

Outline

- A few highlights;
 - Ent, Lung, Freyberger related talks to follow (not necessarily highlights)
- Accelerator Readiness, the process
- Budgets
- Work Force Restructuring
- Conclusions

Laboratory Highlights

December 7, 2012 – TED Achieved LEED Gold:
Project CD4 September 2014



TOP500 Supercomputer Site



LEED Scorecard

GOLD 44/69

► SUSTAINABLE SITES

9 OF 14



► WATER EFFICIENCY

5 OF 5



► ENERGY & ATMOSPHERE

7 OF 17



► MATERIAL & RESOURCES

7 OF 13



► INDOOR ENVIRONMENTAL QUALITY

11 OF 15



► INNOVATION

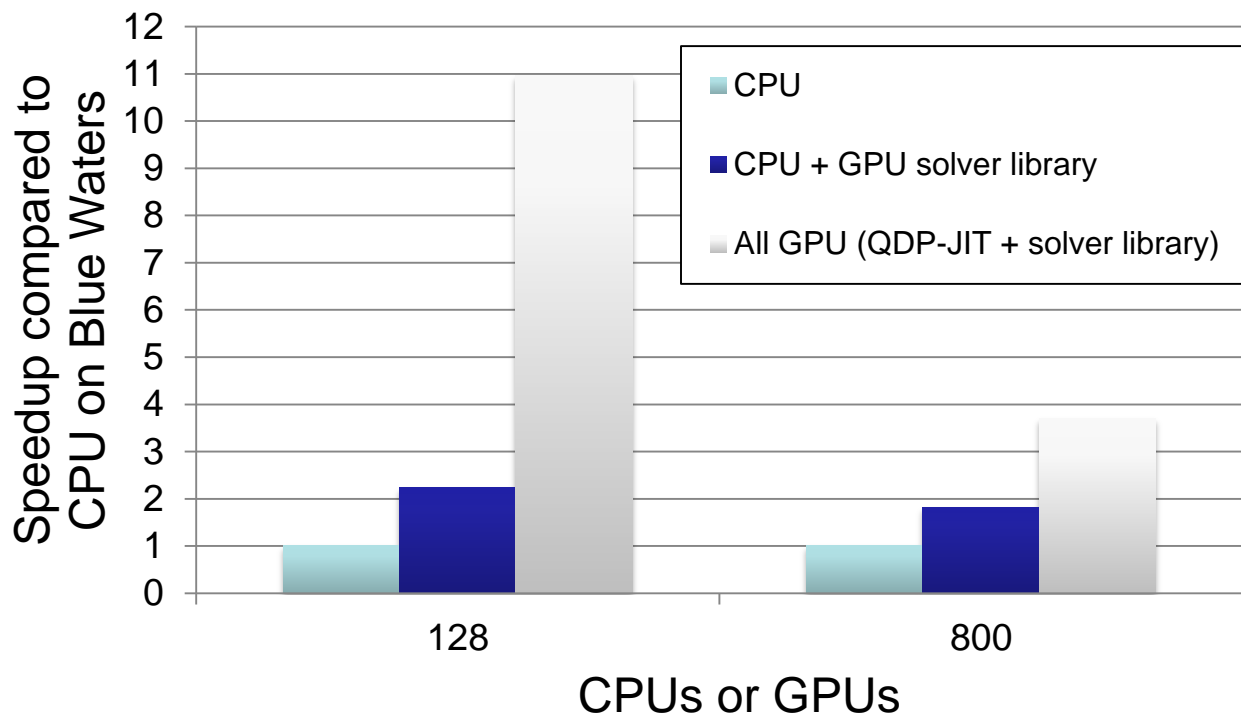
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Accelerating science with GPUs

Gauge Generation Benchmark

Strong (Hard) Scaling



QDP-JIT, Chroma and the QUDA GPU solver library enable our science program on leadership GPU systems such as DOE Titan and NSF Blue Waters.

Data from:

F. Winter (JLab)

M. A. Clark (NVIDIA)

B. Joo (JLab)

R. Edwards (JLab)

Accepted for IPDPS'14 conference

- Before: Used CPU + GPU solver library for LQCD Analysis (>95% work in solver)
- Gauge Generation uses solvers less → Smaller gain from only accelerating solver.
- QDP-JIT layer moves entire calculation to GPU (+ we still use GPU solver library)
- **2x-5x speedup** over GPU solver library alone, **3.7x-11x speedup** over CPU alone

12 GeV Project

- Successful Rebaseline September 1, 2013
 - TPC \$338, CD4B 4QFY17
- Mini Lehman December 9, 2013
- Accelerator
 - Beam Transport, out of tunnel. Power Systems, staying ahead of the waves, I&C mainly in Hall D line
- Detectors
 - Magnets, moderately good progress
 - Detectors
 - Hall D installation, good progress FDC prep, CDC in wings, overall is slower than hoped
 - Hall C detectors in good shape, SHMS carriage
 - Hall B detectors,
 - HTCC, LTCC, to be done
 - SVT (flex cable issue)
- Director's Review March, 2014
- OPA Review April 8-10, 2014

