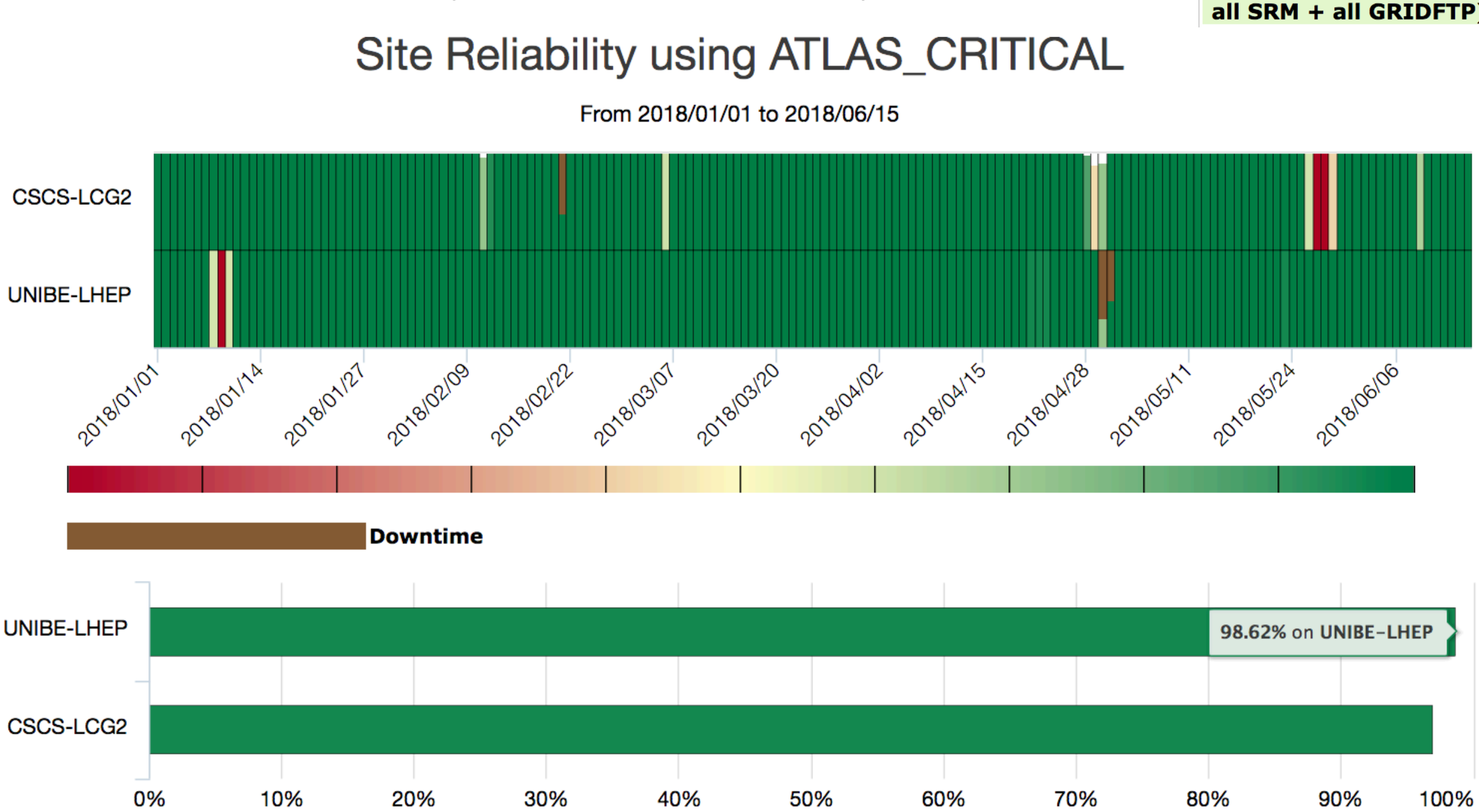
Service Availability



Reliability

- **CSCS-LCG2**: *96.95% (rank 43 / 76* T2s - *was 36)*
- **UNIBE-LHEP***: 98.62% (rank 33 / 76* T2s - *was 24)*

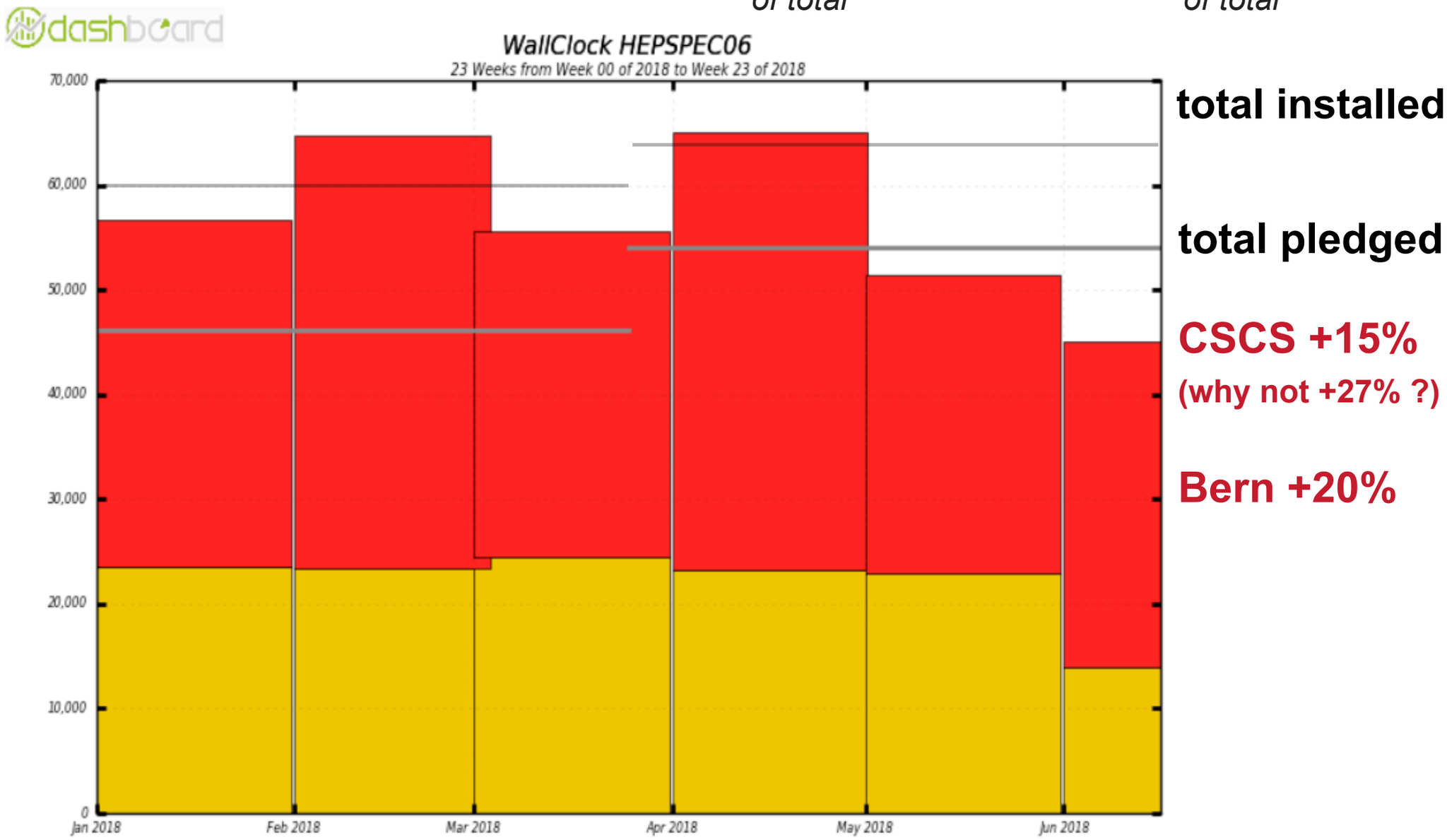
Algorithm:
(CREAM-CE + ARC-CE + HTCONDOR-CE + GLOBUS) * (all SRMv2 + all SRM + all GRIDFTP)



WallClock HS06 - CH-CHIPP-CSCS Federation

- **CSCS-LCG2** *HS06 ATLAS* ***installed (*): 43970*** (66%) ***- pledged: 36000*** (67%) (2018)
- **UNIBE-LHEP** *HS06 ATLAS* ***installed (**): 22000*** (34%) ***- pledged 18000*** (33%) (2018)

of total *of total*



total installed

total pledged

CSCS +15%

(why not +27% ?)

