Operations and plans - Polish sites

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3 ALICE sites in Poland:

- Outline:
  - ALICE sites in Poland
  - ALICE sites in Poland – operations
  - WUT site:
    - Operations
    - Technical details
    - Plans
  - Summary

PHYSICS.WUT

3 ALICE sites in Poland:

- **CYFRONET**
  - is Academic Computer Centre CYFRONET at **AGH University of Science and Technology in Cracow/Kraków/**
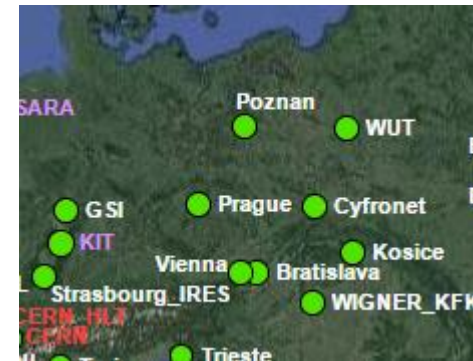
- **POZNAN**
  - is Poznan Supercomputing and Networking Center at Institute of Bioorganic Chemistry of the **Polish Academy of Sciences**

- **WUT**
  - is **Warsaw University of Technology**

Polish ALICE sites - operations

- **CYFRONET** (ZEUS cluster also for ATLAS and LHCb)

  - has encreased load from 300 to 800 jobs last year
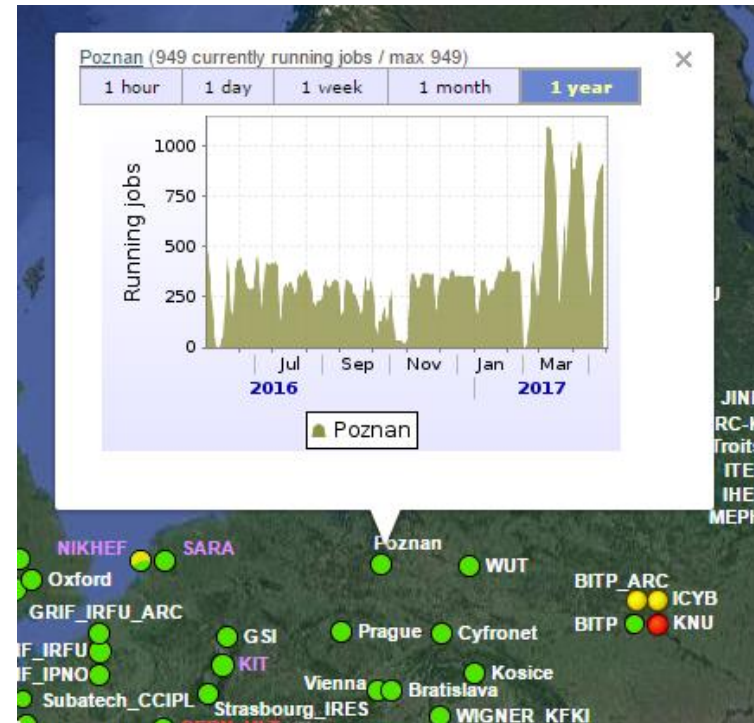 - present in PIONIER and LCHONE

  - keeps SE 28TB storage at 80% used

Name	Status	Size	Used	Free	Usage	No of files	Type	ADD test
ALICE::Cyfronet::XRD	OK	27.99 TB	78.74%	5.951 TB	22.04 TB	538.6 K	FILE	OK

