

First results of the computing part of the WLCG site survey

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WLCG Operations Coordination meeting 04.07.2019

Motivation for the site survey (computing part)

- Understand how we can better help sites to migrate from CREAM and probably from some batch system they are running
- Collect input from sites which already migrated, in particular main troubles during migration
- Collect information which is currently not recorded anywhere in the WLCG IS but is important for understanding of service deployment and service management models of the sites. For example:
 - Do sites use configuration management systems and which ones
 - Do sites use software platforms for cloud computing and which ones
 - Do sites use/plan to use containers and systems for management of the containerized applications

Thanks for providing input !

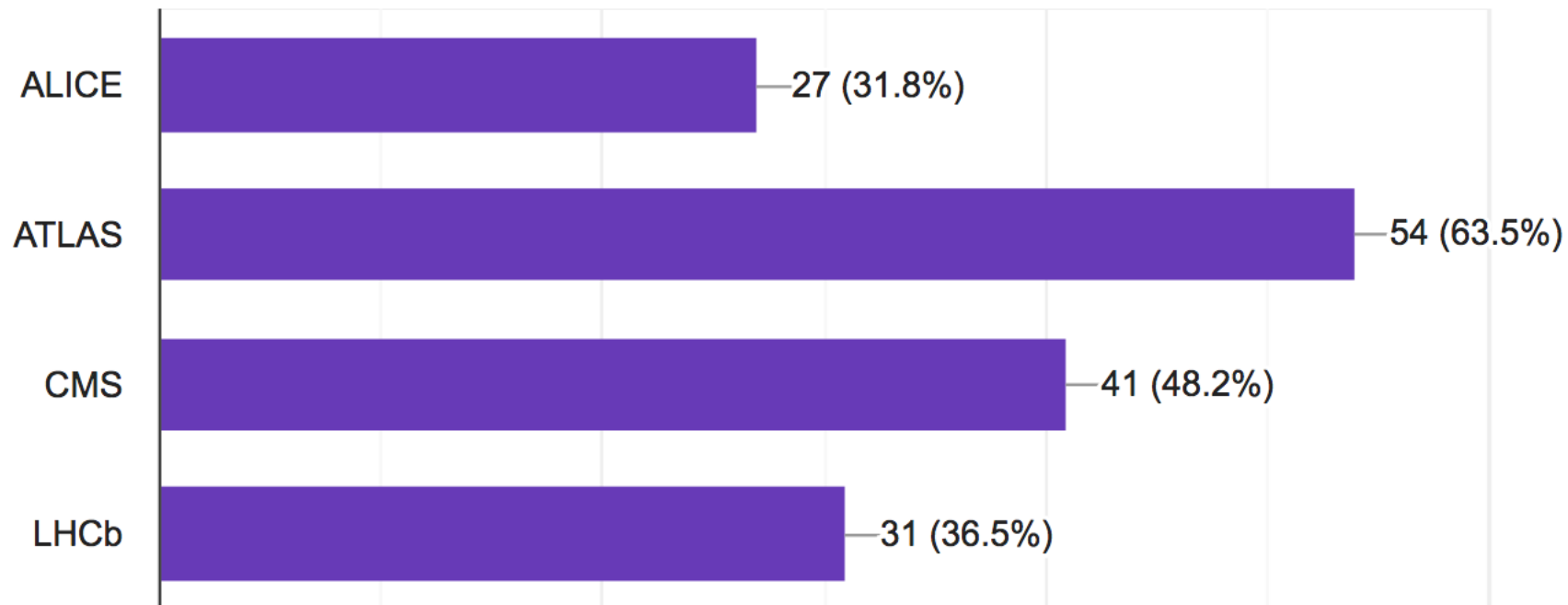
Overall 84 sites provided input

Tier level	Number of sites
Tier 0	1
Tier 1	13
Tier 2	67
Tier 3	1
No tier	1

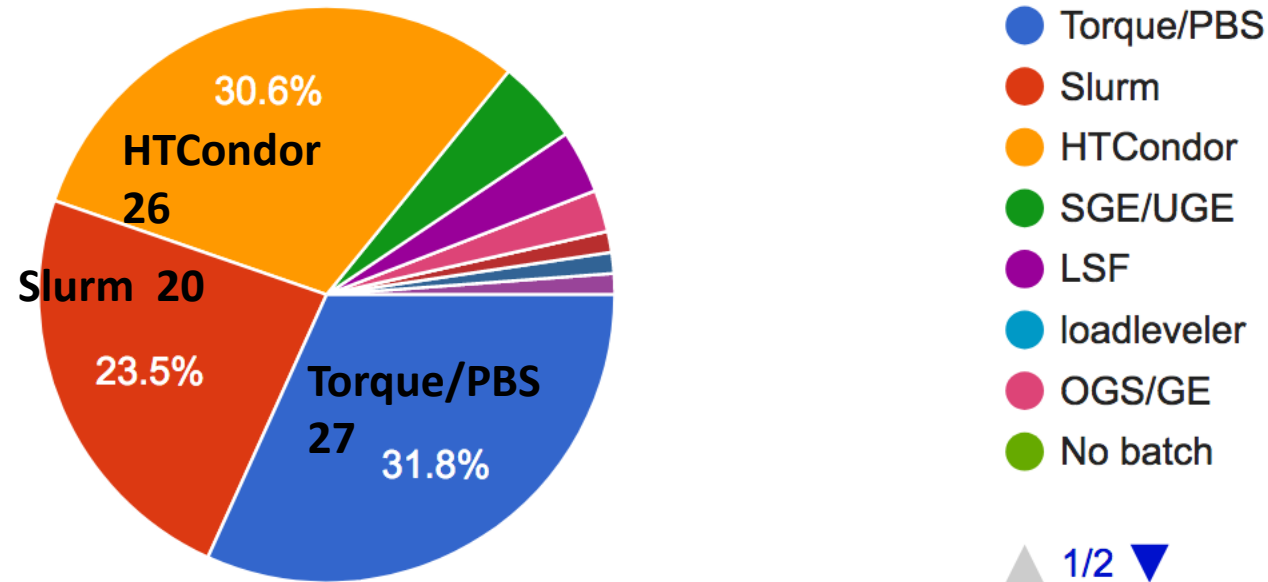
Support of various VOs and local users

Multiple VOs		Non-LHC VOs		Have local users	
Yes	No	Yes	No	Yes	No
64	20	56	28	62	22

