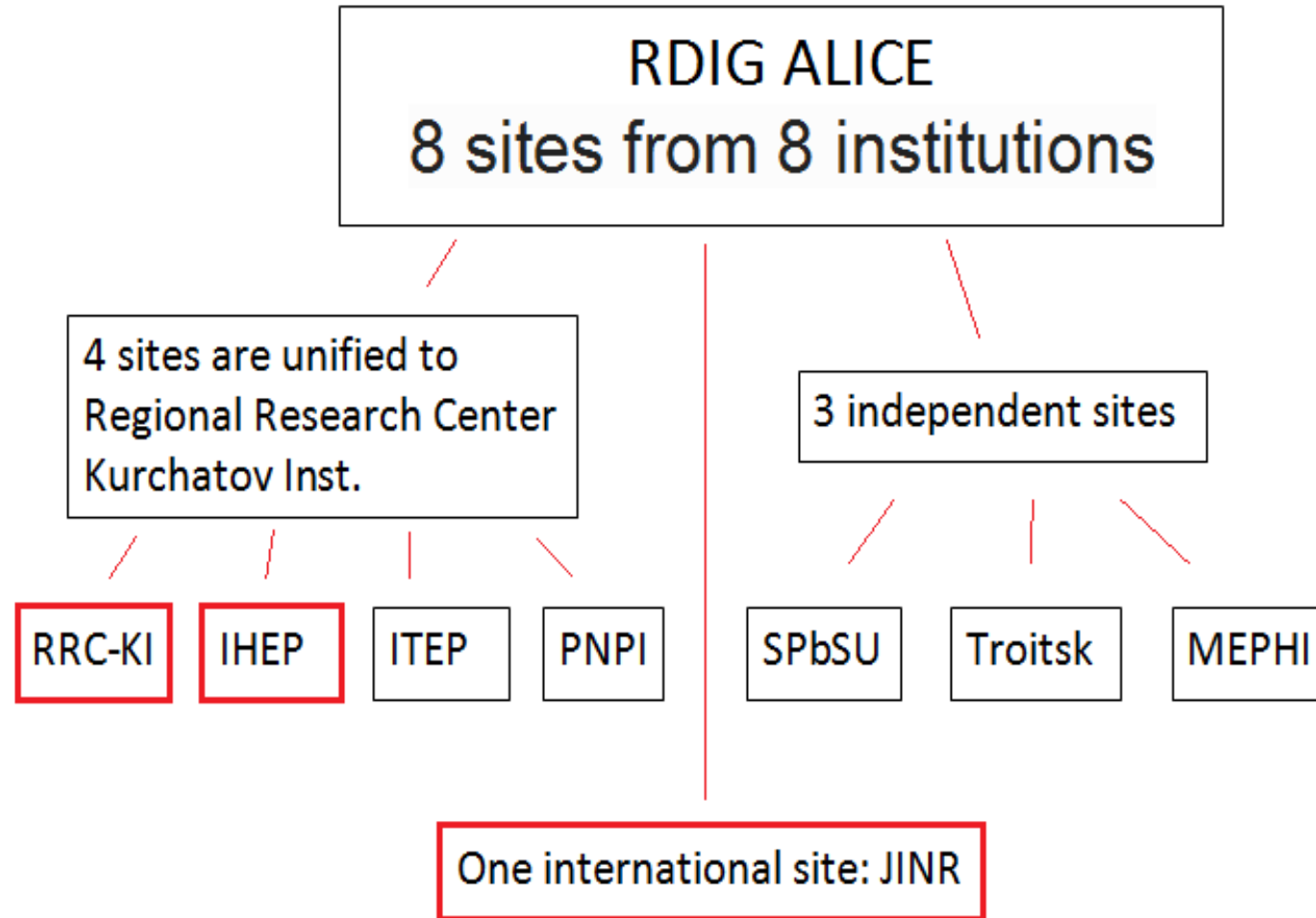# Participation of Russian institutions in the processing and storage of ALICE data.

