



FZU Computing centre

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Users' seminar

20. 2. 2018

- ❑ Computing Center is part of dep. 33 since 2018
- ❑ 3 system administrators left in 2017
- ❑ 3 new sysadmins since Jan-Feb 2018 (all only part time)
 - Martin Adam
 - Václav Strachoň
 - Petr Horák

□ Clustr mikan

- delivered in October 2017
- 51 servers Huawei RH1288 V3
 - 2x 12-core Intel Xeon E5-2650 v4, 2.2GHz
 - 128GB RAM - 8x 16GB DDR4 ECC, 2400MHz
 - 2x 600GB HDD
 - 2x 10 Gbps
- 26 kHS06, 2448 jobslots (HT on)

Projekt	Počet jader s HT	Podíl v procentech
CERN-C	1878	76,7
Fermilab - CZ	322	13,2
AUGER.CZ	248	10,1

- ❑ “Small” disk servers
 - nfs17 – 30 TB (/mnt/nfs17) + 1 TB (/mnt/nfs17_cache)
 - novastore for NOVA
- ❑ “Big” Disk servers:
 - 5 servers with JBODS, 5x450 TB, 2.25 PB in total
 - 4 DPM servers, 1 xrootd server (ALICE)
 - not yet in production

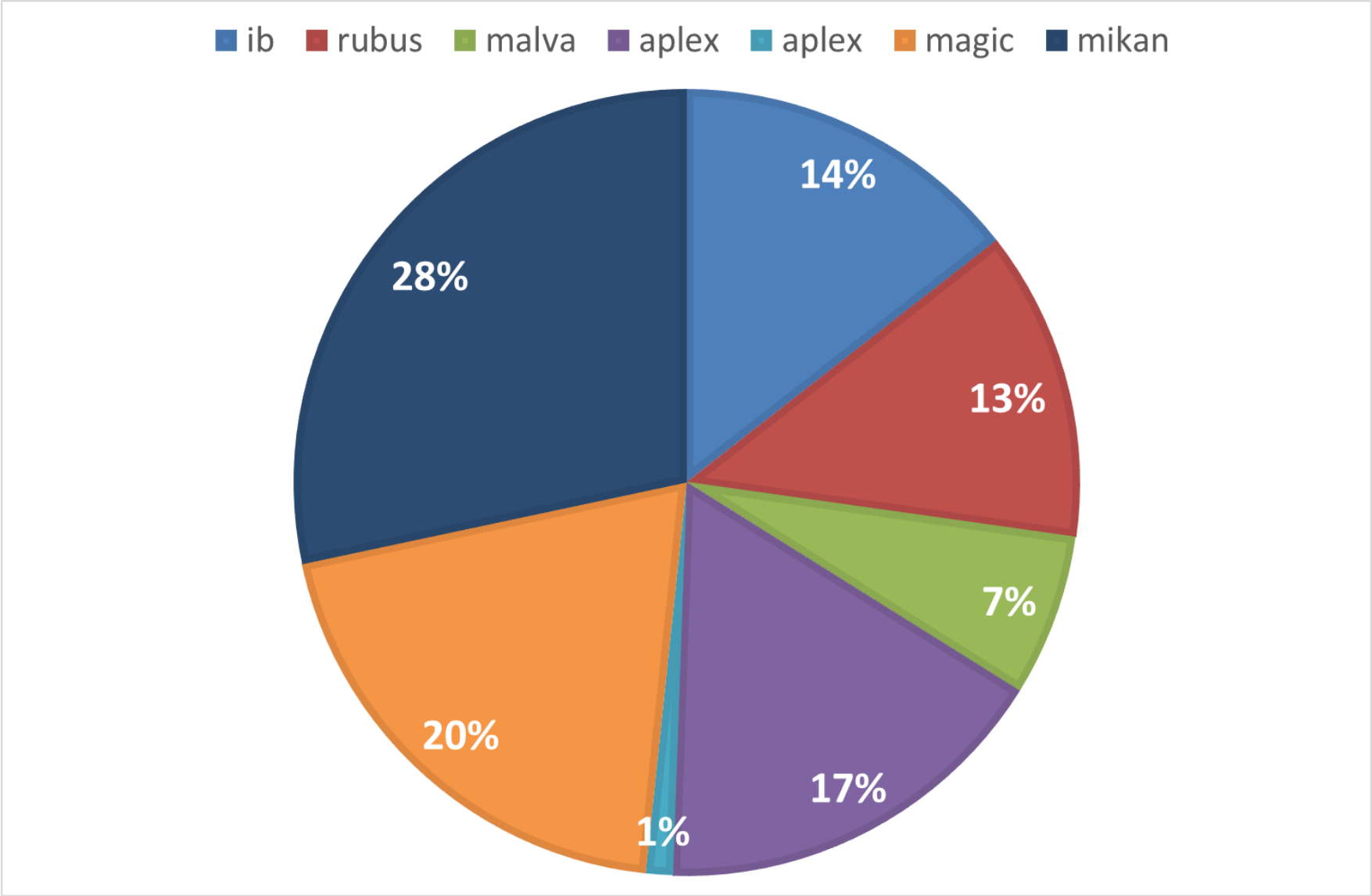
- ❑ **NOT reliable, NOT backed up**
 - backup is users responsibility, use **CESNET DU**
 - http://www.farm.particle.cz/twiki/bin/view/VS/VsMetaCentrum#6_Vyu_it_datov_ch_lo_i
- ❑ nfs05, nfs06; /mnt/...; 72 and 88 TB
- ❑ storage7 – 12/2009
 - /raid7_atlas, /raid7_atlas2 – 2x19 TB (97%, 99%)
- ❑ NFS server is a bottleneck if many jobs try to read/write to/from it parallel, **use DPM instead**

- ❑ 2 new water cooled racks
- ❑ 1 fully occupied by cluster Koios (CoGraDS)
 - separate system from the cluster Goliath (different users, batch system, ...)

