

Workshop Logistics, *Etc.*

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Argonne Leadership Computing Facility

Argonne National Laboratory

ESP March Workshop – “Code for Q”

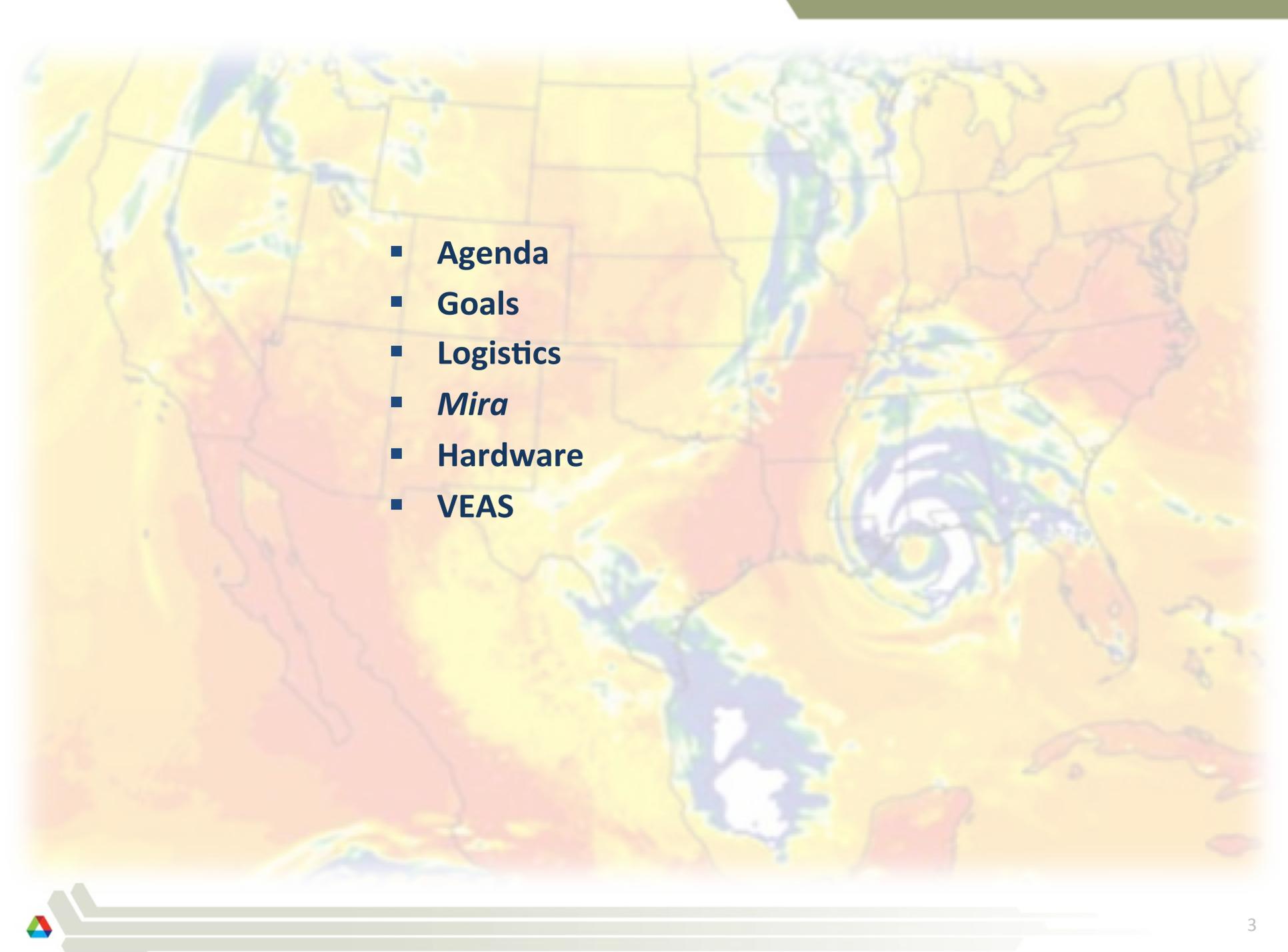
3/19/2012



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



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- **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



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

ANLTCSG-guest -or- ANLTCSA-guest One-time acknowledgement web page



Welcome to the Argonne Visitor Network Registration Page

You are seeing this page because your network card is not registered with Argonne National Laboratory.

To register it simply fill out the information below.

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.

Note: In this restrictive network space before registration, you can get to windows update, apple update, and certain linux update sites. We strongly urge you to update your system prior to registration. Your system will be scanned for vulnerabilities, required patches, and poor configurations. If your system is found to be vulnerable it will not be allowed on the network.

