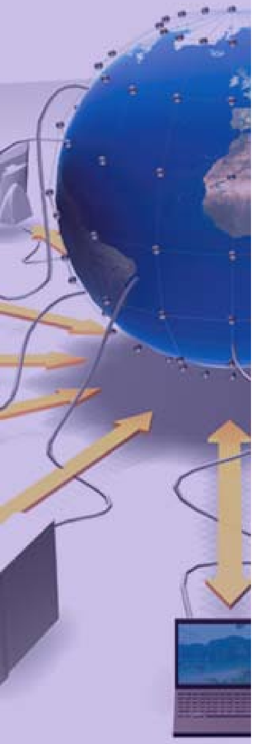


ALICE dashboard

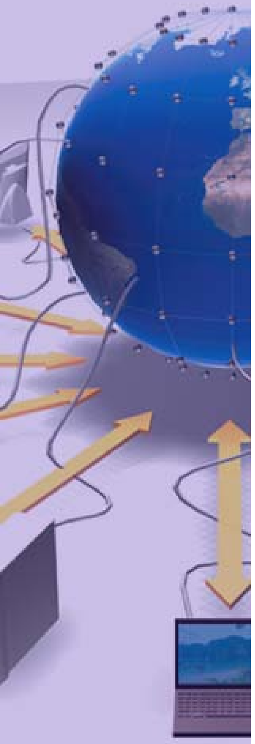
The ALICE Dashboard

T1/T2 ALICE tutorial

Pablo Saiz, Julia Andreeva,
Benjamin Gaidioz, Ricardo Rocha, Irina Sidirova

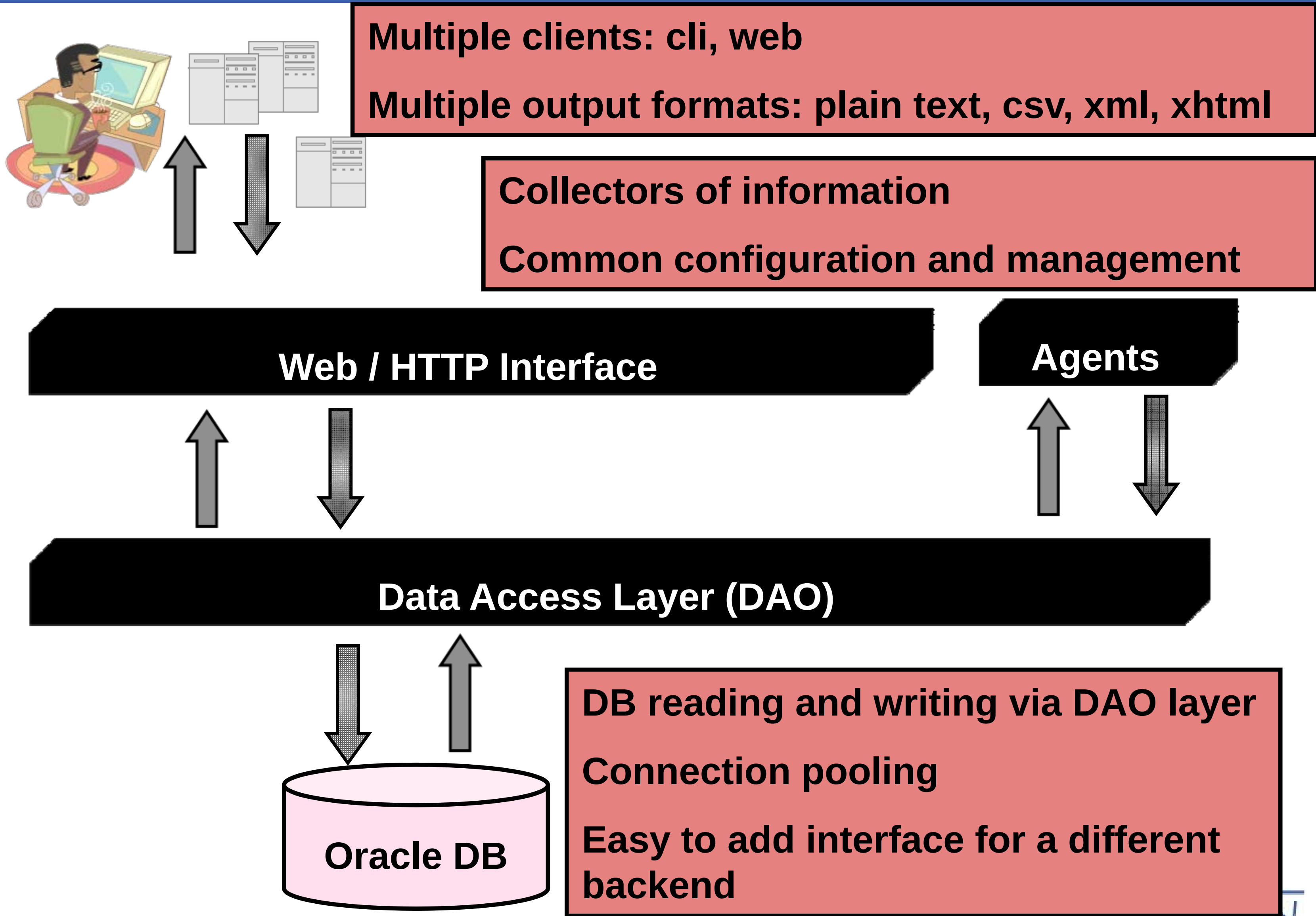
IT-GS-MND

Overview



- Dashboard structure
- Dashboard in production
  - Job Monitoring
  - SAM
  - FTS monitoring
  - Site status board
- Conclusions

Dashboard Framework



Multiple clients: cli, web

Multiple output formats: plain text, csv, xml, xhtml

Collectors of information

Common configuration and management

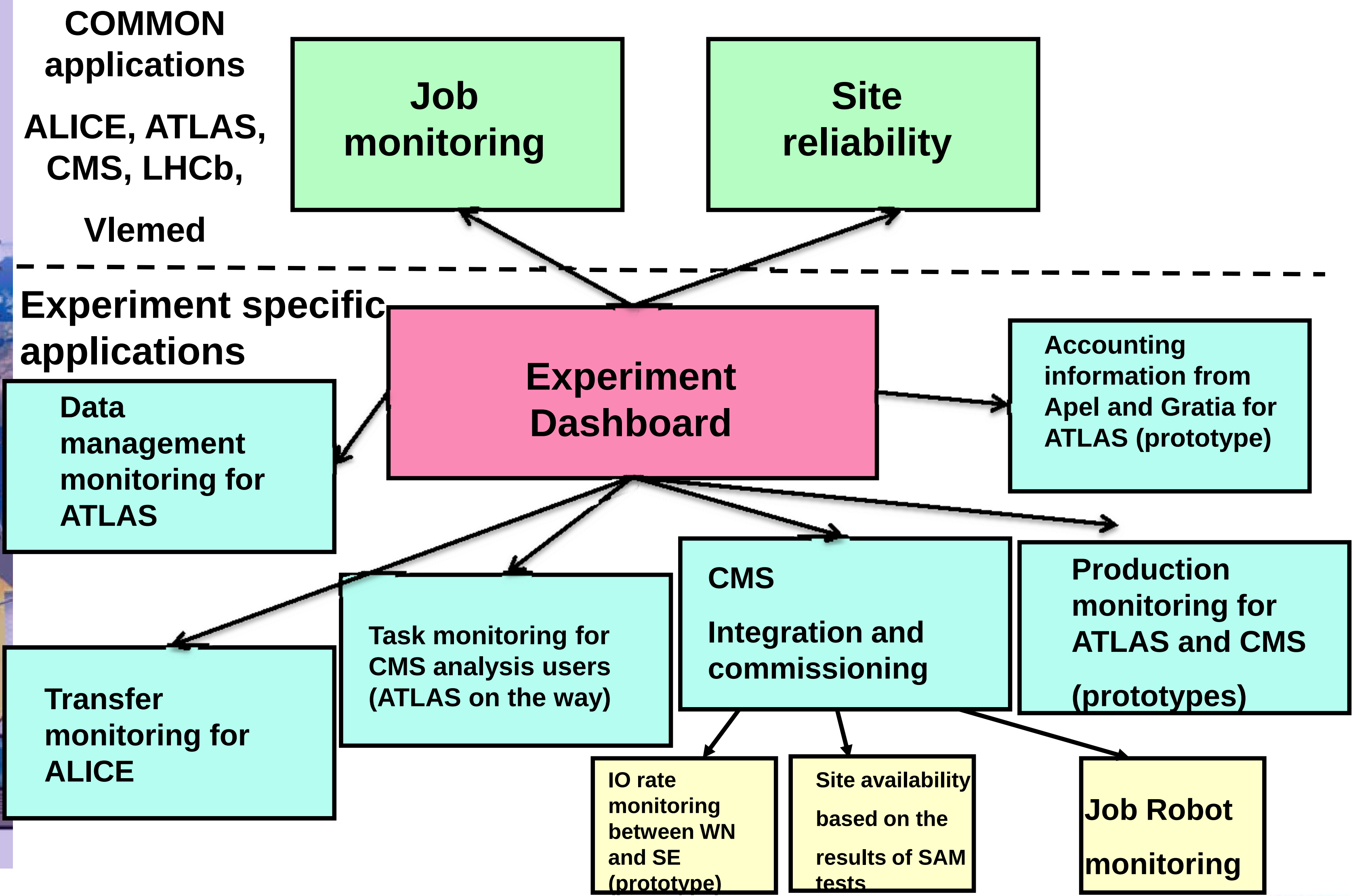
Web / HTTP Interface
Agents
Data Access Layer (DAO)
Oracle DB

