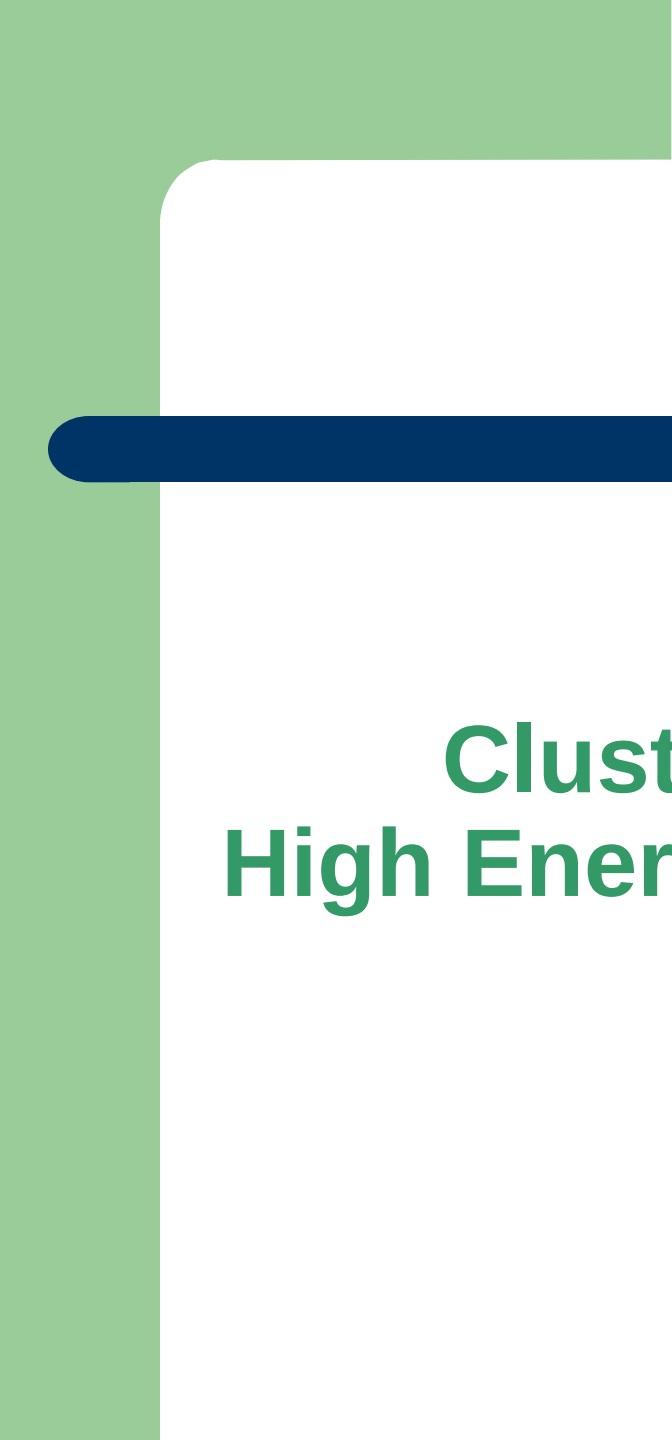




Cluster ISMA-UA as an High Energy Physics Instrument

LHC Computing

Supercomputer



Grid



Grid concept



Cluster 2000 year