Please provide the following information.

First Name:

Last Name:

Email Address:

Building and room where you will primarily be located:

Phone number where you can be reached while using our network:

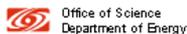
Name of person you are visiting, or conference you are attending:

Do you need to send email directly to an off-site server? No. Yes. [Unsure.](#)

- Today only.
- This week only.
- A month.
- A year.

What is the duration of this reservation?

[Click Here To Continue](#)



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Welcome to the Argonne Visitor Network Registration Page

Security and Privacy Notice

October 31, 2000

Security Notice

This network is part of a federal computer system used to accomplish federal functions. The U.S. Department of Energy monitors this network for security purposes to ensure it remains available to all users and to protect information in the system. By accessing this network, you are expressly consenting to these monitoring activities.

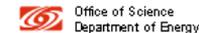
Unauthorized attempts to defeat or circumvent security features, to use the system for other than intended purposes, to deny service to authorized users, to access, obtain, alter, damage or destroy information, or otherwise to interfere with the system or its operation is prohibited. Evidence of such acts may be disclosed to law enforcement authorities and result in criminal prosecution under the Computer Fraud and Abuse Act of 1986 (Pub. L. 99-474) and the National Information Infrastructure Protection Act of 1996 (Pub. L. 104-294), (18 U.S.C. 1030), or other applicable criminal laws.

If you need assistance, please email help@anl.gov or speak to your ANL contact.

If you feel you are getting this page in error, please try a forced page reload. For several browsers it can be accomplished with a shift-reload. If not try clearing your cache then reload.

By agreeing to this page, your machine will also be scanned for common vulnerabilities.

Click [Here](#) If You Agree



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Evolving timeline for Mira availability: ESP

ESP access to Mira likely soon

- ESP projects *may* have access to Mira as early as summer 2012
- Time for early *science* runs is likely to be earlier than expected
 - Possibly second half of CY2012
- **Get on the T&D *now***
 - ESP is currently a top priority but there are many pressures on the hardware
 - Important for INCITE proposal preparation, especially computational readiness on BG/Q

Plan for a 2013 INCITE proposal on Mira

- Mira is committed to go live for INCITE on October 1, 2013 with 768M core-hours for allocation
- Start date of production INCITE time is likely to happen earlier in CY 2013
- **Guidance for INCITE 2013**
 - Propose science based on a 3B core-hour pool, 100-300M per project
 - 2013 INCITE Allocation scenarios

