Workshop Logistics, *Etc.*

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Argonne Leadership Computing Facility

Argonne National Laboratory

ESP March Workshop – "Code for Q"

3/19/2012

Safety

- **Fire:**
  Go out main TCS entrance, walk directly away toward visitor's center
- **Tornado:**
  Go to the Conference Center restrooms

- **Emergency PA system**
- **Also outside sirens for tornado**

- Agenda
- Goals
- Logistics
- *Mira*
- Hardware
- VEAS

Agenda

Monday, March 19 - Day One

1:00 – 1:10	Welcome	Mike Papka, ALCF Director
1:10 – 1:30	Workshop Logistics, Mira deployment schedule	Tim Williams
1:30 – 2:15	BG/Q Hardware, Performance, Compilers Part 1	Kalyan Kumaran
2:15 – 2:45	BG/Q Hardware, Performance, Compilers Part 2	Vitali Morozov
2:45 – 3:00	Debuggers	Ray Loy
3:00 – 3:30	Break	
3:30 – 4:00	Threads	Jeff Hammond
4:00 – 4:30	Communication layers	Jeff Hammond
4:30 – 5:00	Performance Tools	Scott Parker
5:00 – 5:30	VEAS: file system, Cobalt, libraries	William Scullin

Tuesday-Wednesday March 20-21 – Days Two and Three

9:30 – 12:00	Tools and Libraries mini-presentations and hands-on	Various
12:00 – 1:00	Working Lunch – compilation troubleshooting	
1:00 – 3:00	Tools and Libraries mini-presentations and hands-on	Various
3:00 – 3:30	Break	
3:30 – 5:00	Hands-on	

Tools & Libraries Mini-Presentations

Tuesday March 20 – Day Two

Time	Subject	Presenter
10:00 – 10:15	PAPI	Shirley Moore, University of Tennessee Knoxville
11:00 – 11:15	Tau	Sameer Shende, University Oregon
1:15 – 1:30	Jumpshot	Rusty Lusk & Anthony Chan, ANL - MCS Division

Wednesday March 21 – Day Three

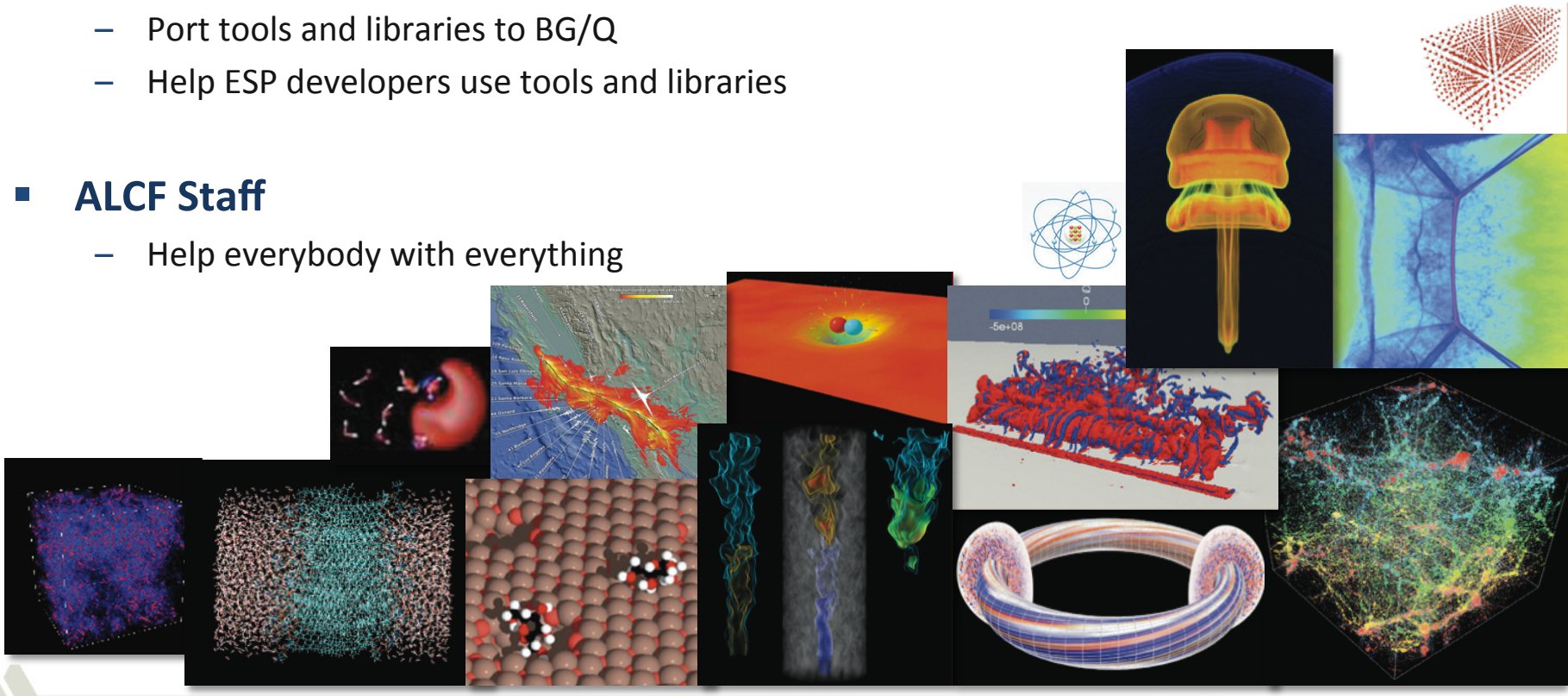
Time	Subject	Presenter
10:00 – 10:15	HPC Toolkit	John Mellor-Crummey, Rice University
11:00 – 11:15	LLVM Compilers	Hal Finkel, ANL - ALCF