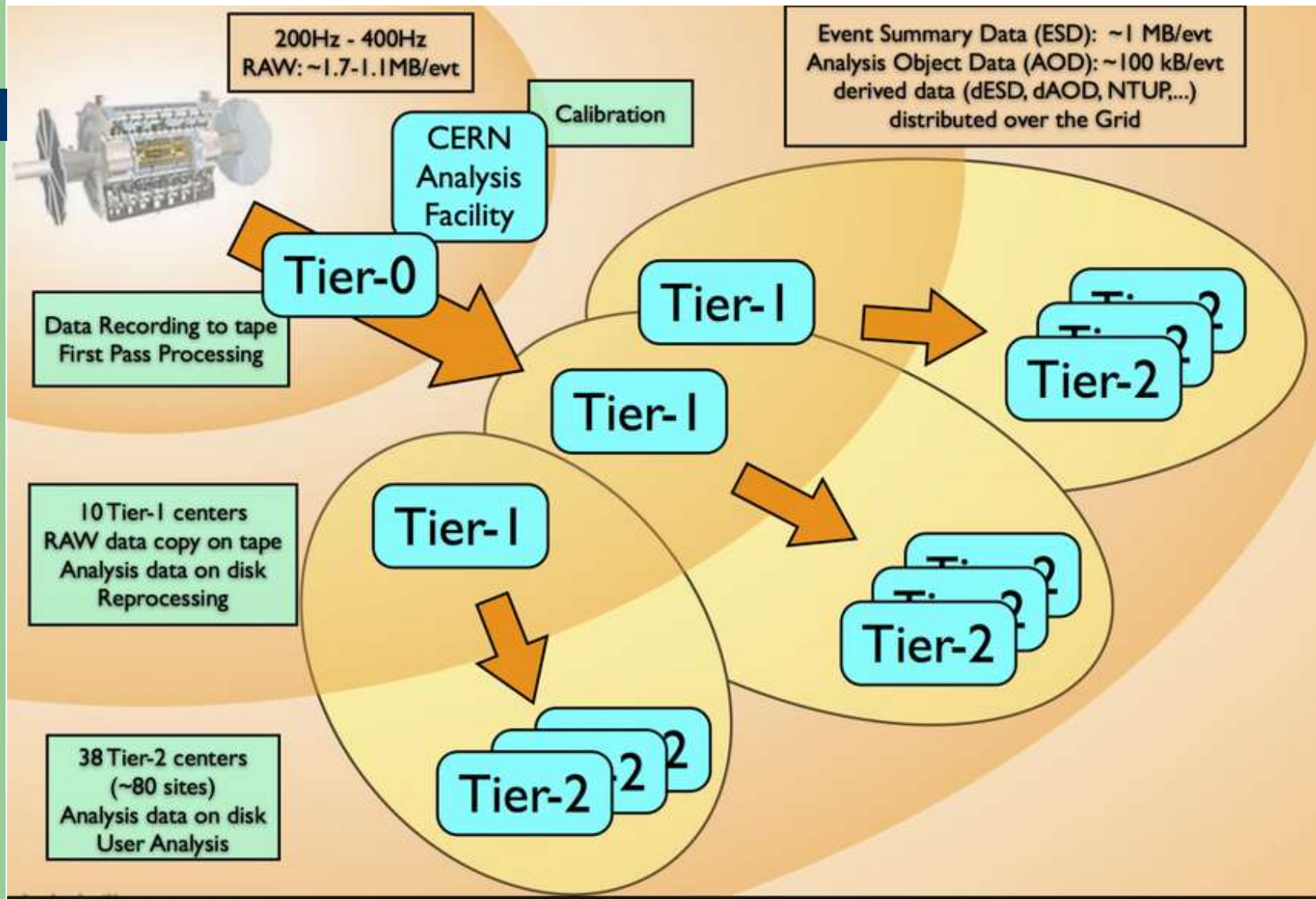
ISMA-UA Cluster Now



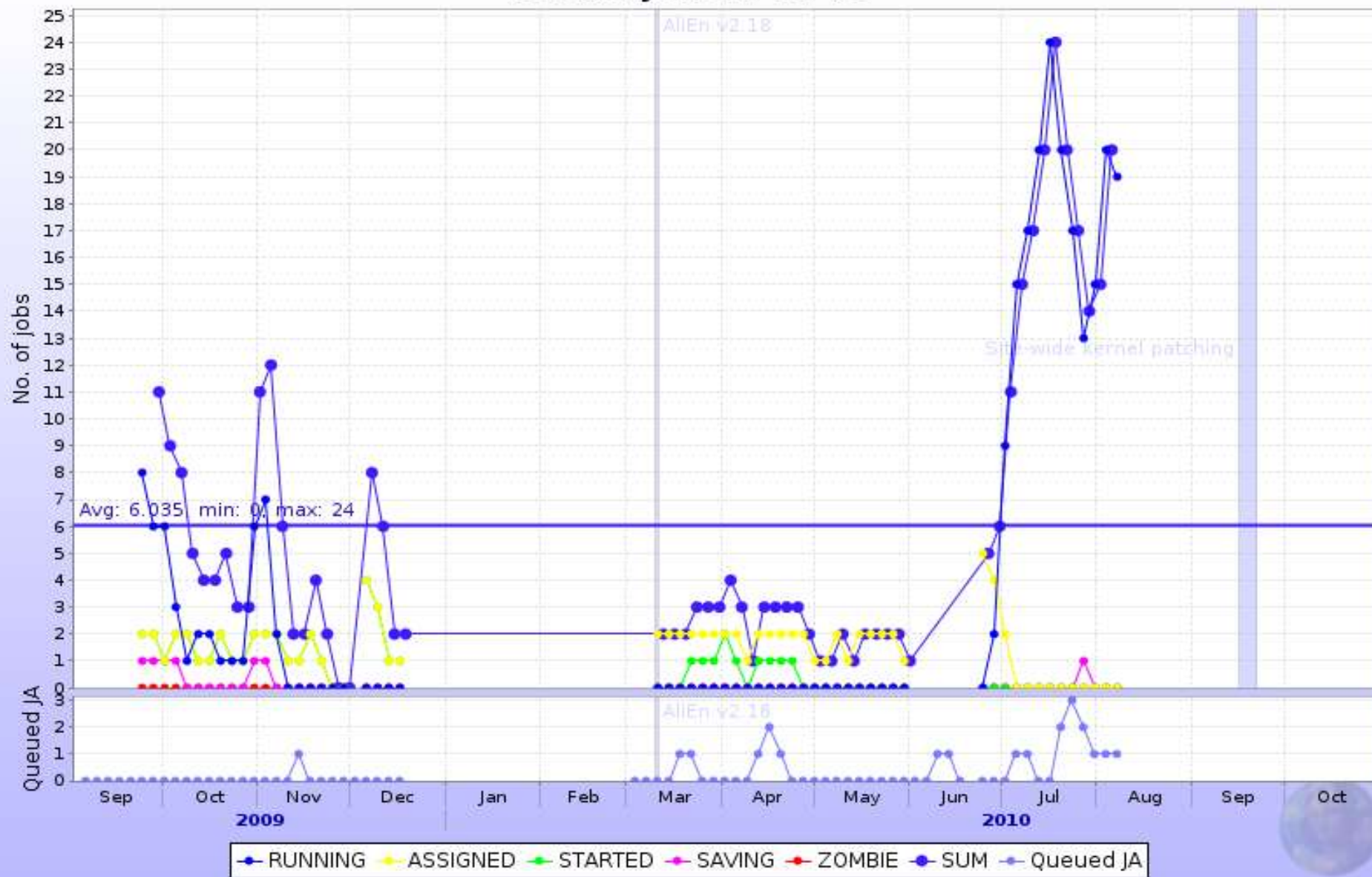
CERN Clusters



GRID Computing Structure



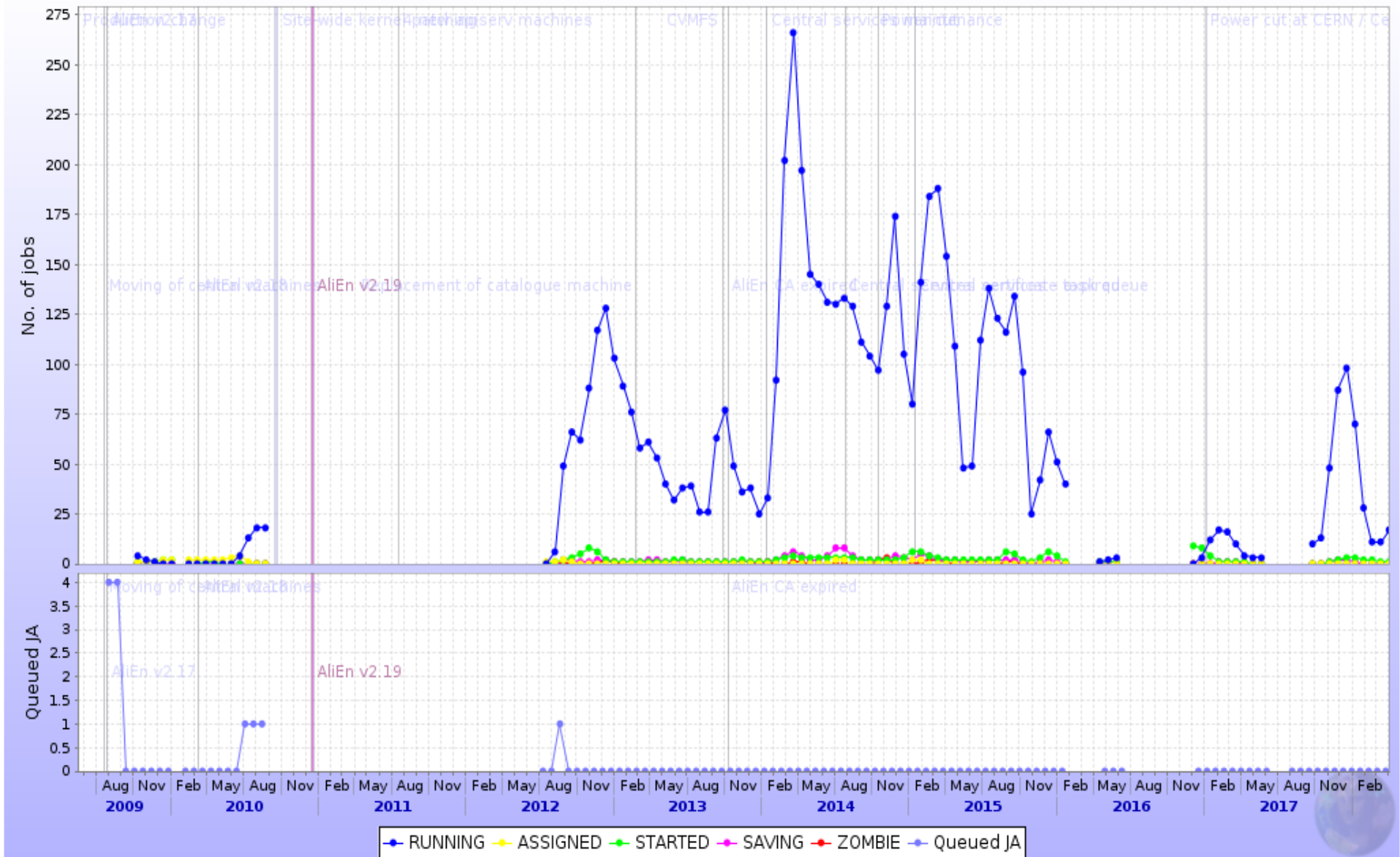
Active jobs in ISMA



All necessary software was installed and configured to run the project jobs.

After upgrading to Alien 2.19 we need to use gLite 3.2.

