

GridPP Cloud Update & EGI Federated Cloud

- ▼ Adam Huffman
- ▼ Imperial College

GridPP Cloud Update

GridPP Cloud Update

- ▼ Upgrade to OpenStack Icehouse
 - ▼ Component by component upgrade with minimal downtime now possible (cf. CERN)
- ▼ Added new compute node
 - ▼ Now 216 cores, 692GB RAM
- ▼ Gradually improving monitoring

GridPP Cloud Update

openstack admin admin Sign Out

All Hypervisors

Hypervisor Summary

- VCPU Usage**
Used 188 of 216
- Memory Usage**
Used 388GB of 692GB
- Disk Usage**
Used 4.4TB of 14.0TB

Hypervisors

Hostname	Type	VCPUs (total)	VCPUs (used)	RAM (total)	RAM (used)	Storage (total)	Storage (used)	Instances
gridppcl01.grid.hep.ph.ic.ac.uk	QEMU	24	21	94GB	44GB	2.0TB	500.0GB	8
gridppcl00.grid.hep.ph.ic.ac.uk	QEMU	24	22	94GB	45GB	2.0TB	510.0GB	5
gridppcl04.grid.hep.ph.ic.ac.uk	QEMU	32	30	62GB	60GB	2.0TB	670.0GB	5
gridppcl05.grid.hep.ph.ic.ac.uk	QEMU	32	32	62GB	64GB	2.0TB	720.0GB	4
gridppcl06.grid.hep.ph.ic.ac.uk	QEMU	32	22	62GB	47GB	2.0TB	510.0GB	9
gridppcl07.grid.hep.ph.ic.ac.uk	QEMU	32	24	62GB	48GB	2.0TB	540.0GB	3
gridppcl08.grid.hep.ph.ic.ac.uk	QEMU	40	37	252GB	76GB	2.0TB	1.1TB	14

Displaying 7 items

GridPP Cloud Usage

- ▼ Stable usage by ATLAS
- ▼ Still some problems with the tracking of quotas and instances in the error state

ATLAS Usage

[Configuration](#)
[Production](#)
[Clouds](#)
[Incidents](#)
[DDM](#)
[PandaMover](#)
[AutoPilot](#)
[Sites](#)
[Releases](#)
[Analysis](#)
[Stats](#)
[Users](#)
[Physics data](#)
[ProdTask](#)
[DDMDash](#)
[SSB](#)

Panda monitor

Times are in UTC

Panda finished jobs at GRIDPP_CLOUD

Selection parameters:
 days:34 state:finished

[Click for help](#)

[Panda info and help](#)

Jobs

Summary of jobs for the last days, jobsetID in state at site plot

- Summary:
- All Jobs [CMS Jobs](#)
- [analysis](#) [production_test](#)
- [jedi](#) [all](#)
- States:
- [pending](#) [defined](#)
- [waiting](#) [assigned](#)
- [activated](#) [sent](#)
- [starting](#) [running](#)
- [holding](#) [transferring](#)
- [finished](#) [failed](#)
- [cancelled](#) [unassigned](#)