Workshop Goals

- **Understanding of BG/Q hardware**
- **Survey of BG/Q compilers, libraries, tools**
- **Learn from optimization examples**
- **Get help from ALCF and Tools/Libraries teams**
- **Work on early BG/Q hardware**
  - Get codes on VEAS
  - Compile dependencies (including some Tools/Libraries projects)
  - Compile code
  - Run tests
  - Benchmark
  - Analyze performance
  - Engage BG/Q features such as increased thread parallelism

Who's Here?

- **Representatives of 13 of 16 Early Science Program projects**
  - Work toward Early Science run campaigns on Mira
- **Representatives of Tools & Libraries project teams**
  - Port tools and libraries to BG/Q
  - Help ESP developers use tools and libraries
- **ALCF Staff**
  - Help everybody with everything



Logistics

- **People**
  - Ginny Doyle – gate pass, Guest House, shuttle, registration, conference rooms
  - ALCF Staff – yellow badges
    - Staff info page (PDF)
  - Lalitha Mantrala – Cryptocards, login problems
- **Workshop physical amenities**
  - Flip chart at back of room
    - Questions
    - Requests for special topic discussions
    - Arrange private conferences
    - Find an expert on ….
  - Smaller rooms in B240 reserved for use
  - Shuttle to Guest House
    - Wednesday afternoon: *no shuttle*
      - Arrange departure from TCS

Wifi

ANLTCSG-guest *-or-* ANLTCSA-guest

One-time acknowledgement web page

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Filling out the form below will register you as a guest on our network for the duration you indicate. If circumstances change or your stay is longer, you will be redirected back to this page to re-register.

This page is focused on visitors to the site, so questions are targeting that audience.

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Last Name:	
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Phone number where you can be reached while using our network:	
Name of person you are visiting, or conference you are attending:	
Do you need to send email directly to an off-site server?	(•) No. ( ) Yes. Unsure.
What is the duration of this reservation?	( ) Today only. (•) This week only. ( ) A month. ( ) A year.