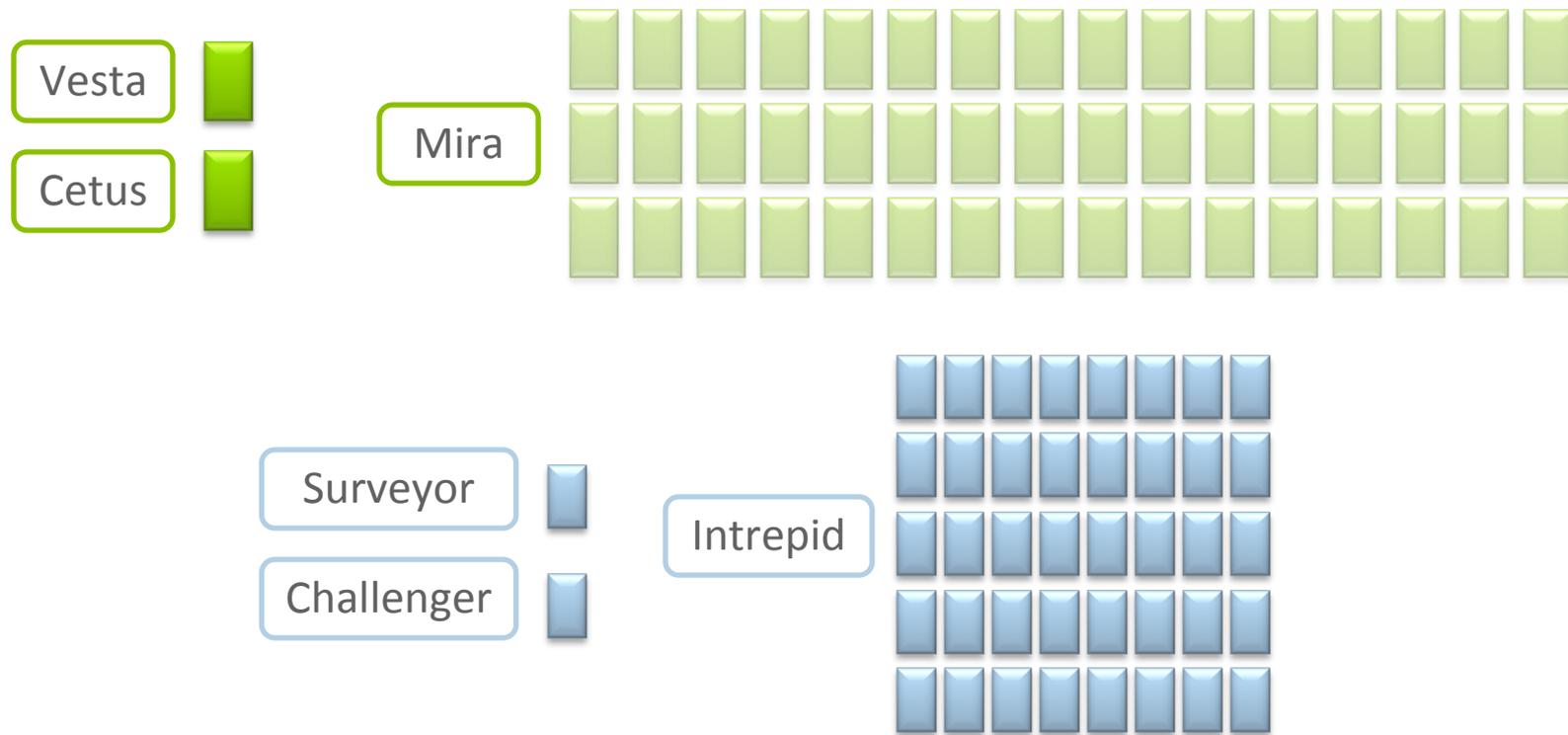
2012

2013



Actual Q Hardware

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

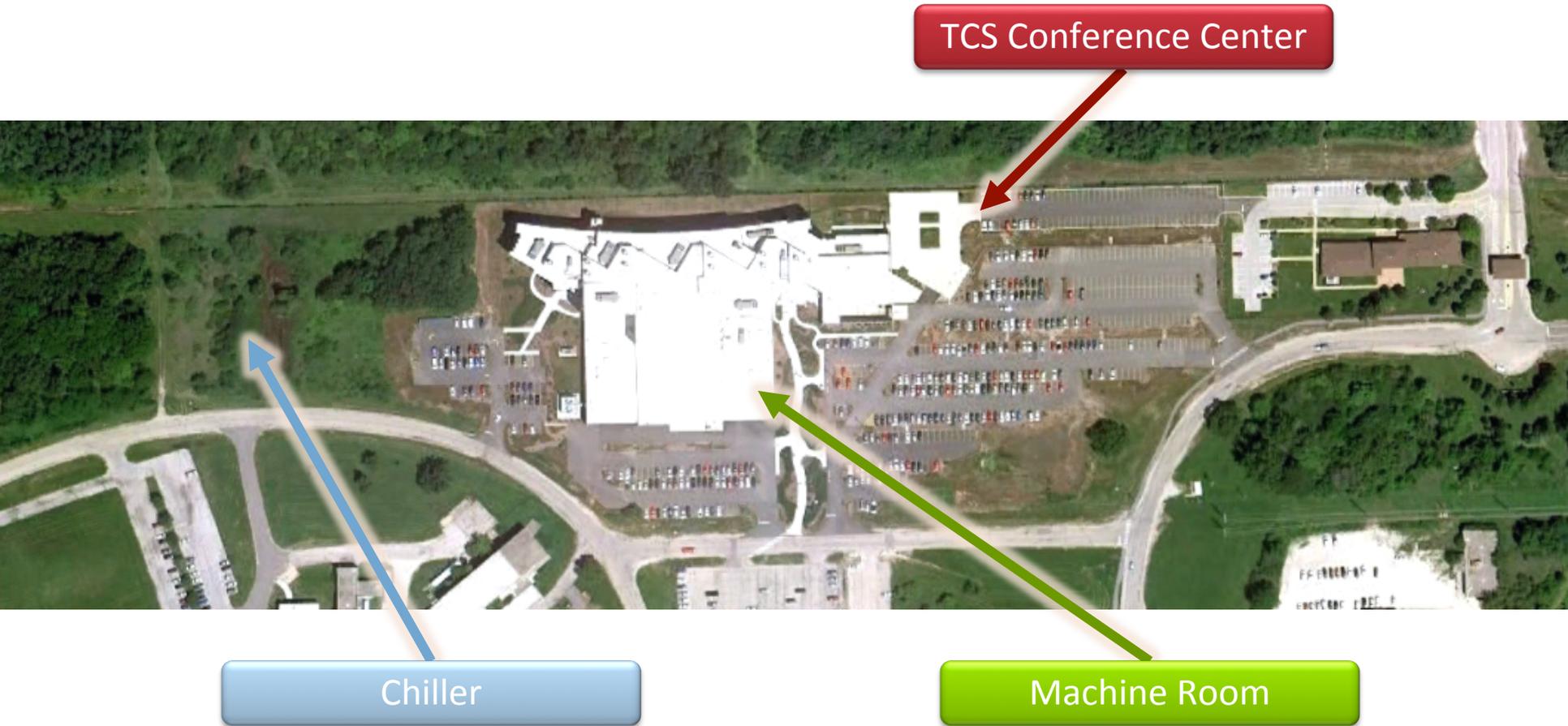


- One rack: **Very Early Access System (VEAS)**