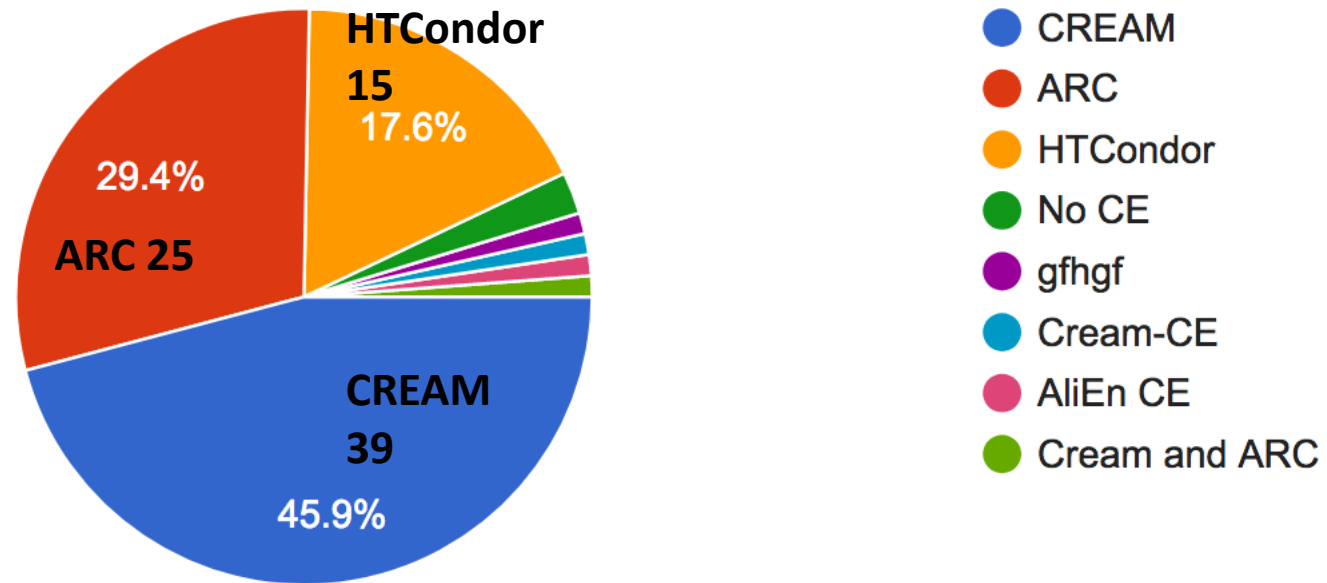
Support of LHC VOs



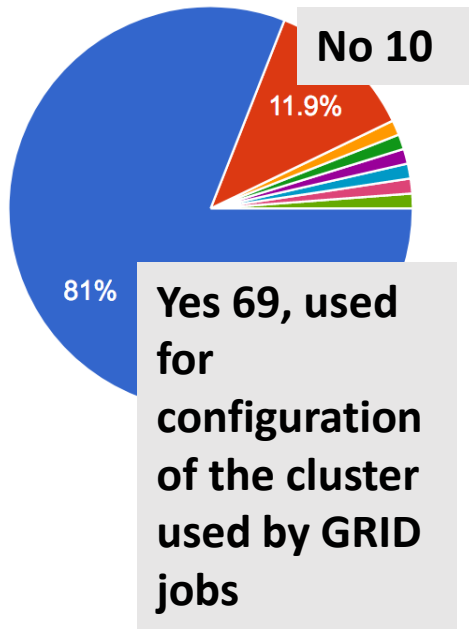
Main batch system implementation



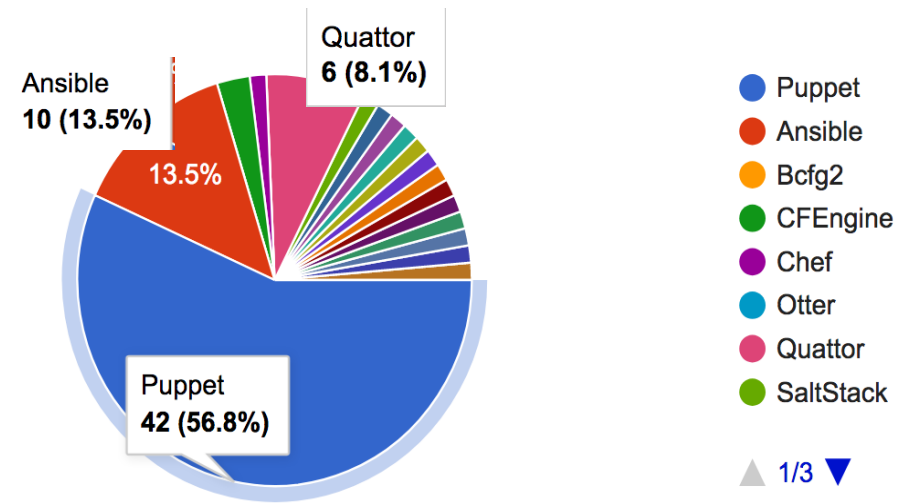
Main CE implementation



Usage of the software configuration management systems to configure computing resources

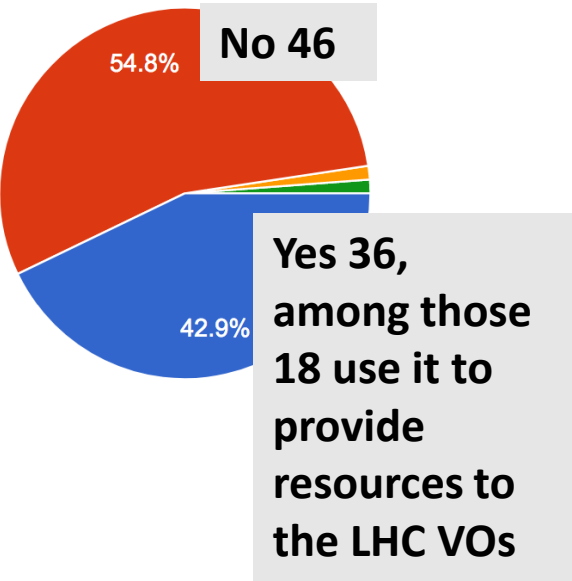


- Yes
- No
- yes, but not for any grid services
- personal bash script
- ROCKS
- Terraform and Ansible
- I use hand make scripts
- pdsh executing bash and python scripts. Also some ansible playbooks.

