

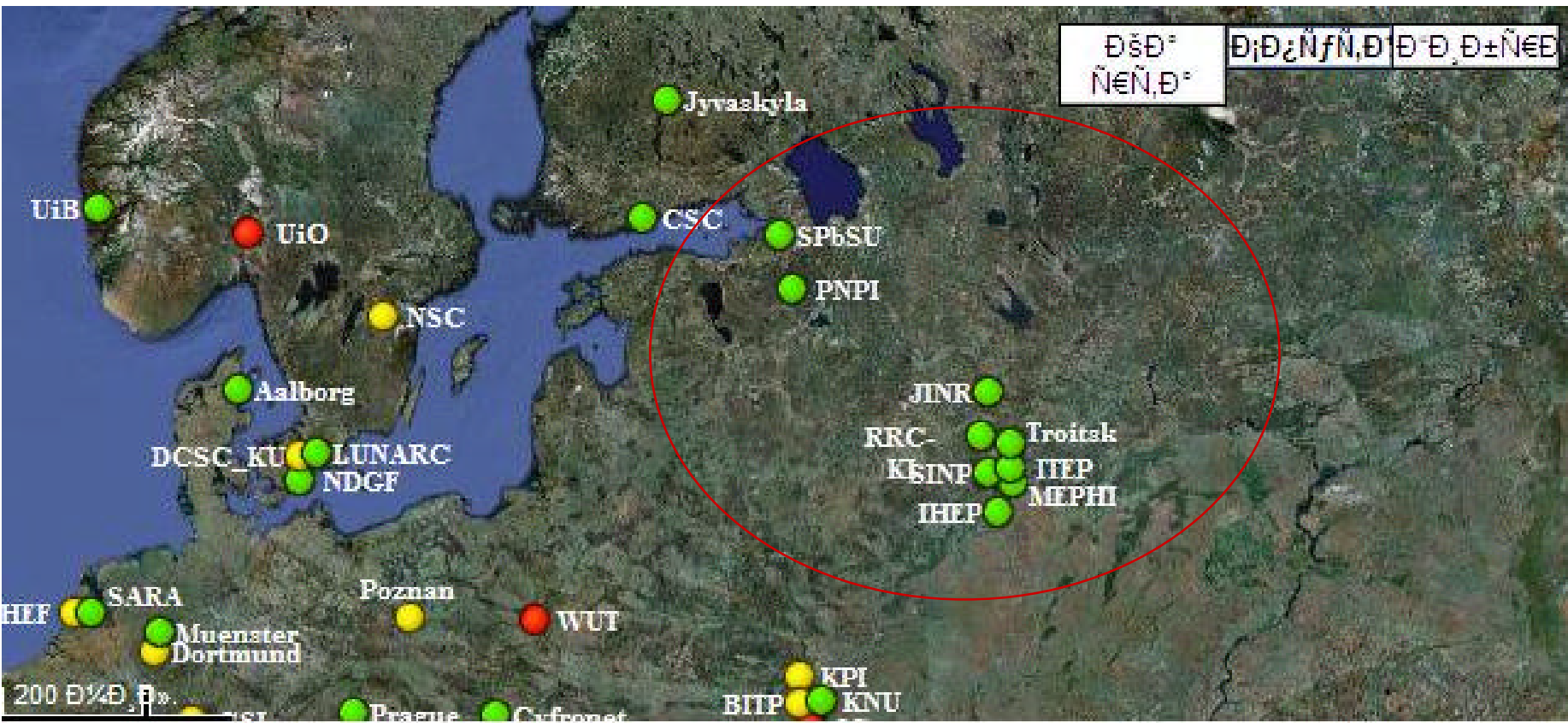
# GRID Processing and Analysis of ALICE data at distributed Tier2-RDIG

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## Mass production status of ALICE at RDIG

