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The Budapest ALICE T2 Site

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Team members
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ALICE T1/T2 Workshop
June 4, 2013

Outline

1. Who we are?
   - → Human resources
   - → Hardware & software specification
2. What we want?
   - → Our aims
   - → Site service experiences
3. When we want?

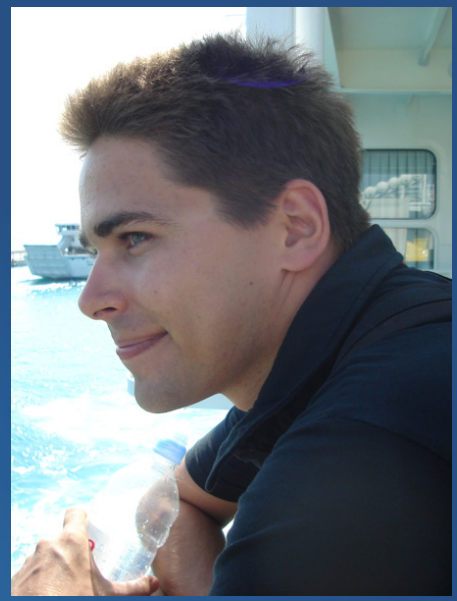
Who we are?

Human resources

The Budapest ALICE GRID and Computing Group

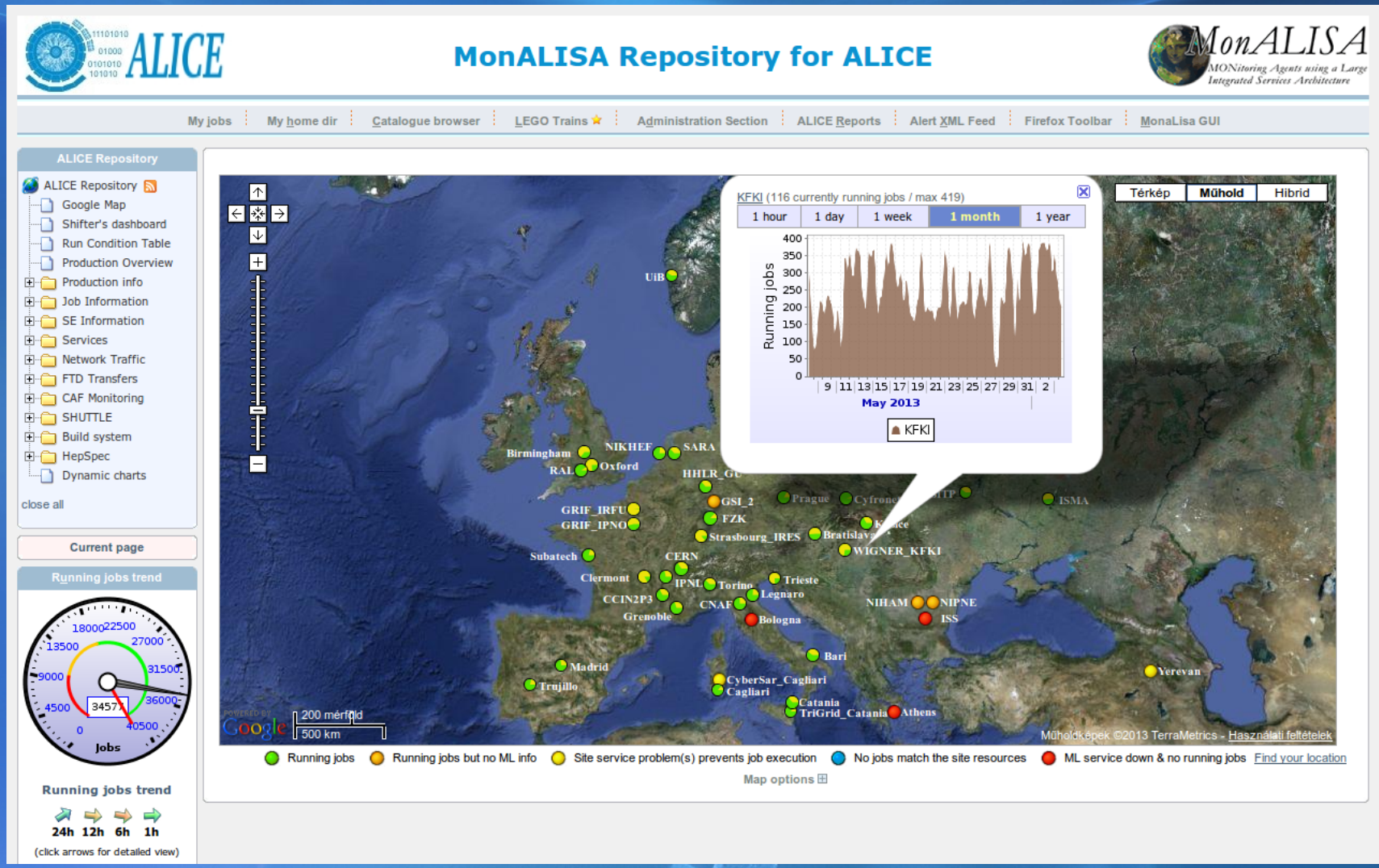
G. G. Barnaföldi
Team leader

Sz. Harangozó
System administrator