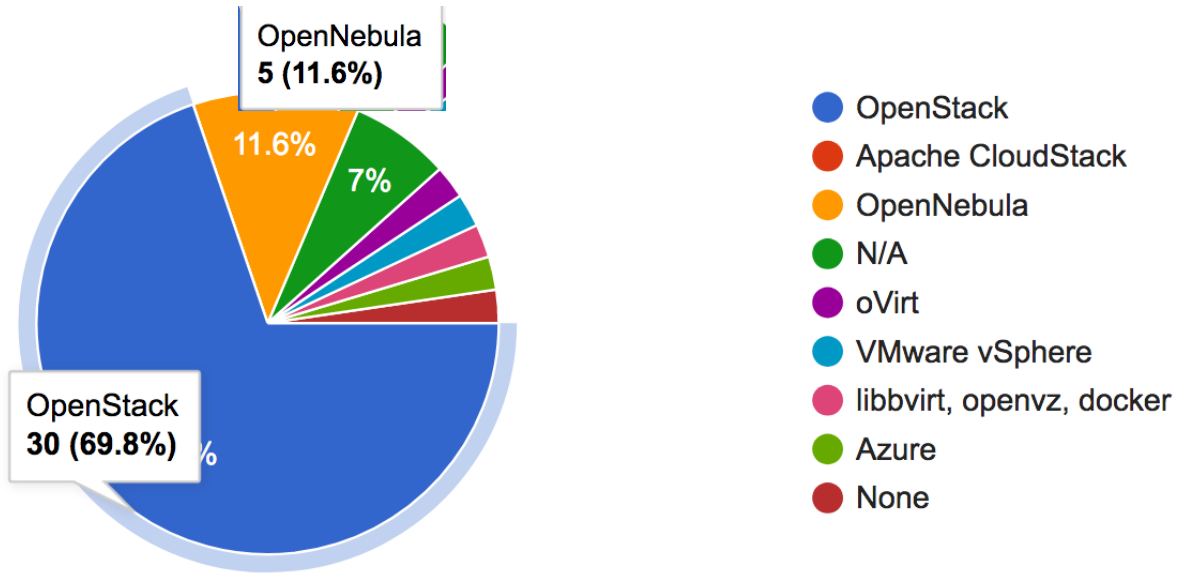


- Puppet
- Ansible
- Bcfg2
- CFEngine
- Chef
- Otter
- Quattor
- SaltStack

Usage of the software platforms for cloud computing



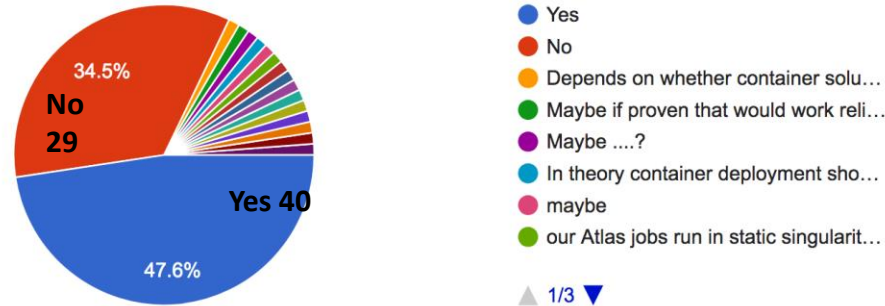
- Yes
- No
- with University computing center
- commisioned DR site T3_IN_ TIFRCloud