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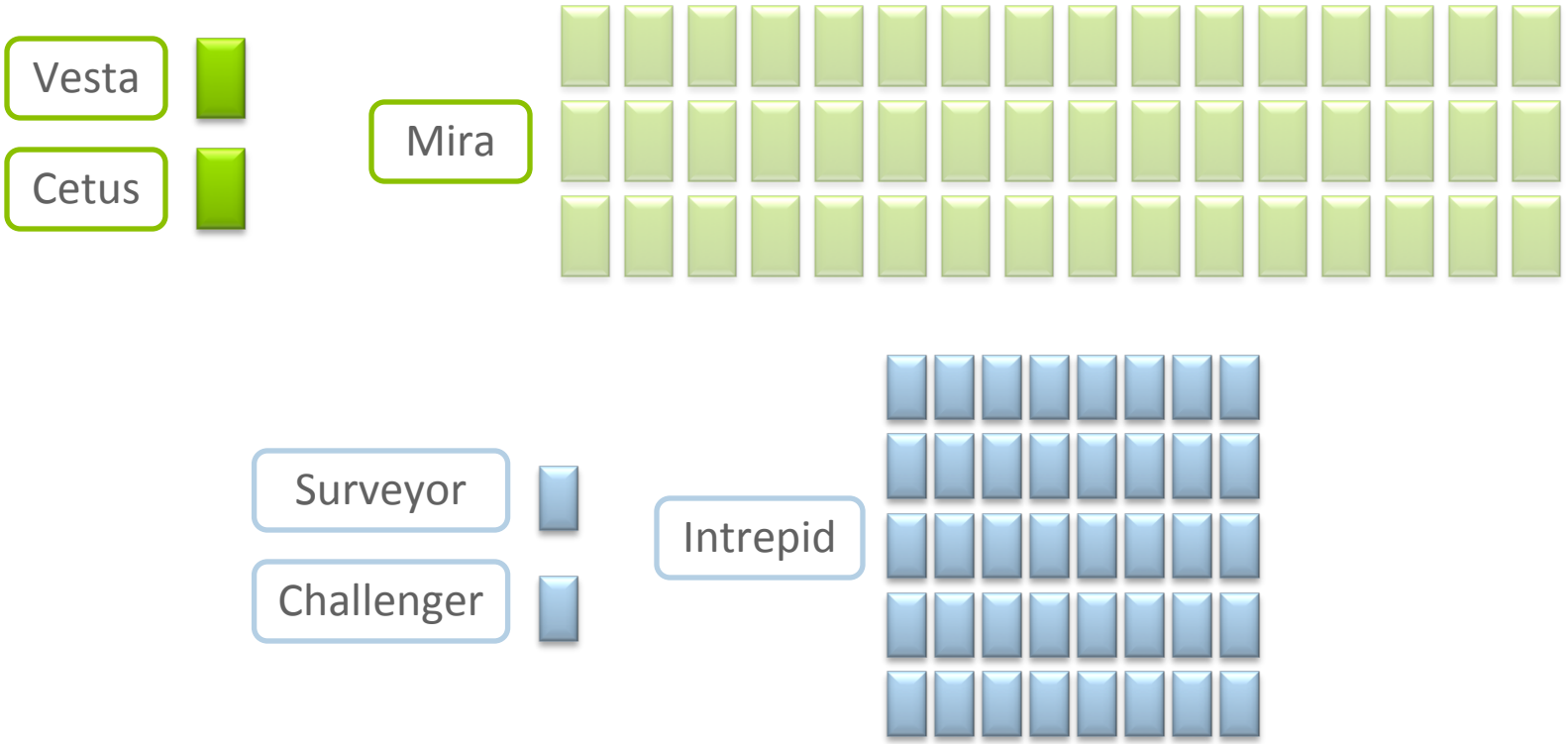
Actual Q Hardware