Polish ALICE sites - operations

- **POZNAN** (REEF cluster also for ATLAS and LHCb)
  - has encreased load from 300 to 1000 jobs last year
  - present in GEANT and peering with LHCONE:
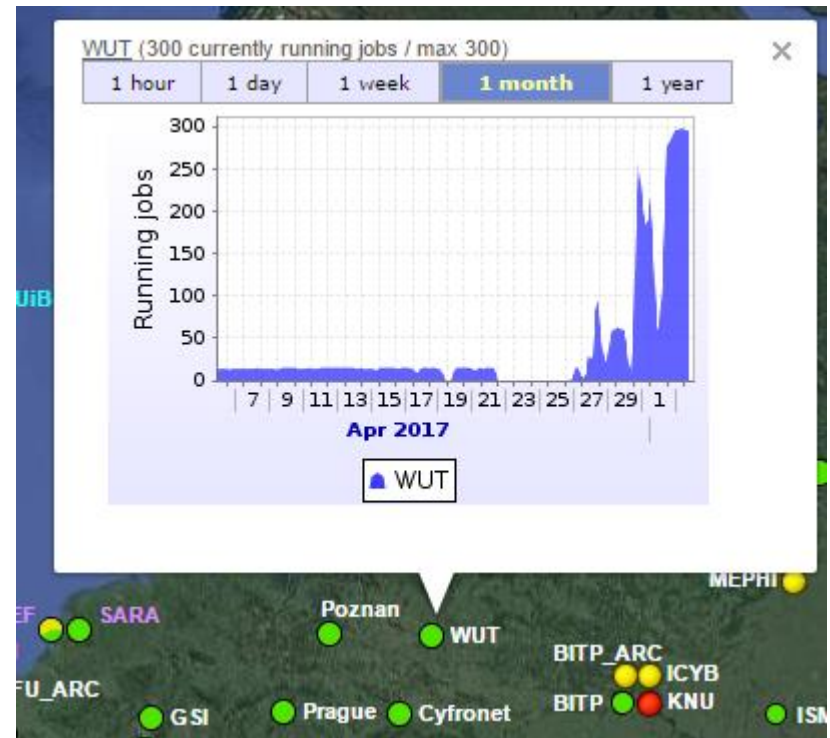 CERNlight, RU-VRF

  - keeps SE 187TB storage at 53% used

Name	Status	Size	Used	Free	Usage	No of files	Type	ADD test
ALICE::Poznan::SE	OK	187.3 TB	52.6%	88.78 TB	98.52 TB	2.066 M	FILE	OK

PHYSICS.WUT

Polish ALICE sites - operations

- **WUT**
  - has encreased load from 20-30 to 300 jobs last week
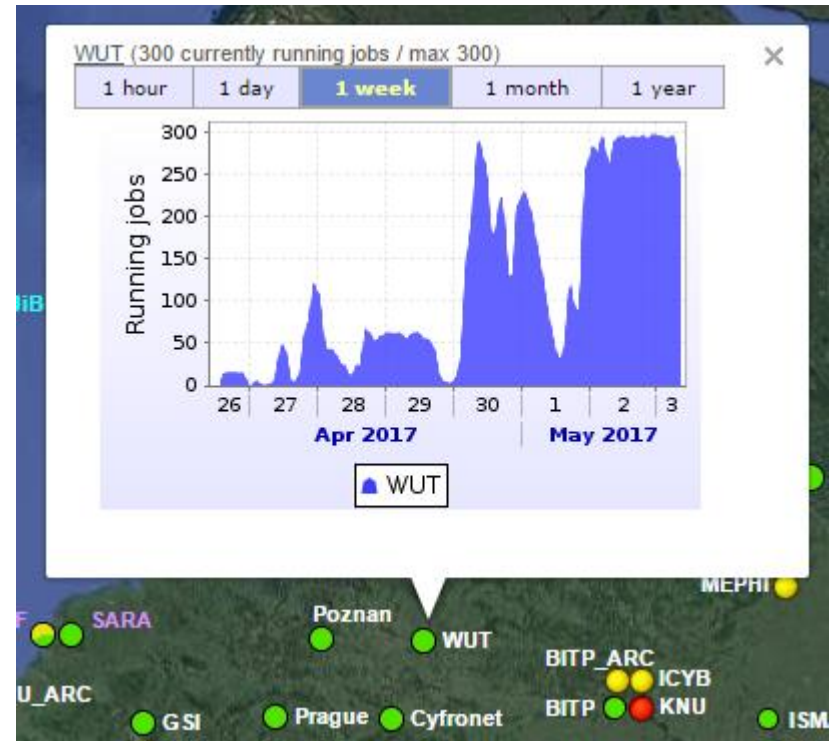