Andrey Zarochentsev

SPbSU

ALICE GRID

53 in Europe (9 Russian)

8 in North America
4 operational
4 future + 1 past

10 in Aisa
8 operational
2 future

2 in Africa
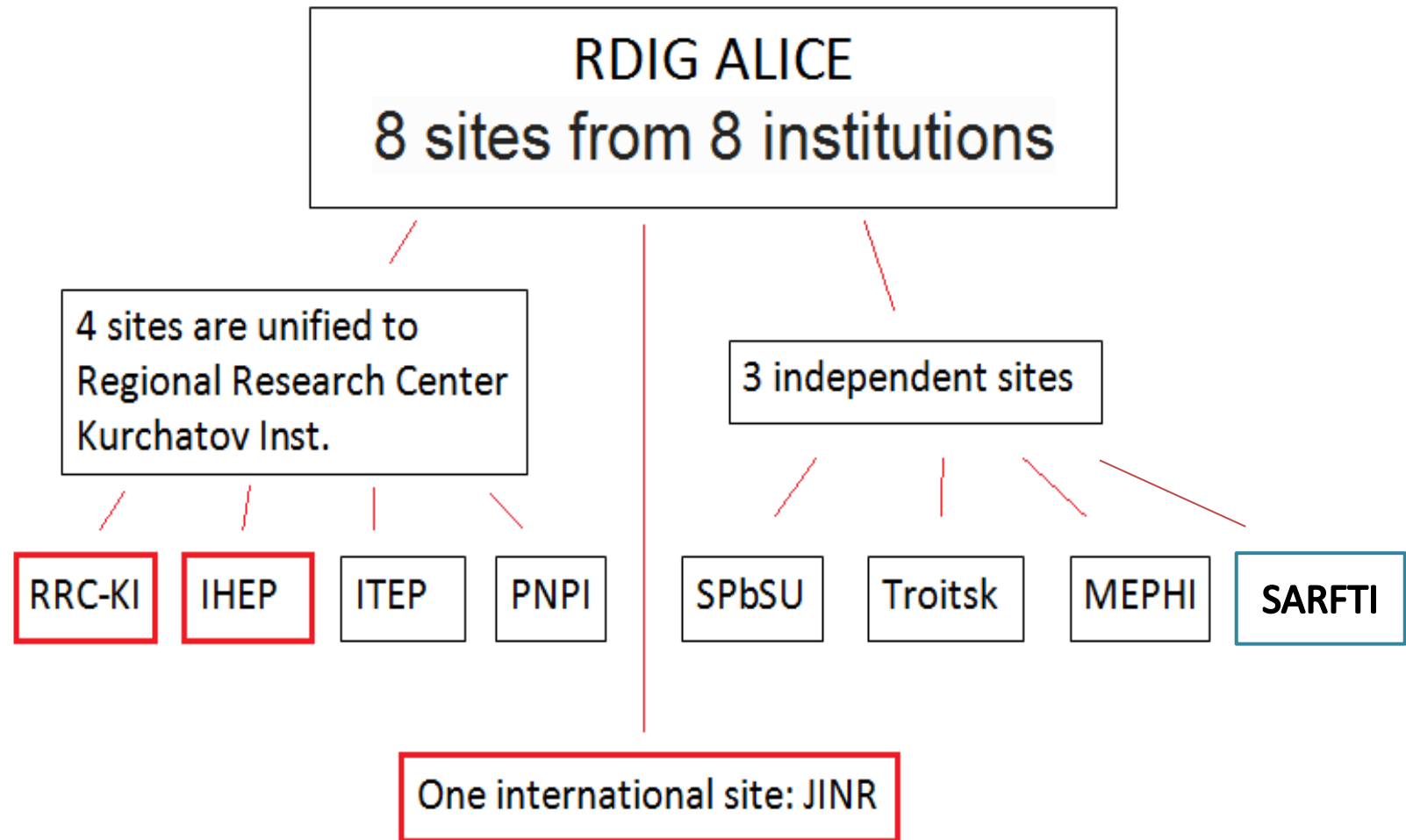1 operational
1 future

2 in South America
1 operational
1 future

Russian sites in the Alice offline 2016

Russian sites in the Alice offline 2018

RDIG Structure 2016

	NRC KI	WLCG (REBUS)	Works now
RRC-KI-T1	+	+	+
1. RRC-KI	+	+	+
2. JINR	+	+	+
3. IHEP	+	+	+
4. ITEP	+	+	+
5. PNPI	+	+	+
6. SPbSU		+	+
7. Troitsk		+	+
8. MEPhI			+
9. Sarov			-