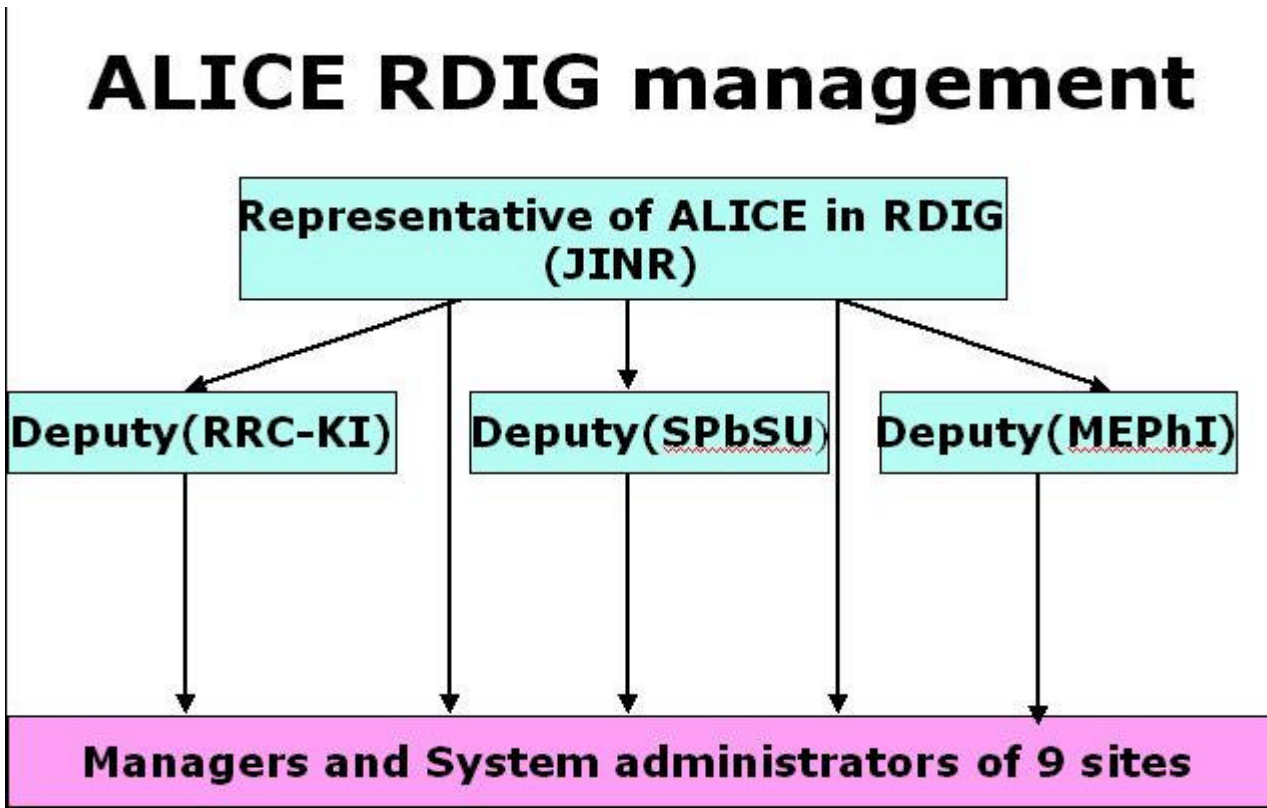
Toady 9 RDIG sites are supporting ALICE GRID activity. There is needed special management of ALICE Data Challenges at these sites as a solid distributed Tier2.