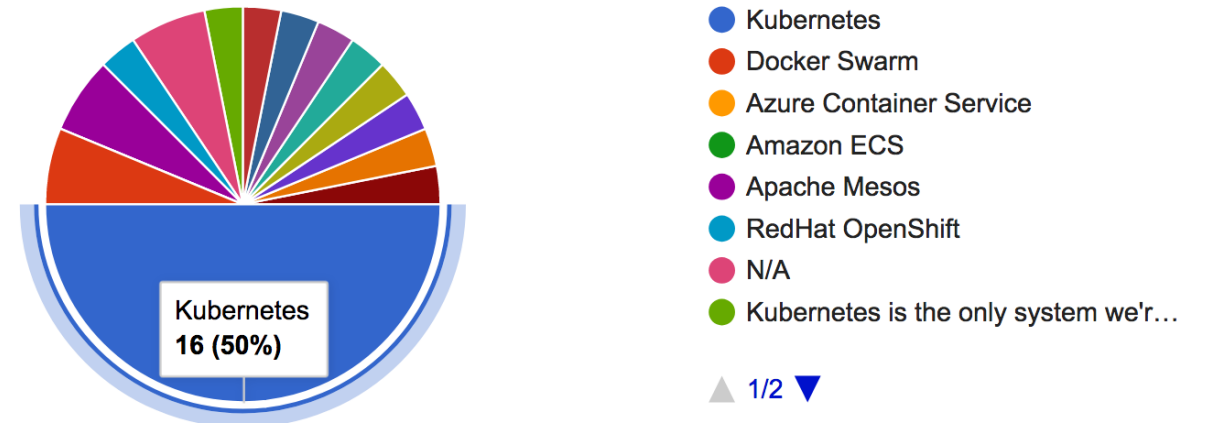
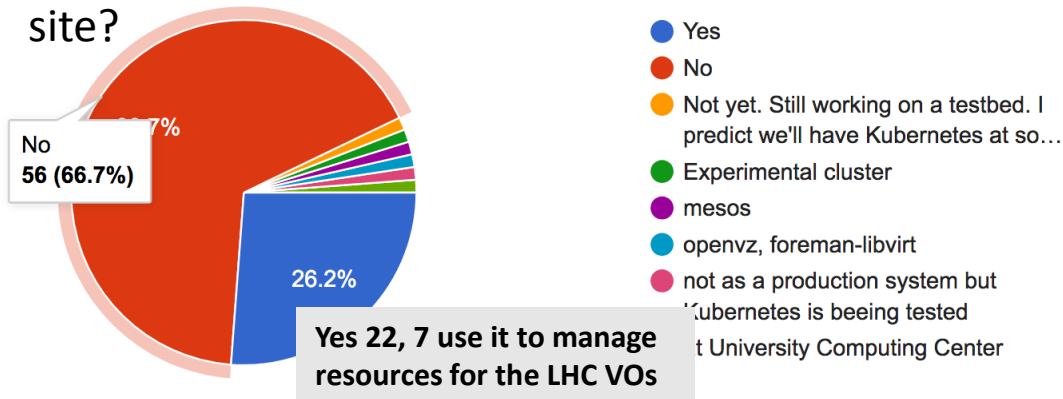
- OpenStack
- Apache CloudStack
- OpenNebula
- N/A
- oVirt
- VMware vSphere
- libbvirt, openvz, docker
- Azure
- None

Usage of containers and systems for management of the containerized applications

Would you like to deploy grid services in Docker containers?



Do you use any any system for management of containerized applications like Kubernetes at your site?