DB reading and writing via DAO layer

Connection pooling

Easy to add interface for a different backend

Dashboard activities



COMMON applications

ALICE, ATLAS, CMS, LHCb,

Vlemed

Job monitoring

Site reliability

Experiment specific applications

Experiment Dashboard

Data management monitoring for ATLAS

Accounting information from Apel and Gratia for ATLAS (prototype)

Transfer monitoring for ALICE

Task monitoring for CMS analysis users (ATLAS on the way)

CMS

Integration and commissioning

Production monitoring for ATLAS and CMS

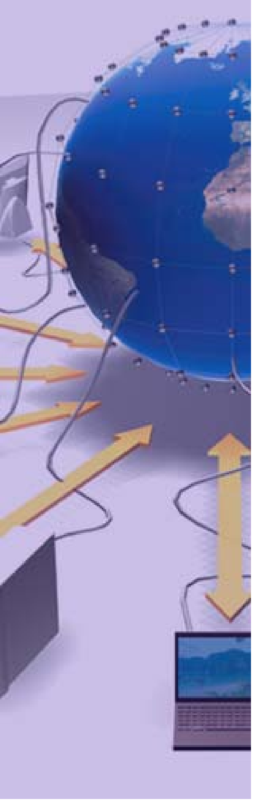
(prototypes)

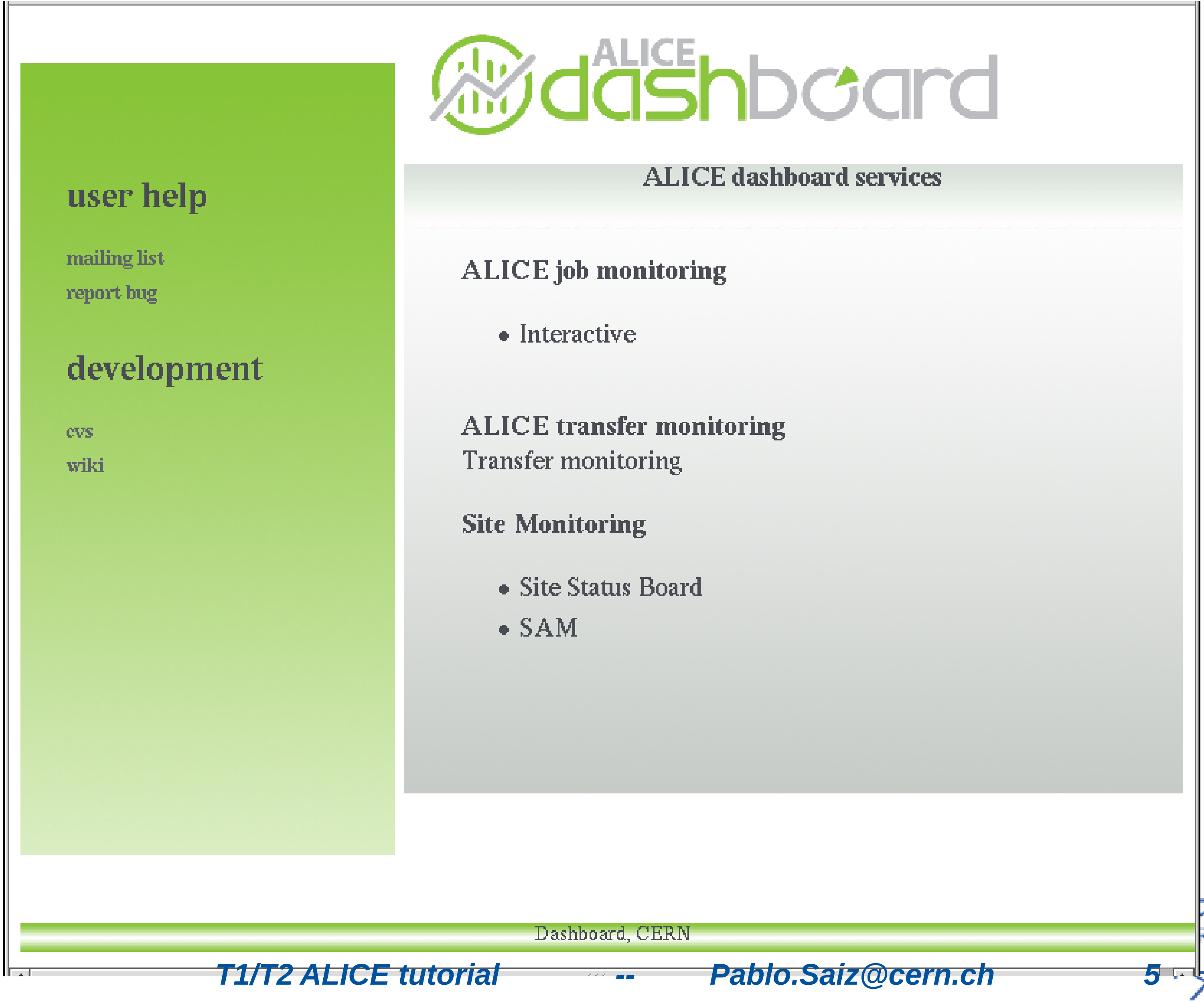
IO rate monitoring between WN and SE (prototype)

Site availability based on the results of SAM tests

Job Robot monitoring

http://dashboard.cern.ch/alice





ALICE dashboard

user help

mailing list
report bug

development

cvs
wiki

ALICE dashboard services

ALICE job monitoring

- Interactive

ALICE transfer monitoring
Transfer monitoring

Site Monitoring

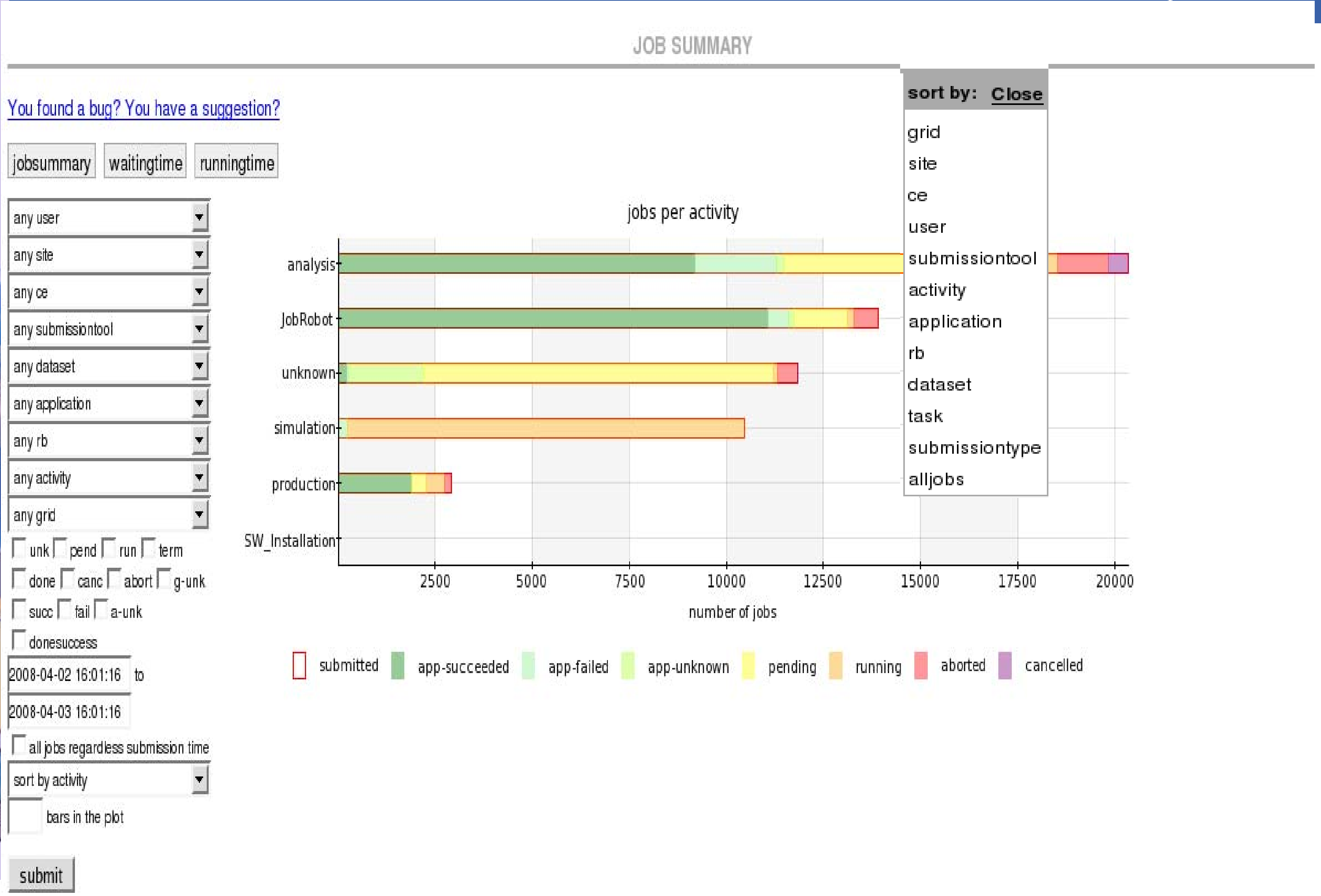
- Site Status Board
- SAM

Dashboard, CERN

Job Monitoring

- Display all the jobs submitted by a VO
  - Follow the status of the jobs
- Collect information from different sources
  - RGMA, IC Real Time Monitor, BDII, MonALISA, …
- Very useful for VO managers, site admin, users
- Possibility to get the output in different formats
- Deployed for ALICE, ATLAS, CMS, LHCb and VleMed