Bern +20%

(*) *- ATLAS share*

(**) *- also serving t2k.org and fermilab/uboone*
- some opportunistic usage on Ubelix

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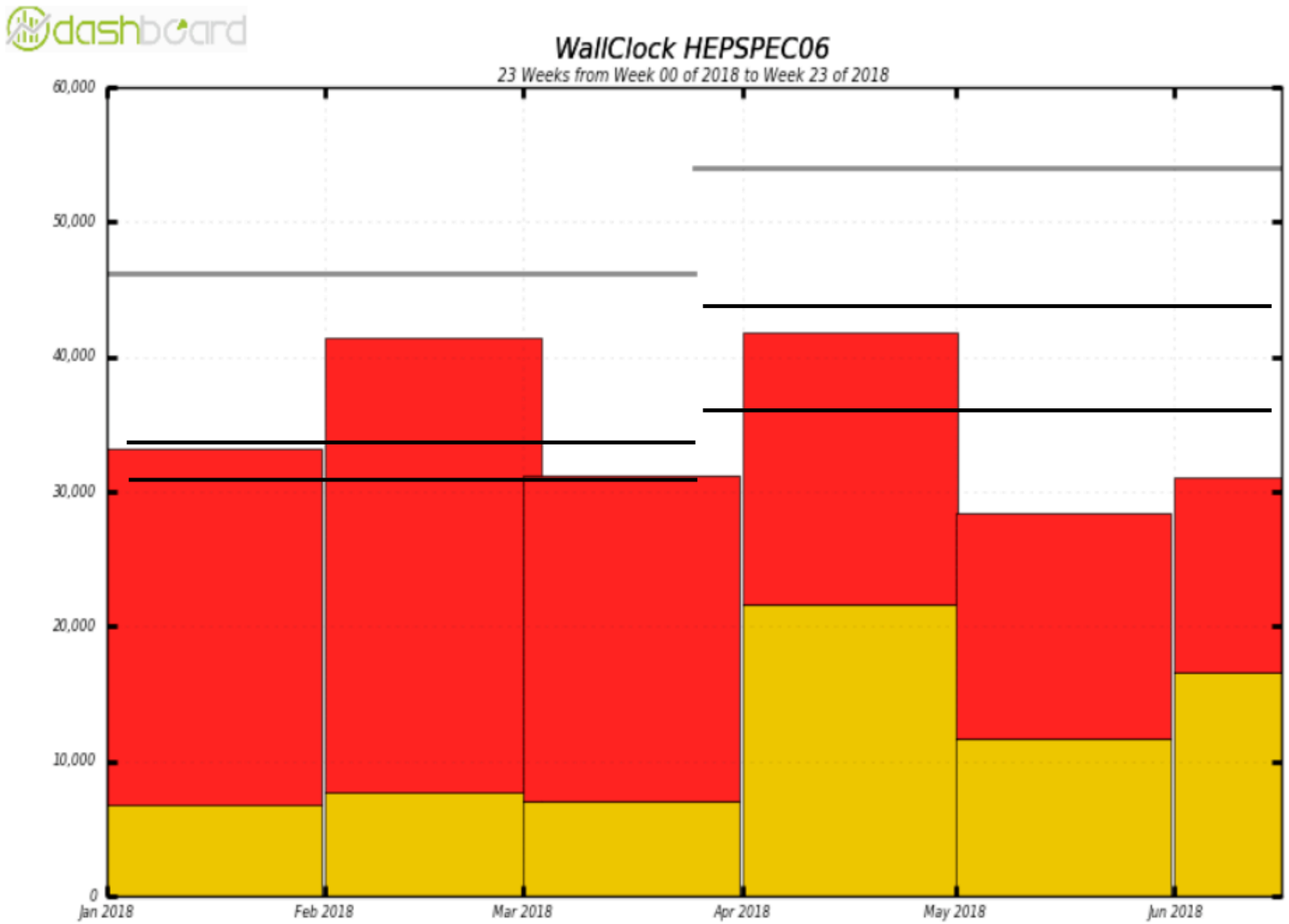
AEC ALBERT EINSTEIN CENTER FOR FUNDAMENTAL PHYSICS
LABORATORIUM FÜR HOCHENERGIEPHYSIK LHEP UNIVERSITÄT BERN

WallClock HS06 - CSCS-LCG2

- **CSCS-LCG2** *HS06 ATLAS* ***installed: 43970 - pledged: 36000*** (2018)



installed

pledged

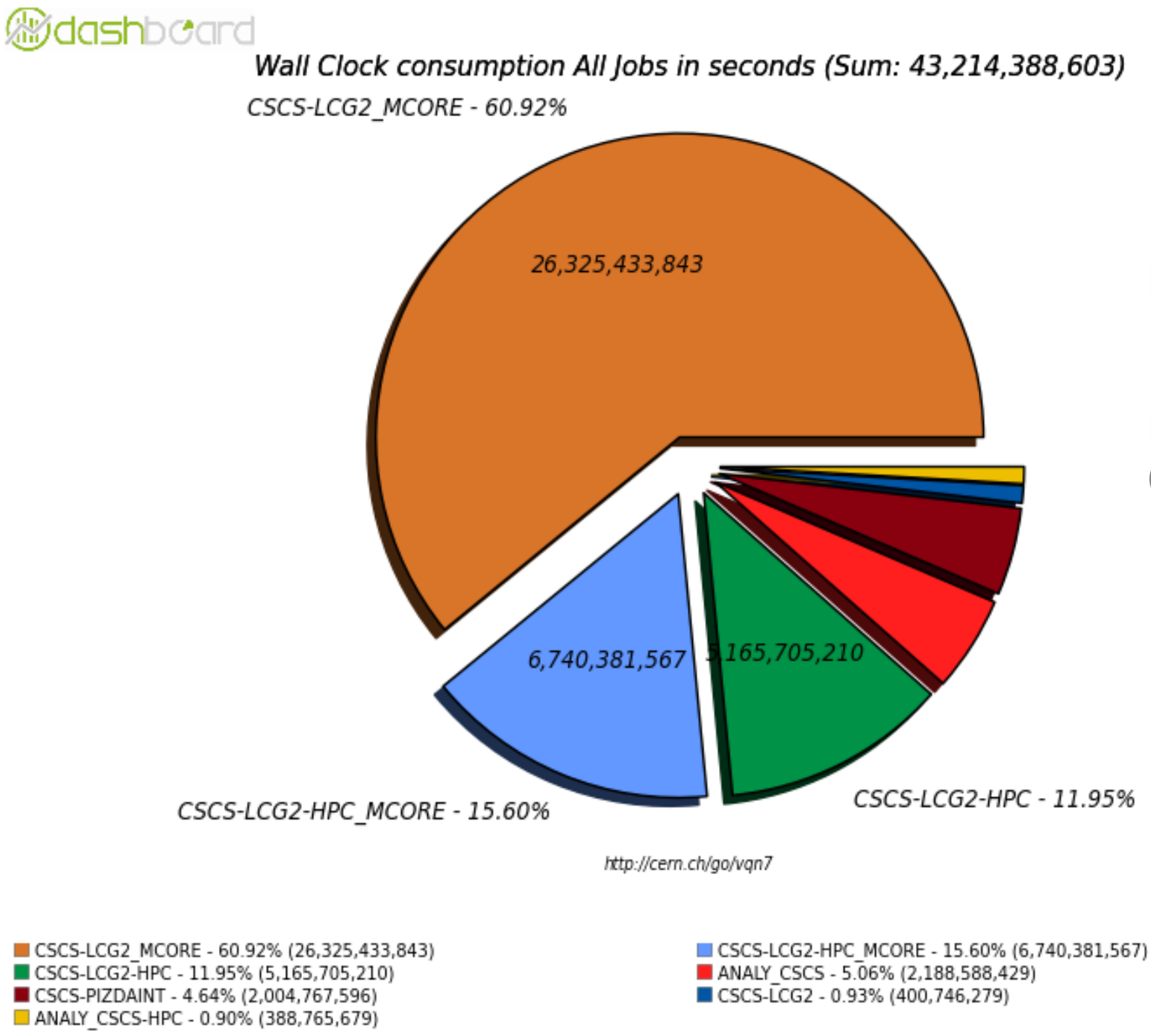
Phoenix 67%

Daint 33%
(incl. T0)