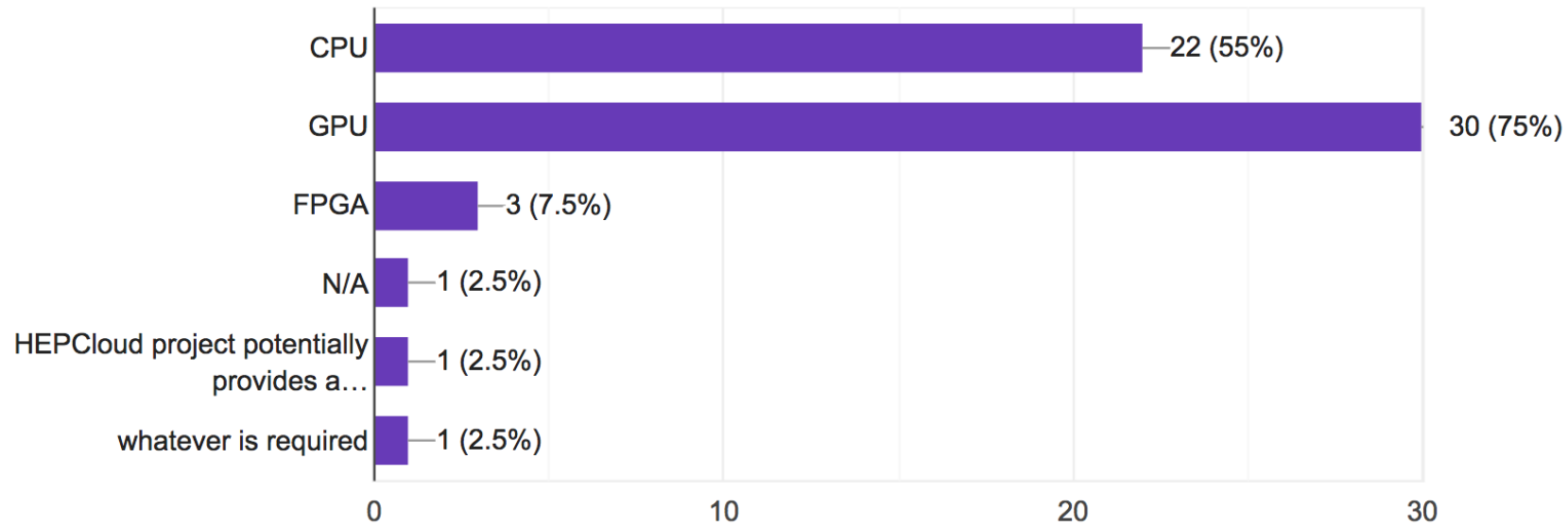


Usage of different computing architectures

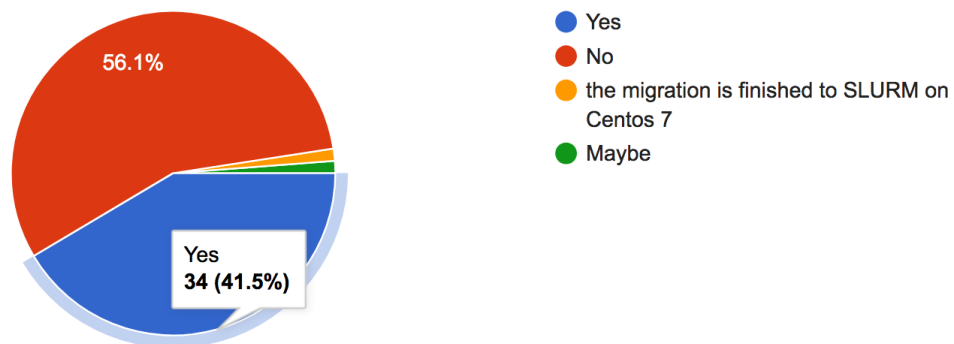
Question 24. In case you (plan to) offer different computing architectures to be used by the LHC VOs, which ones



40 responses

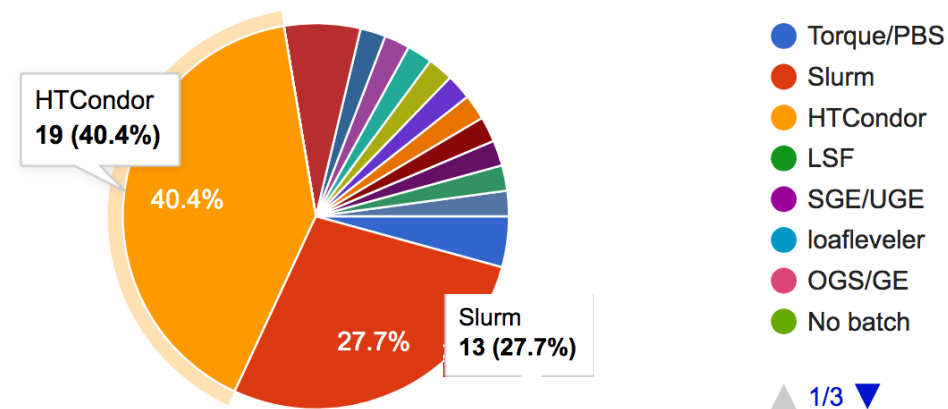


Plans for batch system replacements

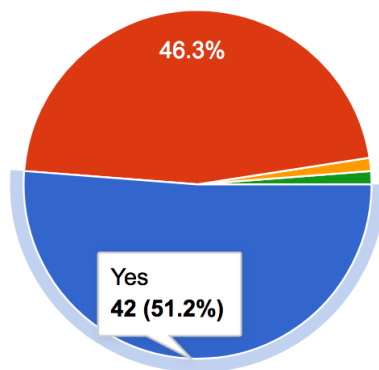


Question 26. If you foresee to replace your current batch system , which one do you plan to use?

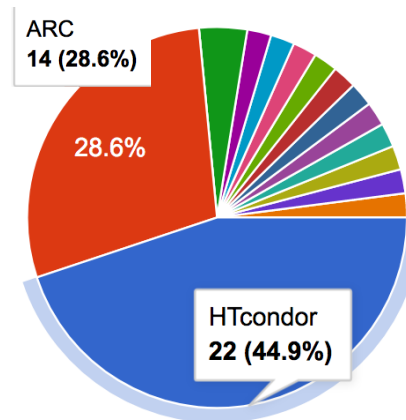
47 responses



Plans for CE migration



- Yes
- No
- It will depend on the continued support for the CreamCE
- the migration is finished to ARC on Centos 7



- HTcondor
- ARC
- No CE
- N/A
- ARC or HTcondor
- ARC and/or No CE (Kubernetes)
- no plan, but if we would, we would...
- either HTCondorCE or ARC CE, will...