G. Kalmár
System administrator

The Budapest ALICE T2 Site



Hardware & software specification

The Budapest T2 Site

The site supports ALICE and CMS experiments.

Capacity:

- Total CPU slots: ≈ 500 core ($\sim 1\%$)
- Total storage: $\approx 300\,\mathrm{TB}$ disk ($\sim 1\%$)

Resources are shared between ALICE $(1/3)$ and CMS $(2/3)$.
ALICE pledged: 167 core, 72 TB storage.

The Budapest T2 Site

The site is fully *virtualized*:

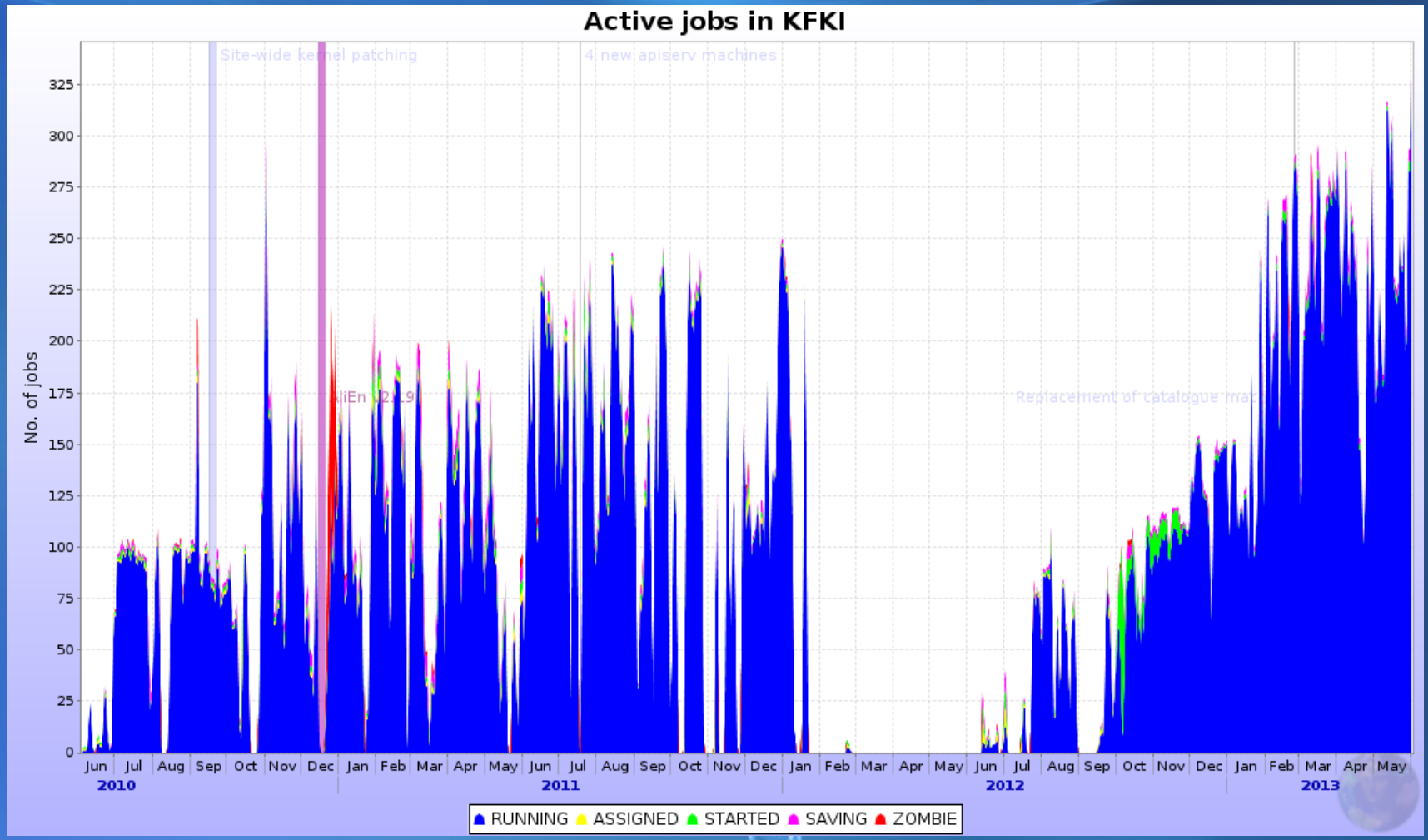
- 6 KVM (Kernel-based Virtual Machine) servers
- UI, GE, CE, BDII, WMS, MyProxy are on virtual hosts
- ALICE VO-Box will be virtualized on next update