(*) *- ATLAS share*

WallClock HS06 - CSCS-LCG2

- **CSCS-LCG2** *HS06 ATLAS* ***installed: 43970 - pledged: 36000*** (2018). (*)



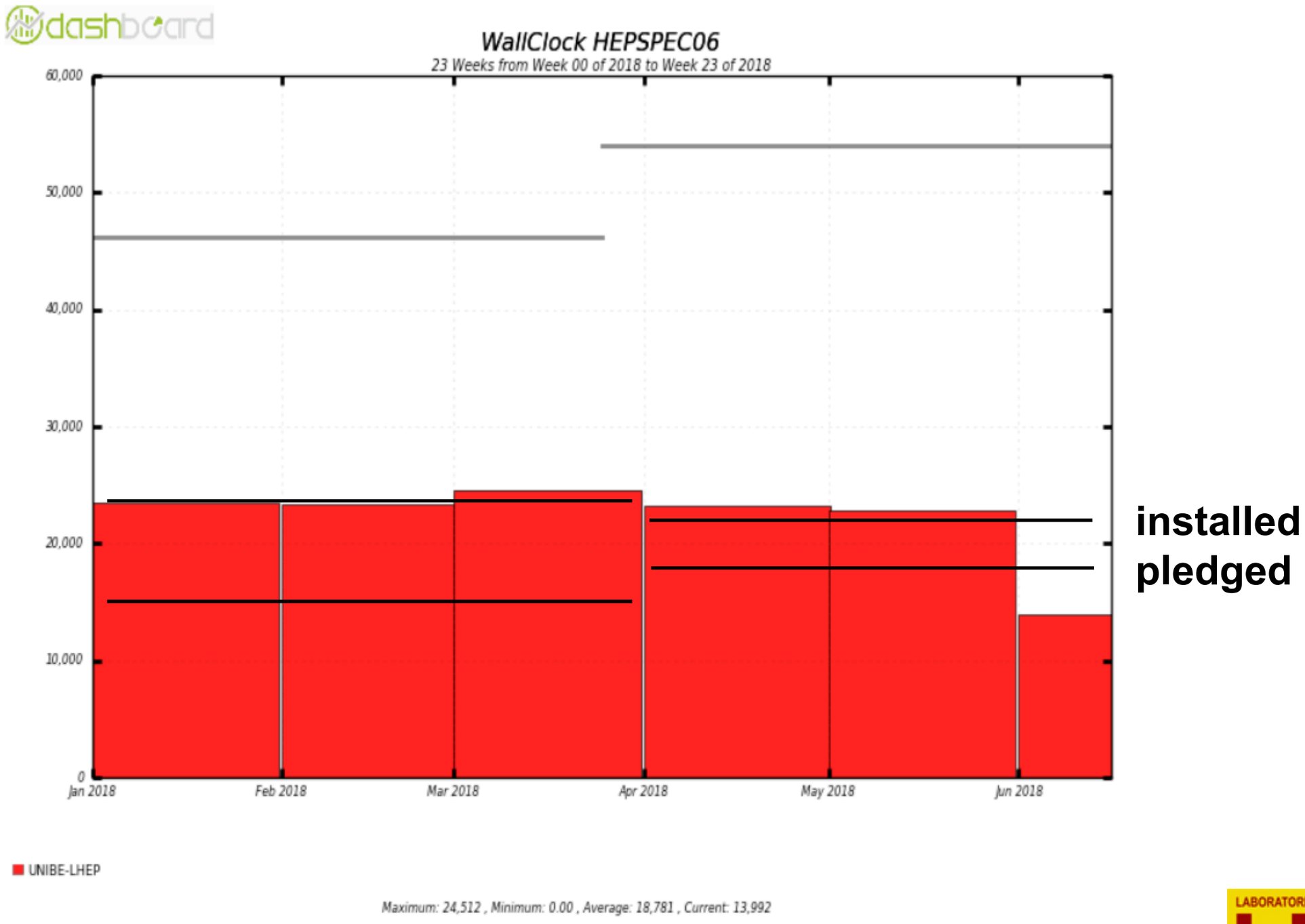
HPC capacity: 31% of total

HPC delivered: 28% of total
(after subtracting the T0 activity)

(*) *- ATLAS share*

WallClock HS06 - UNIBE-LHEP

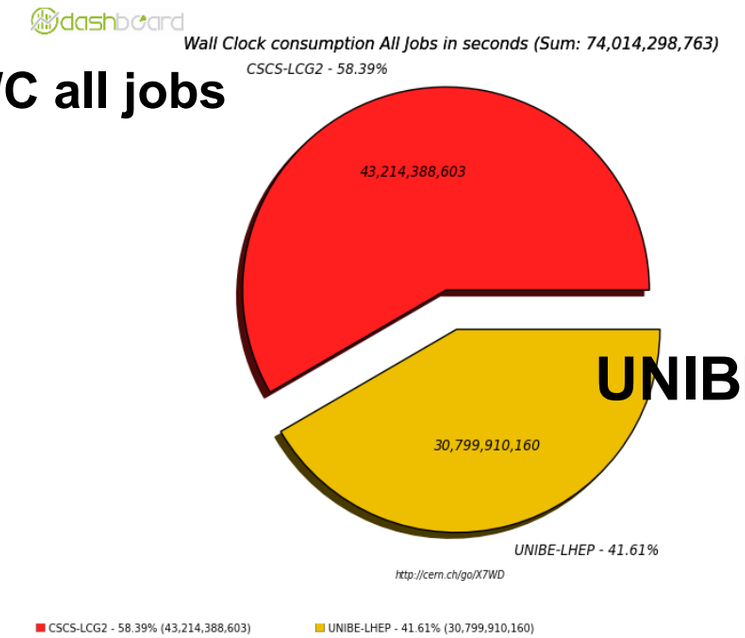
- **UNIBE-LHEP** *HS06 ATLAS* ***installed (**): 22000 - pledged: 18000*** (2018)