Active jobs in ISMA



High Energy Physics EGI Accounting

The screenshot displays the EGI Accounting Portal interface. The browser window shows the URL `accounting.egi.eu/egi.php?Path=1.63&query=normcpu&startYear=2014&startM=`. The portal has a menu bar with options like 'GLOBAL View', 'VO MANAGER View', 'VO MEMBER View', 'SITE ADMIN View', 'USER View', 'REPORTS', 'METRICS PORTAL', and 'LINKS'. The 'VO MANAGER View' is selected, showing a list of VOs on the left and a main content area.

NGI-UA Normalised CPU time (kSI2K) by SITE and VO.
CUSTOM VOs. January 2014 - December 2014.

The following table lists the sites that have not published accounting data to GOC during the last 3 months. This probably indicates a major problem in the accounting system of the site so listed sites are encouraged to take the appropriate measures to correct it.

Region	Sites
NGI-UA	UA-KNU, UA_ICMP_ARC

The following table shows the distribution of Normalised CPU time (kSI2K) grouped by SITE and VO (only information about the **selected VOs** is returned).

Normalised CPU time [units 1K.SI2K.Hours] by SITE and VO					
SITE	alice	belle	cms	Total	%
Kharkov-KIPT-LCG2	0	0	7,498,776	7,498,776	27.82%
UA-BITP	5,910,657	0	0	5,910,657	21.93%
UA-ISMA	8,885,666	4,386,639	0	13,272,305	49.23%
UA-KNU	83,773	0	0	83,773	0.31%
UA_BITP_ARC	192,678	0	0	192,678	0.71%
Total	15,072,774	4,386,639	7,498,776	26,958,189	
Percentage	55.91%	16.27%	27.82%		

[Click here for a CSV dump of this table](#)
[Click here for an Extended CSV dump of this table](#)
[Click here for XML encoded data](#)

NGI-UA Cumulative Normalised CPU time (kSI2K) by SITE and VO

Chart showing the Cumulative Normalised CPU time (kSI2K) grouped by SITE and VO (only information about the **selected VOs** is returned).

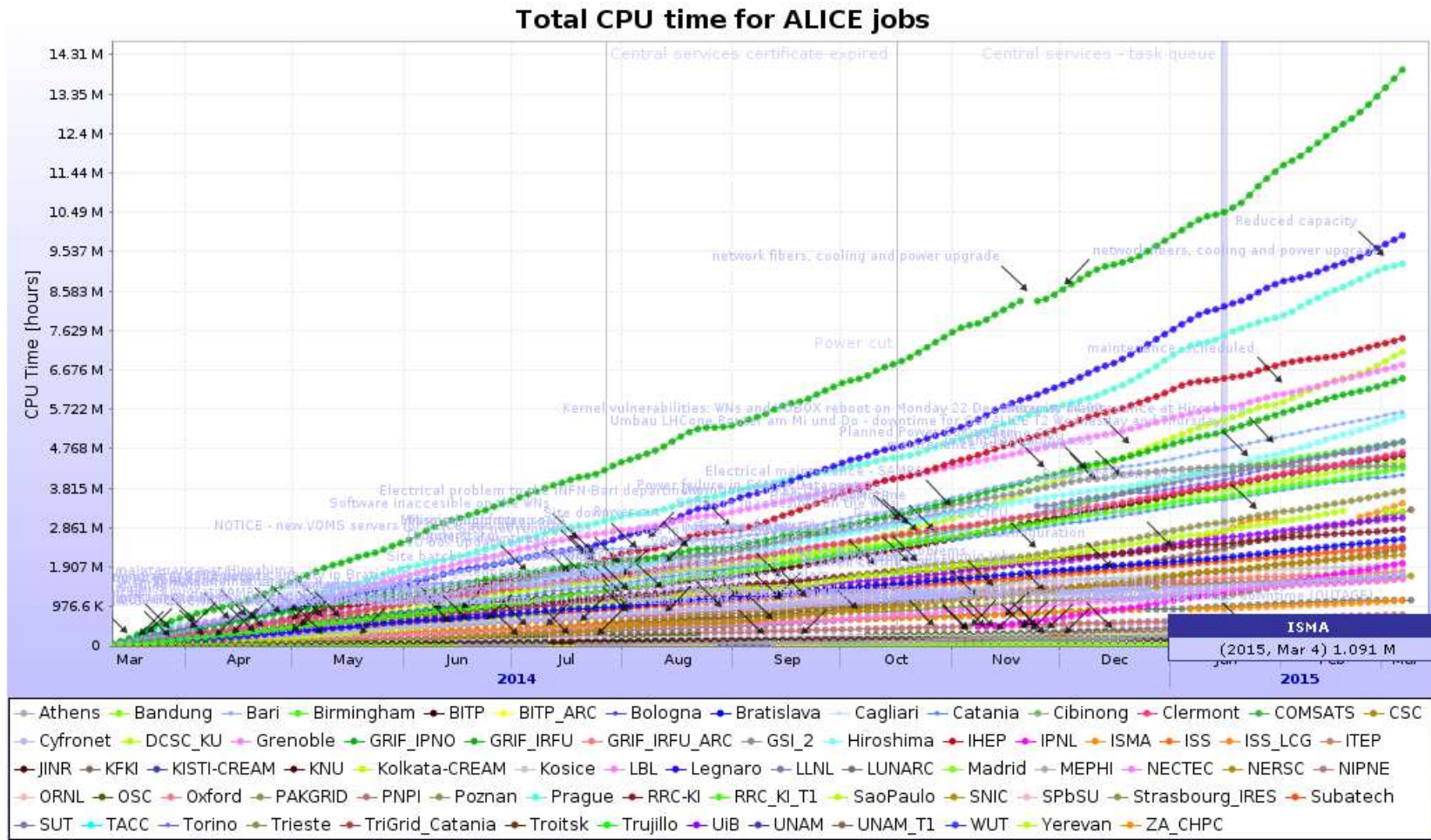
Developed by CESGA EGI View: / normcpu / 2014:1-2014:12 / SITE-VO / custom (x) / GRBAR-LIN / i