Cluster management:

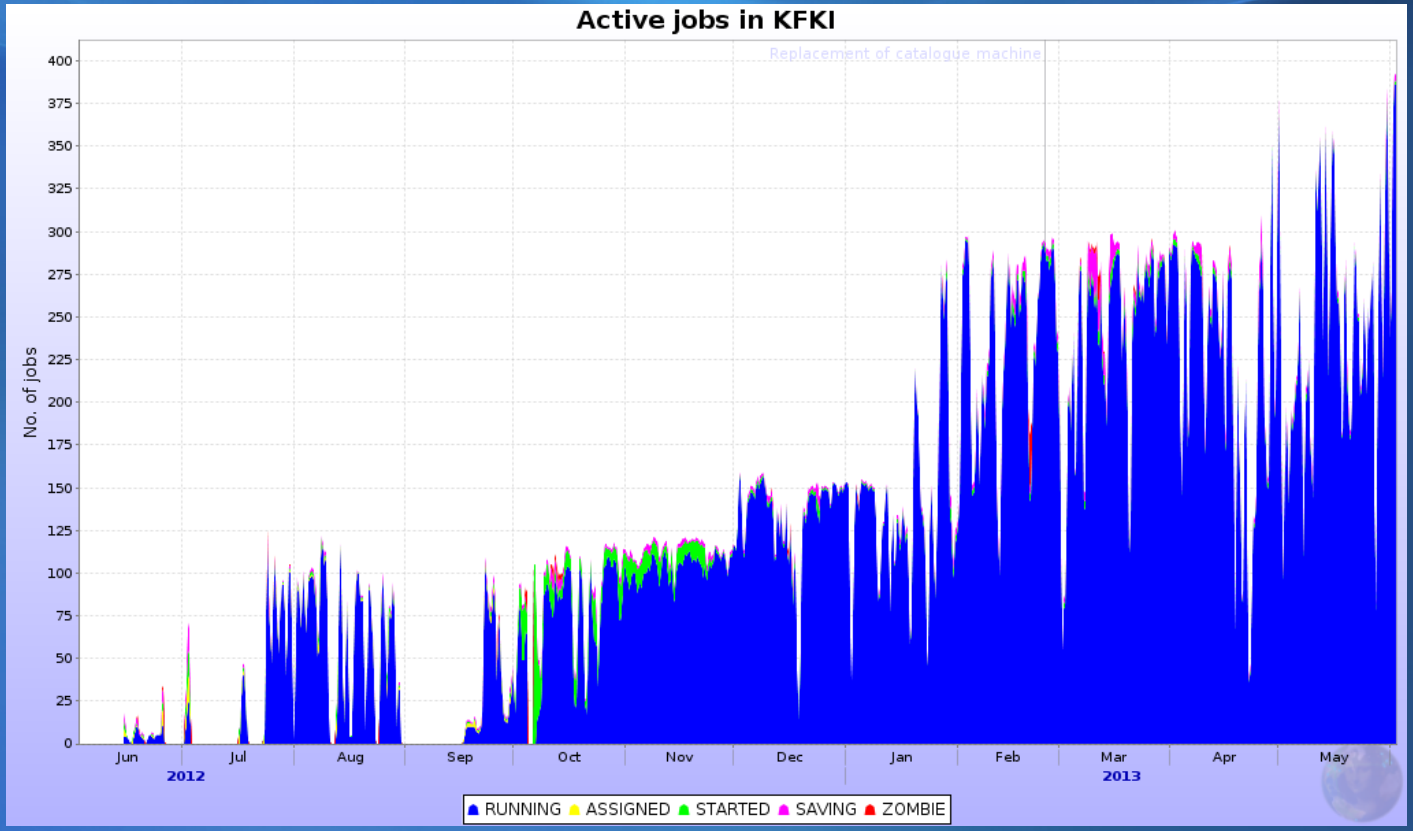
- Backup system: Amanda Network Backup
- Logging: central logging with syslog-ng
- Monitoring: Nagios and own scripts
- We use test machines if needed as well