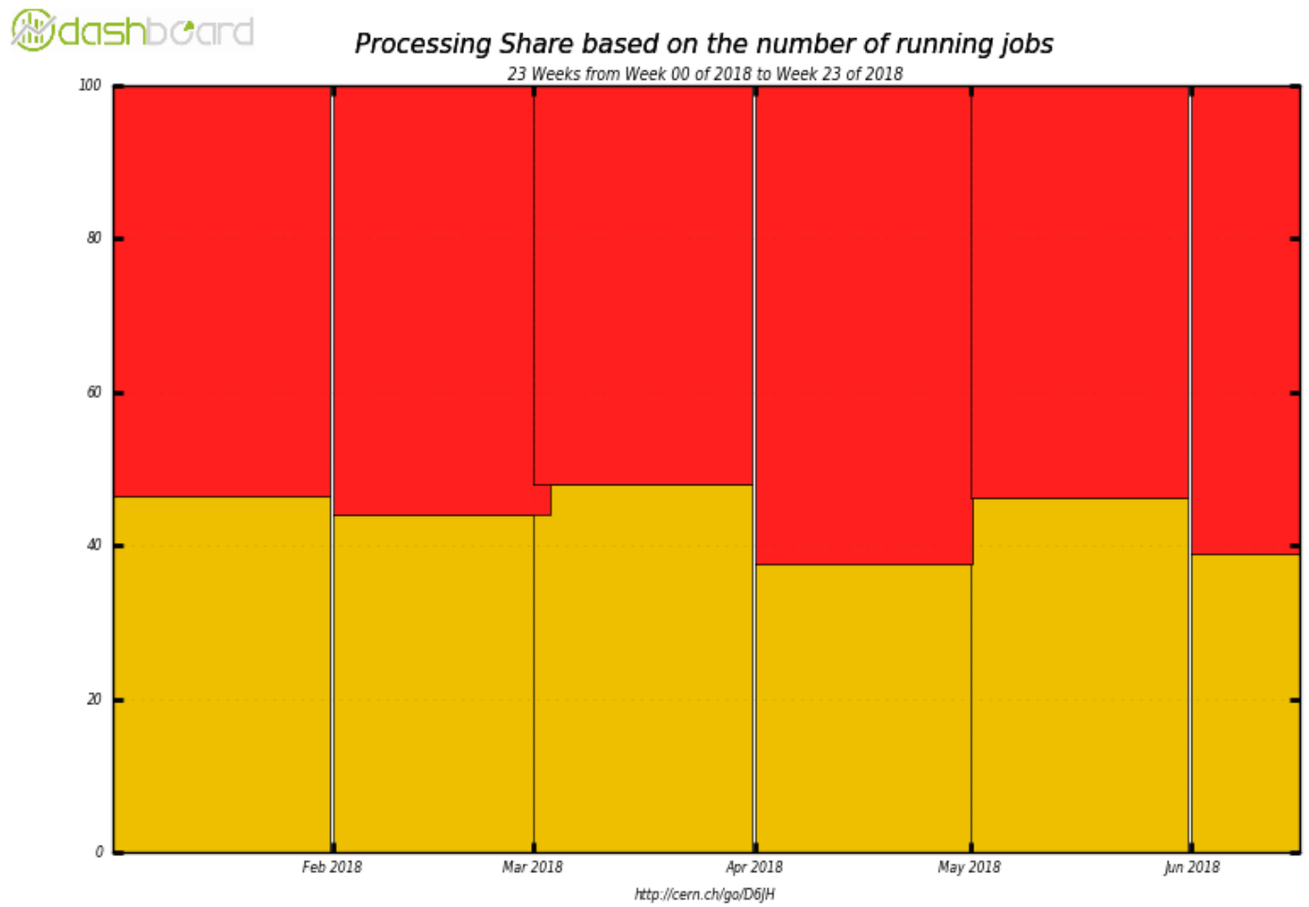
Relative shares

- **UNIBE-LHEP installed** estimated in about 37***% of the total installed capacity***