NGI-UA Cumulative Normalised CPU time (kSI2K) by SITE and VO

European Grid Infrastructure

(C) CESGA 2012

Tier-2 ALICE



Last Versions of Software

MonALISA Repository for ALICE

Disk storage elements

SE Name	AliEn SE	Size	Used	Free	Usage	No. of files	Type	Size	Used	Free	Usage	Version -
49. SPbSU - SE	ALICE::SPbSU::SE	43.52 TB	22.81 TB	20.71 TB	52.41%	543,716	FILE	38.14 TB	17.28 TB	20.86 TB	45.31%	v20140506-4d557f2
24. ITEP - SE	ALICE::ITEP::SE	140 TB	93.84 TB	46.16 TB	67.03%	1,495,829	FILE	139.9 TB	78.6 TB	61.29 TB	56.19%	v20140506-4d557f2
56. Troitsk - SE	ALICE::Troitsk::SE	94.49 TB	73.23 TB	21.26 TB	77.5%	1,501,809	FILE	54.57 TB	37.52 TB	17.05 TB	68.76%	v4.1.1
38. PNPI - SE	ALICE::PNPI::SE	40 TB	30.13 TB	9.868 TB	75.33%	554,321	FILE	39.95 TB	28.96 TB	10.99 TB	72.49%	v4.1.1
29. Kosice - SE	ALICE::Kosice::SE	365.6 TB	147.7 TB	217.9 TB	40.39%	3,794,172	FILE	365.6 TB	235.6 TB	130 TB	64.45%	v4.0.4
22. ISMA - SE	ALICE::ISMA::SE	29 TB	15.74 TB	13.26 TB	54.28%	410,331	FILE	37 TB	15.58 TB	21.42 TB	42.12%	v4.0.4
18. GSI - SE2	ALICE::GSI::SE2	550 TB	226 TB	324 TB	41.1%	371,158	FILE	7.273 PB	4.263 PB	3.009 PB	58.62%	v4.0.4
14. FZK - SE	ALICE::FZK::SE	1.694 PB	1.407 PB	294.3 TB	83.04%	28,418,238	FILE	2.418 PB	2.15 PB	273.8 TB	88.94%	v4.0.4
6. Catania - SE	ALICE::Catania::SE	1.1 PB	168.8 TB	957.6 TB	14.99%	5,125,016	FILE	5.436 PB	3.512 PB	1.924 PB	64.61%	v4.0.4
3. BITP - SE	ALICE::BITP::SE	26.91 TB	14.82 TB	12.09 TB	55.06%	361,451	FILE	0	0	0	-	v4.0.0
58. UNAM_T1 - EOS	ALICE::UNAM_T1::EOS	570 TB	94.2 TB	475.8 TB	16.53%	7,308,234	FILE	228 TB	77 TB	151 TB	33.77%	3.3.6
51. Subatech - EOS	ALICE::Subatech::EOS	156 TB	150.9 TB	5.098 TB	96.73%	3,824,660	FILE	346 TB	157 TB	189 TB	45.38%	3.3.6
43. RRC_KI_T1 - EOS	ALICE::RRC_KI_T1::EOS	150 TB	33.91 TB	116.1 TB	22.61%	708,720	FILE	150 TB	75 TB	75 TB	50%	3.3.6
34. MEPHI - EOS	ALICE::MEPHI::EOS	41 TB	19.65 GB	40.98 TB	0.047%	5,309	FILE	40 TB	1024 GB	39 TB	2.5%	3.3.6
8. CERN - EOS	ALICE::CERN::EOS	4.333 PB	4.004 PB	336.6 TB	92.41%	93,024,729	FILE	9.147 PB	4.747 PB	4.4 PB	51.89%	3.3.6
57. Trujillo - SE	ALICE::Trujillo::SE	30.92 TB	19.65 TB	11.27 TB	63.57%	337,975	FILE	30.92 TB	25.31 TB	5.613 TB	81.85%	v3.3.4
55. Trieste - SE	ALICE::Trieste::SE	280 TB	26.14 TB	253.9 TB	9.335%	519,362	FILE	280.2 TB	238.6 TB	41.59 TB	85.16%	v3.3.4
54. Torino - SE	ALICE::Torino::SE	589 TB	399.3 TB	189.7 TB	67.8%	10,045,381	FILE	1.148 PB	922.6 TB	253.5 TB	78.45%	v3.3.4
31. Legnaro - SE	ALICE::Legnaro::SE	663.9 TB	392 TB	271.9 TB	59.04%	9,578,702	FILE	663.9 TB	579.5 TB	84.47 TB	87.28%	v3.3.4
30. LBL - SE	ALICE::LBL::SE	716.1 TB	502.7 TB	213.4 TB	70.19%	14,280,576	FILE	716.1 TB	558.4 TB	157.7 TB	77.97%	v3.3.4
28. Kolkata - SE	ALICE::Kolkata::SE	146.8 TB	52.73 TB	94.07 TB	35.92%	1,381,613	FILE	146.8 TB	62.43 TB	84.41 TB	42.52%	v3.3.4
27. KISTI_GSDC - SE2	ALICE::KISTI_GSDC::SE2	966.8 TB	511.6 TB	455.2 TB	52.92%	11,105,142	FILE	966.8 TB	498.7 TB	468.1 TB	51.58%	v3.3.4
26. KFKI - SE	ALICE::KFKI::SE	136.4 TB	62.87 TB	73.53 TB	46.09%	1,519,033	FILE	136.4 TB	60.88 TB	75.54 TB	44.63%	v3.3.4
25. JINR - SE	ALICE::JINR::SE	408.8 TB	298.1 TB	110.7 TB	72.93%	8,790,132	FILE	408.8 TB	308.5 TB	100.3 TB	75.46%	v3.3.4
23. ISS - FILE	ALICE::ISS::FILE	222 TB	194.3 TB	27.65 TB	87.54%	3,527,114	FILE	222 TB	190.2 TB	31.86 TB	85.65%	v3.3.4