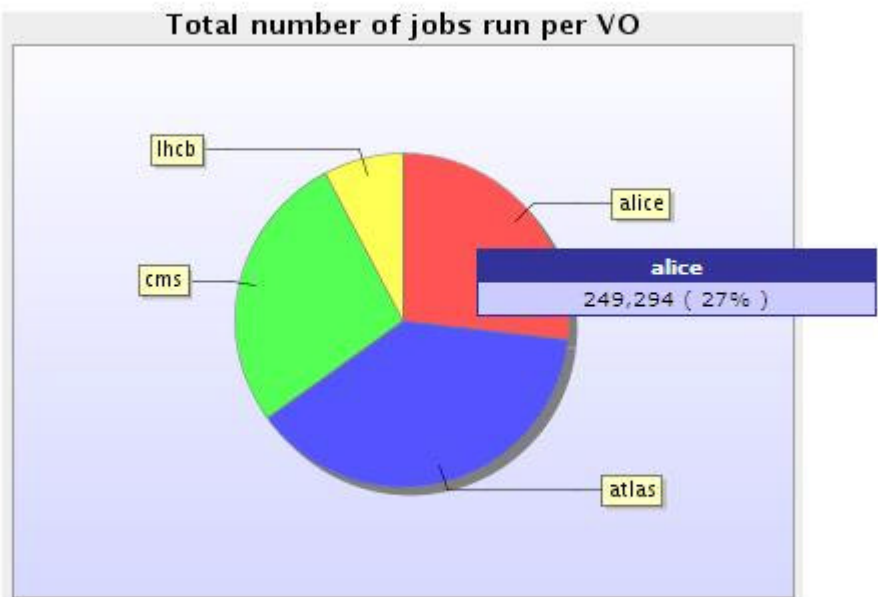
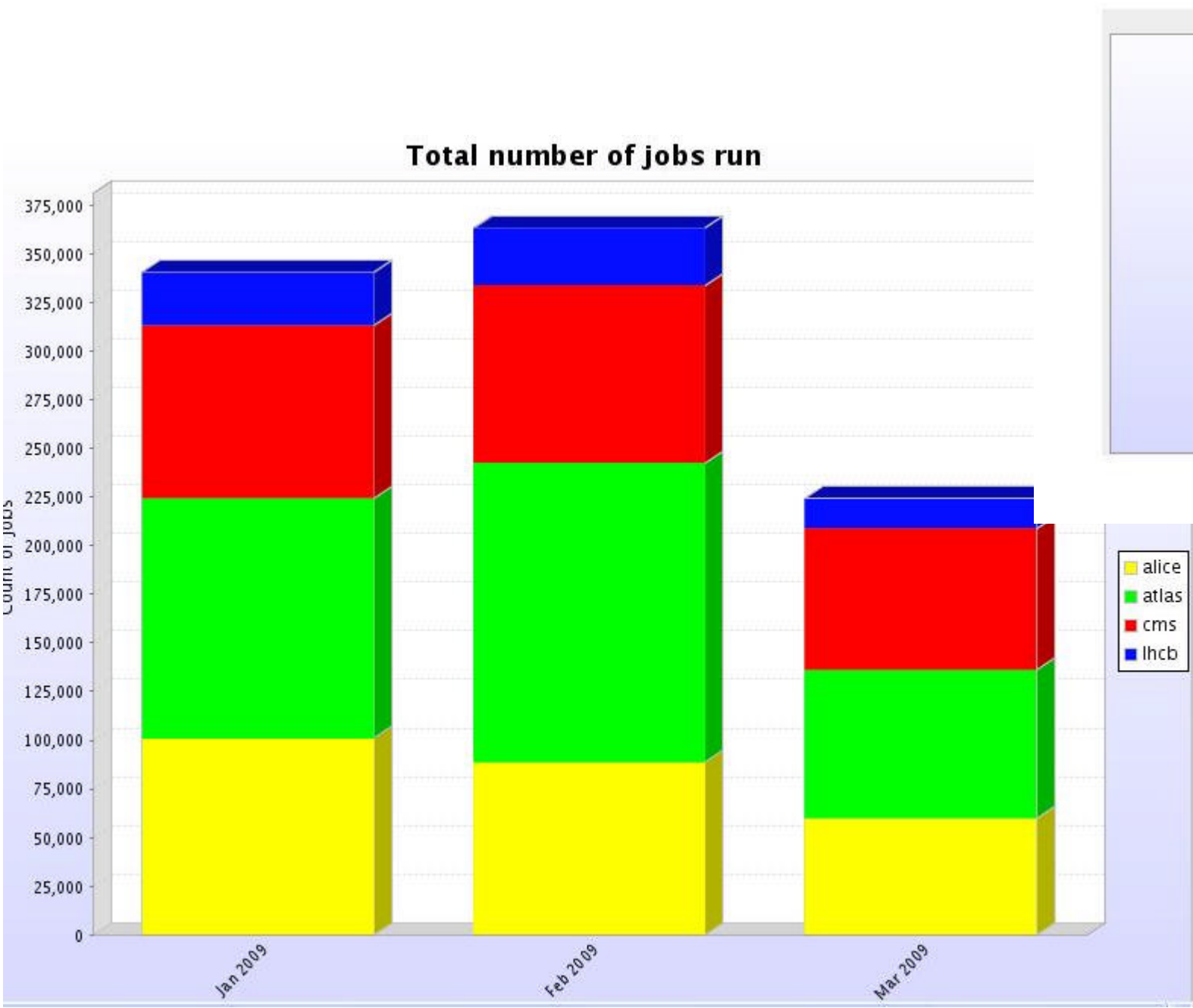
Recourses pledged to 2009

CPU = 1600 kSi2k

Disks =520 TB



Today in the time of all LHC experiments production at RDIG of ~1000 Si2k and ~ 200 TB are in operation.



