UNIBE-LHEP site report

Status progress since last meeting

➡ **Fairly stable operations of both clusters** (ce01.lhep.unibe.ch; ce02.lhep.unibe.ch)

➡ **ARC upgraded to 4.1.0–1.el6** (smooth upgrade on live system)

Mandatory since ATLAS ops moved to Rucio as DDM tool in May, making the previous version of ARC obsolete.

➡ **ANALY_UNIBE-LHEP, UNIBE-LHEP, UNIBE-LHEP-UBELIX PanDA queues created in AGIS, added to HammerCloud**, following the commissioning of the new ATLAS Control Tower developed by Andrej, running in CERN, which has many new functionalities, e.g.:

- Now PanDA queues at each ARC site rather than have all sites grouped under ARC and ARC_T2 PanDA queues
- Can be tested by HammerCloud functional tests (automated auto-exclusion, whitelisting)
- Automated exclusion from production and analysis in case of GOCDB downtime
- Can use the DATADISK and SCRATCHDISK at the local site, rather than only use the ND T1 SE

➡ **Both clusters commissioned for ATLAS analysis payloads and Multi-core ATHENA workloads**

➡ **DPM SE re-configured for xrootd data access for ATLAS, joined the German Federation (FAX)**

- http://dashb-atlas-ssb.cern.ch/dashboard/request.py/siteview#currentView=FAX+endpoints&fullscreen=true&highlight=false
- DPM versions from epel: 1.8.8–4.el5 (head node), 1.8.8–4.el6.x86_64 (disk servers)

➡ **New ARC CE (ce03) setup, SLURM master and 1 WN (all VMs) as testbed for HPC submission**

➡ **GIIS (giis.lhep.unibe.ch) and VOMS (voms.lhep.unibe.ch) services commissioned and in production**

- Clients and ARC CEs configurations needed change to point to them (was giis.smscg.ch – voms.smscg.ch)

UNIBE-LHEP site report

HammerCloud Gangarobot

History Legend

offline | brokeroff | online | NoQueue | test

Historic view for "panda_queues_all"
from 00:00 01.04.2014 to 00:00 17.08.2014

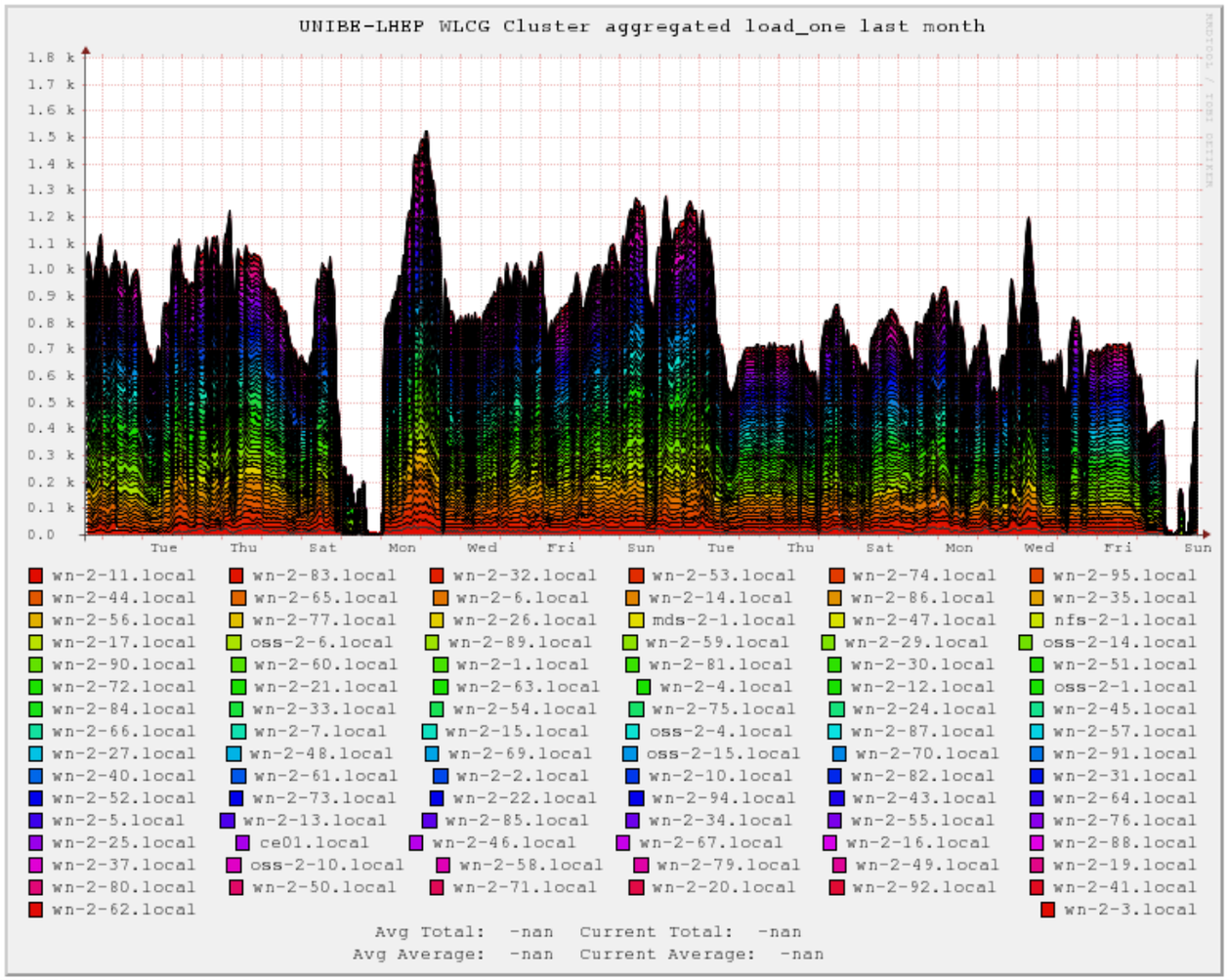
Show 100 entries — Search:

PANDA queue	SITE Name	TIER	CLOUD	History plot time bin = 276 hours	offline		brokeroff		online		NoQueue		test	
					%	count	%	count	%	count	%	count	%	count
ANALY_LUNARC	SE-SNIC-T2	T2	ND		0.02	1	0	0	52.7	63	0	0	9.04	80
ANALY_SiGNET	SiGNET	T2D	ND		0.05	1	0	0	63.86	166	0	0	12.02	6
ANALY_UNIBE-LHEP	UNIBE-LHEP	T2	ND		6.19	2	0	0	54.57	49	0	0	18.32	131
ANALY_UPPMAX	SE-SNIC-T2	T2	ND		0.09	2	59.1	35	0.47	28	0	0	0.52	79
LUNARC	SE-SNIC-T2	T2	ND		0.01	1	0	0	47.45	33	0	0	8.32	8
SiGNET	SiGNET	T2D	ND		0.02	1	0	0	56.49	71	0	0	13.54	56
UNIBE-LHEP	UNIBE-LHEP	T2	ND		0.03	1	0	0	51.87	27	0	0	2.41	16
UNIBE-LHEP-UBELIX	UNIBE-LHEP	T2	ND		0.03	1	0	0	53.46	35	0	0	0.81	2

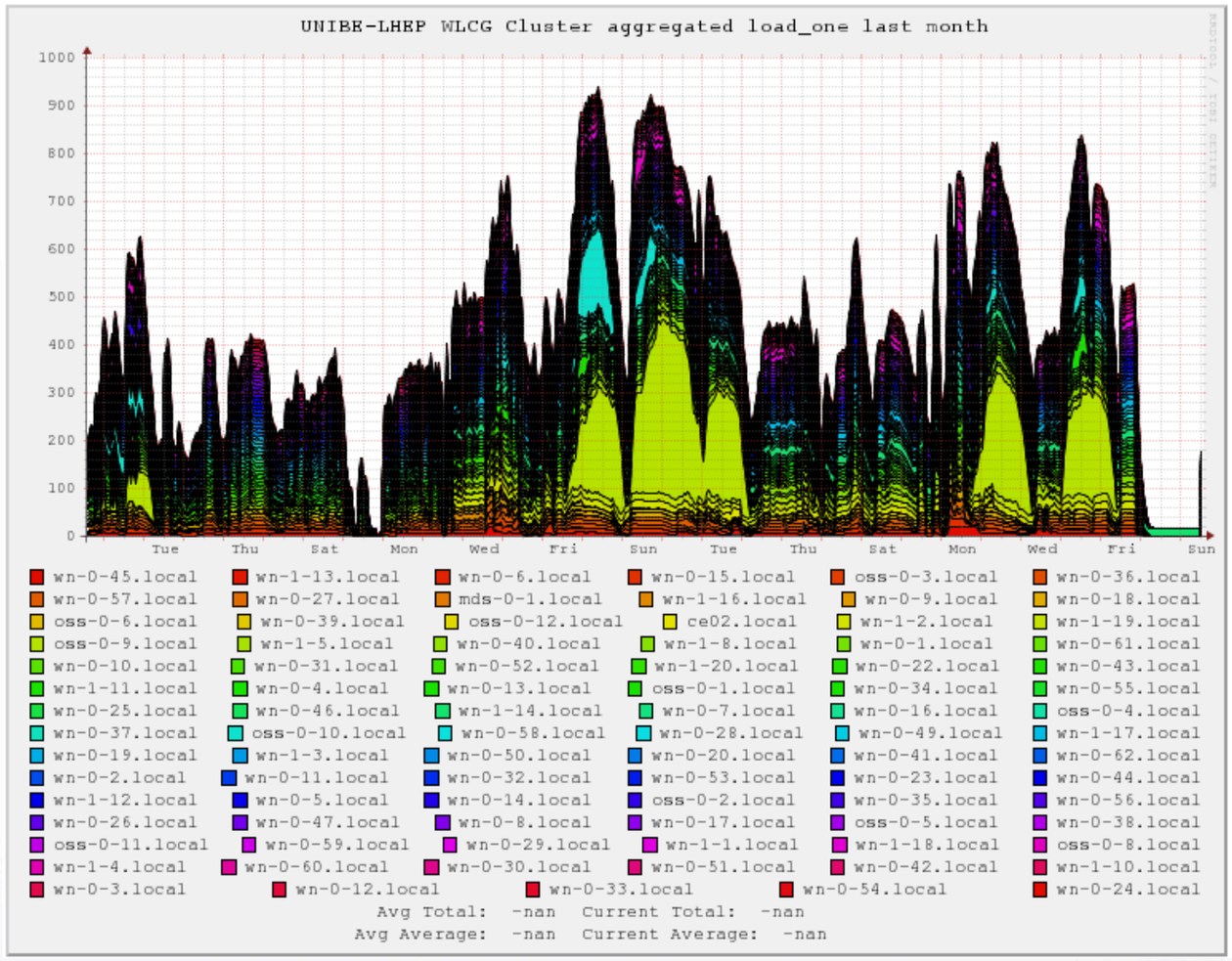
Showing 1 to 8 of 8 entries — First Previous 1 Next Last

UNIBE-LHEP site report

ce01



ce02



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Issues and mitigations (1/3)

➡ **Issues with stale files in ARC sessiondir.** These are files left over by failed jobs, which end up clogging up the directory => the Infosys becomes very slow/unresponsive, clusters not visible in GIIS

Mitigation: Added a weekly cron to perform a cleanup

S

➡ **Issues with large amount of files in ARC sessiondir.** These are files related to jobs not retrieved by the users => the Infosys becomes very slow/unresponsive, clusters not visible in GIIS

Solution: Asked t2k.org users to retrieve/clean up their job outputs

➡ **Lustre MDS glitch on Fri 16th May on the ce01 cluster** caused the cluster to hang for some hours.

Solution: kill all jobs, unmount all clients, stop all OSTs. Power-cycle the MDS (stopping the MDT (unmount) would not work). Recovery took ~1.5h