Cluster virtualization

Proxmox Virtual Environment SAM3 Visualization SAM3 Reports for ALICE

https://10.0.0.58:8006/#v1:0:18:3:::9:: 120% Поиск

PROXMOX Proxmox Virtual Environment version: 3.4-13/4c745357 You are logged in as 'root@pam' Logout Create

Server View **Datacenter**

Datacenter

- prox10
- prox4
- prox7
- prox8
- cluster
- grid
- isma
- ssi
- xlab

Search:

Type	Description	Disk usage	Memory usage	CPU usage	Uptime
node	prox10	22.3%	36.5%	21.8% of 8CPUs	233 days 01:21:21
node	prox4	7.5%	73.8%	14.0% of 8CPUs	414 days 23:05:53
node	prox7	28.2%	81.2%	27.1% of 8CPUs	401 days 00:13:27
node	prox8	8.2%	79.5%	52.0% of 8CPUs	414 days 23:06:16
pool	cluster		50.3%	84.5% of 17CPUs	414 days 23:04:09
pool	grid		65.4%	101.1% of 14CP...	414 days 23:04:17
pool	isma		85.8%	50.8% of 8CPUs	414 days 22:09:58
pool	ssi		46.2%	15.3% of 18CPUs	414 days 17:02:15
pool	xlab		66.4%	66.0% of 18CPUs	414 days 23:04:33
qemu	110 (pdc-isma)	0.0%	84.4%	44.9% of 4CPUs	119 days 21:49:15
qemu	114 (isma-dhcp)	0.0%	95.7%	5.8% of 2CPUs	120 days 13:10:51
qemu	134 (switch-gw)	0.0%	86.2%	0.2% of 1CPU	233 days 01:20:55
qemu	141 (openvpn)	0.0%	54.4%	0.5% of 1CPU	65 days 02:19:36
qemu	145 (dev-ndc01)				-

Tasks Cluster log

Resource Pool

Proxmox Virtual Environment

SAM3 Visualization

SAM3 Reports for ALICE

+

10.0.0.58:8006/#v1:26:=qemu%2F109:3:.....

120%

Поиск

☆

📁

🔒

⬇

PROXMOX

Proxmox Virtual Environment
version: 3.4-13/4c745357

You are logged in as 'root@pam'

Logout

Create VM

Pool View

Virtual Machine 109 ('grid.isma.kharkov.ua') on node 'prox7'

Start Shutdown Stop Reset

Datcenter

cluster

100 (clmgr1)

112 (ldap1)

115 (zeon)

116 (newzeon)

134 (switch-gw)

149 (vmh-gw)

153 (wwproxy1)

grid

109 (grid.isma.kharkov.ua)

113 (dicom.isma.kharkov.ua)

117 (gl-ce.isma.kharkov.ua)

123 (gl-topbdii.isma.kharkov....)