RDIG Structure 2018

	NRC KI	WLCG (REBUS)	Works now
RRC-KI-T1	+	+	+
1. RRC-KI	+	+	+
2. JINR	+	+	+
3. IHEP	+	+	+
4. ITEP	+	+	+
5. PNPI	+	+	+
6. SPbSU		+	+
7. Troitsk		+	+
8. MEPhI		-	-
9. Sarov		+ (soon)	+

Sarov site

MonALISA information Version: 13.11.04 (JDK 1.8.0_92)
Running on: gridvobox1.sarfti.ru
Administrator: <Andrey.Zarochencev@cern.ch>

Service health NTP: SYNC, offset: 0.105s

Services status
AliEn: v2-19.395

ClusterMonitor: **OK**
PackMan: n/a
CE: **OK**
CE info: We could start 15 agents
Max running jobs: 700
Max queued jobs: 40

Proxies status AliEn proxy: **OK** (1 day, 23:14)
Delegated proxy: **OK** (1 day, 23:59)
Proxy server: **OK** (41 days, 01:53)
Proxy of the machine: **OK** (20:43)

Current jobs status
Assigned: 0
Running: **629**
Saving: 22

Accounting
(last 24h)

Success jobs: **1157** (profile)
Error jobs: **931** + **0** expired
kSI2k units: 1820 / pledged

Site averages
(last 24h)

Active nodes: 29.86
Average kSI2k/core: 2.896

Storages status

Name	Status	Size	Used	Free	Usage	No of files	Type	ADD test
ALICE::SARFTI::EOS	OK	280.9 TB	49.48%	141.9 TB	139 TB	8.962 M	FILE	**OK**

GRID2018 JUINR

RDIG Network structure 2018

	LHCONE	IPv6
RRC-KI-T1	+	technically supports
1. RRC-KI	+	technically supports
2. JINR	+	technically supports
3. IHEP	+	technically supports
4. ITEP	+	planned
5. PNPI	+	planned
6. SPbSU	Plan for 2018	planned
7. Troitsk	+	-
8. MEPhI		In process
9. Sarov	+	technically supports