What we want?

The last 3 years of the Budapest ALICE T2



The last 1 year of the Budapest ALICE T2



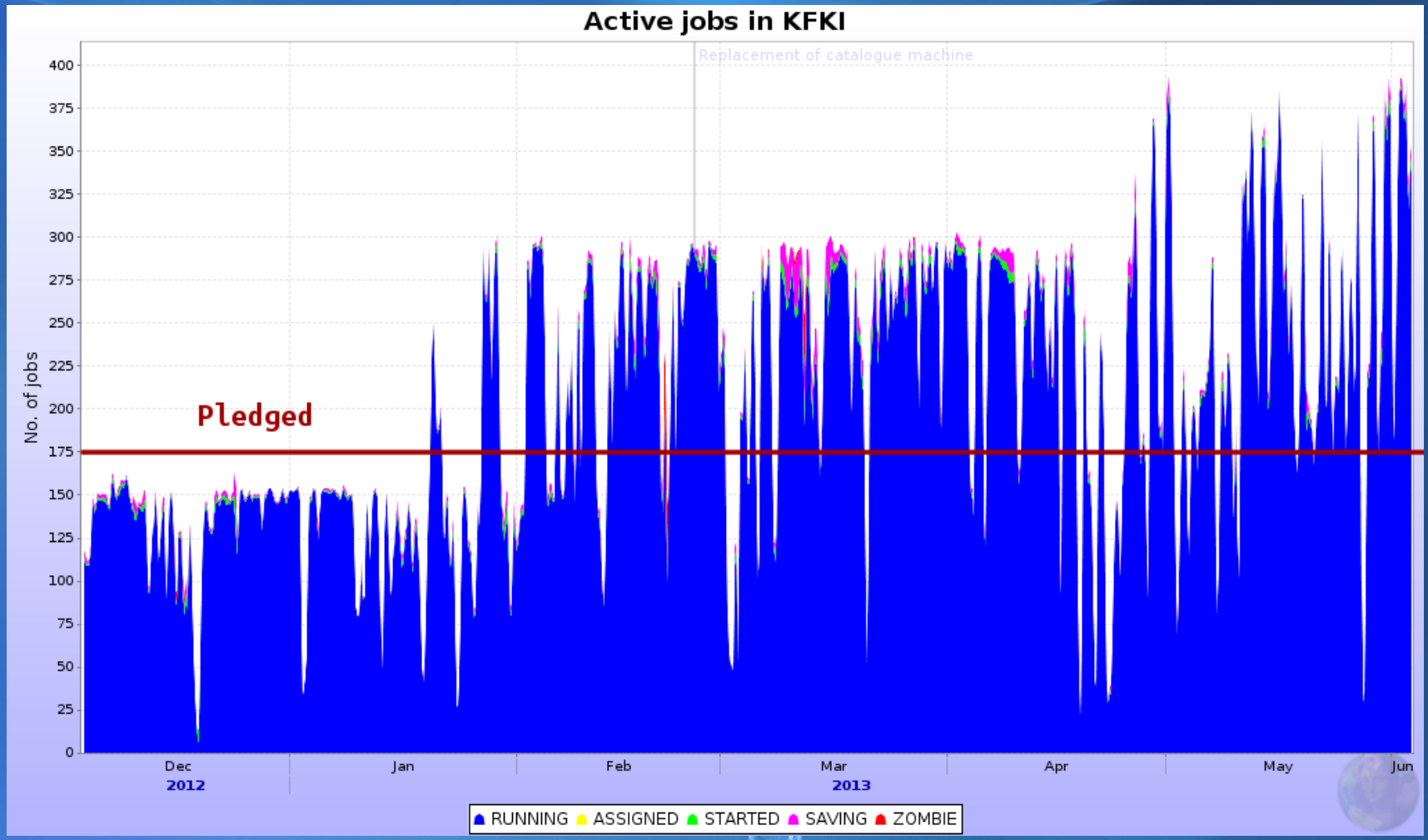
Traffic IN

	Series	Last value	Min	Avg	Max	Total
1.	grid128.kfki.hu	344.8 KB/s	0.702 KB/s	1.986 MB/s	150.3 MB/s	59.67 TB
2.	grid129.kfki.hu	264.2 KB/s	0.632 KB/s	715.6 KB/s	105.2 MB/s	20.99 TB
3.	grid130.kfki.hu	278 KB/s	0.238 KB/s	519.3 KB/s	74.07 MB/s	15.23 TB
	Total	**886.9 KB/s**		**3.192 MB/s**		**95.9 TB**

Traffic OUT

	Series	Last value	Min	Avg	Max	Total
1.	grid128.kfki.hu	30.1 MB/s	0.24 KB/s	10.82 MB/s	228 MB/s	325.2 TB
2.	grid129.kfki.hu	18.91 MB/s	0 B/s	5.835 MB/s	118.2 MB/s	175.3 TB
3.	grid130.kfki.hu	17.46 MB/s	0.209 KB/s	3.415 MB/s	229.5 MB/s	102.6 TB
	Total	**66.46 MB/s**		**20.07 MB/s**		**603.1 TB**

The last 6 months of the Budapest ALICE T2



Our aims

Our main goals are:

- to create a comprehensive documentation [OK]
- to build a clear, working, up-to-date system [OK]