ALICE jobs contribution to the total RDIG jobs for all LHC experiments in last 3 months

Report on ALICE groups' activity (01.03.2009 - 07.03.2009)

Group	Pledged KS2K	Delivered CPU	Wait	Occupancy		Assigned	Job statistics		Storage Used	Usage
				Valid/Pledged	CPU/Wait		Completed	Efficiency		
1. CERN	4161	52.49	56.7	100.0%	92.57%	9425	6110	64.83%	4.593 PB	3.71 PB 80.77%
2. China	0	-	-	-	-	-	-	-	-	-
3. Czech Republic	95	189.7	216.3	100.0%	87.72%	4495	3399	75.62%	36.56 TB	17.49 TB 47.83%
4. Germany	3292	3334	3462	100.2%	88.22%	47280	29148	61.65%	6.238 PB	282.6 TB 4.611%
5. Greece	80	-	-	-	-	-	-	-	-	-
6. HLT	60	-	-	-	-	-	-	-	-	-
7. Hungary	90	-	-	-	-	-	-	-	-	-
8. IN2P3	1995	768.2	916.8	45.95%	83.75%	53008	6281	15.62%	1.768 PB	131.4 TB 7.18%
9. India	450	-	-	-	-	-	-	-	-	-
10. INFN	2074	227	343.2	10.95%	66.14%	143622	2314	1.61%	73.24 TB	0 0%
11. Mexico	22	-	-	-	-	-	-	-	-	-
12. NDGF	1272	796.5	874.4	69.74%	91.09%	57973	5388	9.264%	930.6 TB	186.1 TB 19.99%
13. Other	5	-	-	-	-	-	-	-	-	-
14. Poland	226	27.61	31.1	13.79%	88.77%	9258	2107	22.76%	233.3 TB	690.4 GB 0.305%
15. RDIG	1059	1017	1165	119%	87.31%	82743	6405	7.741%	109.9 TB	65.88 TB 59.93%
16. Republic of Korea	182	0.003	1.153	0.001%	0.01%	825	0	0%	0	0%
17. Romania	675	1359	1528	200.4%	88.99%	19667	12350	62.8%	139.2 TB	14.14 TB 10.16%
18. Slovakia	80	-	-	-	-	-	-	-	-	-
19. South Africa	10	-	-	-	-	-	-	-	-	-
20. Spain	241	68.26	72.5	30.58%	94.14%	373	150	40.21%	4.102 TB	0.516 GB 0.012%
21. The Netherlands	475	194.5	283.3	59.85%	66.64%	15684	2295	14.69%	109.9 TB	65.88 TB 59.93%
22. UK	182	113.5	135.4	74.41%	83.75%	2405	967	40.21%	90.95 PB	60 KB 0%
23. Ukraine	1038	401.6	420.6	40.6%	95.47%	16094	28	0.174%	0	0%
24. US	2000	1.277	84.44	4.222%	10.1%	40710	18	0.044%	0	0%
Total	19762	8272	9592			603638	78934		107.1 PB	4.472 PB

A week RDIG contribution to whole ALICE : CPU –12% and 8% of completed jobs

Transfer to more modern services: CREAM-CE & pure SE::xrootd. There is planning to transfer to CREAM-CE and pure xrootd all RDIG sites supported ALICE computing. Today one site – IHEP is fully equipped with CREAM-CE and pure xrootd. Two other sites: MEPhI and SPbSU have installed pure xrootd. Whole xrootd space today is equal to 70 TB.

## ALICE GRID analysis facilities at RDIG

There are two RDIG sites have launched activity to install PROF clusters: JINR and SPbSU

Home made machine.

**JINR**

Hardware

- m/b Intel 5000P chipset;
- 2 x quad core Intel Xeon E5440 @ 2.83GHz
- 16GB ECC RAM (8x2GB);
- 250GB SATA-II hdd for OS;
- 3ware 9650SE-12ML SATA-II RAID with 10 x Maxtor 7Y250 SATA 250GB in h/w RAID6;
- dual port Intel 80003ES2LAN Gigabit Ethernet Controller on m/b.

Software

- Scientific Linux SL release 4.7;
- xfs file system on single partion on 3ware raid single volume for pool ~2TB;
- root 5.22/00 17 December 2008.

**SpbSU**

**Cluster architecture**

- 6 Worker Nodes
  - CPU 2 x Quad-Core Intel Xeon E5440 processor (2x5MB L2, 2.83GHz, 1333MHz FSB, 80W)
  - RAM 4 x 4GB PC2-5300 667MHz ECC FB-DIMM kit (2x 2GB)
- Storage
  - 1.5 TB
- SAS PCI-E HBA Internal connection