Data volume in Run3
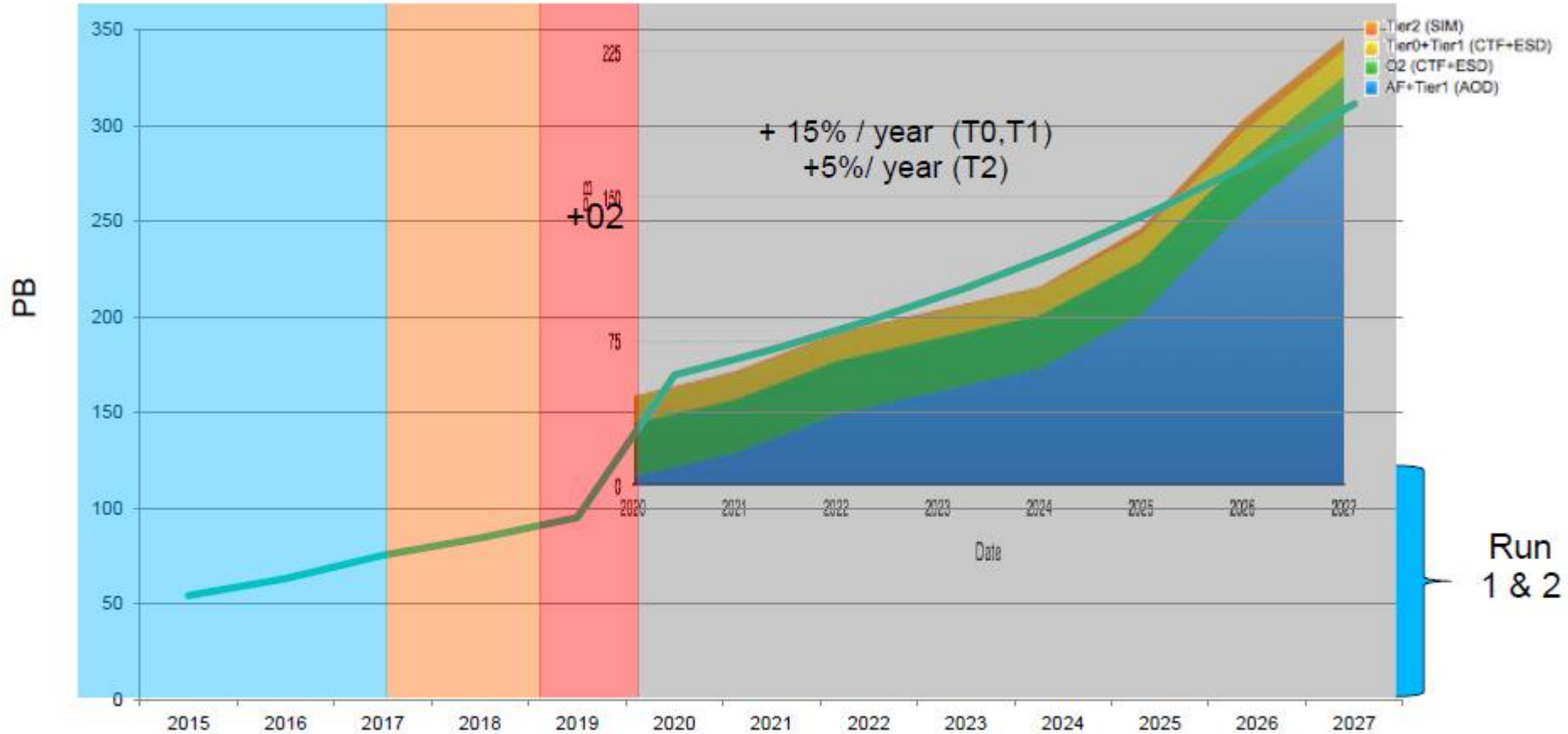
© Predrag Buncic "O^2 Alice Computing update"

RDIG resource 2017-2018

	SE(2017)	CE(2018)	SE(2018)	CE(2018)
RRC-KI-T1	2520+2960 Type	32800	2520+2960 Type	32800
1. RRC-KI	316	4488	316 (173)*	4488
2. JINR	438	6500	680 (603+109)*	8460
3. IHEP	297	2631	297	2631
4. ITEP	200	2124	300 (179)*	2124
5. PNPI	44	2640	44	2640
6. SPbSU	128	4155	128 (110)*	4155
7. Troitsk	116	641	116	641
8. MEPhI	40	769	40(0)*	769
9. Sarov	0	0	250	15847
Total(T2)	1539(rebus)+40	23179(rebus)+769	1878(rebus)+270	25140(rebus)+16606

* - information form MonAlisa monitoring

RDIG SE structure 2018

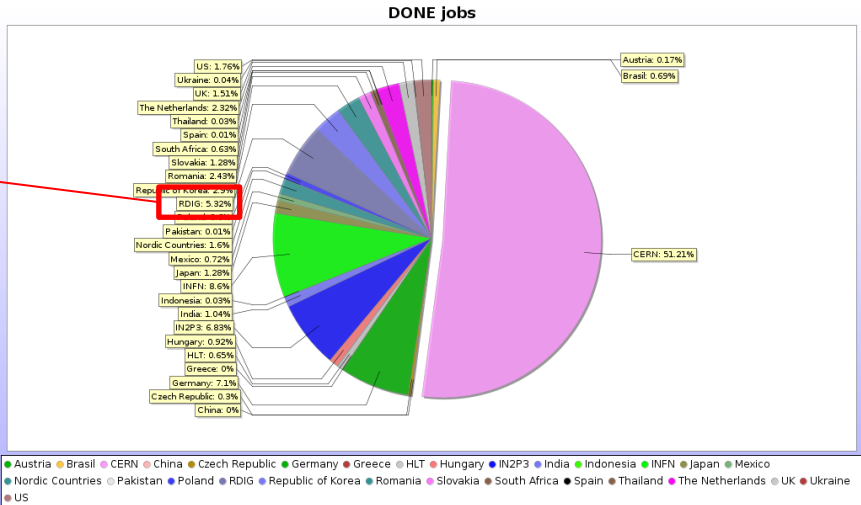|	Type	xrootd
1. RRC-KI	SE	4.50
2. JINR	EOS	3.3.6 (Plan of update in 2018)
3. IHEP	SE	4.2.3
4. ITEP	SE	4.2.3
5. PNPI	SE (update planned in 2018)	4.8.1
6. SPbSU	EOS+SE	3.3.6 (Plan of update in 2018) +4.8.1
7. Troitsk	SE	4.8.1
8. MEPhI	EOS	4.3.0
9. Sarov	EOS	4.8.1