- to create redundant, fault-tolerant system [OK]

The information needed for our operation is collected on our own TWiki page.

Useful stuff

On our TWiki page there are many useful things:

- We have created a short *WLCG introduction* for our users
- One can see our introduction on the ALICE services
- There is a *Troubleshooting* section for solving common problems
- In our *Logbook* we are logging not only the problems we encounter, but the solutions as well

Never forget to document your experiences for the future system administrators!

Site service experiences

Site service experiences

The ALICE services are quite stable nowadays.

However, we had storage data inconsistencies because of data movement during former storage expansions.

- By removing unnecessary files we've got 15 TB free space.

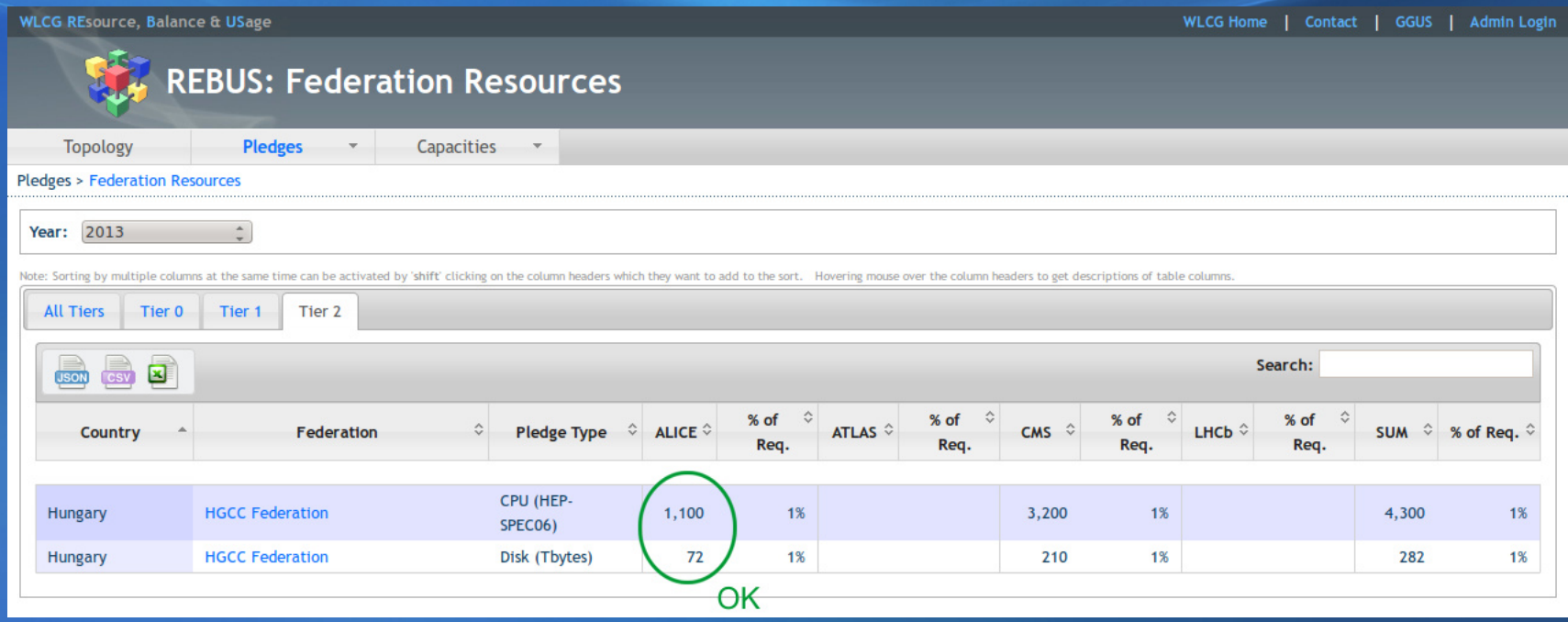
We have created a python script which sends alarm messages when the site's job load is much less than the overall ALICE GRID load.

