

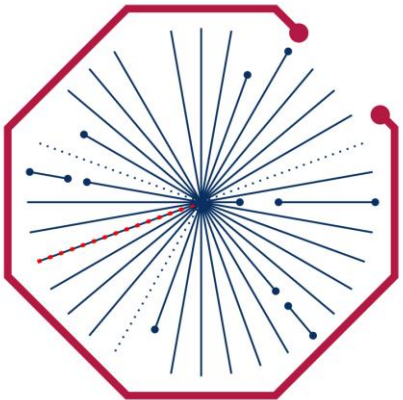


U.S. DEPARTMENT OF
ENERGY

Office of Science



ALICE-USA Computing Project PEAP 2026 Overview



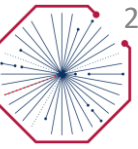
ALICE-USA Computing Annual Meeting @ LBNL

April 20, 2026

Irakli Chakaberia

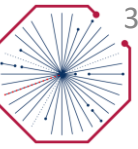


ALICE



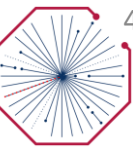
Project Execution and Acquisition Plan 2026

As shown in September, but scarier



Challenges

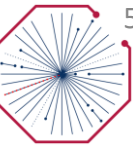
- Price
 - The plan was submitted in October 2026
 - AI related price disaster (RAMagedon) had not have begun yet
 - We are evaluating options between CPU and disk at both sites
 - We need to replace at least one server at LBNL
- Person-power
 - ORNL new hardware deployment will be challenging with only Steve there
 - Steve's time is limited
 - New hire may prove up and ready right away, but no ETA on that hire at the moment



ALICE-USA CPU and Storage Obligations

- In 2026
 - ALICE-USA M&O-A kept at 44
 - But this is probably going down in 2027
 - 2026 estimate is based on the RRB approved numbers
 - These resources have already been pledged
- 2027 are based on ALICE's current outlook for 2027.
 - It is probably pretty accurate for the CPU
 - Disk requirements may change a little

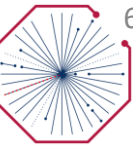
Year	FY2025	FY2026	FY2027
ALICE Requirements			
CPU (kHS23)	1420	1530	1580
Disk (PB)	156	179	201
ALICE-USA Participation			
(ALICE - CERN) M&O-A	535	535	535
ALICE-USA M&O-A	44	44	39
ALICE-USA/ALICE (%)	8.22%	8.22%	7.29%
ALICE-USA Obligations			
CPU (kHS23)	116.8	125.8	115.2
Disk (PB)	12.8	14.7	14.7



Resource Acquisition Plan

- Obviously, the plan depends on the funding
- In 2025 we received almost no hardware funding
- The funding for the proposed plan envision about 0.5 M increase on top of 2025 funding
- 36 kHS23 @ LBNL is overestimated (using pre-whole-node HS23 values)

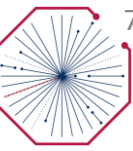
Resource	Installed	FY2026	FY2027
LBNL HW & Costs			
CPU change (+/- kHS06)		-17.0+20.0	-10.0+15.0
CPU Installed (kHS06)	36	39	44
Disk change (+/- PB)		-1.5+3.0	0.0+1.5
Disk installed (PB)	6.15	7.65	9.15
CPU (\$M)		0.170	0.128
ORNL HW & Costs			
CPU change (+/- kHS06)		-20.0+15.0	-7.0+10.0
CPU Installed (kHS06)	72	67	70
Disk change (+/- PB)		0.0+0.0	-1.5+1.5
Disk installed (PB)	7.5	7.50	7.50



Deployment Strategy

- We keep 20 kHS23 reliance on opportunistic resource not to blow up the budget

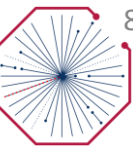
Resource	FY2025	FY2026	FY2027
ALICE-USA Obligations			
CPU (kHS23)	116.8	125.8	115.2
Disk (PB)	12.8	14.7	14.7
ALICE-USA Plan			
Opportunistic CPU Resource (kHS23)	20.0	20.0	10.0
CPU (kHS23)	108.0	106.0	114.0
% CPU obligation	109.6%	100.1%	107.7%
Disk (PB)	13.7	15.2	16.7
% Disk obligation	106.4%	102.9%	113.6%



Current CPU nodes

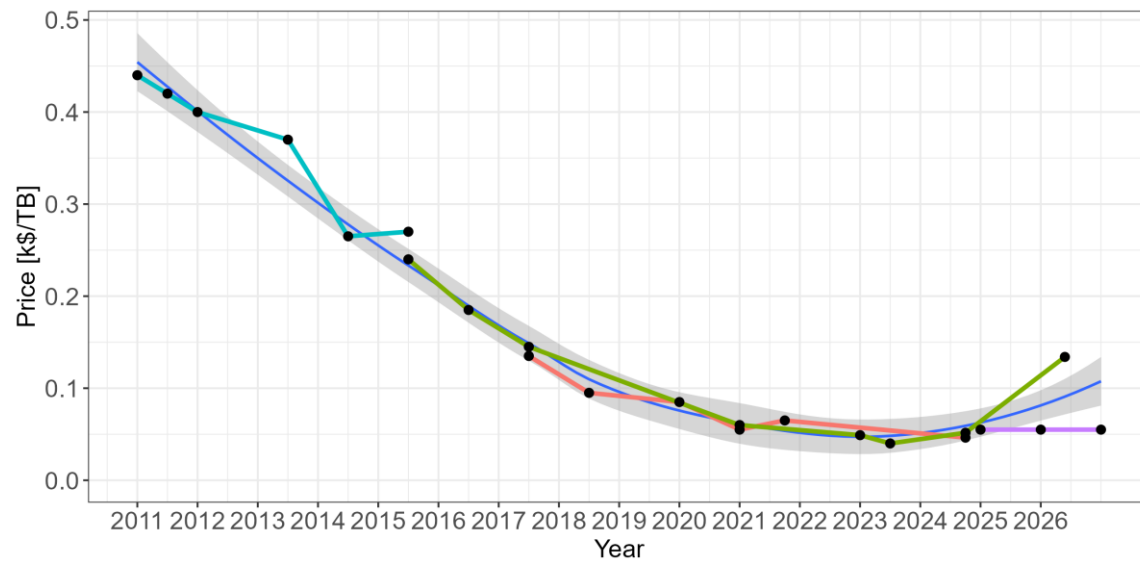
- All our LBNL (48) CPU is out-of-warranty and pretty old
- Much of our (94) ORNL CPU is out-of-warranty and pretty old