Update problems

- Save data from old small sites (Troitsk, ITEP)
- Installation of new sites (e.g. SARFTI) or update of some old sites (e.g. MEPHI) need proper virtualization or many administrators on all sites.
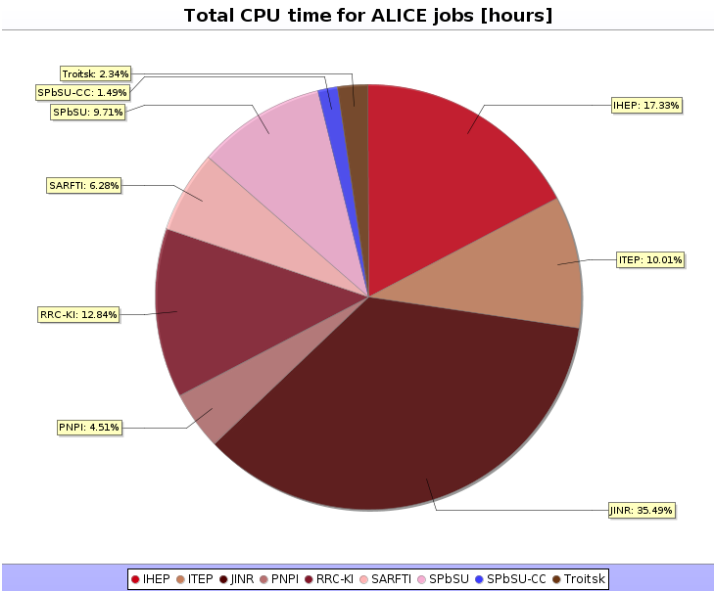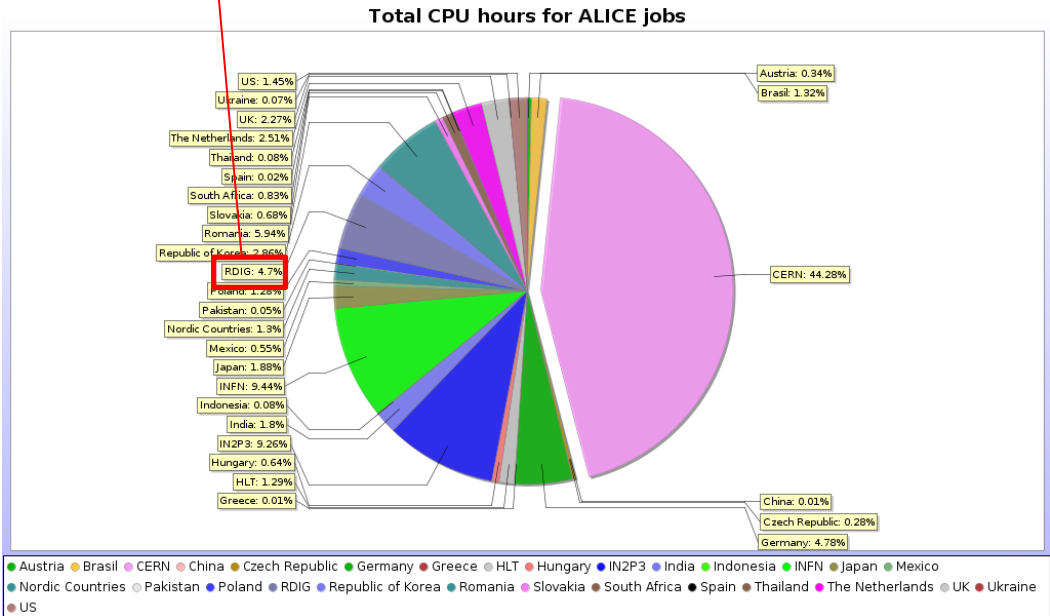
One of reasons for virtualization: Cream-CE on Rhel6 only now.