- Can be found under `http://gregory.web.elte.hu/grid/`.

Most problems can be solved by service restart.

When we want?

Future plans



WLCG REsource, Balance & USage — WLCG Home | Contact | GGUS | Admin Login

REBUS: Federation Resources

Topology | Pledges | Capacities

Pledges > Federation Resources

Year: 2013

Note: Sorting by multiple columns at the same time can be activated by 'shift' clicking on the column headers which they want to add to the sort. Hovering mouse over the column headers to get descriptions of table columns.

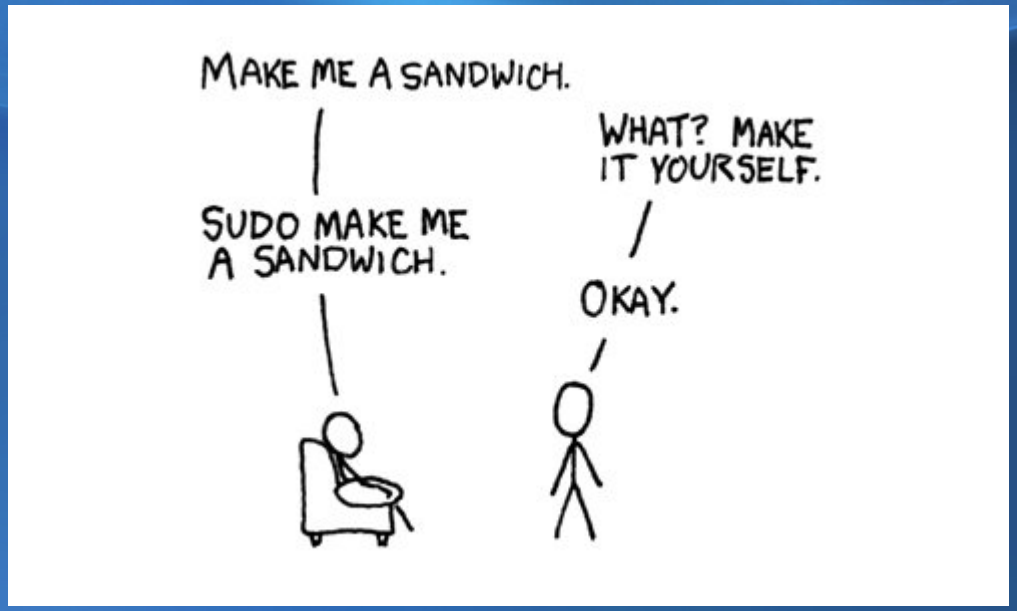
All Tiers | Tier 0 | Tier 1 | Tier 2

Search:

Country	Federation	Pledge Type	ALICE	% of Req.	ATLAS	% of Req.	CMS	% of Req.	LHCb	% of Req.	SUM	% of Req.
Hungary	HGCC Federation	CPU (HEP-SPEC06)	1,100	1%			3,200	1%			4,300	1%
Hungary	HGCC Federation	Disk (Tbytes)	72	1%			210	1%			282	1%

OK

- VO-Box update and virtualization in a few weeks
- Storage upgrade ($73\,\mathrm{TB} \rightarrow 90\,\mathrm{TB}$) by the end of the year



Thanks for your attention!