➡ **EGI ops availability/reliability 33% in April**
probe org.sam.SRM-GetSURLs-/ops/NGI/Germany failing, causing all the other SRM probes to go to Unknown state.

Solution: The problem self-resolved on 2nd May (no changes on the SE).
Could not request availability/reliability re-calculation

Issues and mitigations (2/3)

➡ **Middleware issues:**

- **GLUE2 Validator Warnings due to a minor ARC infosys bug** (also in latest version 4.1.0–1.el6) (https://xgus.ggus.eu/ngi_ch/?mode=ticket_info&ticket_id=314)

  Mitigation: **patched SGEmod.pm**

- **bdii service crashed on the site-bdii** (one-time occurrence)

  left behind the slapd process running, preventing the restart cron from fixing it within the 15min window.

  Solution: **following Nagios alert, restarted services manually**

- **xrootd broken (segfaults) in May**

  Solution: **upgrade DPM to latest version 1.8.8**

- **a-rex crashes regularly on the ce02 cluster** (on average twice a month)

  Solution: **issue not investigated/resolved. Following Nagios alerts, restart service manually**

UNIBE-LHEP site report

Issues and mitigations (3/3)

- **Accounting issues:**
  - **Migration from ur-logger/SGAS to Jura/APEL nightmarish**

Migration scheme: ur-logger/SGAS => Jura/SGAS => Jura/APEL

Timeline: started migration in March 2014, completed by end of June 2014

Issues: complex mechanism, poor documentation, poor support (ARC), obscure operational changes (APEL), etc

Outcome: migration accomplished, but loss of accounted job records for some periods.