128 (gl-lfc.isma.kharkov.ua)

129 (medgrid-portal)

144 (totalgw)

183 (gl-vobox.isma.kharkov.ua)

isma

ssi

Summary

Hardware

Options

Task History

Monitor

Backup

Snapshots

Status

Namegrid.isma.kharkov.ua

Statusrunning

CPU usage0.0% of 2CPUs

Memory usageTotal: 2.00GB
Used: 841MB

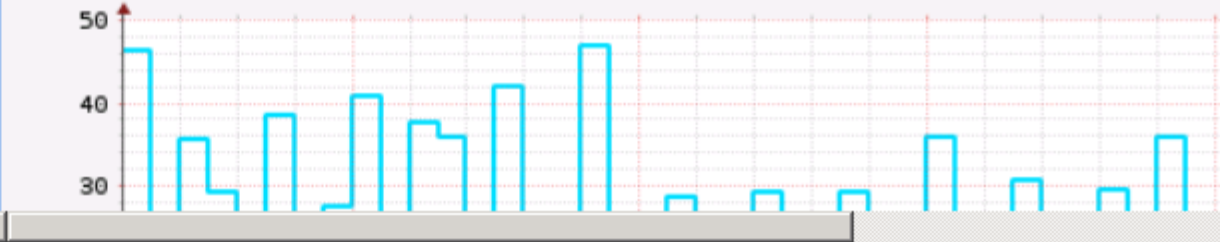
Uptime401 days 00:15:17

Managed by HANo

Hour (average)

Notes

CPU usage



Tasks

Cluster log

Time

Node

Service

PID

User name

Severity

Message

Ukraine — Total number of jobs by Resource Centre and Quarter (Official VOs)

Resource Centre	Apr 2017 — Jun 2017	Jul 2017 — Sep 2017	Oct 2017 — Dec 2017	Total	Percent
Kharkov-KIPT-LCG2	95,835	109,174	97,419	302,428	55.62%
UA-BITP	12,527	12,880	12,229	37,636	6.92%
UA-IFBG	1,960	0	0	1,960	0.36%
UA-IMBG	4,258	3,691	2,627	10,576	1.95%
UA-IRE	4,171	5,927	2,603	12,701	2.34%
UA-ISMA	12,349	12,325	70,304	94,978	17.47%
UA-KNU	6,657	7,518	4,877	19,052	3.5%
UA-MHI	4,344	4,988	2,298	11,630	2.14%
UA-NSCMBR	0	692	1,761	2,453	0.45%
UA-PIMEE	3,364	4,380	1,985	9,729	1.79%
UA_BITP_ARC	4,242	4,257	630	9,129	1.68%
UA_ICMP_ARC	4,810	6,219	1,937	12,966	2.38%
UA_ICYB_ARC	3,279	5,639	2,880	11,798	2.17%
UA_ILTP_ARC	3,096	2,913	707	6,716	1.24%
Total	160,892	180,603	202,257	543,752	
Percent	29.59%	33.21%	37.20%		

1 - 14 of 14 results

< 1 > Number of rows per page 30

Availability of ISMA Cluster

← ⓘ wlcg-sam-alice.cern.ch/templates/ember/#/historicalsmry/heatMap?end_time=2017%2F12%2F... 🔍 Поиск ☆ 📅 📌 ⬇ 🏠 ☰

View	Time range	Site Groups	Profiles
Site Availability ▾	Enter Date... ▾	All Sites ▾	ALICE_VOBOX ▾
Plot	From: 2017/01/01 00:00 To: 2017/12/07 00:00	Sites HIP Hiroshima IHEP IPNL ISMA ▾	Algorithm: @ALICE_CE + (AliEn-VoBox-Test * AliEn-CE)
☒ Quality Plot ☐ Ranking Plot ☐ Show values before corrections	Granularity Default ▾		

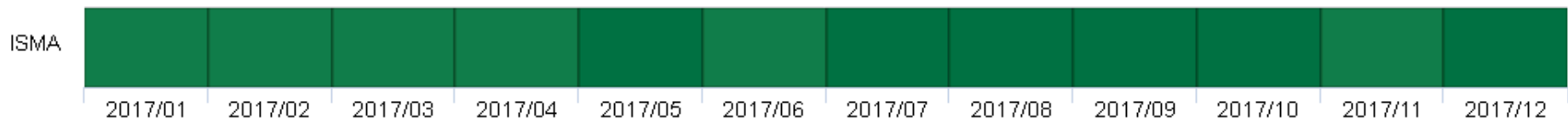
Show Results

Algorithm for calculating the Site and Service Availability

[Link to data](#)