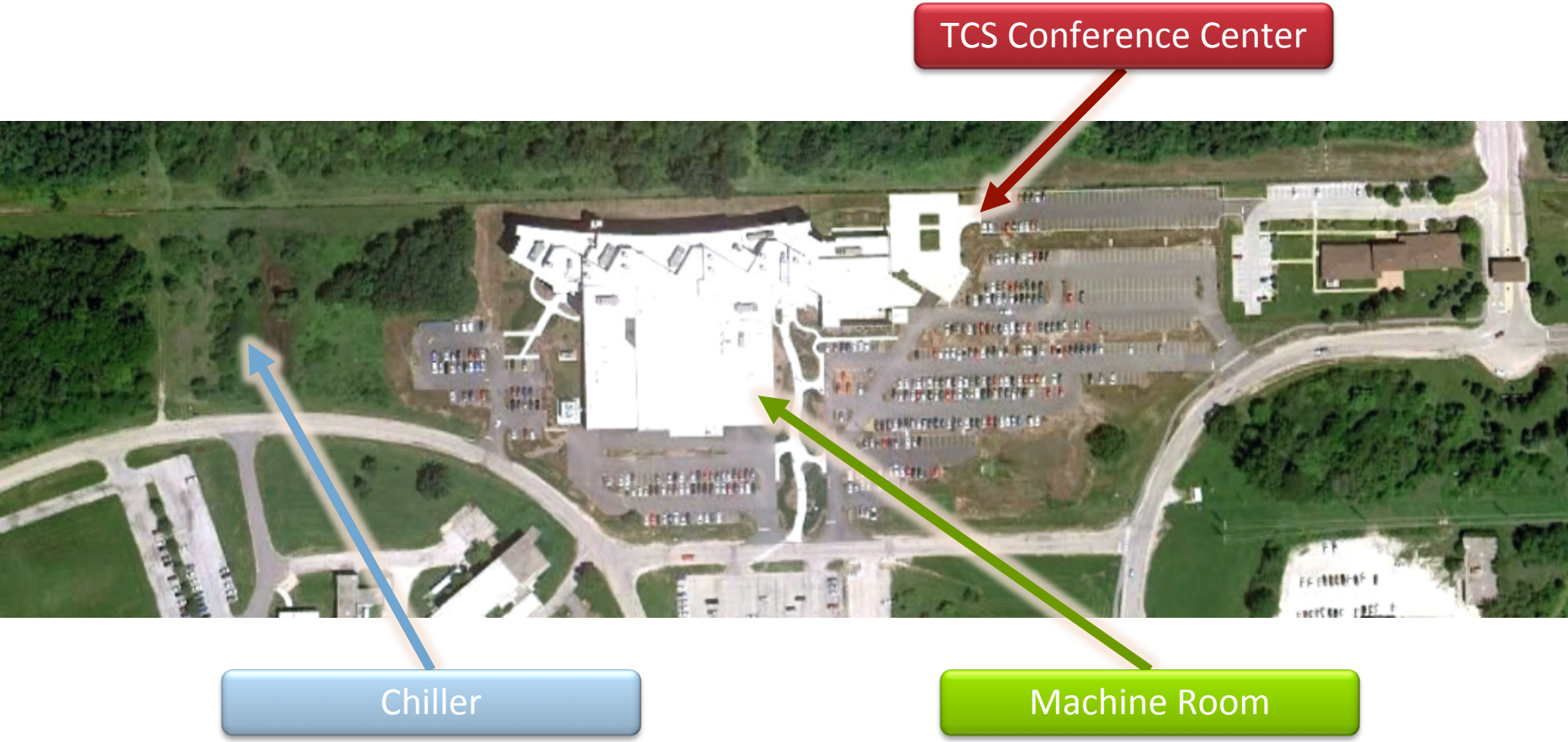
- **Two racks delivered 1/14/2012**
- **Test & Development (T&D) machines**