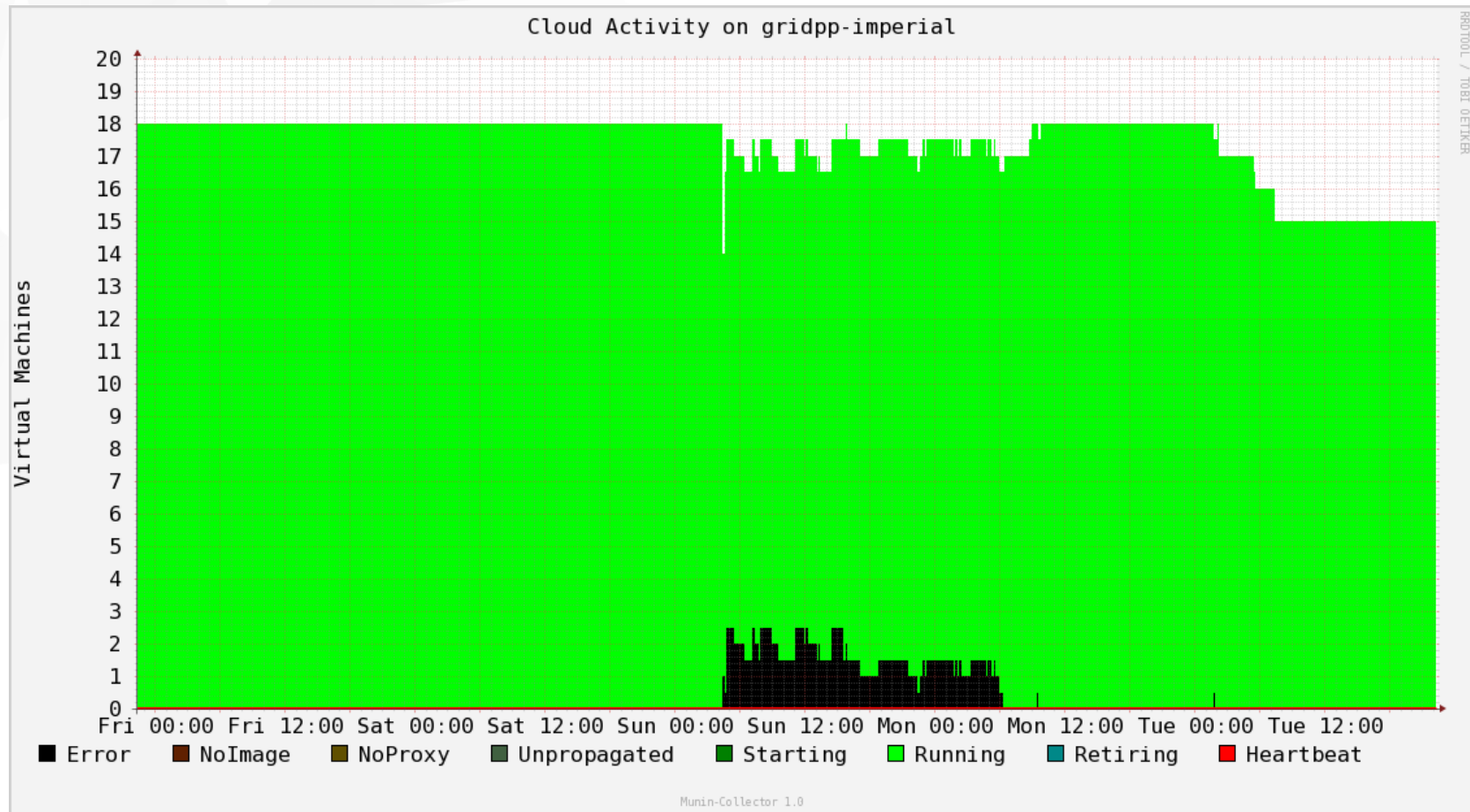
8033 jobs. Click job number to see details.
States: [finished:8033](#)
Users (8): [Alessandro De Salvo:31](#) [c.gwenlan1@physics.ox.ac.uk:2293](#) [gangarbt:4806](#) [james.ferrando@glasgow.ac.uk:104](#) [jiahang.zhong@cern.ch:231](#) [jose.enrique.garcia@cern.ch:53](#) [sascha.mehlase@cern.ch:291](#) [wolfgang.ehrenfeld@desy.de:224](#)
Releases (11): [Atlas-15.6.12:46](#) [Atlas-16.6.7:2112](#) [Atlas-17.2.10:912](#) [Atlas-17.2.11:2356](#) [Atlas-17.2.12:21](#) [Atlas-17.2.13:292](#) [Atlas-17.2.2:360](#) [Atlas-17.2.4:21](#) [Atlas-17.2.6:1802](#) [Atlas-17.2.8:80](#)
Processing types (5): [evgen:518](#) [gangarobot-pft:4716](#) [hammercloud:90](#) [simul:2678](#)
Job types (4): [install:31](#) [managed:3196](#) [prod_test:4716](#) [rc_test:90](#)
Task ID (54): [1456162:#21](#) [1457814:#49](#) [1460171:#46](#) [1463750:#10](#) [1464331:#41](#) [1464355:#44](#) [1465463:#1](#) [1466644:#40](#) [1467190:#21](#) [1467198:#252](#) [1467560:#21](#) [1467664:#20](#) [1467870:#20](#) [1468187:#19](#) [1468356:#21](#) [1468359:#42](#) [1468361:#63](#) [1468397:#20](#) [1468407:#42](#) [1468409:#42](#) [1469488:#21](#) [1469834:#42](#) [1469900:#21](#) [1470831:#21](#) [1470986:#18](#) [1471165:#42](#) [1471169:#20](#) [1471171:#21](#) [1471176:#21](#) [1471761:#207](#) [1471765:#37](#) [1471776:#98](#) [1471782:#358](#) [1471791:#29](#) [1471800:#163](#) [1471808:#345](#) [1471810:#17](#) [1472629:#20](#) [1472636:#20](#) [1472638:#20](#) [1472639:#20](#) [1472639:#20](#) [1473730:#21](#) [1476140:#21](#) [1476168:#18](#) [1476235:#21](#) [1476249:#10](#) [1476320:#63](#) [1476515:#7](#) [1480341:#13](#) [1480467:#16](#) [1480797:#80](#) [1480809:#27](#) [1480887:#486](#) [1482190:#17](#)
Transformations (5): [AtlasG4_tf.py:2235](#) [AtlasG4_trf.py:5203](#) [Generate_trf.py:518](#) [csc_atlasG4_trf.py:46](#) [sw-mgr:31](#)
Working groups (10): [AP_BPhysics:49](#) [AP_Exotics:29](#) [AP_HeavyIon:40](#) [AP_Higgs:56](#) [AP_JetEtMiss:273](#) [AP_Physics:81](#) [AP_SM:1933](#) [AP_Susy:42](#) [AP_Top:693](#)
Creation Hosts (9): [atlas-ui-01.roma1.infn.it:9](#) [atlas-ui-03.roma1.infn.it:11](#) [atlas-ui-04.roma1.infn.it:4](#) [atlas-ui-06.roma1.infn.it:7](#) [it-hammercloud-submit-atlas-07.cern.ch:90](#) [voatlas110.cern.ch:1645](#) [voatlas111.cern.ch:1551](#) [voatlas284.cern.ch:2620](#) [voatlas285.cern.ch:2096](#)
Sites (1): [UK.GRIDPP_CLOUD:8033](#)
Regions (1): [UK:8033](#)
Clouds (1): [UK:8033](#)