Tier1 sites not running CREAM

Site name in GocDB/OIM convention	Question 8.	Question 9. (Migrate to other CE
NDGF-T1	Slurm	ARC	
Taiwan_LCG2	HTCondor	ARC	
TRIUMF-LCG2	HTCondor	ARC	
USCMS_FNAL_WC1	HTCondor	HTCondor	
pic	HTCondor	HTCondor	
BNL-ATLAS	HTCondor	HTCondor	
RAL-LCG2	HTCondor	ARC	Plan to migrate to HTCondor
FZK-LCG2	HTCondor	ARC	Plan to migrate to HTCondor

Tier1 sites still running CREAM

Site name in	Question 8. I	Question 9. (Question 15.	Question 18. I	Question 22.	Question 26. If you foresee to replace your	Question 28. In case you fo	Question 32.	Question 29.
infn-t1	LSF	CREAM	Puppet	OpenStack		HTCondor	HTcondor	No	30.10.19
KR-KISTI-GSD	Torque/PBS	CREAM	Puppet			HTCondor	HTcondor	Maybe	31.07.19
IN2P3-CC	SGE/UGE	CREAM	Puppet	OpenStack	Kubernetes	Today it is expected to use HTcondor for W	HTcondor	Maybe	
JINR-T1	Torque/PBS	CREAM	home made			HTCondor	HTcondor	Yes	30.09.19
SARA-MATRI	Torque/PBS	CREAM	CFengine+Ar	OpenStack	Kubernetes	Probably Slurm or HT Condor	HTcondor and/or ARC	No	31.12.20

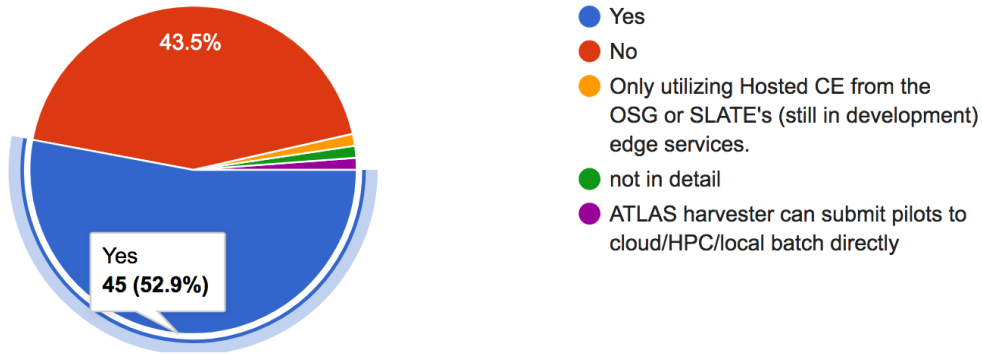
Plans for CE and batch migration for Tier2 and Tier3 sites

T2 and T3 with CREAM as main CE	Current batch implementation	Plans to change batch	New batch	Plans to migrate to other CE
34 sites (those which responded to the survey)	23 Torque/PBS 4 Slurm 2 LSF 2 SGE/UGE 2 OGS/GE 1HTCondor	22 plan to migrate to another batch system	14 HTCondor 5 Slurm 1 Torque/PBS 2 have not decided yet	3 sites do not plan to migrate 14 HTCondor 11 ARC 6 hesitate between HTCondor and ARC 2 have not decided yet

22 sites plan to migrate from CREAM already this year

NO-CE solutions

Have you heard about existing solutions for providing computing resources without running a computing element (NO CE)?



- Most of sites do not currently consider NO_CE solutions
- From those who do consider:
 - 5 VAC/Vcycle
 - 2 DODAS
 - 2 Slate
 - 1 Kubernetes
 - 1 Harvester + Kubernetes
 - 1 Direct submission by pilots

Need help for migration?

Question 32. If you are planning to migrate to a different batch system or CE implementation, do you need guidance/help to perform this task?

68 responses

