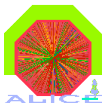

US Tier-1/2 Computing for ALICE

Ron Soltz, LLNL

Computing Coordinator,US

US Institutions seeking admittance to ALICE

US Tier-1 Capable Facilities

NERSC @ Lawrence Berkeley Nat. Lab.
Department of Energy (DOE)

http://www.nersc.gov

LC @ Lawrence Livermore Nat. Lab.
Department of Energy (DOE)

http://computing.llnl.gov

OSC @ Ohio State University
State of Ohio

http://www.osc.edu

TLC2 @ University of Houston
State of Texas

http:/tlc2.uh.edu

NERSC/PDSF

System Name	System Type	CPU		Computational Pool					Node Interconnect	Scratch Disk
		Type	Speed	Nodes	SMP Size	Total CPUs	Aggregate Memory	Avg. Memory/CPU		
Seaborg	IBM SP	POWER 3+	375 MHz	384	16	6,144	7.19 TB	1.2 GB	IBM "Colony"	35.6 TB
Bassi	IBM p575	POWER 5	1.9 GHz	111	8	888	3.55 TB	4 GB	IBM HPS	58.2 TB
Jacquard	LinuxNetworx Linux Cluster	Opteron	2.2 GHz	356	2	712	2.14 TB	3 GB	InfiniBand	18.4 TB
PDSF*	Linux Cluster	Various	Various	275	2	550	550 GB	1 GB	Ethernet	135 TB
DaVinci	SGI Altix	Itanium 2	1.4	1	32	32	192 GB	6 GB	NUMA	21.9 TB

- Propose to DOE ~500 additional cpu of PDSF for ALICE
- NERSC HPSS has 22 PB current capacity
- Connects to ESNET via 10 GBS Bay Area Met. Area Network
- 24/7 Support
  - Account and technical support 8:00-17:00 Pacific, M-F
  - 24/7 operations staff monitors critical components, interactive nodes, home file-system
  - operations refer to on-call sys. admin or project lead as needed

LC/Serial Cluster

System	Top500 Rank	Program	Manufacturer/ Model	OS	Interconnect	Nodes	CPUs	Memory (GB)	Peak GFLOP/s
Unclassified Network (OCF)									**116,096**
Atlas (Peloton)	*TBD*	*M&IC*	*Appro*	*Linux*	*IB*	*1,152*	*9,216*	*18,432*	*44,237*
Thunder	14	M&IC	California Digital	Linux	Elan4	1,024	4,096	8,192	22,938
Zeus (Peloton)	*TBD*	*M&IC*	*Appro*	*Linux*	*IB*	*288*	*2,304*	*4,608*	*11,059*
MCR	58	M&IC	Linux Networx	Linux	Elan3	1,152	2,304	4,608	11,059
ALC	71	ASC	IBM xSeries	Linux	Elan3	960	1,920	3,840	9,216
uP	84	ASC	IBM SP	AIX	Federation	108	864	3,456	6,566
uBG/L		ASC	IBM	Linux	IBM	1,024	2,048	512	5,734
Serial Cluster		*M&IC*	*Appro*	*Linux*	*N/A*	*80*	*640*	*1,600*	*3,072*
Sphere		ASC	Rackable Systems	Linux	Elan3	96	192	192	1,075
iLX		M&IC	RAND Federal	Linux	N/A	67	134	268	678
GPS		M&IC	HP GS320/ES45/E	Tru64	N/A	33	160	356	277
Vertex		ASC	GraphStream	Linux	IB	16	32	64	128
Snowbert		M&IC	IBM SP	AIX	Colony	8	64	32	57

- ALICE to run on subset of 640 cpu Serial Cluster
- Connects to ESNET via same network as NERSC
- LLNL has active HPSS group and >PB capacity
- 24/7 Support
  - Account and technical support 7:30-16:45 Pacific, M-F
  - 24/7 operations staff monitors network, batch jobs, hardware, processes, storage, remote access, OTP logins
  - operations refer to on-call system matrix or plant as needed

OSC / Itanium & Xeon Clusters

- ALICE to run on ~200 cpu leveraged against NSF proposal
- HPSS system available, proposal to NSF to procure tapes
- 24/7 Support
  - Account and technical support 9:00-17:00 Eastern, M-F
  - 24/7 support for network, storage, and critical hosts with on-call network engineer and on-call HPC analyst

TLC^2 / Eldorado and ARCL Clusters

- ALICE to run on ~100 cpu from NSF proposal
- HPSS system available
- 24/7 Support
  - Normal system support 7:30-18:00 Central, M-F
  - Critical 24/7 support from on-call duty system administrator

ALICE has been using OSC/TLC^2 since 2003

- AliEn installation and testing at LBNL/LLNL underway
- AliEn-OSG interface proposed to NSF by OSC/LBNL/UH