- **One rack: Very Early Access System (VEAS)**

Actual Photos of Actual Hardware

Big Picture



Water Chiller Plant

Water Chiller Plant

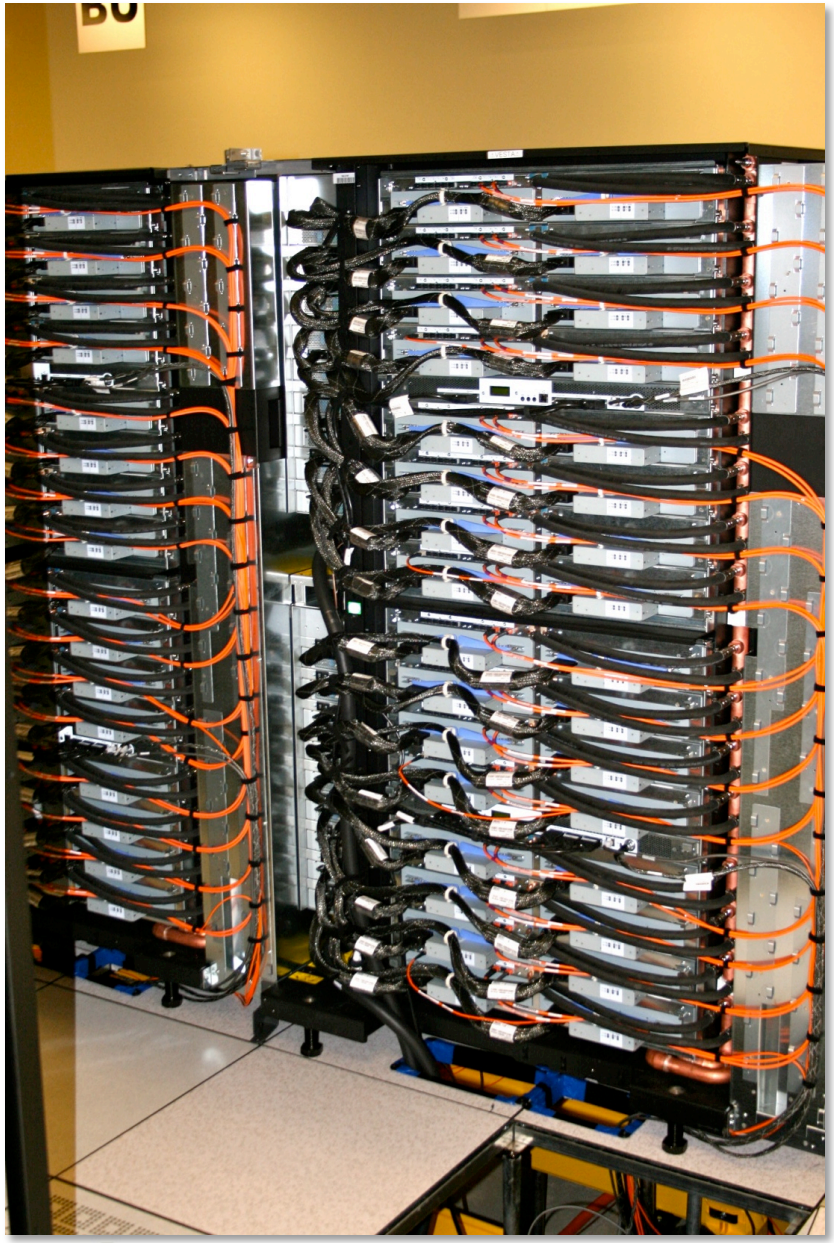