  - SE 12TB XRD

WUT site - operations

— now 300 jobs run last week from 450 CPU cores

— in co-operation between:

Faculty of Physics

Wydział Fizyki

POLITECHNIKA WARSZAWSKA

and

Faculty of Civil Engineering

WIL WYDZIAŁ INŻYNIERII LĄDOWEJ
POLITECHNIKA WARSZAWSKA

— New hardware baught after consultation with CERN/ALICE main specialists (Latchezar et al. - Thanks!)

WUT site − technical details

co-operation between:

Faculty of Physics
- now CREAM CE, SE, BDII, APEL
  on VMs under VMware

and

Faculty of Civil Engineering
– now Torque server and 50 WNs
  (Hypertheaded, 8 VCPUs, 16GB RAM, 100GB disk)
  on OpenStack (Mitaka, RackSpace)

WUT site – technical details

at Faculty of Civil Engineering – OpenStack with:

- 60 (Nova) nodes with:
  - 2 x Intel Xeon CPU E5-2680 v3 @ 2.50GHz (12 cores, 24 logical/HT)
  - 96 GB RAM
  - disc SSD 480GB
  - ethernet 10GBit/s
- Together it is: 120 CPUs, 1440 cores, 2880 VCPUs

- Storage on CEPH with 18 nodes:
  - Intel Xeon CPU E5-2630 v3 @ 2.40GHz
  - 64 GB RAM
  - 2 x 300GB /system, 2 x 128GB SSD / journal, 8 x 4TB /raw data
  - 10Gbit/s to Nova nodes and 56Gbit/s InfiniBand to storage with raw 576 TB

WUT site – network bottleneck

Faculty of Physics and Faculty of Civil Engineering

– now connected with 1Gpbs VLAN

- outside connectivity is quite low (ingress below 75 Mbps, egress 800 Mbps)

MonALISA Repository for ALICE

My jobs · My home dir · Catalogue browser · LEGO Trains ⭐ · Administration Section · ALICE Reports · Alert XML Feed · Firefox Toolbar · MonaLisa GUI