ORNL	Year	2015	2015	2018	2019	2022	2023	Total
	Cores	1728	0	576	0	1920	1152	5376
	kHS23	20.39	0.00	7.12	0.00	30.18	14.55	72
LBNL	Year	2015	2017	2018	2019	2022	2023	Total
	Cores	256	224	576	576	896		2528.00
	kHS23	4.28	3.24	9.79	9.79	9.79		36.89

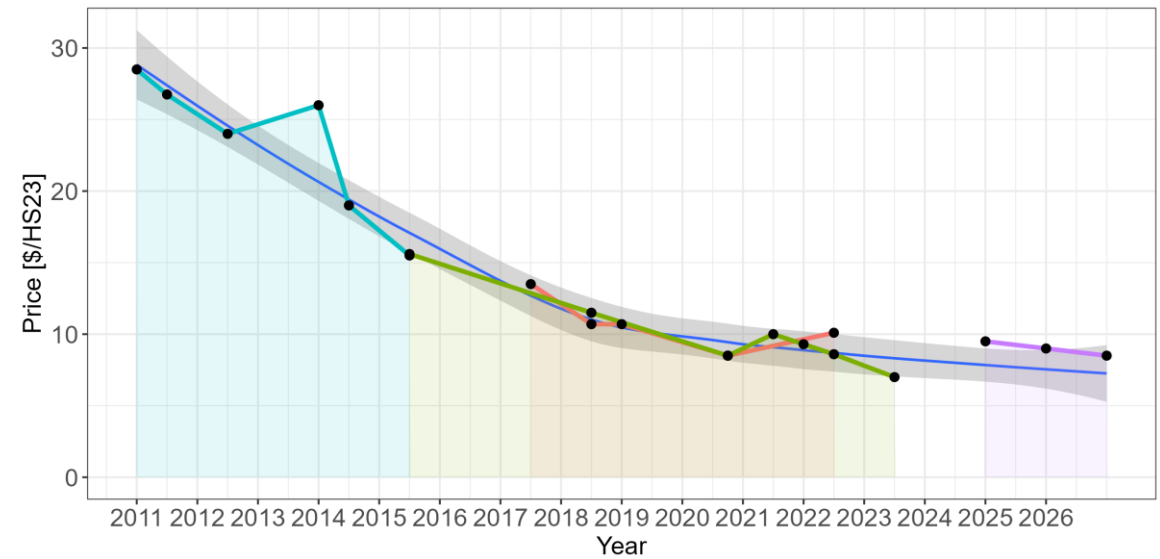


Cost trends for the CPU and Storage

- 2026 price is based on the recent quote at ORNL
- I do not have a CPU quote yet for the WNs, but we quoted the server for mgm and the prices has doubled since our purchase of a similar server a year or so ago



□ HPCS □ ORNL □ PDSF □ PEAP 2025-2027



□ HPCS □ ORNL □ PDSF □ PEAP 2024-2026



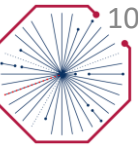
PEAP 2026 Quarterly Milestones – Q1-Q2

Q1 FY2026

- Finalize 'cgroups v2' at LBNL (with SLURM using workaround for rocky8)
- Restore HTTPS support in EOS at ORNL
- Receive and review 2026 ERCAP allocations at NERSC
- Revisit ongoing EOS problems with the EOS team
- Rebuild EOS SE with merged HPCS and AFP EOS instances

Q2 FY2026

- ORNL: IPv6 support
- Reevaluate the timeline for Analysis Facility Proposal Update to DOE
- Attend EOS community workshop
- Attend High Throughput Computing meeting
- Purchase new CPU and storage for the 2026 RRB year



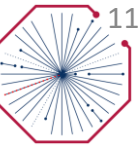
PEAP 2026 Quarterly Milestones – Q3-Q4

Q3 FY2026

- Deploy new CPU on both sites according to 2026 pledges
- Deploy new storage at LBL
- Report status of ALICE-USA grid operations at annual ALICE T1/T2 Workshop
- Review updated ALICE requirements for 2027

Q4 FY2026

- Hold annual ALICE-USA/CERN resource review meeting
- IPv6 on WNs?
- Update PEAP for FY2027
- Submit FY2027 ERCAP request for NERSC HPC CPU allocation
- Submit 2027 WLCG pledges



Summary

- We had a nice 2026 plan in place
 - Budget and AI price disaster happened to it
 - Reevaluating the plan and pushing back harder to obtain a hardware budget
- 2025 budget did not allow for hardware purchase
- 2026 plan without a known NP budget is pure speculation
- Lawrenceium contribution is important to deliver our obligations to ALICE
- Perlmutter allocation is less than a half of 2025, but we can work on this