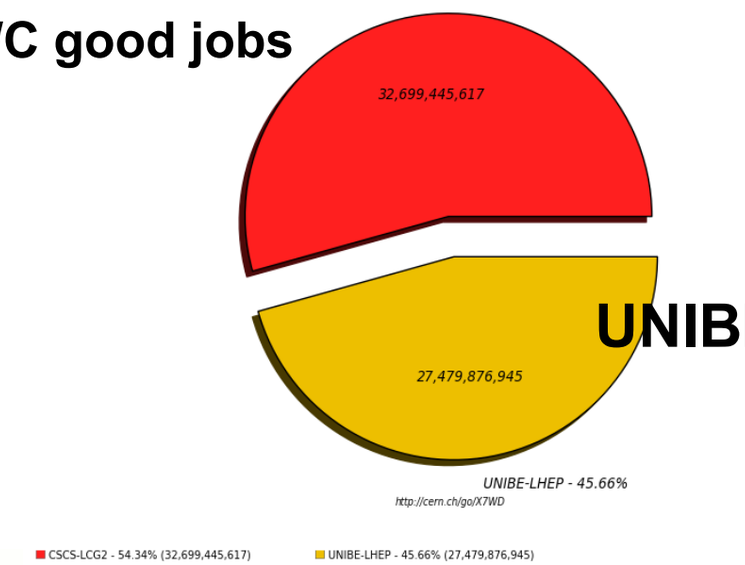
WC all jobs



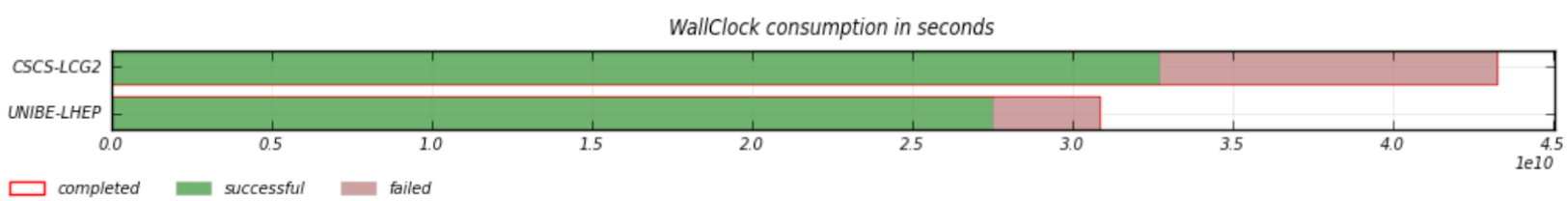
UNIBE - 41.61%



WC good jobs

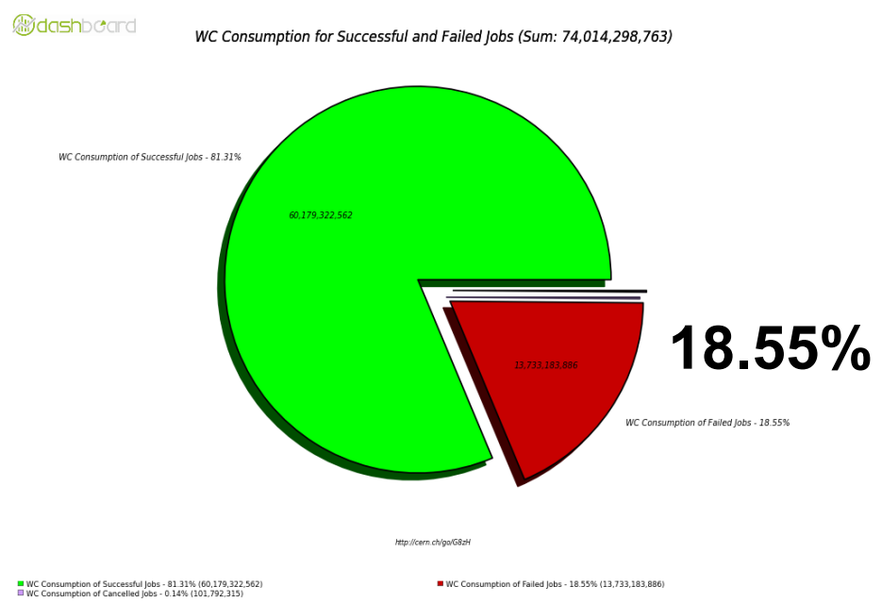


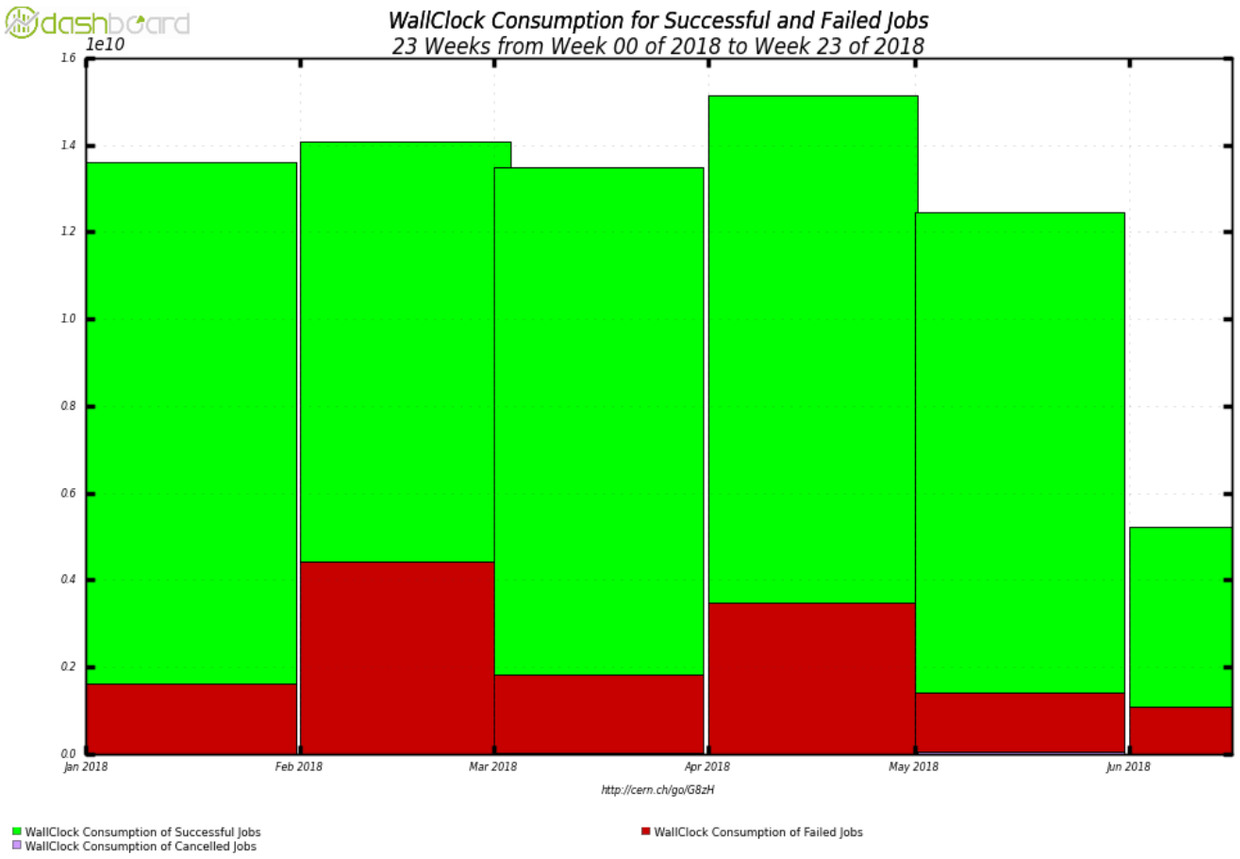
UNIBE - 45.66%

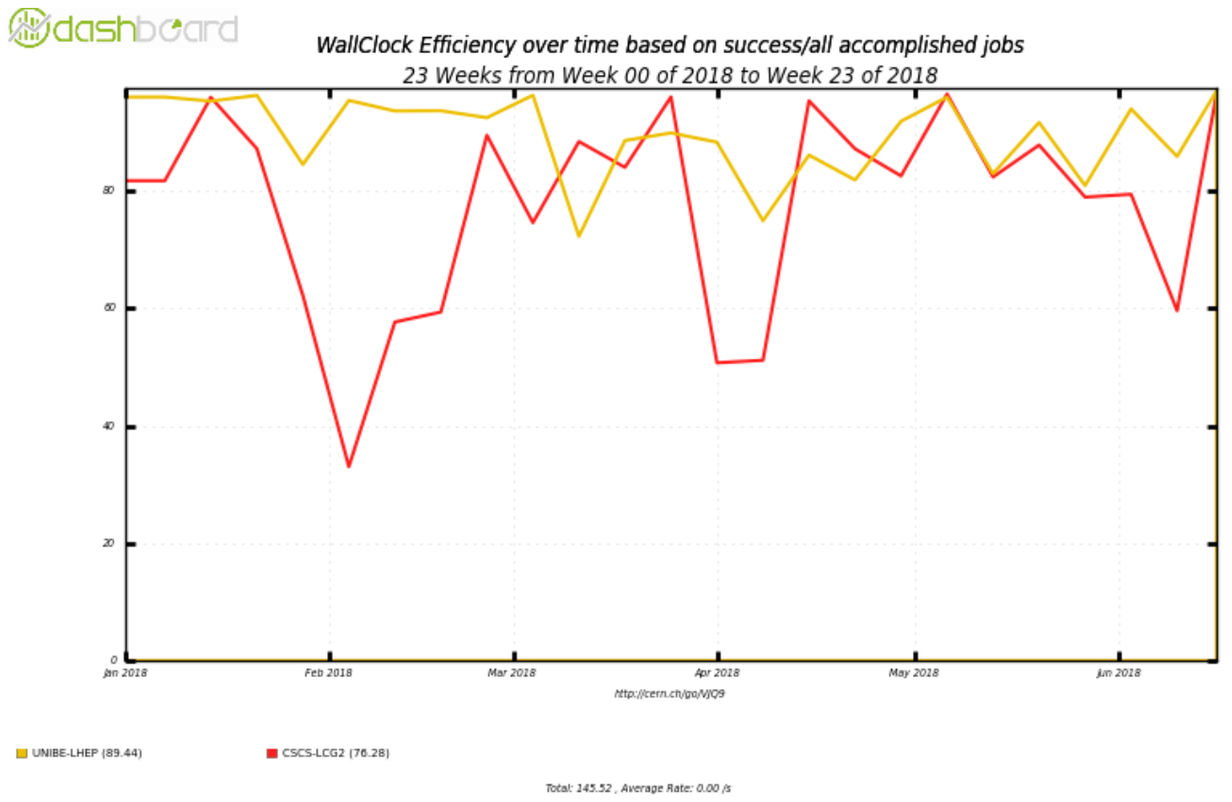