WUT ▼ »
Alternative views: Chart | Map

‹WUT›

Links: FDT, Kernel parameters tuning

			IN from									OUT to				
No.	ID	Site	When	Speed (Mbps)	Hops	RTT (ms)	Streams		No.	ID	Site	When	Speed (Mbps)	Hops	RTT (ms)	Streams
1.	2810164	KNU	14 Apr 2017 00:32	75.50			1		1.	2821659	Vienna	26 Apr 2017 07:43	822.13			1
2.	2824372	PNPI	29 Apr 2017 05:59	58.72	14	52.96	1		2.	2822367	Trieste	27 Apr 2017 02:30	763.40	15	43.26	1
3.	2116365	CERN-SHA2	22 Mar 2015 13:39	58.66	15	34.49	1		3.	2827270	SNIC	yesterday 08:39	746.63	17	31.15	1
4.	2823912	LBL	28 Apr 2017 18:12	50.33	18	181.88	1		4.	2825267	SARA	30 Apr 2017 05:02	738.24			1
5.	2824207	NIPNE	29 Apr 2017 01:46	50.33	15	45.10	1		5.	2824278	NIHAM	29 Apr 2017 03:35	696.29	17	45.47	1
6.	2824741	Prague	29 Apr 2017 15:25	50.33	12	21.83	1		6.	2826718	Cagliari	01 May 2017 18:20	645.96	14	57.44	1
7.	2821293	SPbSU	25 Apr 2017 22:15	50.33	14	159.57	1		7.	2824951	Torino-HPC	29 Apr 2017 20:49	645.96			1
8.	2824080	TriGrid_Catania	28 Apr 2017 22:31	50.33	14	58.39	1		8.	2824993	Kosice	29 Apr 2017 21:53	629.18			1
9.	2821683	Vienna	26 Apr 2017 08:20	50.33	8	20.64	1		9.	2823869	UiB	28 Apr 2017 17:04	604.01	14	35.94	1
10.	2827526	Athens	yesterday 15:12	41.95	12	77.90	1		10.	2828164	CNAF-DUE	today 07:38	595.62	15	41.26	1
11.	2826977	Bari	yesterday 01:07	41.95	17	56.41	1		11.	2825089	Oxford	30 Apr 2017 00:26	570.46	19	38.66	1
12.	2823899	Catania-VF	28 Apr 2017 17:52	41.95	14	58.28	1		12.	2820831	CERN-TRITON	25 Apr 2017 10:10	545.29			1
13.	2117055	CERN-CVMFS	23 Mar 2015 07:40	41.95	15	34.44	1		13.	2828214	IPNL	today 08:55	528.51	12	42.89	1
14.	2116415	CERN-TEST	22 Mar 2015 14:57	41.95	15	34.79	1		14.	2824751	Grenoble	29 Apr 2017 15:40	503.34			1
15.	2827599	Cibinong	yesterday 17:06	41.95	15	292.32	1		15.	2821832	ISS	26 Apr 2017 12:10	486.57	16	45.23	1
16.	2824579	Clermont	29 Apr 2017 11:17	41.95	12	35.09	1		16.	2826429	Subatech	01 May 2017 10:52	486.57	15	45.32	1
17.	2826964	Cyfronet	yesterday 00:47	41.95	8	5.43	1		17.	2822307	HIP	27 Apr 2017 00:58	469.79	11	49.76	1
18.	2824831	GRIF_IRFU_ARC	29 Apr 2017 17:43	41.95	13	38.04	1		18.	2807286	KNU	10 Apr 2017 22:14	469.79	13	36.86	1
19.	2823914	IPNL	28 Apr 2017 18:15	41.95	13	42.20	1		19.	2828270	CCIN2P3	today 10:21	461.40	28	42.23	1
20.	2824550	Kosice	29 Apr 2017 10:33	41.95	9	20.14	1		20.	2823516	Catania-VF	28 Apr 2017 08:03	436.23	15	58.29	1

UT

WUT site – plans (short term)

In co-operation of 2 faculties

– to apply for funding this year with a goal to double current IT capacities

Faculty of Physics

- move SE to OpenStack(EOS)

and

Faculty of Civil Engineering –OpenStack:

- more than 50 WNs and HEAT orchestration for opportunistic use of free CPUs (max 2880 VCPUs with 2GB RAM/VCPU)
- install EOS SE with ca 100TB on Ceph device type

PHYSICS.WUT

WUT site − plans (long term)

In co-operation of 2 faculties

– to apply for **IPv6** (there is local pool of IPv6 addresses waiting for local division and implementation)

- to apply for **LHCONE** network (there is local country 100G network and ICM (HYDRA cluster for CMS and LHCb) center in Warsaw got connected to LHCONE recently)

Faculty of Physics
- Upgrade „WUT" to Centos 7/ UMD4/ ARC/ Slurm/ VAC?
- Tuning of network 10G/firewall/IPv6 issues

and

Faculty of Civil Engineering –OpenStack:
- upgrade of OpenStack itself
- increase of computing and storage resources with new funds

Summary for ALICE sites in Poland:

- **CYFRONET**
  - More cores, stable, no news
- **POZNAN**
  - More cores, stable, no news

- **WUT**
  - new „cloud" type setup on flexible OpenStack
  - EOS SE under way with ca 100TB
  - plans to improve networking (IPv6 and PIONIER/LHCONE and local 10G)
  - plans to gain financial support in co-operation between local faculties of WUT

Thanks !

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SEVENTH ANNUAL ALICE TIER-1/TIER-2 WORKSHOP IN   STRASBOURG

HTTPS://INDICO.CERN.CH/EVENT/595536

physics
wut