RDIG production in the last year (till September)

RDIG 5.32% vs 6,72% on 2017

RDIG 4,7% vs 5,89% on 2017

DONE jobs

Austria: 0.17%
Brasil: 0.69%
US: 1.76%
Ukraine: 0.04%
UK: 1.51%
The Netherlands: 2.32%
Thailand: 0.03%
Spain: 0.01%
South Africa: 0.63%
Slovakia: 1.28%
Romania: 2.43%
Republic of Korea: 2.9%
RDIG: 5.32%
CERN: 51.21%
Pakistan: 0.01%
Nordic Countries: 1.6%
Mexico: 0.72%
Japan: 1.28%
INFN: 8.6%
Indonesia: 0.03%
India: 1.04%
IN2P3: 6.83%
Hungary: 0.92%
HLT: 0.65%
Greece: 0%
Germany: 7.1%
Czech Republic: 0.3%
China: 0%

Austria ● Brasil ● CERN ● China ● Czech Republic ● Germany ● Greece ● HLT ● Hungary ● IN2P3 ● India ● Indonesia ● INFN ● Japan ● Mexico
Nordic Countries ● Pakistan ● Poland ● RDIG ● Republic of Korea ● Romania ● Slovakia ● South Africa ● Spain ● Thailand ● The Netherlands ● UK ● Ukraine
US

Total CPU hours for ALICE jobs

Austria: 0.34%
Brasil: 1.32%
US: 1.45%
Ukraine: 0.07%
UK: 2.27%
The Netherlands: 2.51%
Thailand: 0.08%
Spain: 0.02%
South Africa: 0.83%
Slovakia: 0.68%
Romania: 5.94%
Republic of Korea: 2.86%
RDIG: 4.7%
Poland: 1.28%
Pakistan: 0.05%
Nordic Countries: 1.3%
Mexico: 0.55%
Japan: 1.88%
INFN: 9.44%
Indonesia: 0.08%
India: 1.8%
IN2P3: 9.26%
Hungary: 0.64%
HLT: 1.29%
Greece: 0.01%
CERN: 44.28%
China: 0.01%
Czech Republic: 0.28%
Germany: 4.78%

Austria ● Brasil ● CERN ● China ● Czech Republic ● Germany ● Greece ● HLT ● Hungary ● IN2P3 ● India ● Indonesia ● INFN ● Japan ● Mexico
Nordic Countries ● Pakistan ● Poland ● RDIG ● Republic of Korea ● Romania ● Slovakia ● South Africa ● Spain ● Thailand ● The Netherlands ● UK ● Ukraine
US

Total CPU time for ALICE jobs [hours]

Troitsk: 2.34%
SPbSU-CC: 1.49%
SPbSU: 9.71%
IHEP: 17.33%
SARFTI: 6.28%
ITEP: 10.01%
RRC-KI: 12.84%
JINR: 35.49%
PNPI: 4.51%

● IHEP ● ITEP ● JINR ● PNPI ● RRC-KI ● SARFTI ● SPbSU ● SPbSU-CC ● Troitsk

Summary

- Appearance of a new site - SARFTI
- Plans for 2018:
  - connect 8 of 9 sites to the LHCONE.
  - 4 sites will support IPv6.

- We look forward to:
  - starting all SARFI resources and counting these in REBUS.
  - coming back to the production in MEPHI (in next month).

Thank you for your attention!
Questions?