Success vs fail WallClock efficiency

- **CSCS-LCG2**: *76%*
- **UNIBE-LHEP***: 90%*







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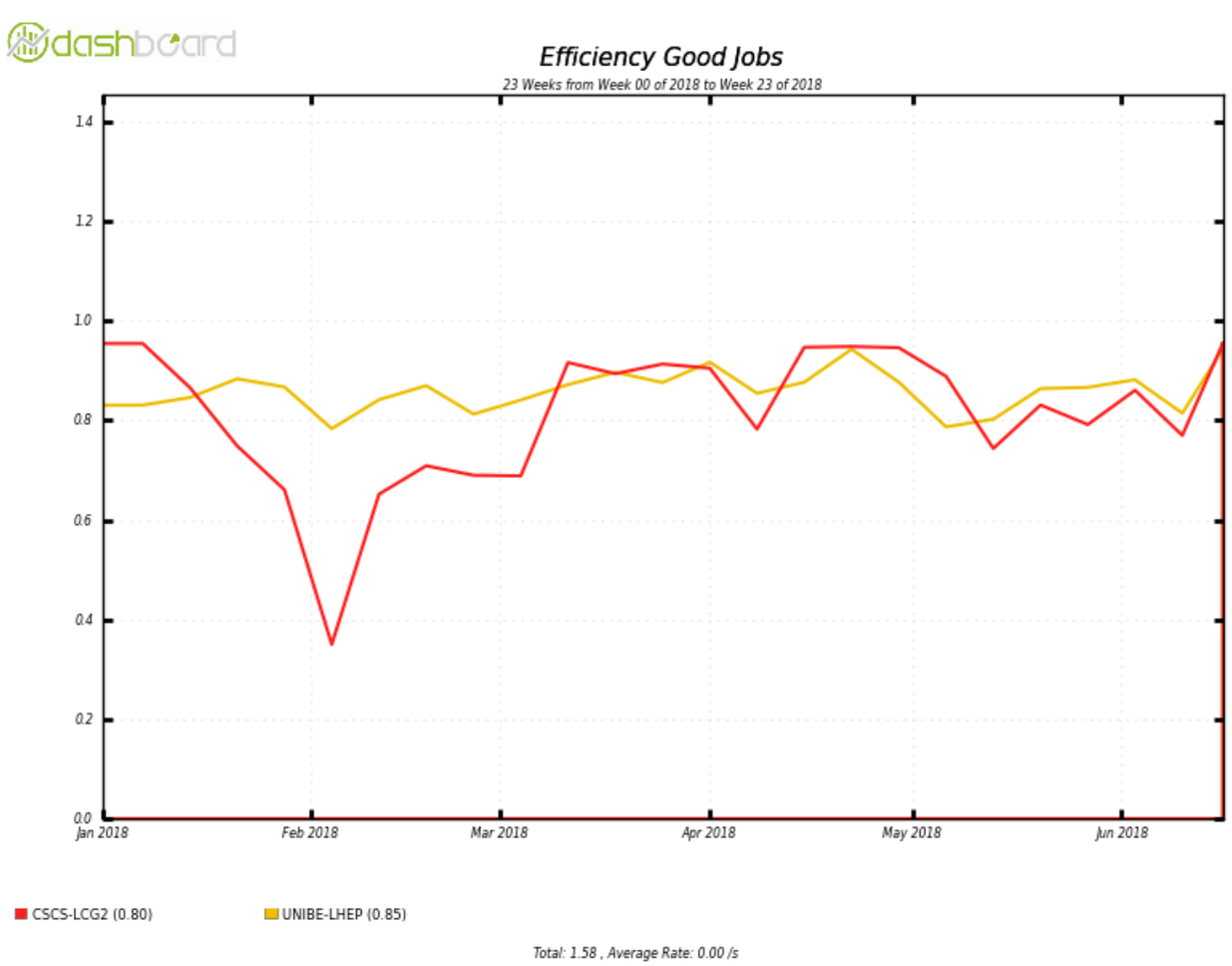
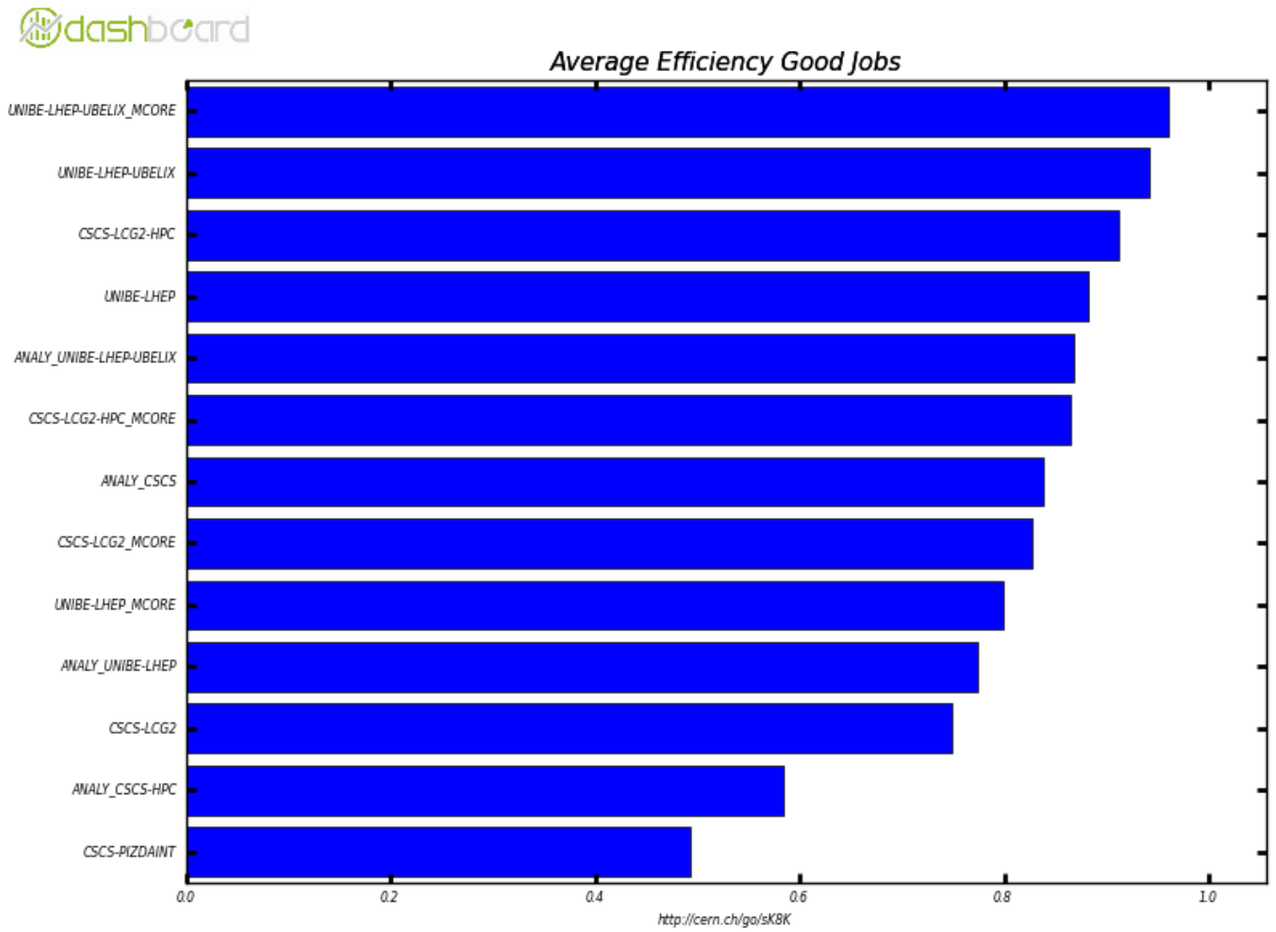
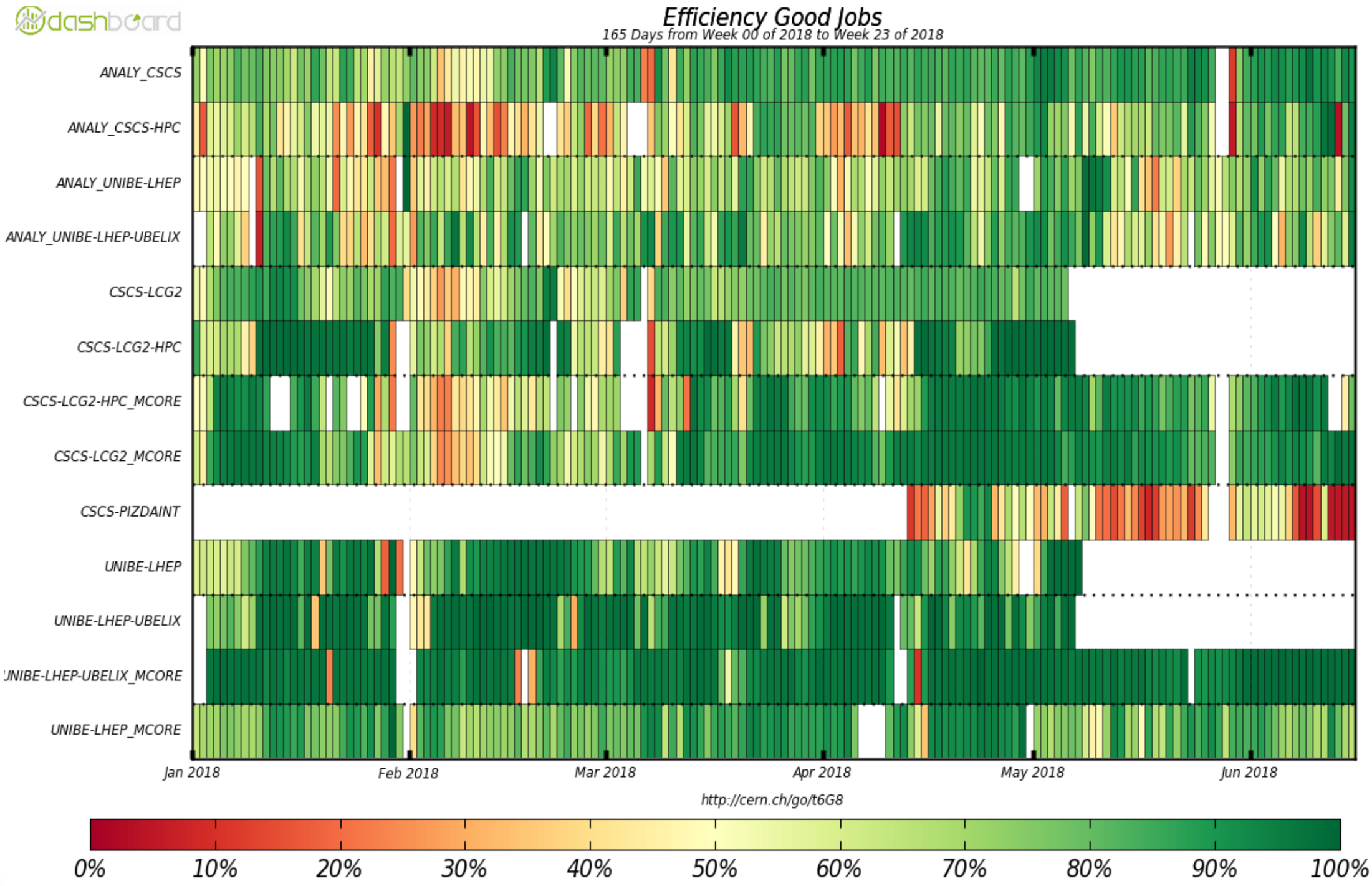
CPU / WallClock efficiency