Job Monitoring



JOB SUMMARY

You found a bug? You have a suggestion?

jobsummary
waitingtime
runningtime

any user
any site
any ce
any submissiontool
any dataset
any application
any rb
any activity
any grid

☐ unk ☐ pend ☐ run ☐ term
☐ done ☐ canc ☐ abort ☐ g-unk
☐ succ ☐ fail ☐ a-unk
☐ donesuccess

2008-04-02 16:01:16 to
2008-04-03 16:01:16

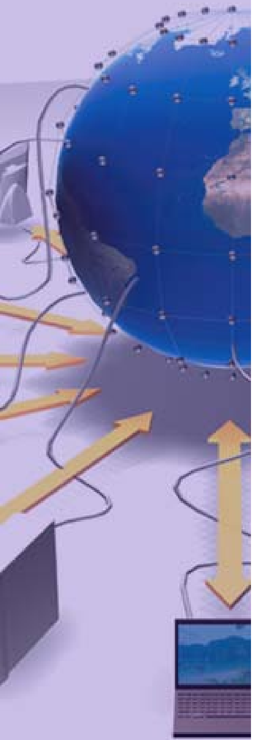
☐ all jobs regardless submission time

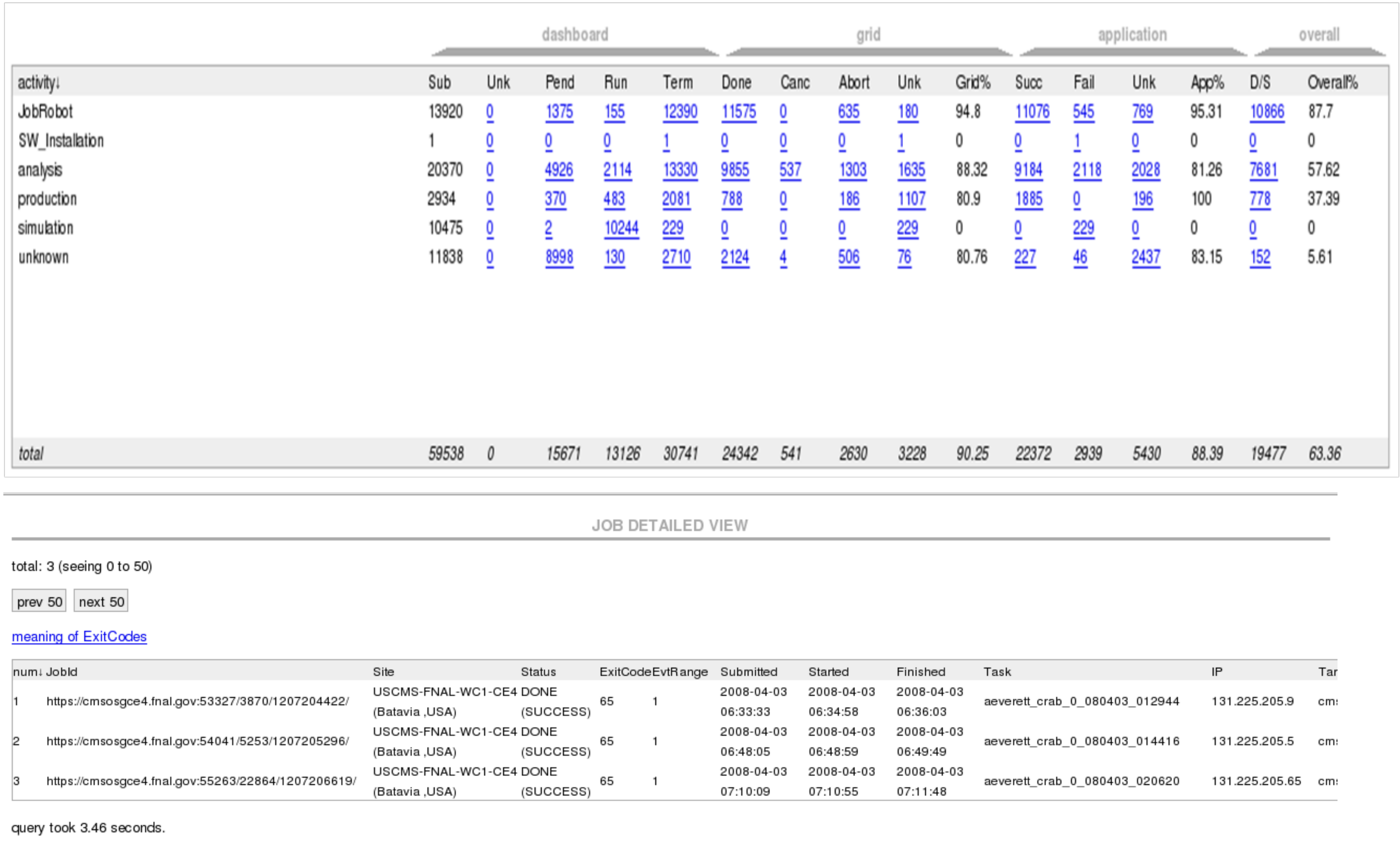
sort by activity

bars in the plot

submit
sort by: Close
grid
site
ce
user
submissiontool
activity
application
rb
dataset
task
submissiontype
alljobs
jobs per activity
analysis
JobRobot
unknown
simulation
production
SW_Installation
2500
5000
7500
10000
12500
15000
17500
20000
number of jobs
submitted
app-succeeded
app-failed
app-unknown
pending
running
aborted
cancelled

Job Monitoring





	dashboard					grid					application				overall	
activity↓	Sub	Unk	Pend	Run	Term	Done	Canc	Abort	Unk	Grid%	Succ	Fail	Unk	App%	D/S	Overall%
JobRobot	13920	0	1375	155	12390	11575	0	635	180	94.8	11076	545	769	95.31	10866	87.7
SW_Installation	1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0
analysis	20370	0	4926	2114	13330	9855	537	1303	1635	88.32	9184	2118	2028	81.26	7681	57.62
production	2934	0	370	483	2081	788	0	186	1107	80.9	1885	0	196	100	778	37.39
simulation	10475	0	2	10244	229	0	0	0	229	0	0	229	0	0	0	0
unknown	11838	0	8998	130	2710	2124	4	506	76	80.76	227	46	2437	83.15	152	5.61
total	*59538*	*0*	*15671*	*13126*	*30741*	*24342*	*541*	*2630*	*3228*	*90.25*	*22372*	*2939*	*5430*	*88.39*	*19477*	*63.36*

JOB DETAILED VIEW

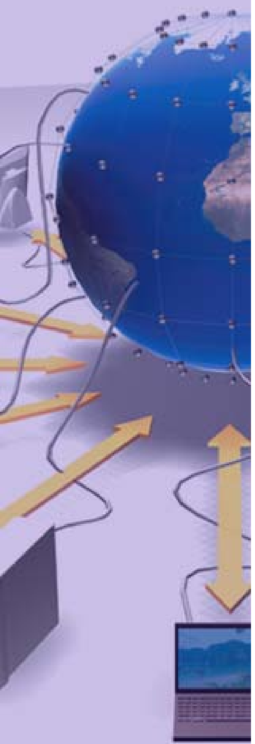
total: 3 (seeing 0 to 50)

meaning of ExitCodes

num↓	JobId	Site	Status	ExitCode	EvtRange	Submitted	Started	Finished	Task	IP	Tar
1	https://cmsosgce4.fnal.gov:53327/3870/1207204422/	USCMS-FNAL-WC1-CE4 (Batavia ,USA)	DONE (SUCCESS)	65	1	2008-04-03 06:33:33	2008-04-03 06:34:58	2008-04-03 06:36:03	aeverett_crab_0_080403_012944	131.225.205.9	cm
2	https://cmsosgce4.fnal.gov:54041/5253/1207205296/	USCMS-FNAL-WC1-CE4 (Batavia ,USA)	DONE (SUCCESS)	65	1	2008-04-03 06:48:05	2008-04-03 06:48:59	2008-04-03 06:49:49	aeverett_crab_0_080403_014416	131.225.205.5	cm
3	https://cmsosgce4.fnal.gov:55263/22864/1207206619/	USCMS-FNAL-WC1-CE4 (Batavia ,USA)	DONE (SUCCESS)	65	1	2008-04-03 07:10:09	2008-04-03 07:10:55	2008-04-03 07:11:48	aeverett_crab_0_080403_020620	131.225.205.65	cm

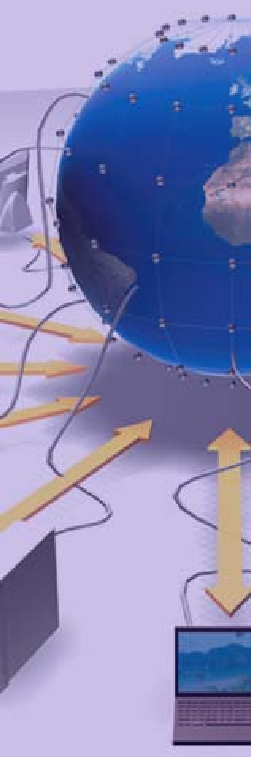
query took 3.46 seconds.