- Cross-check against batch server records not possible; gridengine does not account properly for multi-core jobs
- Attempted a cross-check against ATLAS own accounting: **found little sensible correlation**
- Estimated a ~10% loss over about 4 months

- **Recovery plans (?):** in principle some of the lost records have an archive copy.
  - A procedure exists to re-create appropriately formatted job records from archived records.
  - Complex/clumsy. Will attempt only of time allows.

UNIBE-LHEP site report

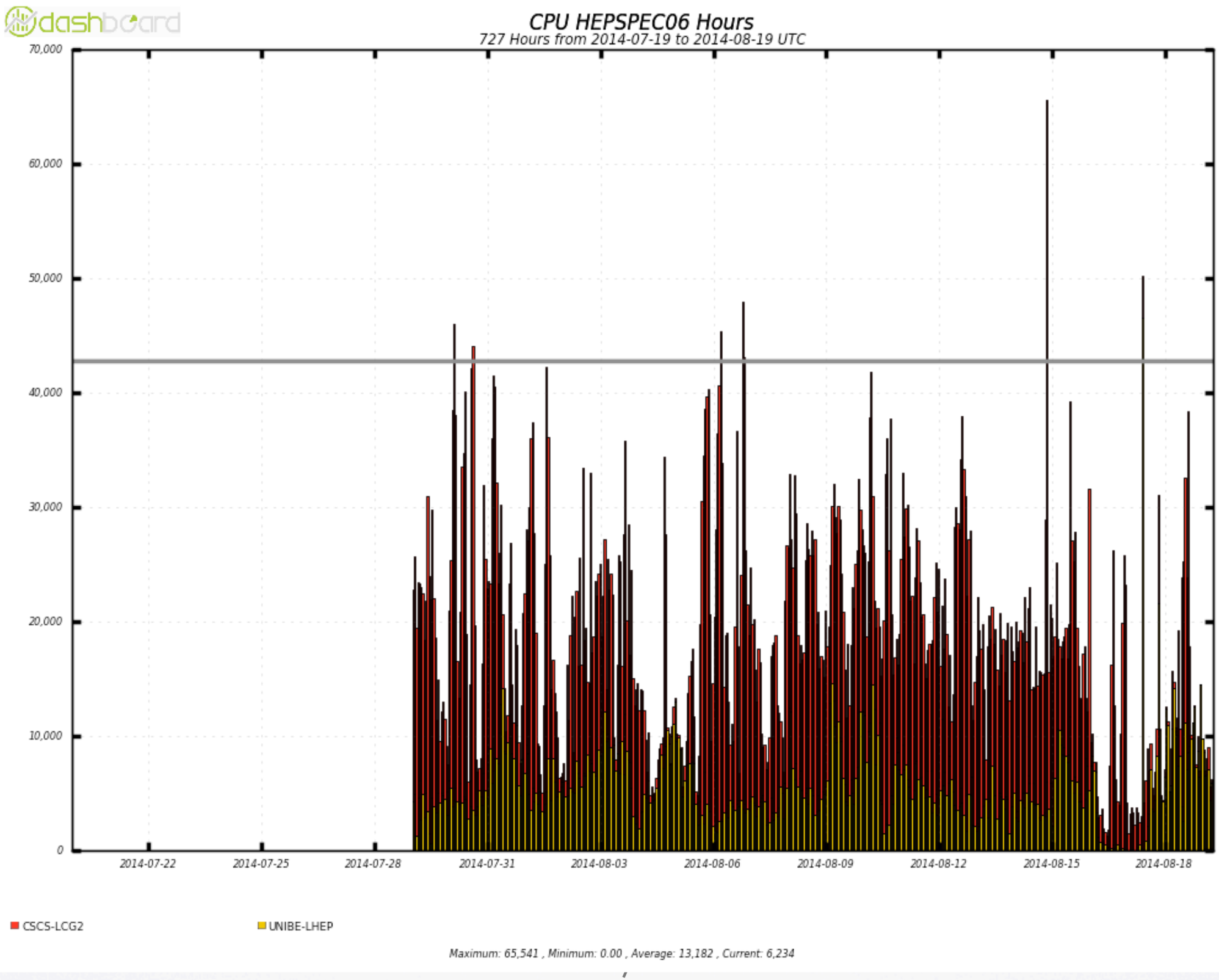

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Chart showing the Cumulative Normalised CPU time (HEPSPEC06) grouped by SITE and DATE (only information about **LHC VOs** is returned).

Developed by CESGA 'EGI View': / normcpu-HEPSPEC06 / 2013:1-2014:8 / SITE-DATE / lhc (x) / GRBAR-LIN / i

2014-08-19 00:01