- **CSCS-LCG2**: *80%*
- **UNIBE-LHEP**: *85%*

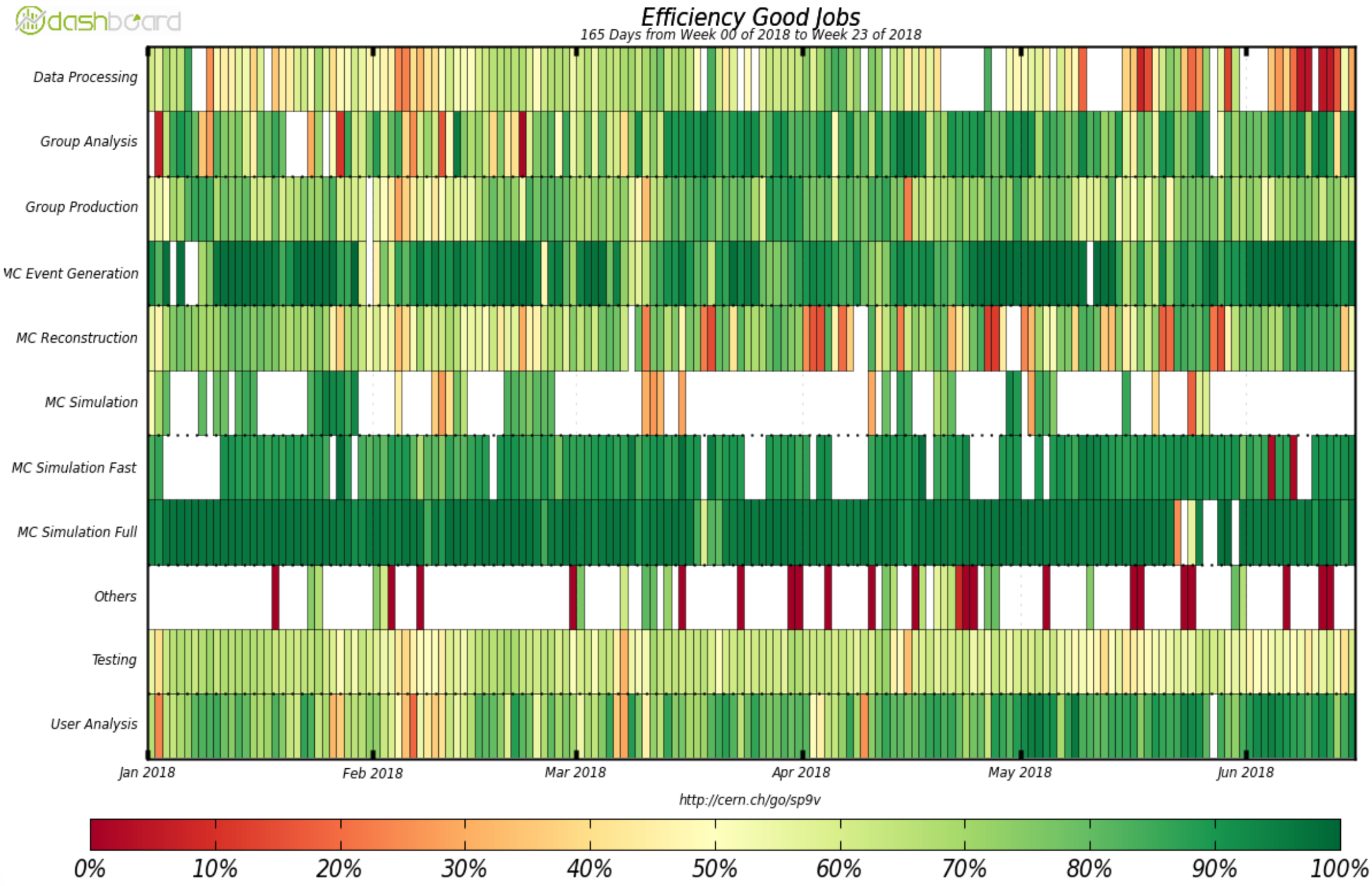




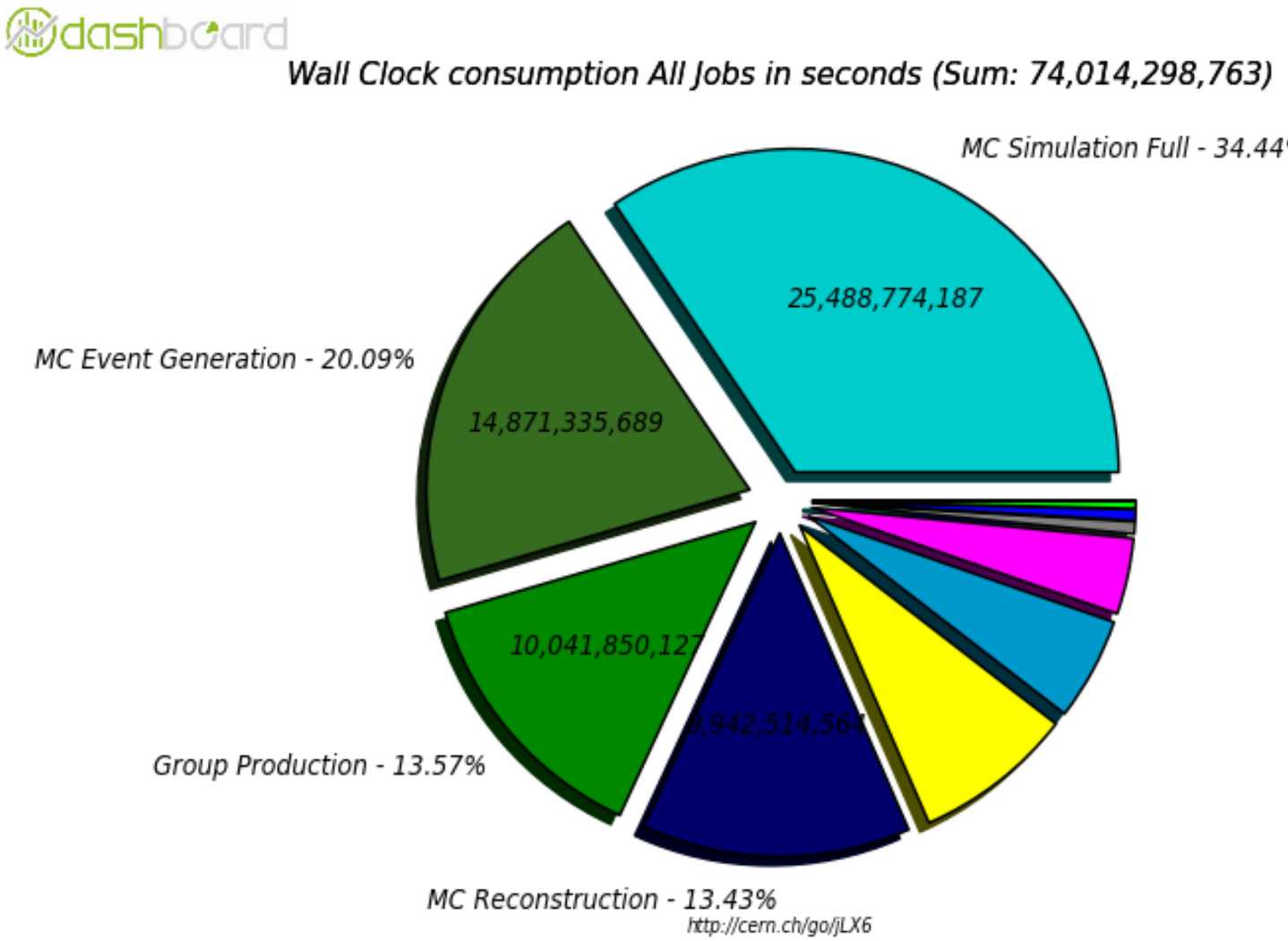
CPU / WallClock efficiency by PanDA queue