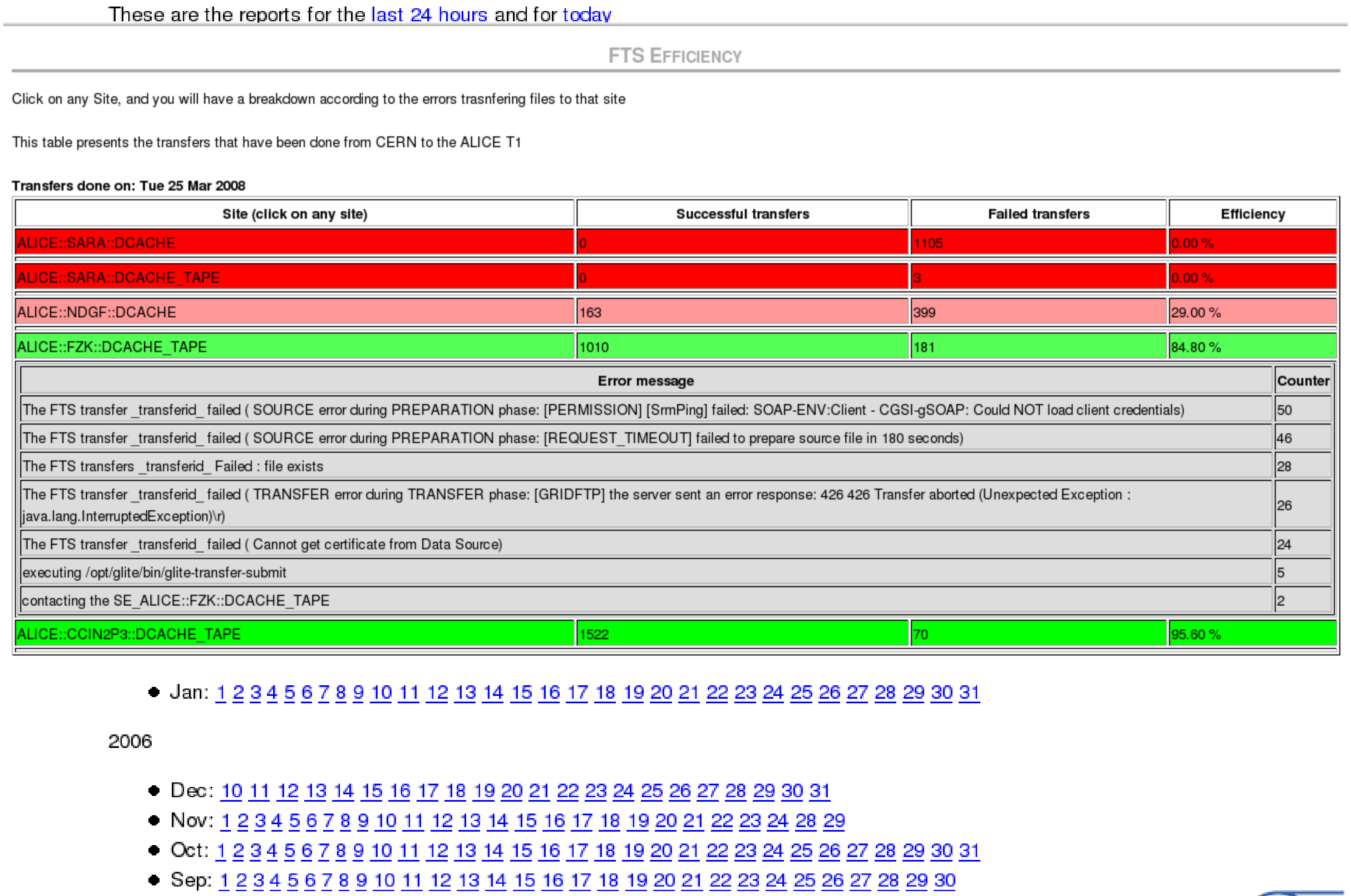
FTS reliability



- Daily report on the success of transfers
- Drill down list of errors
- Integrated in the ALICE environment
- Extremely useful during the different ALICE challenges: PDC06, PDC07, CRC08
- Working on making it generic

FTS reliability





These are the reports for the last 24 hours and for today

FTS EFFICIENCY

Click on any Site, and you will have a breakdown according to the errors trasnfering files to that site

This table presents the transfers that have been done from CERN to the ALICE T1

Transfers done on: Tue 25 Mar 2008

<table>
<tr><th>Site (click on any site)</th><th>Successful transfers</th><th>Failed transfers</th><th>Efficiency</th></tr>
<tr><td>ALICE::SARA::DCACHE</td><td>0</td><td>1105</td><td>0.00 %</td></tr>
<tr><td>ALICE::SARA::DCACHE_TAPE</td><td>0</td><td>3</td><td>0.00 %</td></tr>
<tr><td>ALICE::NDGF::DCACHE</td><td>163</td><td>399</td><td>29.00 %</td></tr>
<tr><td>ALICE::FZK::DCACHE_TAPE</td><td>1010</td><td>181</td><td>84.80 %</td></tr>
<tr><td colspan="4">
<table>
<tr><th>Error message</th><th>Counter</th></tr>
<tr><td>The FTS transfer _transferid_ failed (SOURCE error during PREPARATION phase: [PERMISSION] [SrmPing] failed: SOAP-ENV:Client - CGSI-gSOAP: Could NOT load client credentials)</td><td>50</td></tr>
<tr><td>The FTS transfer _transferid_ failed (SOURCE error during PREPARATION phase: [REQUEST_TIMEOUT] failed to prepare source file in 180 seconds)</td><td>46</td></tr>
<tr><td>The FTS transfers _transferid_ Failed : file exists</td><td>28</td></tr>
<tr><td>The FTS transfer _transferid_ failed (TRANSFER error during TRANSFER phase: [GRIDFTP] the server sent an error response: 426 426 Transfer aborted (Unexpected Exception : java.lang.InterruptedException)\r)</td><td>26</td></tr>
<tr><td>The FTS transfer _transferid_ failed (Cannot get certificate from Data Source)</td><td>24</td></tr>
<tr><td>executing /opt/glite/bin/glite-transfer-submit</td><td>5</td></tr>
<tr><td>contacting the SE_ALICE::FZK::DCACHE_TAPE</td><td>2</td></tr>
</table>
</td></tr>
<tr><td>ALICE::CCIN2P3::DCACHE_TAPE</td><td>1522</td><td>70</td><td>95.60 %</td></tr>
</table>

- Jan: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

2006

- Dec: 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
- Nov: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 28 29
- Oct: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
- Sep: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

SAM monitoring

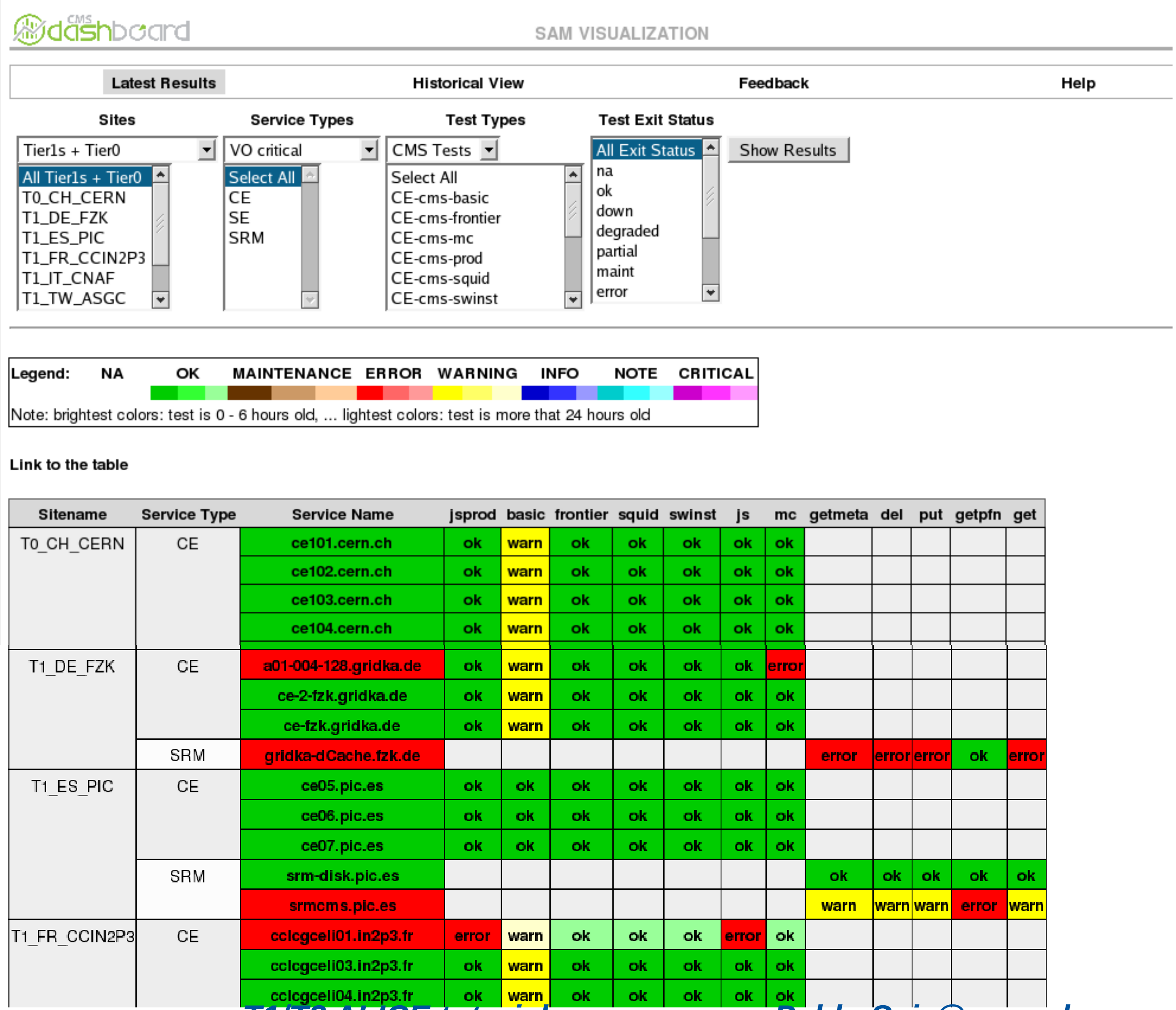
- ❖Service Availability Monitoring

- ❖Clickable plots to drill down:
  - ❖Site availability → Service availability → Service tests