Showing 31 jobsets modified from 2014-06-03 08:49 to 2014-06-03 21:00

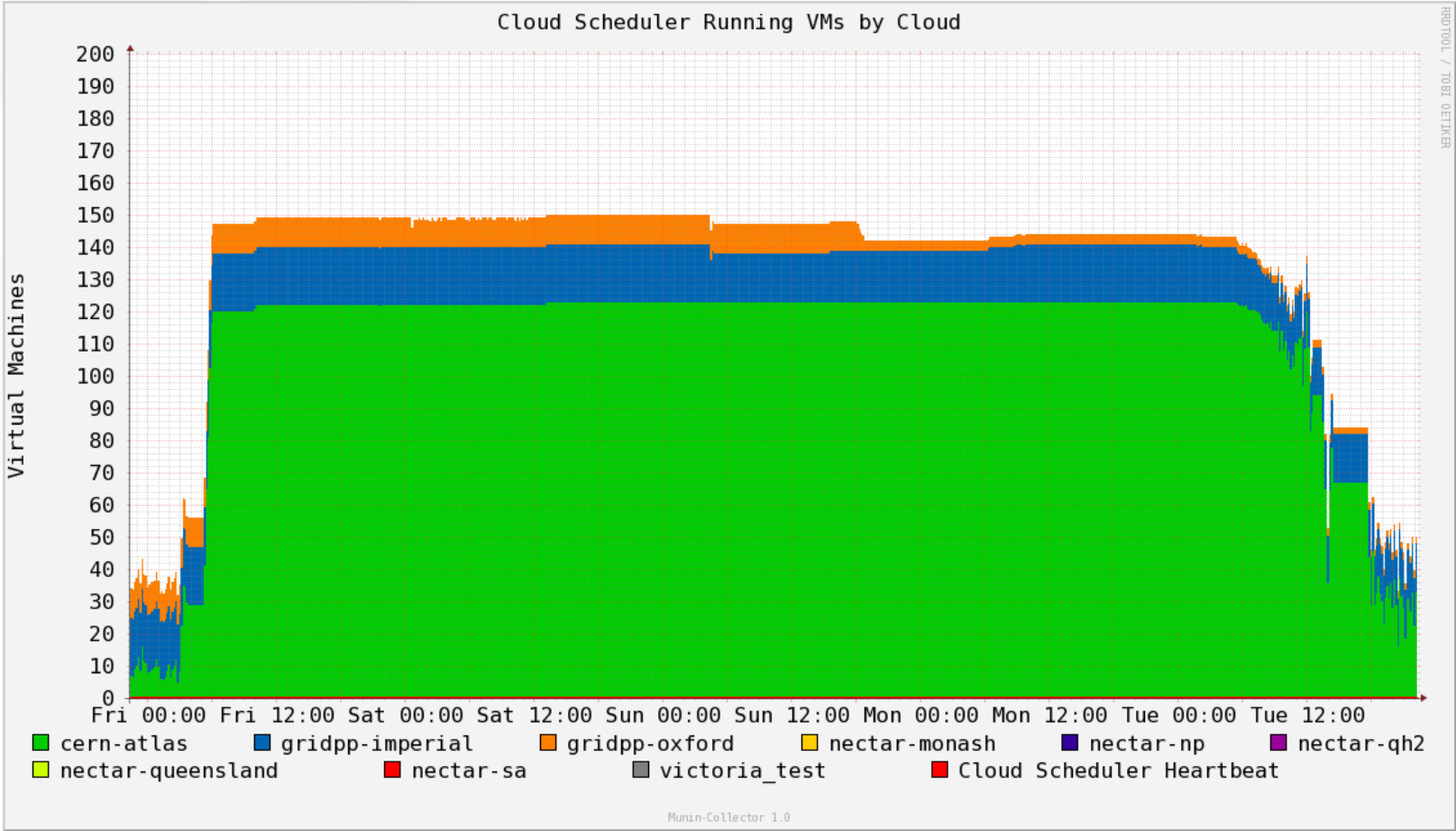
Job Sets:

User:jobID	Created	Latest	Jobs	Pre-run	Running	Holding	Finished	Failed	Cancelled	Merging	buildJob	Site
Alessandro De Salvo:9912	2014-05-13 19:38	2014-05-13 19:38	1		<div style="width: 100%; background-color: green;">end</div>		1					GRIDPP_CLOUD
Out:panda.install.validate-prod-analysis-17.2.13.6.1-EvgenTP4MC11-x86_64-GRIDPP_CLOUD.d668cc44-bf8b-4e2d-959a-08788ae60c3b												
Alessandro De Salvo:9137	2014-05-08 06:05	2014-05-08 06:05	1		<div style="width: 100%; background-color: green;">end</div>		1					GRIDPP_CLOUD
Out:panda.install.validate-prod-patch-17.2.13.6-GRIDPP_CLOUD.73af1f97-ac92-4e5a-8bb0-2a35cc521216												
Alessandro De Salvo:9071	2014-05-28 20:31	2014-05-28 20:31	1		<div style="width: 100%; background-color: green;">end</div>		1					GRIDPP_CLOUD

ATLAS Usage



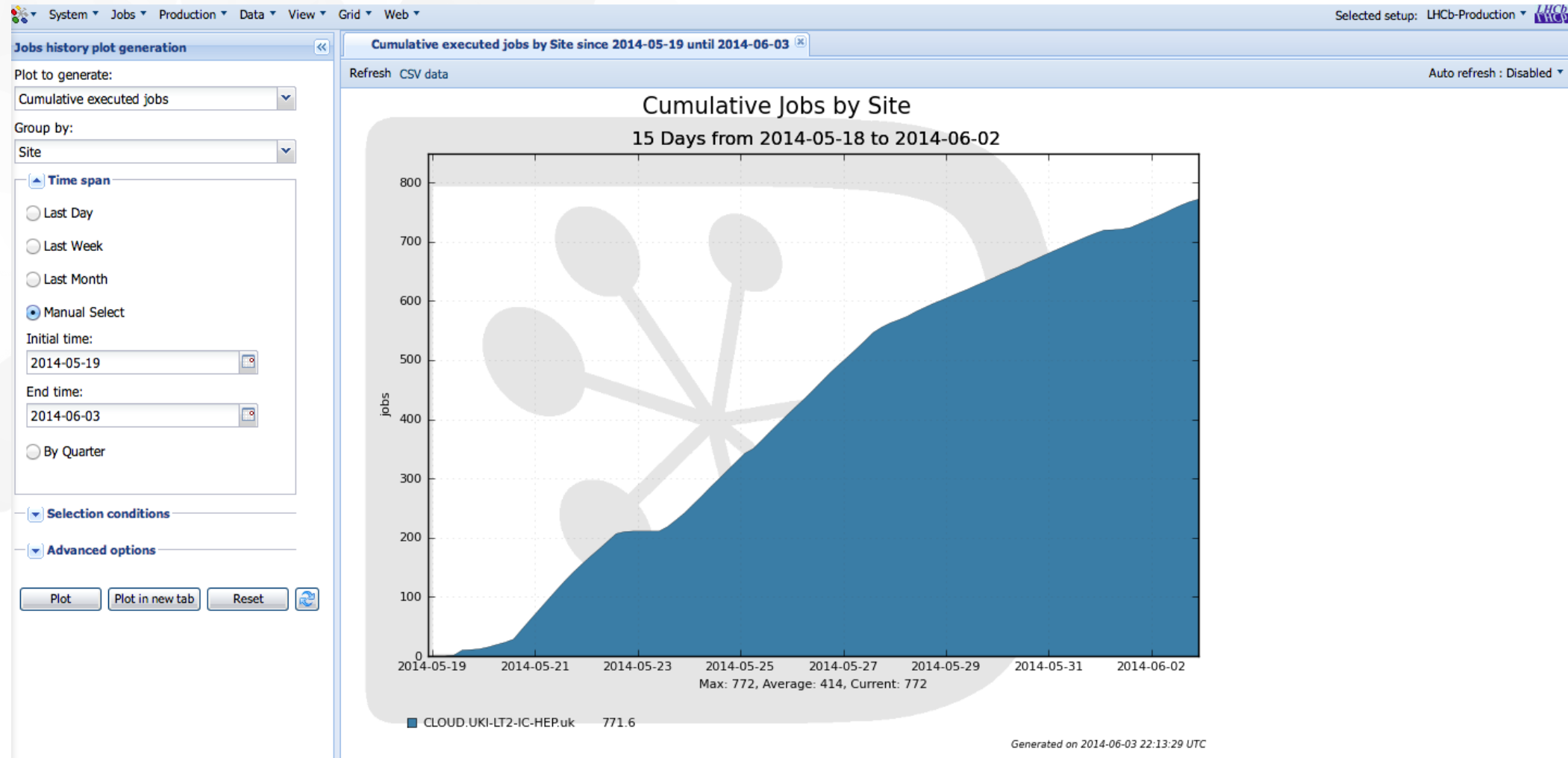
ATLAS Usage



GridPP Cloud Usage

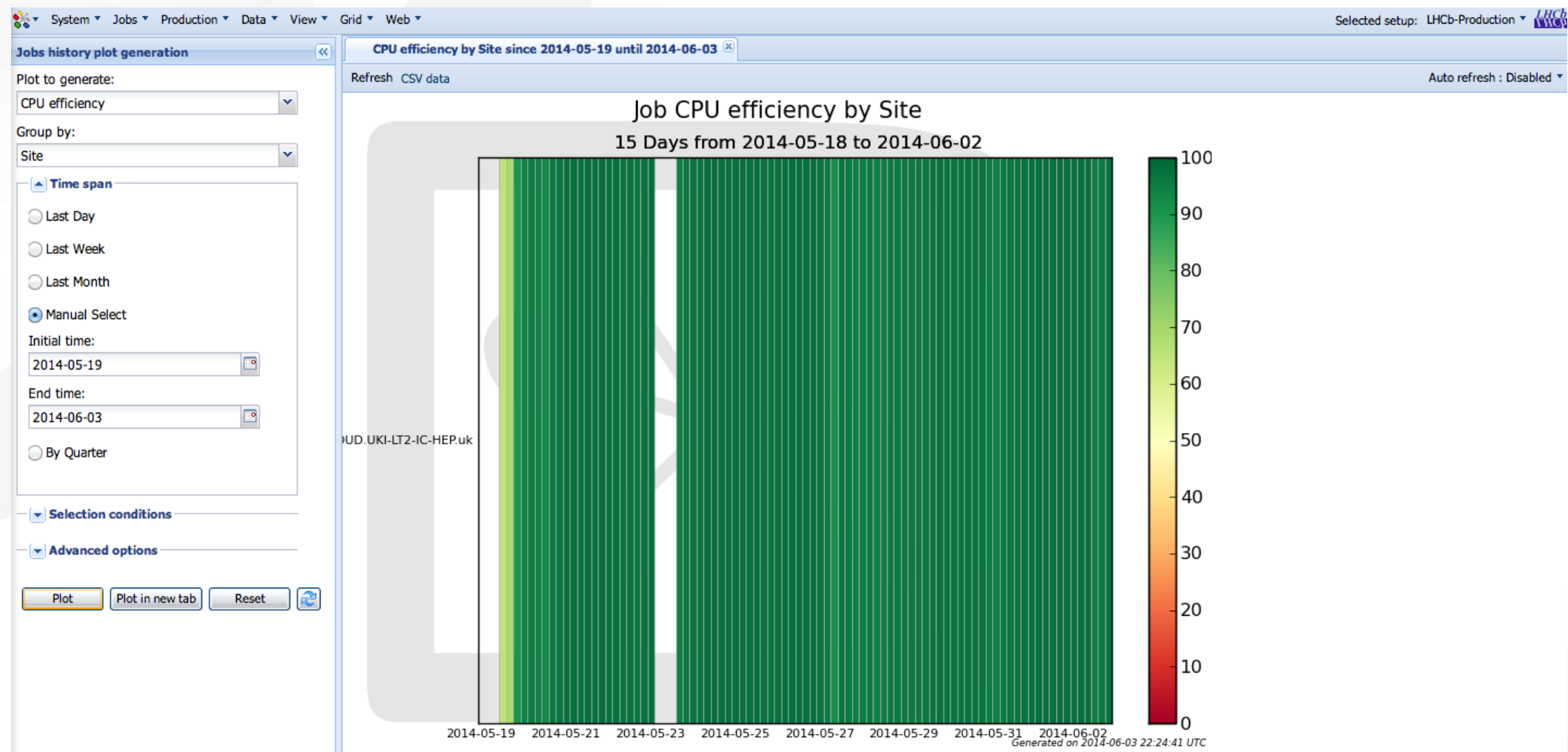
- ▼ Stable usage by LHCb
- ▼ Work by Andrew McNab using Vcycle scheduler, Micro-CernVM image

LHCb Usage



772 jobs since May 19th

LHCb Usage



GridPP Cloud Usage

- ▼ Ongoing CMS usage by Stealth Cloud at Imperial
- ▼ Andrew Lahiff working on resurrecting glideinWMS submission from RAL
- ▼ Plan to add GridPP Cloud as a production CMS resource
 - ▼ Overlap with HLT/CERN AI/Tier 0 work

GridPP Cloud Observations

- ▼ Wariness of campus networking re. Public IPs
- ▼ Separate EGI site record needed to facilitate accounting etc.
- ▼ Quotas probably need to be handled dynamically