CPU / WallClock efficiency by ADC activity

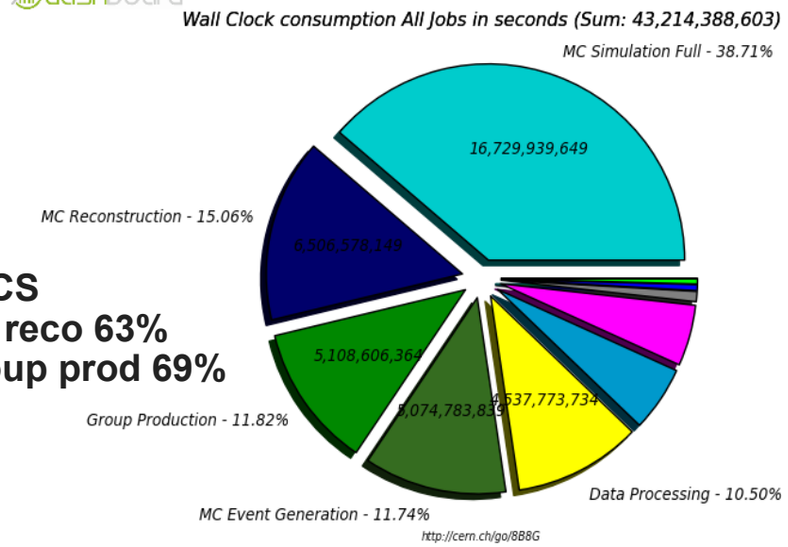


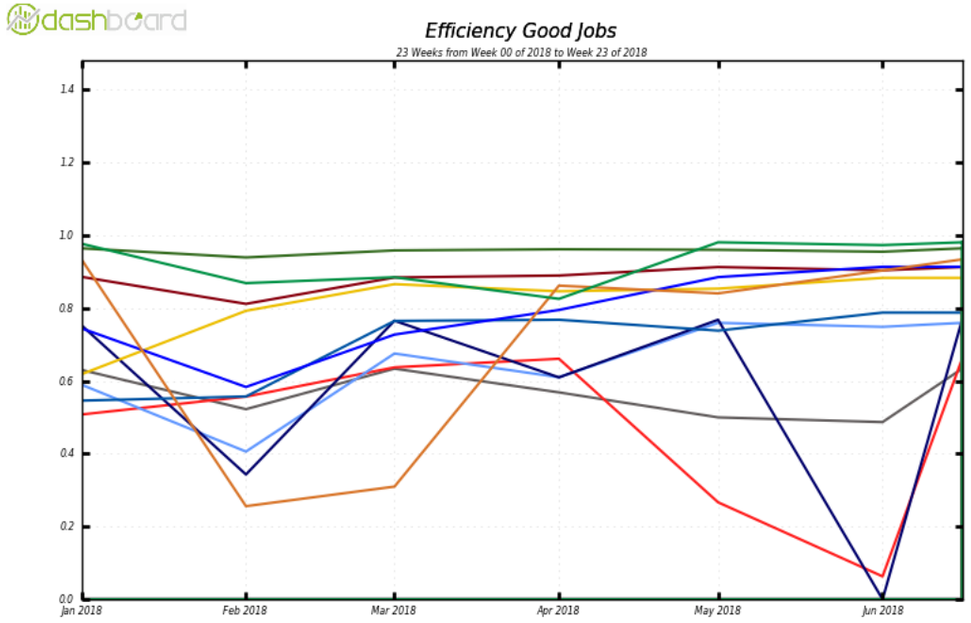
WallClock by ADC activity



CPU / WallClock efficiency by type of job

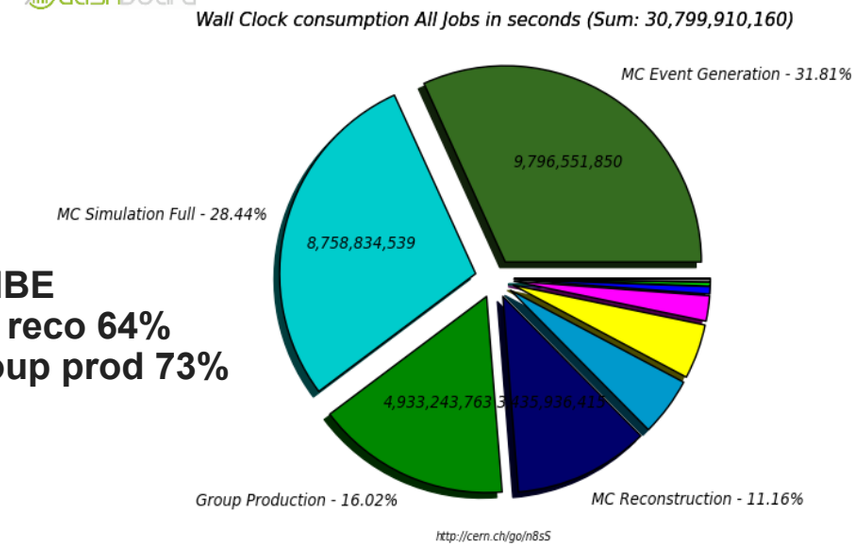
CSCS
MC reco 63%
Group prod 69%

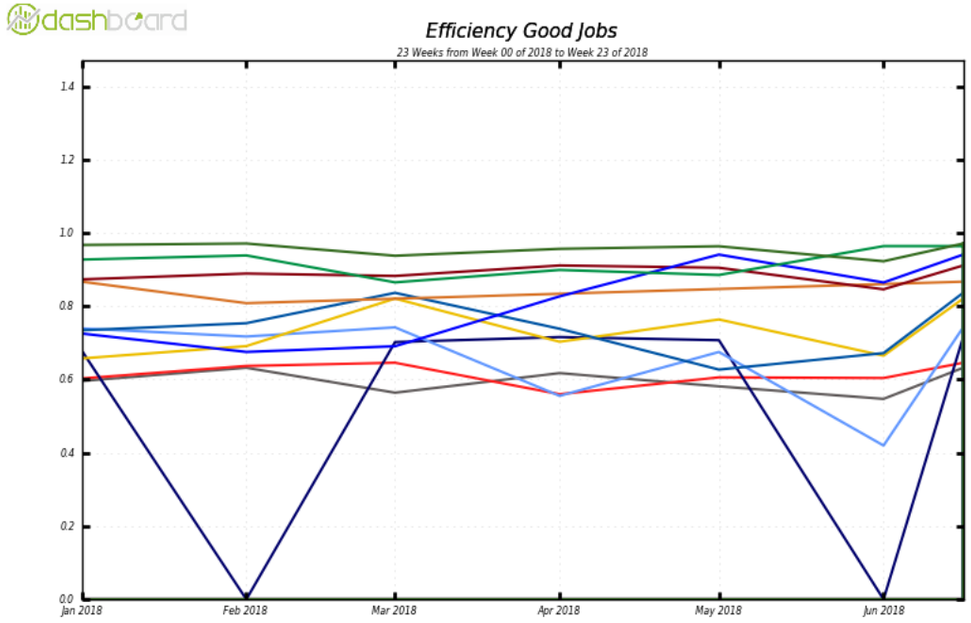




Total: 6.72 , Average Rate: 0.00 /s

UNIBE
MC reco 64%
Group prod 73%





Total: 6.51 , Average Rate: 0.00 /s

ATLAS T2 VO REPORT

Summary

- **WC HS06 delivered vs. Pledged on target**
  - **2018 pledged lower than it should have been**
- **A bit short in delivered vs. Installed since April**
- **Ranking similar to last semester report, still room for improvement**
- **Improved on some recurring problems**
  - GPFS performance and stability, CPU/WC efficiency
- **Needs addressing**:
  - **Failed WC still high**
  - **Is arc04 stable? Or just a monitoring artefact?**

ATLAS T2 VO REPORT

Outlook 1/2

- **Future (**discussions, r&d, etc**):**
  - ***Joining the NDGF data-"fjord"?*** **(***nordic version of a data-lake***)**
    - **Both UNIBE and CSCS**
    - **dCache based**
    - **dCache pools under the NDGF head nodes**
    - **Currently 4 Tier-1 storage sties and 1 Tier-2 storage site (Slovenia)**
    - ***dCache pools can be managed remotely by an unprivileged user***
    - **Could open ports to tape usage for CSCS**
    - *What about politics?*

ATLAS T2 VO REPORT

Outlook 2/2

- **Future (**discussions, r&d, etc**):**
  - ***Object stores***
    - **For pure object store, need for ATLAS development for protocols (s3, swift)**
    - **First step in that direction would be add a CEPH FS pool to dCache (LHC protocols)**
    - **Better QoS for data loss, but it has to be tested vs. offering less disk space**
  - ***Tape @ CSCS***
    - **There could be a concrete use case for a new storage model for data lakes**
    - **More storage tiers with different QoS**
    - **Again, this is new r&d for ATLAS, discussions ongoing**
    - **The tape@CSCS case will be brought up next week at the ATLAS s&c week**
    - *Currently tape needs dCache, unless we can provide another interface based on https, root, s3 that is usable by FTS*
  - ***Event service with arc05?***