- ❖Links to the SAM results

- ❖Originally, only for CMS
  - ❖ATLAS requested a similar interface
  - ❖Ongoing work to make it generic

SAM monitoring



SAM VISUALIZATION

Sites: Tier1s + Tier0
- All Tier1s + Tier0
- T0_CH_CERN
- T1_DE_FZK
- T1_ES_PIC
- T1_FR_CCIN2P3
- T1_IT_CNAF
- T1_TW_ASGC

Service Types: VO critical
- Select All
- CE
- SE
- SRM

Test Types: CMS Tests
- Select All
- CE-cms-basic
- CE-cms-frontier
- CE-cms-mc
- CE-cms-prod
- CE-cms-squid
- CE-cms-swinst

Test Exit Status:
- All Exit Status
- na
- ok
- down
- degraded
- partial
- maint
- error

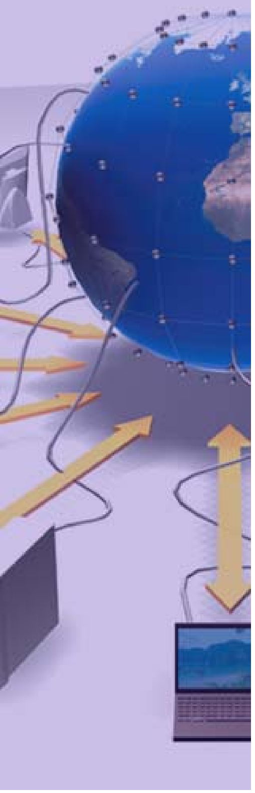
Legend: NA OK MAINTENANCE ERROR WARNING INFO NOTE CRITICAL

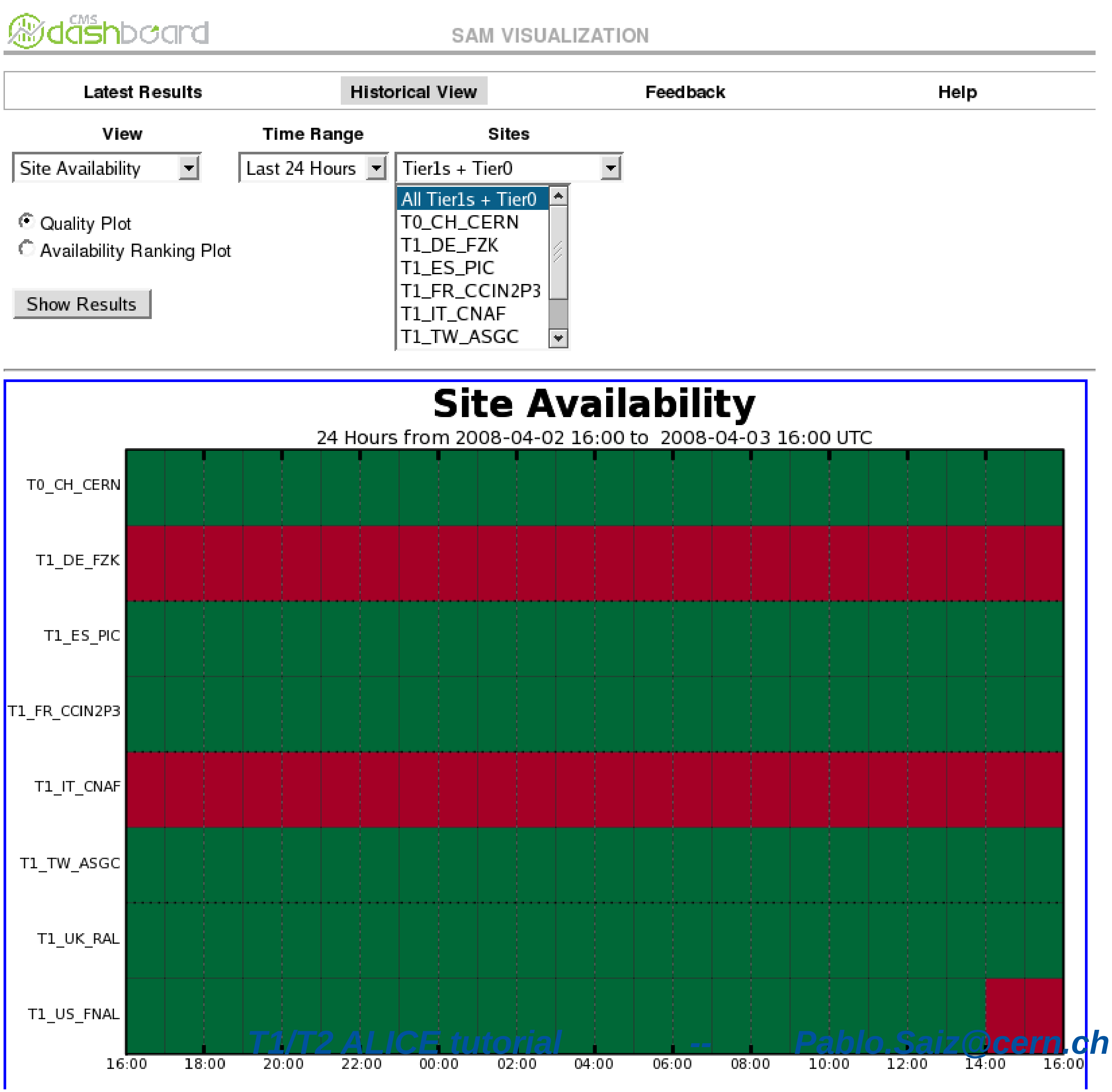
Note: brightest colors: test is 0 - 6 hours old, ... lightest colors: test is more that 24 hours old

Link to the table

Sitename	Service Type	Service Name	jsprod	basic	frontier	squid	swinst	js	mc	getmeta	del	put	getpfn	get
T0_CH_CERN	CE	ce101.cern.ch	ok	warn	ok	ok	ok	ok	ok					
		ce102.cern.ch	ok	warn	ok	ok	ok	ok	ok					
		ce103.cern.ch	ok	warn	ok	ok	ok	ok	ok					
		ce104.cern.ch	ok	warn	ok	ok	ok	ok	ok					
T1_DE_FZK	CE	a01-004-128.gridka.de	ok	warn	ok	ok	ok	ok	error					
		ce-2-fzk.gridka.de	ok	warn	ok	ok	ok	ok	ok					
		ce-fzk.gridka.de	ok	warn	ok	ok	ok	ok	ok					
	SRM	gridka-dCache.fzk.de								error	error	error	ok	error
T1_ES_PIC	CE	ce05.pic.es	ok	ok	ok	ok	ok	ok	ok					
		ce06.pic.es	ok	ok	ok	ok	ok	ok	ok					
		ce07.pic.es	ok	ok	ok	ok	ok	ok	ok					
	SRM	srm-disk.pic.es								ok	ok	ok	ok	ok
		srmcms.pic.es								warn	warn	warn	error	warn
T1_FR_CCIN2P3	CE	cclcgceli01.in2p3.fr	error	warn	ok	ok	ok	error	ok					
		cclcgceli03.in2p3.fr	ok	warn	ok	ok	ok	ok	ok					
		cclcgceli04.in2p3.fr	ok	warn	ok	ok	ok	ok	ok					

SAM monitoring

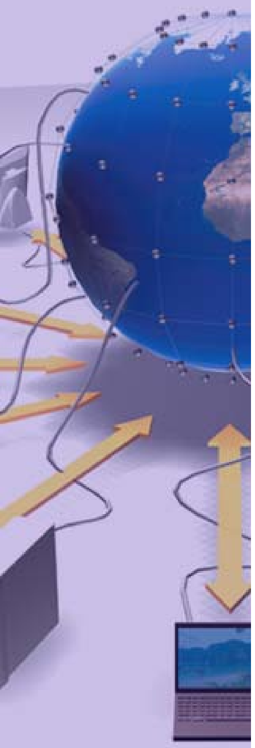



CMS dashboard
SAM VISUALIZATION
Latest Results
Historical View
Feedback
Help
Show Results
All Tier1s + Tier0
T0_CH_CERN
T1_DE_FZK
T1_ES_PIC
T1_FR_CCIN2P3
T1_IT_CNAF
T1_TW_ASGC
Site Availability
24 Hours from 2008-04-02 16:00 to 2008-04-03 16:00 UTC
T0_CH_CERN
T1_DE_FZK
T1_ES_PIC
T1_FR_CCIN2P3
T1_IT_CNAF
T1_TW_ASGC
T1_UK_RAL
T1_US_FNAL
16:00
18:00
20:00
22:00
00:00
02:00
04:00
06:00
08:00
10:00
12:00
14:00
16:00