 - ▼ Can VO job schedulers cope with this?
 - ▼ Schedulers still don't handle instances in error state perfectly
- ▼ Ideally want mix of flavours/job types to maximise hardware utilisation
 - ▼ ATLAS using 8 vCPUs, LHCb using 1

GridPP Cloud Plans

- ▼ Add Ceph storage for Glance (images), Cinder (volumes) and S3-style object storage
- ▼ Move to High Availability setup
- ▼ EGI Federated Cloud

The background features a collection of semi-transparent triangles in various shades of green and grey, scattered across the page. The green triangles are more prominent in the upper-left quadrant, while grey triangles are distributed more widely, particularly in the lower-right and middle sections.

EGI Federated Cloud

EGI Federated Cloud

- ▼ Production launch at EGI Community Forum
- ▼ <https://indico.egi.eu/indico/materialDisplay.py?contribId=127&sessionId=65&materialId=slides&confId=1994>
- ▼ Appears to aim at replication of grid infrastructure over cloud APIs
- ▼ Requires:
 - ▼ VOMS-enabled Keystone
 - ▼ OCCI
 - ▼ Accounting
 - ▼ Image marketplace
 - ▼ Information system

EGI Federated Cloud

- ▼ Puppet support for components is unclear (outdated Github repo)
- ▼ Appears to have different motivations than GridPP
- ▼ 'Different pricing models under consideration' – Models for Sustainability (under development)
- ▼ Unclear yet how to marry VO and FedCloud usage patterns
 - ▼ Fudge this issue by separating clouds for now



Thank you ...

- ▼ Frank Berghaus
- ▼ Andrew McNab
 - ▼ For pointers to usage plots