

LC Systems Update

LC User Meeting

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Agenda

- **New Systems**
- **Sierra/CTS1 Key Dates**
- **HPC System Summary**

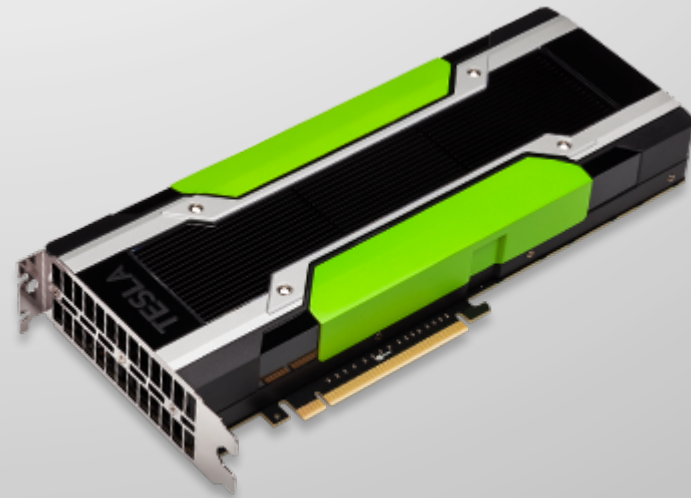
Syrah

- 2SU – 324 Total Nodes
 - 312 Compute nodes
 - 16 Cores at 2.6GHz per node
 - 64 GB RAM per node
- Intel QDR Infiniband
- CZ Lustre file systems available (lscratch[d,e])
- Available since Dec 2014

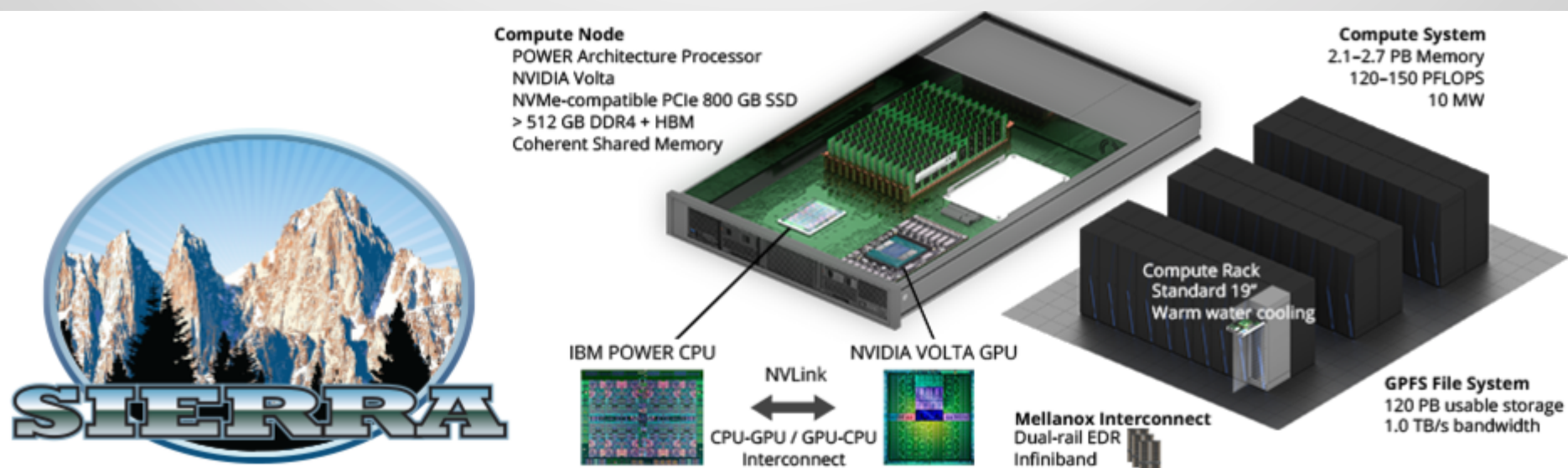


RZhasgpu

- 1 rack – 20 Total Nodes
 - 16 Compute nodes
 - 16 Cores at 3.2GHz per node
 - 128 GB RAM per node
 - 2x Nvidia Kepler K80 GPUs
 - 48GB GPU RAM
- Mellanox EDR (100Gb) IB
- /p/lscratchrb
- Replacement for Rzgpu
- Delivery expected July 2015



Sierra



Sierra / CTS1* key dates

Activity/Milestone	Expected Date	Comments
Early Access Sierra System	Q4 CY 2016	RZ
Test/Dev Sierra System	2H 2017	RZ
First Sierra Deliveries	By End of 2017	OCF -> SCF
CTS1 Contract Award	Sep. 2015	
CTS1 First Delivery	Mar. 2016	OCF->SCF
CTS1 System in New Building	Jun 2016	OCF

*Commodity Technology System 1

HPC at LLNL – As of April 2015

System	Top500 Rank	Program	Manufacture/ Model	OS	Inter-connect	Nodes	Cores	Memory (GB)	Peak TFLOP/s
<i>Unclassified Network (OCF)</i>									
Vulcan	9	ASC+M&IC+HPCIC	IBM BGQ	RHEL/CNK	5D Torus	24,576	393,216	393,216	5,033.2
Sierra	417	M&IC	Dell	TOSS	IB QDR	1,944	23,328	46,656	243.7
Cab (TLCC2)	145	ASC+M&IC+HPCIC	Appro	TOSS	IB QDR	1,296	20,736	41,472	426.0
Ansel		M&IC	Dell	TOSS	IB QDR	324	3,888	7,776	43.5
RZMerl (TLCC2)		ASC+ICF	Appro	TOSS	IB QDR	162	2,592	5,184	53.9
RZZeus		M&IC	Appro	TOSS	IB DDR	267	2,144	6,408	20.6
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 QDR	162	2,592	41,500	451.9
Aztec		M&IC	Dell	TOSS	N/A	96	1,152	4,608	12.9
Herd		M&IC	Appro	TOSS	IB DDR	9	256	1,088	1.6
OCF Totals	Systems	11							6,544.4
<i>Classified Network (SCF)</i>									
Pinot(TLCC2, SNSI)		M&IC	Appro	TOSS	IB QDR	162	2,592	10,368	53.9
Sequoia	3	ASC	IBM BGQ	RHEL/CNK	5D Torus	98,304	1,572,864	1,572,864	20132.7
Zin (TLCC2)	66	ASC	Appro	TOSS	IB QDR	2,916	46,656	93,312	961.1
Juno (TLCC)		ASC	Appro	TOSS	IB DDR	1,152	18,432	36,864	162.2
Muir		ICF	Dell	TOSS	IB QDR	1,296	15,552	31,104	168.0
Graph		ASC	Appro	TOSS	IB DDR	576	13,824	72,960	107.5
Max		ASC	Appro	TOSS	IB QDR	324	5,184	82,944	107.8
Inca		ASC	Dell	TOSS	N/A	100	1,216	5,120	13.5
SCF Totals	Systems	8							21,706.7
Combined Totals		19							28,251.1

Questions?



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