View: Site Availability
Time Range: Last 24 Hours
Sites: Tier1s + Tier0

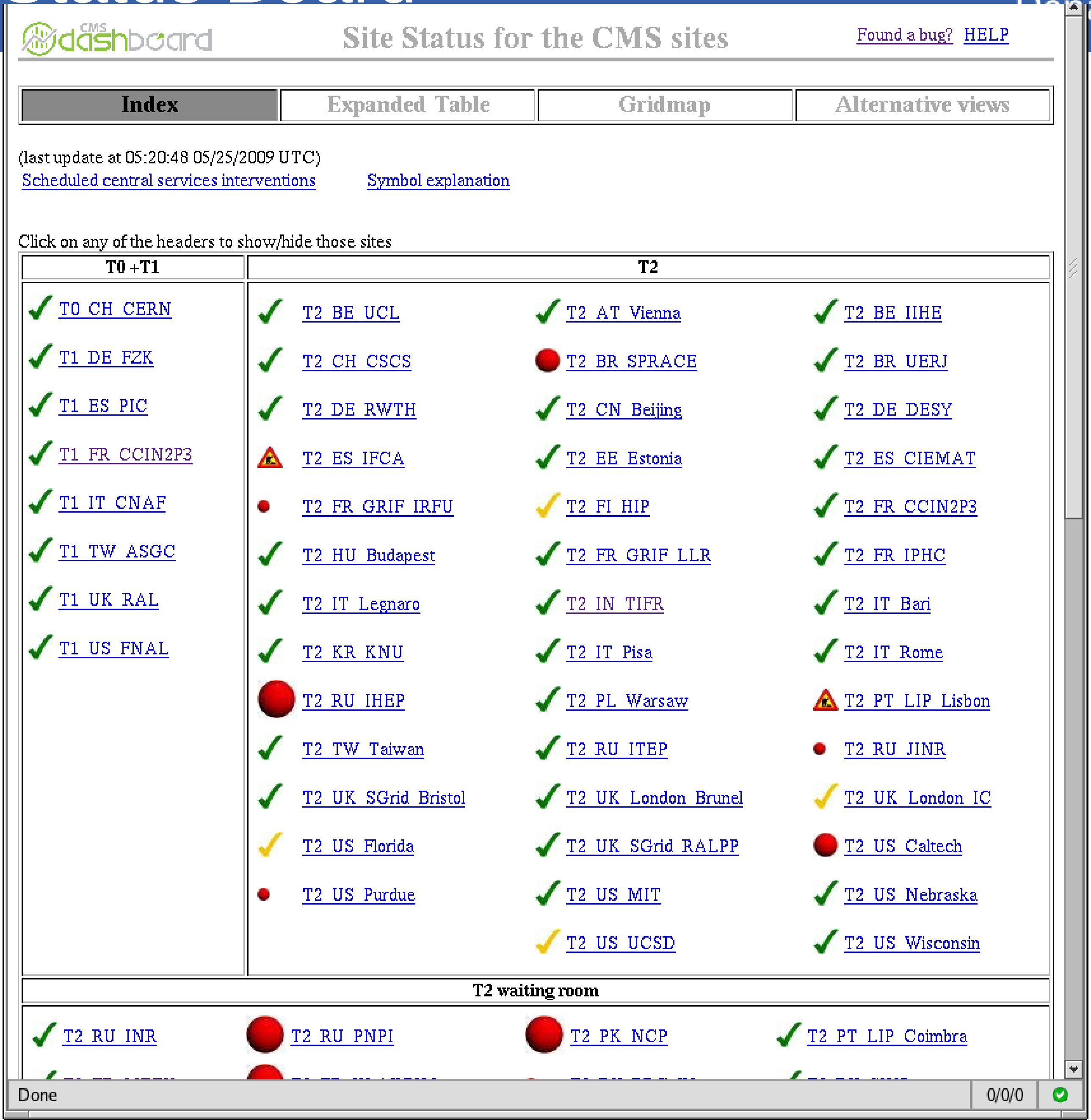
● Quality Plot
○ Availability Ranking Plot

Site Status Board



- Table with status of the different sites for CMS
- Easy definition of new ‘metrics’
  - The ‘metrics’ can come from different sources
- Links to more detailed information
- Gridmap view
- Used for CMS site commissioning and offline shifts
  - Deployed for LHCb and ALICE

Site Status Board



Site Status for the CMS sites

Found a bug? HELP

Index	Expanded Table	Gridmap	Alternative views

(last update at 05:20:48 05/25/2009 UTC)

Scheduled central services interventions   Symbol explanation

Click on any of the headers to show/hide those sites

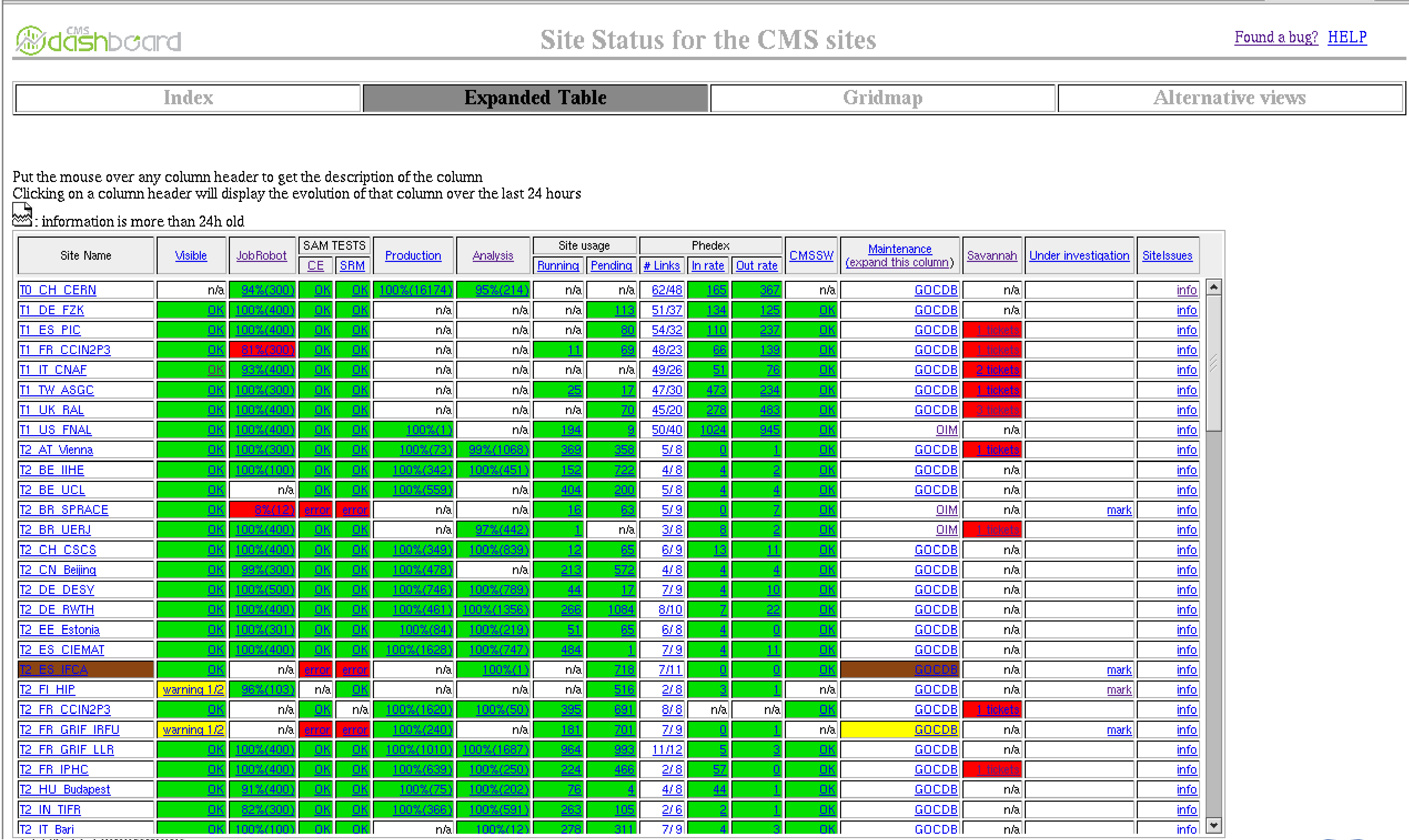
T0 +T1	T2		
✓ T0_CH_CERN	✓ T2_BE_UCL	✓ T2_AT_Vienna	✓ T2_BE_IIHE
✓ T1_DE_FZK	✓ T2_CH_CSCS	● T2_BR_SPRACE	✓ T2_BR_UERJ
✓ T1_ES_PIC	✓ T2_DE_RWTH	✓ T2_CN_Beijing	✓ T2_DE_DESY
✓ T1_FR_CCIN2P3	⚠ T2_ES_IFCA	✓ T2_EE_Estonia	✓ T2_ES_CIEMAT
✓ T1_IT_CNAF	● T2_FR_GRIF_IRFU	✓ T2_FI_HIP	✓ T2_FR_CCIN2P3
✓ T1_TW_ASGC	✓ T2_HU_Budapest	✓ T2_FR_GRIF_LLR	✓ T2_FR_IPHC
✓ T1_UK_RAL	✓ T2_IT_Legnaro	✓ T2_IN_TIFR	✓ T2_IT_Bari
✓ T1_US_FNAL	✓ T2_KR_KNU	✓ T2_IT_Pisa	✓ T2_IT_Rome
	● T2_RU_IHEP	✓ T2_PL_Warsaw	⚠ T2_PT_LIP_Lisbon
	✓ T2_TW_Taiwan	✓ T2_RU_ITEP	● T2_RU_JINR
	✓ T2_UK_SGrid_Bristol	✓ T2_UK_London_Brunel	✓ T2_UK_London_IC
	✓ T2_US_Florida	✓ T2_UK_SGrid_RALPP	● T2_US_Caltech
	● T2_US_Purdue	✓ T2_US_MIT	✓ T2_US_Nebraska
		✓ T2_US_UCSD	✓ T2_US_Wisconsin