Water

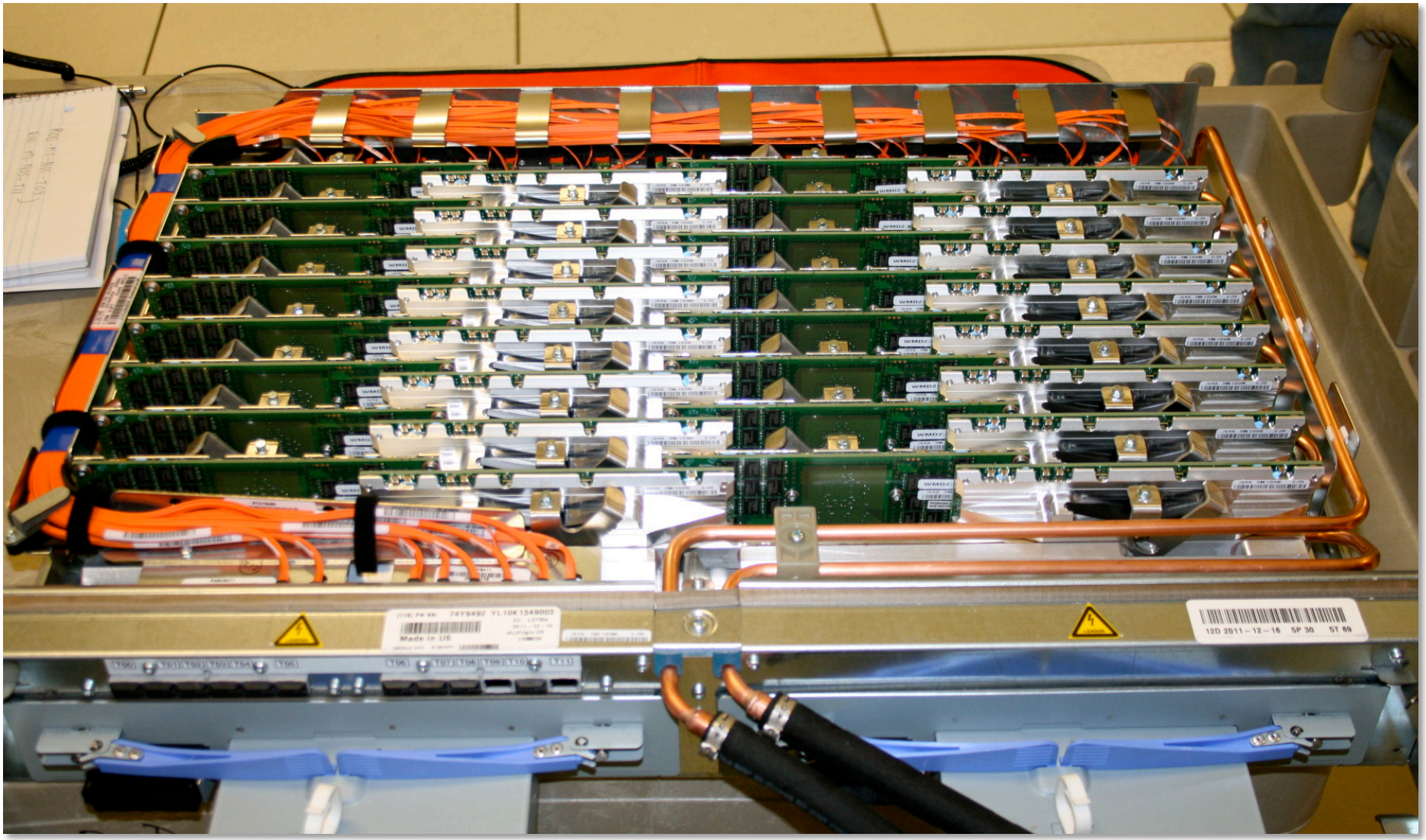
Water

BGO COOLING
RETURN
BGO COOLING
SUPPLY
CHW
RETURN
CHW
SUPPLY

Machine Room – “The Core”