Accelerator Readiness Review

Accelerator Commissioning

- Director's Commissioning Review; (June 2013)
- ARR Phase IA; 3QFY13; (August 2013)
- ARR Phase IB; 1QFY14
- Commission Accelerator
 - Reworked schedule for cryo commissioning -- delay for accelerator
 - Beam through injector
 - Beam in North Linac and through 1st Arc
 - See Arne Freyberger's talk
- ARR Phase II; 2QFY14 – Review Jan 28,29
 - Experimental Readiness Review Hall A
- Commission Hall A,D;
- ARR Phase II; 3QFY14
- Operate Hall A, D

Budget Impacts in Early 2014 (Discussed at DNP)

- Continuing Resolution
 - FY14 Project funding profile decreases from FY13
 - FY14 Operations funding needs increase
 - DOE Office of nuclear physics provided help
- Proceeded with Accelerator Commissioning Plans
- Work Force Restructuring planned for implementation in January 2014
 - Align to future ONP operations funding plans, based on discussions 2010-2013, goal is to maximize physics with limited budget
 - Align to work for others expectations (difficult)

Nuclear Physics Funding FY2014

- Tribble Sub-committee, NSAC report (January 2013)
- President's Budget Request \$570M
 - Very close to Tribble Report "Modest Growth"
- Gelbke(NSCL), Gibbs(BNL), Montgomery (Jefferson Lab), Redwine(MIT/DNP)
 - "1 pager" → Visit with House, Senate staffers
- Appropriation This Month - at President's Budget level
 - Line – 12GeV Upgrade, Lang → line for FRIB (\$55M), Lang for RHIC (\$165M)
 - Consistent with operating budget plan for out-years
- UIM (Utilities Improvement) Project (SLI) approved \$29M
- Worry about directive for multi-year grants.
 - If small (<\$1M) must pay full period of grant
 - Impact on university program, Impact on Jefferson Lab operations??

Nuclear Physics Funding FY2015

- So far only rumors
 - Pass back on budget proposals, only recent?
 - President's Budget mid February??
 - How does it play with "2014-15 2 year deal?"
 - Jefferson Lab Budget Briefing is February 4.
 - Working with hypothetical scenarios (not good ones)
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- Are not confident about maintaining ramp up of operations

BESAC Report on Future Light Sources

Not Nuclear Physics but affects the Lab

- LCLS II Project gets priority
 - APS U (ANL) gets delay
- 4 GeV of SRF in existing SLAC linac tunnel
- SLAC, ANL, Cornell, Fermilab, Jefferson Lab, LBNL
- CD1 review in February

Free Electron Laser

Not Nuclear Physics but affects the Lab

- Victim of Sequestration
- No funding since March 2013
- Reorganization designed to retain operations capability
 - For OHEP/ONP (Darklight)
 - For MEIC (e-cooling R&D)
 - For Office of Naval Research?
 - For ONP (low energy Qweak ...)

Medium Energy EIC@JLab

Science Requirements and Conceptual Design for a Polarized Medium Energy Electron-Ion Collider at Jefferson Lab

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Medium Energy Electron Ion Collider

- Strategic Plan gave high priority to development of MEIC
- Commonwealth Funding Request
 - Fall Campaign (Governor, 2 secretaries, Approps Com, Dept Budgets and Planning...)
 - In Governor's Budget (\$4.6M)
 - Winter campaign imminent
- Machine Review, Jan 15,16
- Indications from ONP that will be Long Range Plan charge in spring 2014
- BNL – Jefferson Lab Electron Ion Collider Advisory Committee,
 - Reconstituted, Gibbs-Montgomery → McKeown-Mueller
 - Chair Walter Henning, Meeting Feb 28, March 1, 2014
- EIC 14 International Workshop Jefferson Lab, March 2014

Work Force Restructuring

- Jan 15, 46 employees were released as the lab restructured. Several divisions are implementing changes to their organizations which reflect this restructuring.
- Goal was to match to DOE-ONP operations funding discussed over time since 2010 Facilities Operations Review.
- Goal was also to position lab staff in light of recent reductions/changes in “Work for Others” funding. This involved a reorganization of FEL work.

Work Force Restructuring Process

- Voluntary Severance Package in each of 2012, 2013
- Divisions and other organizational entities established the positions which could be relinquished
- No piece of the organization was treated as exempt
- Permanent and term employees were treated equally
- Objective criteria provided to make quantitative comparison amongst people with similar skills
- All actions on the same day
- Support for future employment provided

Dec 2013

Jefferson Lab Three-Year Schedule

Calendar Year		2014		2015		2016	
Fiscal Year		2014		2015		2016	
CEBAF	Activity Beam	Commissioning		Comm.	Physics	Physics	Physics
Hall A	Activity Beam	Const.	Comm.	Comm.	Physics	Physics	Physics
Hall B	Activity Beam	CLAS12 Construction/Installation					Comm.
	Activity Beam	Non-CLAS12 Ops					
Hall C	Activity Beam	SHMS Construction/Installation					Comm.
Hall D	Activity Beam	GlueX Installation		Comm.	Comm.	Physics	Physics

 Beam for Commissioning
  Beam for Physics
  Non-CLAS12 Ops

Outlook

There are always challenges

- Work Force Restructuring was a tough experience, goal is to position for future
- Support from Office of Science and Office of Nuclear Physics has been strong so far
- Support for the 12 GeV Upgrade Project has been explicit, and progress has been good
- Accelerator Commissioning is making good progress
- For the future, we are placing emphasis on MEIC preparation
 - Working in partnership with the City of Newport News
 - Seeking support from the Commonwealth
 - Actively working with BNL to re-establish EIC Advisory Committee

Working on several fronts to assure the future