

LC User Meeting Agenda

November 2019 LC User Meeting

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Agenda

10:00-11:00	Magma System Design and CTS-2 Procurement Status	Ian Karlin
11:00-11:15	LC Systems Status and Changes	Tim Fahey
11:15-11:30	Q&A	Tim Fahey

Recent and Upcoming Changes at LC

- September 2019 rzgw gateway login no longer required for RZ system access
- October 2019 Quartz expanded by 2 Service Units (from 12 to 14)
 - 372 additional batch nodes (2930 batch nodes total)
- October 1, 2019 New HPSS Archive Growth quotas for all OCF and SCF users
 - OCF 300TB
 - SCF 300TB
- Corona enters LA December 2019 on OCF
 - 82 nodes with 4 AMD MI25 gpus
 - 82 nodes with 4 AMD MI60 gpus
 - Mellanox HDR interconnect
 - Job scheduling by SLURM with a pdebug partition and two separate pbatch queues, one each for the MI25 nodes and MI60 nodes

Upcoming Changes at LC

- January 2020 Vertex enters production on SCF
 - 32 GPU nodes
 - Dual socket Cascade Lake cpus, 16C/32T per socket, 2.1GHz
 - 384 GB memory, Mellanox EDR
 - 4 Nvidia V100's with 32GB memory with NVLink
- January 2020 Boraxo enters production on OCF
 - Identical to Borax, 57 compute nodes, node scheduled

Upcoming Changes at LC

- January 31, 2020 Sequoia retires from production
 - Oldcslic will continue to mount /p/lscratch1 (Sequoia file system) for data transfer and archive
- March 1, 2020 Max, Cmax and /p/lscratch1 retires
 - All data on /p/lscratch1 will be no longer available
- March 2020 (est.) Magma system enters production on the SCF
- Zin status 2916 -> 2642 batch nodes but holding strong
- /p/lustre* filesystem quotas in effect with a 3-Tier quota system
- RealVNC available on CZ, RZ and SCF

Upcoming Changes at LC – Collaboration Tools

- LC is investigating replacement of Bamboo CI tool with Gitlab
 - Bamboo does not scale well in our environment
 - Per-agent license scheme
 - Hard for end-users and admins to set-up/manage agents and plans
 - Gitlab scales well, is easier to use/manage, and has more features
 - Other labs converging on Gitlab, opening door to cross-site CI
- Short-term:
 - A limited Gitlab pilot is currently underway
 - Gitlab offers source management, CI, simple issue tracking, simple wiki
 - Pilot is CZ only, open-source projects only
 - <https://lc.llnl.gov/confluence/display/GITLAB/GitLab+CI+Pilot>
- Long-term (*assuming pilot goes well*):
 - Gitlab will become a production LC offering (CZ, RZ, SCF)

Upcoming Changes at LC – Collaboration Tools

- Anticipated support schedule for LC collaboration tools, assuming Gitlab pilot goes well

Year	Tools available
2019	Confluence, Jira, Bamboo, Bitbucket, Gitlab/Gitlab-CI (limited CZ pilot)
2020	Confluence, Jira, Bamboo, Bitbucket, Gitlab/Gitlab-CI (production)
>2020	Confluence, Jira, Gitlab/Gitlab-CI

- JupyterHub now available on SCF!

	Top500 Rank	Program	Manufacture/ Model	OS	Inter-connect	Nodes	Cores	Memory (GB)	Peak TFLOP/s	
Unclassified Network (OCF)										
Lassen	10	ASC+M&IC	IBM P9	RHEL	2x IB EDR	792	34,848	253,440	23,047.1	
Quartz	84	ASC+M&IC	Penguin	TOSS	Omni-Path	3,136	112,896	401,408	3793.3	
Pascal		ASC+M&IC	Penguin	TOSS	IB EDR	163	5,868	41,728	1,700	
RZTopaz		ASC	Penguin	TOSS	Omni-Path		768	27,648	98,304	92
RZManta		ASC	IBM P8	RHEL	IB EDR	36	720	11,520	597.6	9.0
Ray		ASC+M&IC	IBM P8	RHEL	IB EDR	54	1,080	17,280	896.4	
RZAnsel	323	ASC	IBM P9	RHEL	2x IB EDR	54	2,376	17,280	1570.0	
Catalyst		ASC+M&IC	Cray	TOSS	IB QDR	324	7,776	41,472	149.3	
Syrah		ASC+M&IC	Cray	TOSS	IB QDR	324	5,184	20,736	107.8	
Surface		ASC+M&IC	Cray	TOSS	IB FDR	162	2,592	41,500	451.9	
Borax		ASC+M&IC	Penguin	TOSS	N/A	48	1,728	6,144	58.1	
RZTrona		ASC	Penguin	TOSS	N/A	48	1,728	6,144	58.1	
OCF Totals	Systems	13							33,358.6	
Classified Network (SCF)										
Pinot(SNSI)		M&IC	Penguin	TOSS	Omni-Path	187	6,732	23,936	232.2	
Sequoia	13	ASC	IBM BGQ	RHEL/CNK	5D Torus	98,304	1,572,864	1,572,864	20132.7	
Sierra	2	ASC	IBM P9	RHEL	2x IB EDR	4,320	190,080	1,382,400	125626.0	
Zin (TLCC2)		ASC	Appro	TOSS	IB QDR	2,916	46,656	93,312	961.1	
Jade+Jadeita	83	ASC	Penguin	TOSS	Omni-Path	2,688	96,768	344,064	3251.4	
Mica		ASC	Penguin	TOSS	Omni-Path		384	13,824	49,152	46
Shark		ASC	IBM P8	RHEL	IB EDR	36	720	11,520	597.6	4.5
Max		ASC	Appro	TOSS	IB FDR	324	5,184	82,944	107.8	
Agate		ASC	Penguin	TOSS	N/A	48	1,728	6,144	58.1	
SCF Totals	Systems	9							151,431.4	
Combined Totals		22							184,790.0	



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