Rolling In




Made in US
12D 2011-12-16 5P 30 5T 69

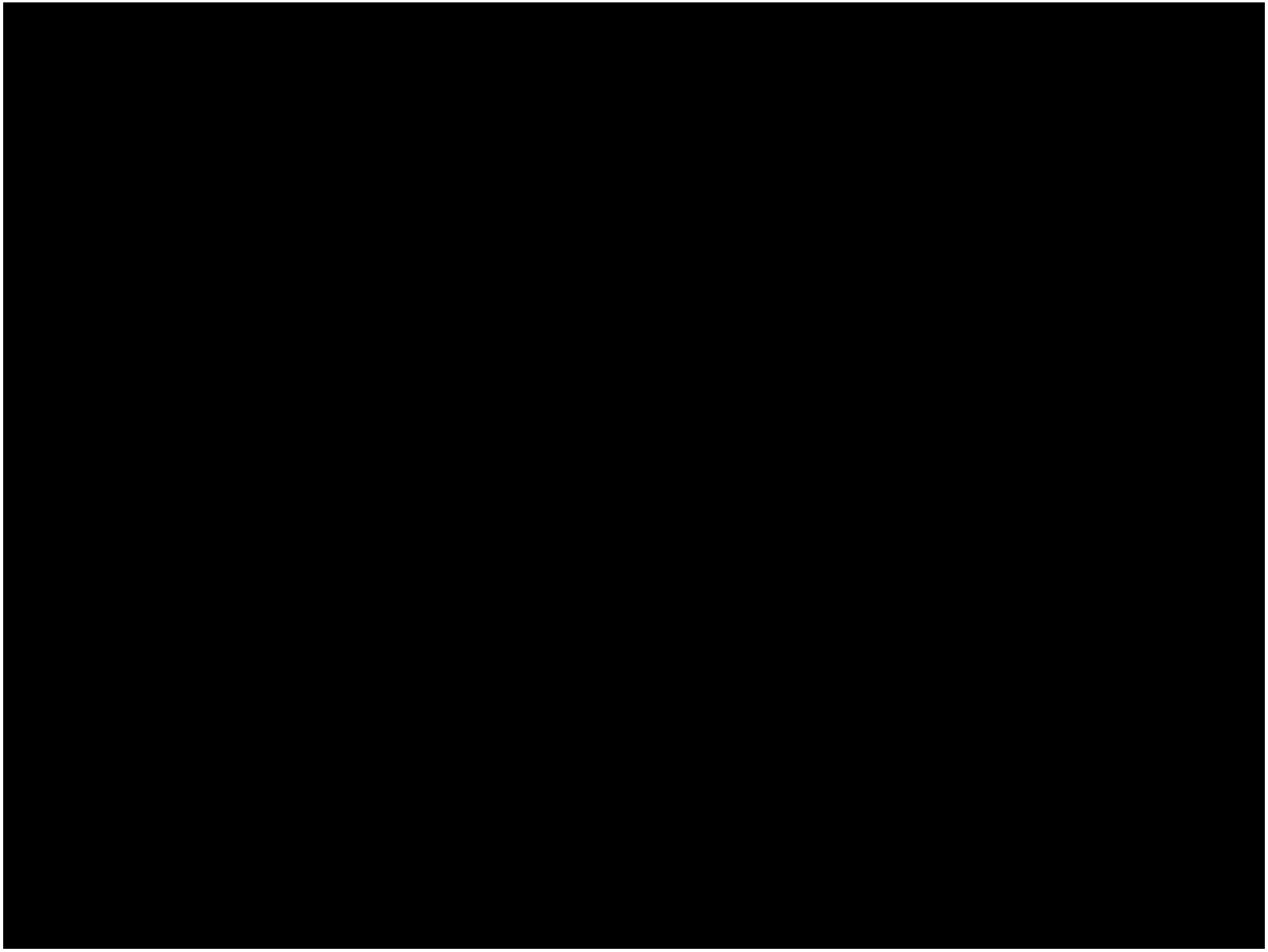
DataDirect

IBM
Blue Gene Q supercomputer
DataDirect

IBM
Blue Gene Q supercomputer

CAUTION
OSHA REGULATIONS require the area in front of the Electric Panel must be kept clear for 36" deep & 30" wide.

Mira Power-On *(Artist's Conception)*



VEAS – Very Early Access System

Help With Using VEAS

- **Wiki**
  - https://wiki.alcf.anl.gov/bgq-earlyaccess
- **early-users-discuss@alcf.anl.gov**
  - Help thy brethren
  - Continues through early Mira use
- **td-support@alcf.anl.gov**
  - Hardware/system problems

There will be hardware and system problems.