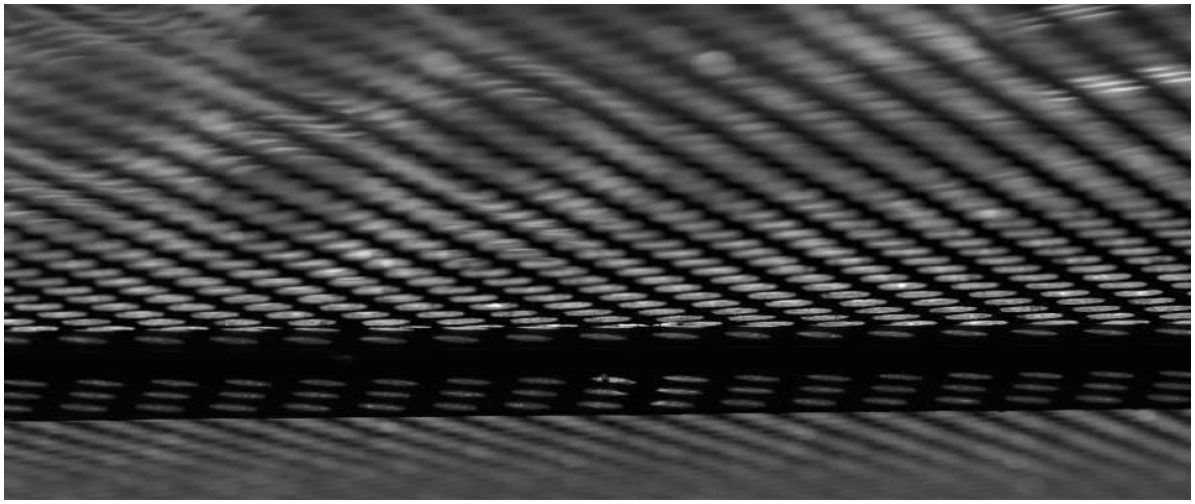

GACRC-AC Meeting – Dec. 3, 2013

Dr. Guy Cormier

Director of Research Computing

THE UNIVERSITY OF GEORGIA

Office of the Vice President for Information Technology

Enterprise Information Technology Services

Component-Based Approach

- Base Components
- Negotiable Components – Compute
- Negotiable Components – Storage
- Warranties & Service

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Base Components

- Base Scratch Storage – 96TB (raw)
- InfiniBand switch, cables and HCA's
- 10GigE/1GigE top-of-rack switches & cables
- Racks and PDU's
- Cluster administration nodes
- Cluster management software stack

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Negotiable Components - *Compute*

- General Purpose Node
  - 4 procs / 48 cores
  - 128 Gigabyte RAM
  - $5,433.38 / $5,791.39
- High Memory Node
  - 4 procs / 48 cores
  - 512 Gigabyte RAM
  - $10,553.67
- High Memory Node
  - 4 procs / 48 cores
  - 1 Terabyte RAM
  - $27,525.20

- GPU Thin Node
  - 2 procs / 16 cores
  - 128 Gigabyte RAM
  - 1x NVIDIA Kepler K40
  - $11,000.04

- GPU Fat Node
  - 2 procs / 16 cores
  - 128 Gigabyte RAM
  - 8x NVIDIA Kepler K40
  - $37,387.33

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Negotiable Components - *Storage*

- Scratch Space Chain
  - Storage head node
  - 2x expansion enclosures
  - 80 storage drives total
  - 600GB 15,000 rpm
  - 48TB raw
  - $65,138.58
- Archive Space Chain
  - Storage head node
  - 2x expansion enclosures
  - 80 storage drives total
  - 4TB 7,200 rpm
  - 320TB raw
  - $65,143.94

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Some Scenarios … many more possible

Scenarios	#1	#2	#3	#4	#5	#6	#7
total computational cores	7,104	7,680	8,160	6,048	8,736	6,528	6,048
Theoretical Teraflops	74	80	85	63	91	68	63
Number Compute Nodes (GigE)	71	77	82	60	91	68	0
Number Compute Nodes (IB)	71	77	82	60	91	68	126
Number High-Mem Nodes	6	6	6	6	0	0	0
total RAM	22	23	25	19	23	17	16
total scratch (raw)	94	94	94	94	94	94	94
total archive (raw)	633	316	0	1,265	0	1,265	1,265

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