

# UiB Grid site status report

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NDGF // AHM May 04 2021

# New People @ UiB Grid team

- Matthias Richter from April 2021  
Grid specific administration
- Mustafa Hussain from March 2021  
Infrastructure (NREC) and monitoring
- Still in the boat for the NREC part: Raimund Kristensen, Tor Ladre

# Infrastructure

## Virtualized Tier-1 @ UiB

- Tier-1 hardware is part of the Norwegian science cloud (NREC)
- Computing resources are a cluster of virtual machines
- Storage resources are virtual machines and virtual disk images on top of a distributed file system (Ceph)
- Tape resources a UiB LHC is part of NREC

## Software stack

- Openstack: provision system for VMs with resources
- Elasticcloud: manage compute cluster on cloud
  - Automatically creates frontend and worker nodes, batch queue system, monitoring
- Specific customization of the Ansible configuration to integrate grid middleware

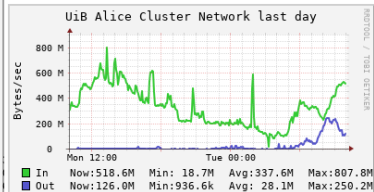
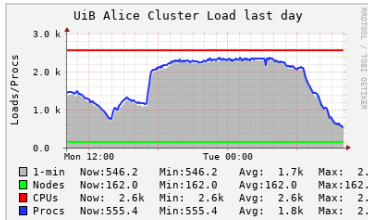
# Infrastructure resources

## UiB Alice (physical view)

CPUs Total: **2592**  
Hosts up: **162**  
Hosts down: **0**

Current Load Avg (15, 5, 1m):  
22%, 21%, 20%  
Avg Utilization (last day):  
67%

Localtime:  
2021-05-04 12:01

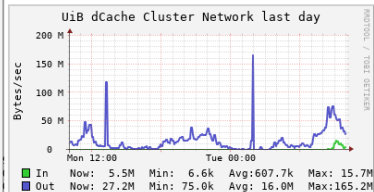
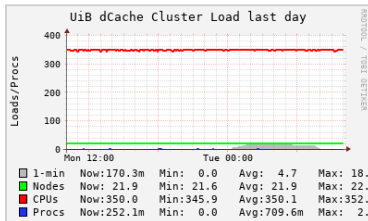


## UiB dCache (physical view)

CPUs Total: **352**  
Hosts up: **22**  
Hosts down: **0**

Current Load Avg (15, 5, 1m):  
0%, 0%, 0%  
Avg Utilization (last day):  
1%

Localtime:  
2021-05-04 12:00



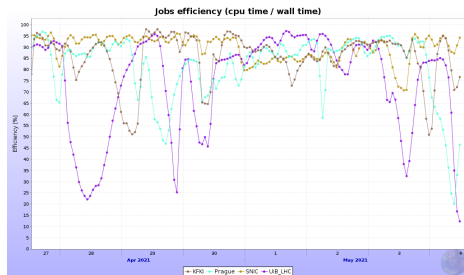
# Performance

The setup is running stable Grid production.

Job efficiency is a complicated matter depending on many parameters.

We are acquiring data in systematic way to correlate job features with infrastructure features, network and storage performance. This will allow a detailed analysis

- Investigating impact of storage performance to the job efficiency
- Monitor the network activity
- Debug the inherently inefficient jobs



# Conclusion

- Successfully converted to NREC infrastructure and JAlien middleware
- Running stable Grid production
- Virtualization makes the distribution of tasks among people simple
- First, basic, stable setup, now we move towards exploiting the features of the virtualization
- Detailed debugging of the Grid jobs and interplay is ongoing