T2 waiting room

✓ T2_RU_INR	● T2_RU_PNPI	● T2_PK_NCP	✓ T2_PT_LIP_Coimbra

Done   0/0/0

Site Status Board



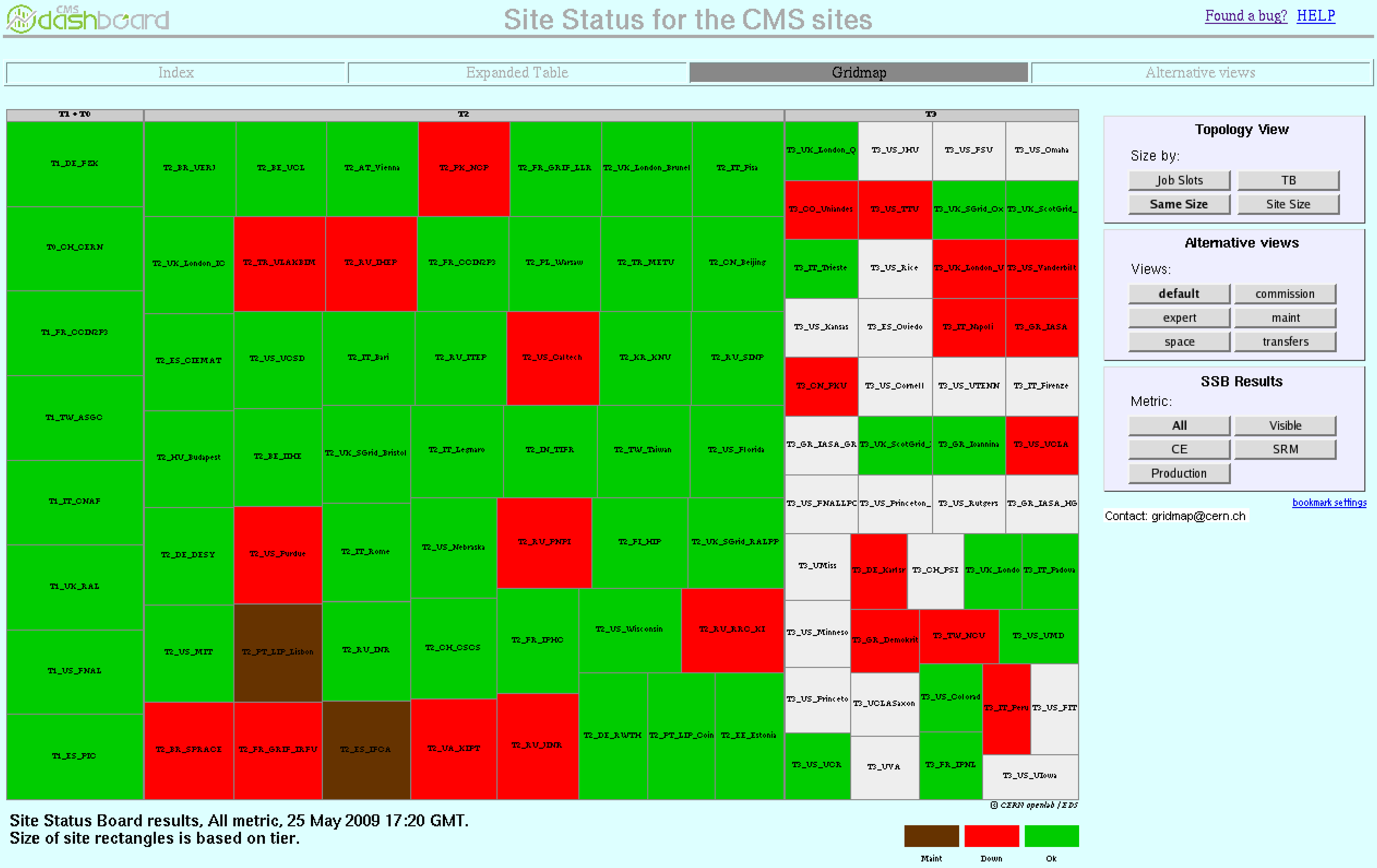
Site Status for the CMS sites

Found a bug? HELP

Put the mouse over any column header to get the description of the column
Clicking on a column header will display the evolution of that column over the last 24 hours
: information is more than 24h old

Site Name	Visible	JobRobot	SAM TESTS		Production	Analysis	Site usage		Phedex			CMSSW	Maintenance (expand this column)	Savannah	Under investigation	SiteIssues
			CE	SRM			Running	Pending	# Links	In rate	Out rate					
T0_CH_CERN	n/a	94%(300)	OK	OK	100%(16174)	95%(214)	n/a	n/a	62/48	165	367	n/a	GOCDB	n/a		info
T1_DE_FZK	OK	100%(400)	OK	OK	n/a	n/a	n/a	113	51/37	134	125	OK	GOCDB	n/a		info
T1_ES_PIC	OK	100%(400)	OK	OK	n/a	n/a	n/a	80	54/32	110	237	OK	GOCDB	1 tickets		info
T1_FR_CCIN2P3	OK	81%(300)	OK	OK	n/a	n/a	11	69	48/23	66	139	OK	GOCDB	1 tickets		info
T1_IT_CNAF	OK	93%(400)	OK	OK	n/a	n/a	n/a	n/a	49/26	51	76	OK	GOCDB	2 tickets		info
T1_TW_ASGC	OK	100%(300)	OK	OK	n/a	n/a	25	17	47/30	473	234	OK	GOCDB	1 tickets		info
T1_UK_RAL	OK	100%(400)	OK	OK	n/a	n/a	n/a	70	45/20	278	483	OK	GOCDB	3 tickets		info
T1_US_FNAL	OK	100%(400)	OK	OK	100%(1)	n/a	194	9	50/40	1024	945	OK	OIM	n/a		info
T2_AT_Vienna	OK	100%(300)	OK	OK	100%(73)	99%(1068)	369	358	5/8	0	1	OK	GOCDB	1 tickets		info
T2_BE_IIHE	OK	100%(100)	OK	OK	100%(342)	100%(451)	152	722	4/8	4	2	OK	GOCDB	n/a		info
T2_BE_UCL	OK	n/a	OK	OK	100%(559)	n/a	404	200	5/8	4	4	OK	GOCDB	n/a		info
T2_BR_SPRACE	OK	8%(12)	error	error	n/a	n/a	16	63	5/9	0	7	OK	OIM	n/a	mark	info
T2_BR_UERJ	OK	100%(400)	OK	OK	n/a	97%(442)	1	n/a	3/8	8	2	OK	OIM	1 tickets		info
T2_CH_CSCS	OK	100%(400)	OK	OK	100%(349)	100%(839)	12	65	6/9	13	11	OK	GOCDB	n/a		info
T2_CN_Beijing	OK	99%(300)	OK	OK	100%(478)	n/a	213	572	4/8	4	4	OK	GOCDB	n/a		info
T2_DE_DESY	OK	100%(500)	OK	OK	100%(746)	100%(789)	44	17	7/9	4	10	OK	GOCDB	n/a		info
T2_DE_RWTH	OK	100%(400)	OK	OK	100%(461)	100%(1356)	266	1084	8/10	7	22	OK	GOCDB	n/a		info
T2_EE_Estonia	OK	100%(301)	OK	OK	100%(84)	100%(219)	51	65	6/8	4	0	OK	GOCDB	n/a		info
T2_ES_CIEMAT	OK	100%(400)	OK	OK	100%(1628)	100%(747)	484	1	7/9	4	11	OK	GOCDB	n/a		info
T2_ES_IFCA	OK	n/a	error	error	n/a	100%(1)	n/a	718	7/11	0	0	OK	GOCDB	n/a	mark	info
T2_FI_HIP	warning 1/2	96%(103)	n/a	OK	n/a	n/a	n/a	516	2/8	3	1	n/a	GOCDB	n/a	mark	info
T2_FR_CCIN2P3	OK	n/a	OK	n/a	100%(1620)	100%(50)	395	691	8/8	n/a	n/a	OK	GOCDB	1 tickets		info
T2_FR_GRIF_IRFU	warning 1/2	n/a	error	error	100%(240)	n/a	181	701	7/9	0	1	n/a	GOCDB	n/a	mark	info
T2_FR_GRIF_LLR	OK	100%(400)	OK	OK	100%(1010)	100%(1687)	964	993	11/12	5	3	OK	GOCDB	n/a		info
T2_FR_IPHC	OK	100%(400)	OK	OK	100%(639)	100%(250)	224	466	2/8	57	0	OK	GOCDB	1 tickets		info
T2_HU_Budapest	OK	91%(400)	OK	OK	100%(75)	100%(202)	76	4	4/8	44	1	OK	GOCDB	n/a		info
T2_IN_TIFR	OK	82%(300)	OK	OK	100%(366)	100%(591)	263	105	2/6	2	1	OK	GOCDB	n/a		info
T2_IT_Bari	OK	100%(100)	OK	OK	n/a	100%(12)	278	311	7/9	4	3	OK	GOCDB	n/a		info