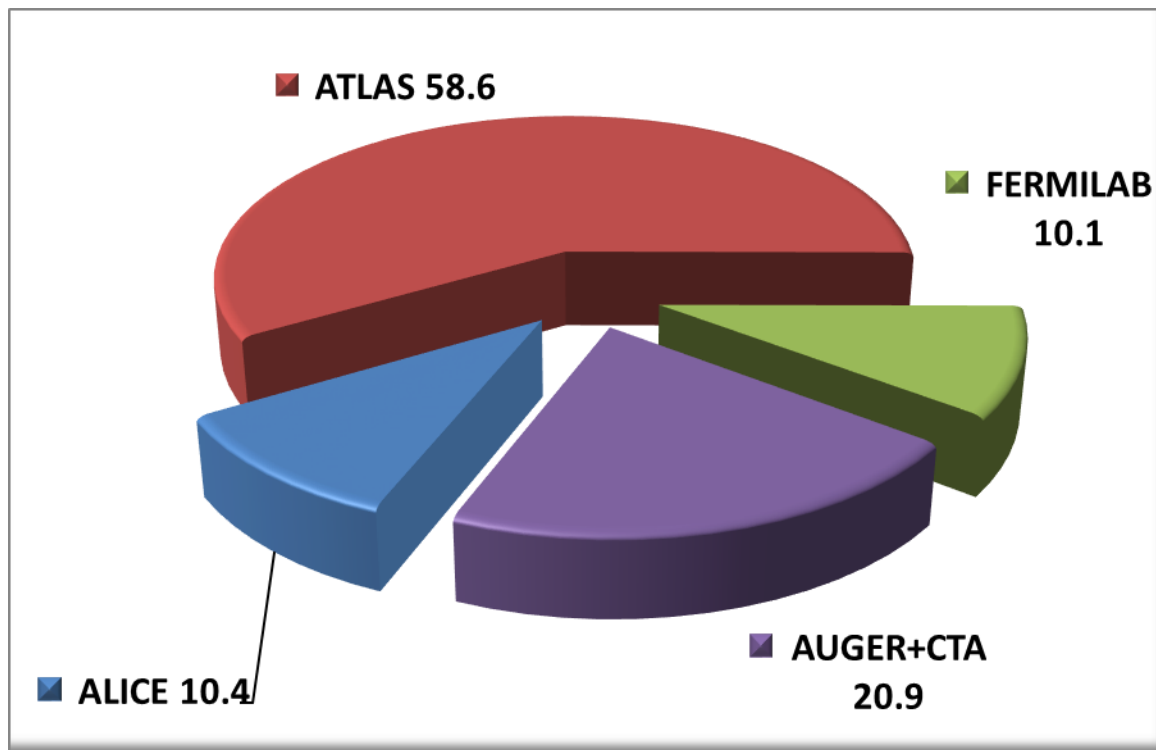
Hardware decommissioning

- ❑ Old subclusters switched off: salix, saltix, iberis
 - very soon also ibis
- ❑ dpmpool7 – 12 from 2010 – part already removed, the rest will follow according the hw reliability

Clusters in 2018



Computing capacities per project in 2018



Project	HS06	Jobslots	Percent
Alice	7066	615	10.4
Atlas	39934	3478	58.6
Fermilab	6915	602	10.1
Astro	14241	1240	20.9
	68156	5936	100.0

- ❑ Nový hardware
 - projekt CoGRaDS – samostatný nový klastr (2 racky)
 - OP VVV projekty CERN, Fermilab, Auger – nové klastry zapojené do současné infrastruktury
- ❑ Dokončení migrace na puppet, zastavení cfengine
 - sekční stroje merab a saul na dožití
- ❑ Výměna baterií u UPS
- ❑ Migrace na nový dávkový systém

- ❑ Hardware
 - new disk server to production (in a few weeks)
 - tender preparation for a new cluster (to be delivered in 2019)
 - movement of some racks to improve air flow
- ❑ Complete migration to HTCondor
- ❑ Partial migration to CentOS7
- ❑ Migration of the main DB server to a new hardware

Torque to HTCondor Migration

- ❑ Main topic of this seminar
- ❑ Both system still in use, but only a small fraction under Torque now
- ❑ Torque will be stopped “soon”

- ❑ Questions, issues reporting:
 - fzu@rt4.cesnet.cz
- ❑ Documentation on Twiki:
 - <http://www.farm.particle.cz/twiki/bin/view/VS/WebHome>
 - users may edit some parts themselves
- ❑ Mailing list for announcements hepfarm@fzu.cz
 - Mandatory membership for all users
- ❑ Follow us on Facebook <https://www.facebook.com/vsfzu>
- ❑ **Still looking for system administrators**