Site Availability using ALICE_VOBOX

From 2017/01 to 2017/12



Downtime

Ukrainian VO

Machine view for grid.isma.kharko... x Новая вкладка

https://vobox1.bitp.kiev.ua:6143/sgas/view/machines/grid.ism Яндекс

Machine view for grid.isma.kharkov.ua

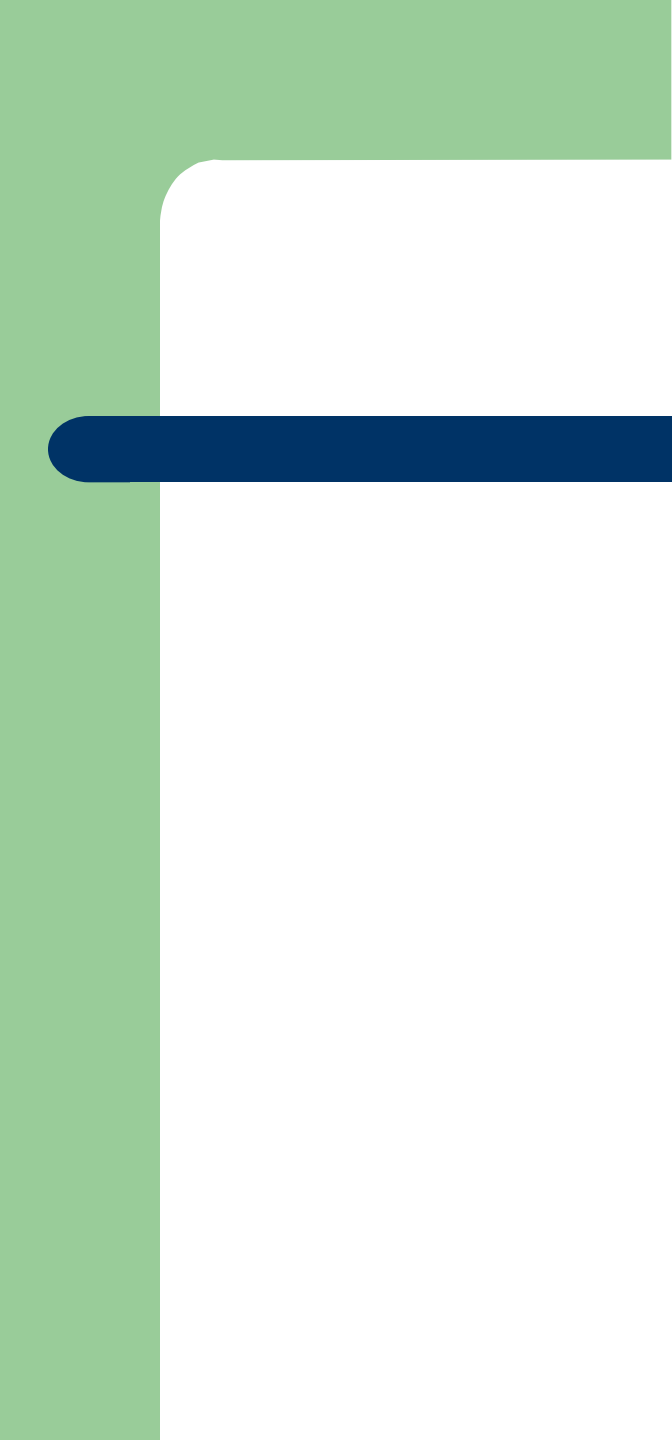
Start month 2014-01 End month 2014-12 Submit

Top 10 projects for the selected date range

	Walltime days	Efficiency	Number of jobs
compuchemgridua	480	2	599
virgo.ua	397	97	16955
sysbio	193	96	1230
multiscale	133	76	88
moldyngrid	132	100	65
gridik	105	52	44
dteam	66	97	15
ops	3	10	53434
UATest	0		11615
medgrid	0	19	68



Thank you for attention



AVAILABILITIES RELIABILITIES

SERVICE FLAVORS REPORTS

NGI_UA > UA-ISMA

DETAILS

STATUS

Timestamp	Availability	Reliability	Unknown	Downtime
2017-03	95.02	95.02	.67	0.00
2017-04	97.28	97.28	.73	0.00
2017-05	99.93	99.93	0.00	0.00
2017-06	90.34	90.34	0.00	0.00
2017-07	100.00	100.00	0.00	0.00
2017-08	98.29	98.29	0.00	0.00
2017-09	99.90	99.90	0.00	0.00
2017-10	100.00	100.00	0.00	0.00
2017-11	99.09	99.09	0.00	0.00
2017-12	100.00	100.00	0.00	0.00

ARC Грид-монитор

2017-12-07 CET 11:07:37



Процессы: ■ Грид ■ местные



Страна	Ресурс	ЦП	Загрузка (процессы)	Ожидают
 Украина	ARC Cluster BITPEDU	8	0+0	0+0
	BITP Cluster	352	1+0	59+0
	CHIMERA	180	0+0	0+0
	IAP Cluster	16	0+0 (queue inactive)	0+0
	IAPMM Cluster	72	0+4	1+0
	ICMP Cluster	296	0+92	0+0
	ICYB SCIT-3	1480	0+876	38+38
	IEP Cluster	52	0+0 (queue inactive)	0+0
	ILTPE Cluster	80	20+0	5+0
	IMATH Cluster	16	0+0	0+0
	IMBG ARC	316	2+24	0+0
	INPARCOM Cluster	8	0+0 (queue inactive)	0+0
	INPARCOM GPU Cluster	8	0+0 (queue inactive)	0+0
	IPM Cluster	40	0+0 (queue inactive)	0+0
	IPMS Cluster	32	0+0	0+0
	IRE Cluster	80	0+32	0+0
	ISMA cluster	388	33+297	70+0
	KIPT IPP	50	0+0	0+0
	KNU ARC	136	13+4	2+0
	LNU Training Cluster	32	0+0 (queue inactive)	0+0
	NDIASB cluster	2	0+0	0+0
	PIMEE ARC	24	0+0	0+0