SSB gridmap



CMS dashboard

Site Status for the CMS sites

Found a bug? HELP

Index | Expanded Table | Gridmap | Alternative views

T1 + T0
T2
T3
T1_DE_FZK
T0_CH_CERN
T1_FR_CCIN2P3
T1_TW_ASGC
T1_IT_CNAF
T1_UK_RAL
T1_US_FNAL
T1_ES_PIC
T2_BR_UERJ
T2_BE_UCL
T2_AT_Vienna
T2_PK_NCP
T2_FR_GRIF_LLR
T2_UK_London_Brunel
T2_IT_Pisa
T2_UK_London_IC
T2_TR_ULAKBIM
T2_RU_IHEP
T2_FR_CCIN2P3
T2_PL_Warsaw
T2_TR_METU
T2_CN_Beijing
T2_ES_CIEMAT
T2_US_UCSD
T2_IT_Bari
T2_RU_ITEP
T2_US_Caltech
T2_KR_KNU
T2_RU_SINP
T2_HU_Budapest
T2_BE_IIHE
T2_UK_SGrid_Bristol
T2_IT_Legnaro
T2_IN_TIFR
T2_TW_Taiwan
T2_US_Florida
T2_DE_DESY
T2_US_Purdue
T2_IT_Rome
T2_US_Nebraska
T2_RU_PNPI
T2_FI_HIP
T2_UK_SGrid_RALPP
T2_US_MIT
T2_PT_LIP_Lisbon
T2_RU_INR
T2_CH_CSCS
T2_FR_IPHC
T2_US_Wisconsin
T2_RU_RRC_KI
T2_BR_SPRACE
T2_FR_GRIF_IRFU
T2_ES_IFCA
T2_UA_KIPT
T2_RU_JINR
T2_DE_RWTH
T2_PT_LIP_Coin
T2_EE_Estonia
T3_UK_London_Q
T3_US_JHU
T3_US_FSU
T3_US_Omaha
T3_CO_Uniandes
T3_US_TTU
T3_UK_SGrid_Ox
T3_UK_ScotGrid_
T3_IT_Trieste
T3_US_Rice
T3_UK_London_U
T3_US_Vanderbilt
T3_US_Kansas
T3_ES_Oviedo
T3_IT_Napoli
T3_GR_IASA
T3_CN_PKU
T3_US_Cornell
T3_US_UTENN
T3_IT_Firenze
T3_GR_IASA_GR
T3_UK_ScotGrid_
T3_GR_Ioannina
T3_US_UCLA
T3_US_FNALLPC
T3_US_Princeton_
T3_US_Rutgers
T3_GR_IASA_HG
T3_UMiss
T3_DE_Karlsr
T3_CH_PSI
T3_UK_Londo
T3_IT_Padova
T3_US_Minneso
T3_GR_Demokrit
T3_TW_NCU
T3_US_UMD
T3_US_Princeto
T3_UCLASaxon
T3_US_Colorad
T3_IT_Peru
T3_US_FIT
T3_US_UCR
T3_UVA
T3_FR_IPNL
T3_US_UIowa
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Site Status Board results, All metric, 25 May 2009 17:20 GMT.
Size of site rectangles is based on tier.

🟫 Maint 🟥 Down 🟩 Ok

Topology View

Size by:

Job Slots | TB
Same Size | Site Size

Alternative views

Views:

default | commission
expert | maint
space | transfers

SSB Results

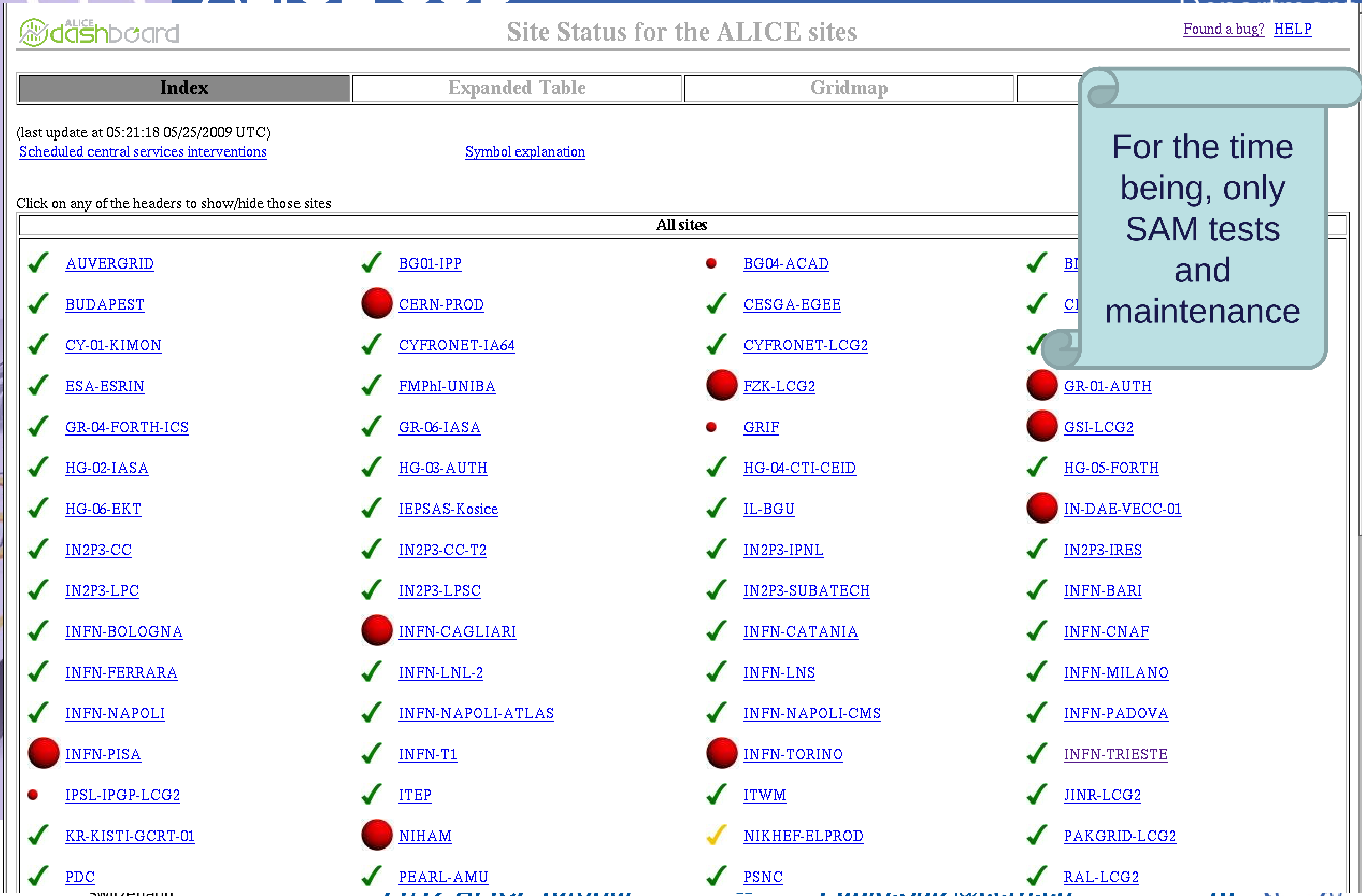
Metric:

All | Visible
CE | SRM
Production

bookmark settings

Contact: gridmap@cern.ch

ALICE SSB



Site Status for the ALICE sites

Found a bug? HELP

(last update at 05:21:18 05/25/2009 UTC)

Scheduled central services interventions

Symbol explanation

Click on any of the headers to show/hide those sites

All sites			
✓ AUVERGRID	✓ BG01-IPP	● BG04-ACAD	✓ BI
✓ BUDAPEST	● CERN-PROD	✓ CESGA-EGEE	✓ CI
✓ CY-01-KIMON	✓ CYFRONET-IA64	✓ CYFRONET-LCG2	✓
✓ ESA-ESRIN	✓ FMPhI-UNIBA	● FZK-LCG2	● GR-01-AUTH
✓ GR-04-FORTH-ICS	✓ GR-06-IASA	● GRIF	● GSI-LCG2
✓ HG-02-IASA	✓ HG-03-AUTH	✓ HG-04-CTI-CEID	✓ HG-05-FORTH
✓ HG-06-EKT	✓ IEPSAS-Kosice	✓ IL-BGU	● IN-DAE-VECC-01
✓ IN2P3-CC	✓ IN2P3-CC-T2	✓ IN2P3-IPNL	✓ IN2P3-IRES
✓ IN2P3-LPC	✓ IN2P3-LPSC	✓ IN2P3-SUBATECH	✓ INFN-BARI
✓ INFN-BOLOGNA	● INFN-CAGLIARI	✓ INFN-CATANIA	✓ INFN-CNAF
✓ INFN-FERRARA	✓ INFN-LNL-2	✓ INFN-LNS	✓ INFN-MILANO
✓ INFN-NAPOLI	✓ INFN-NAPOLI-ATLAS	✓ INFN-NAPOLI-CMS	✓ INFN-PADOVA
● INFN-PISA	✓ INFN-T1	● INFN-TORINO	✓ INFN-TRIESTE
● IPSL-IPGP-LCG2	✓ ITEP	✓ ITWM	✓ JINR-LCG2
✓ KR-KISTI-GCRT-01	● NIHAM	✓ NIKHEF-ELPROD	✓ PAKGRID-LCG2
✓ PDC	✓ PEARL-AMU	✓ PSNC	✓ RAL-LCG2

For the time being, only SAM tests and maintenance

Conclusions

- Several applications provided
  - Job Monitoring
  - FTD/FTS reliability
  - SAM framework
  - Site Status Board

http://dashboard.cern.ch/alice