Actual Photos of Actual Hardware



Big Picture



TCS Conference Center

Chiller

Machine Room



Water Chiller Plant



Water Chiller Plant



Water



Water



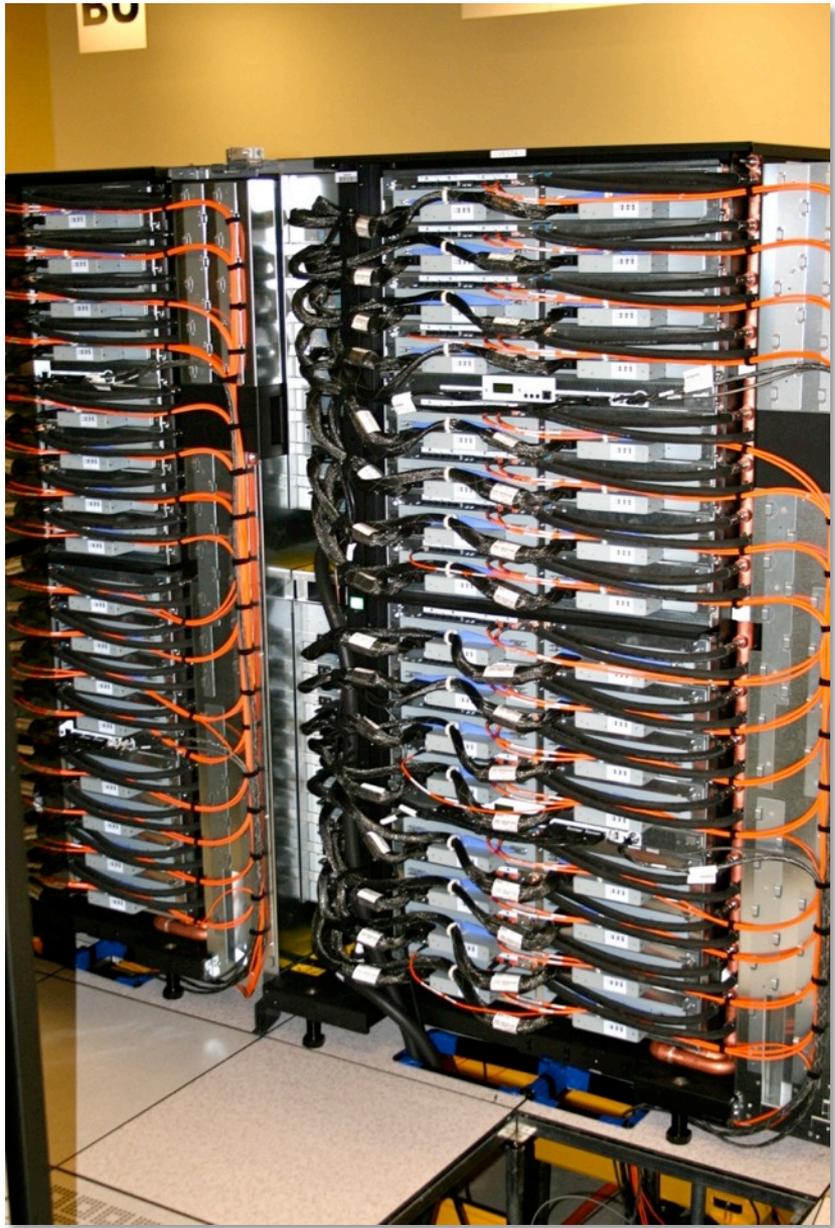
Machine Room - “The Core”

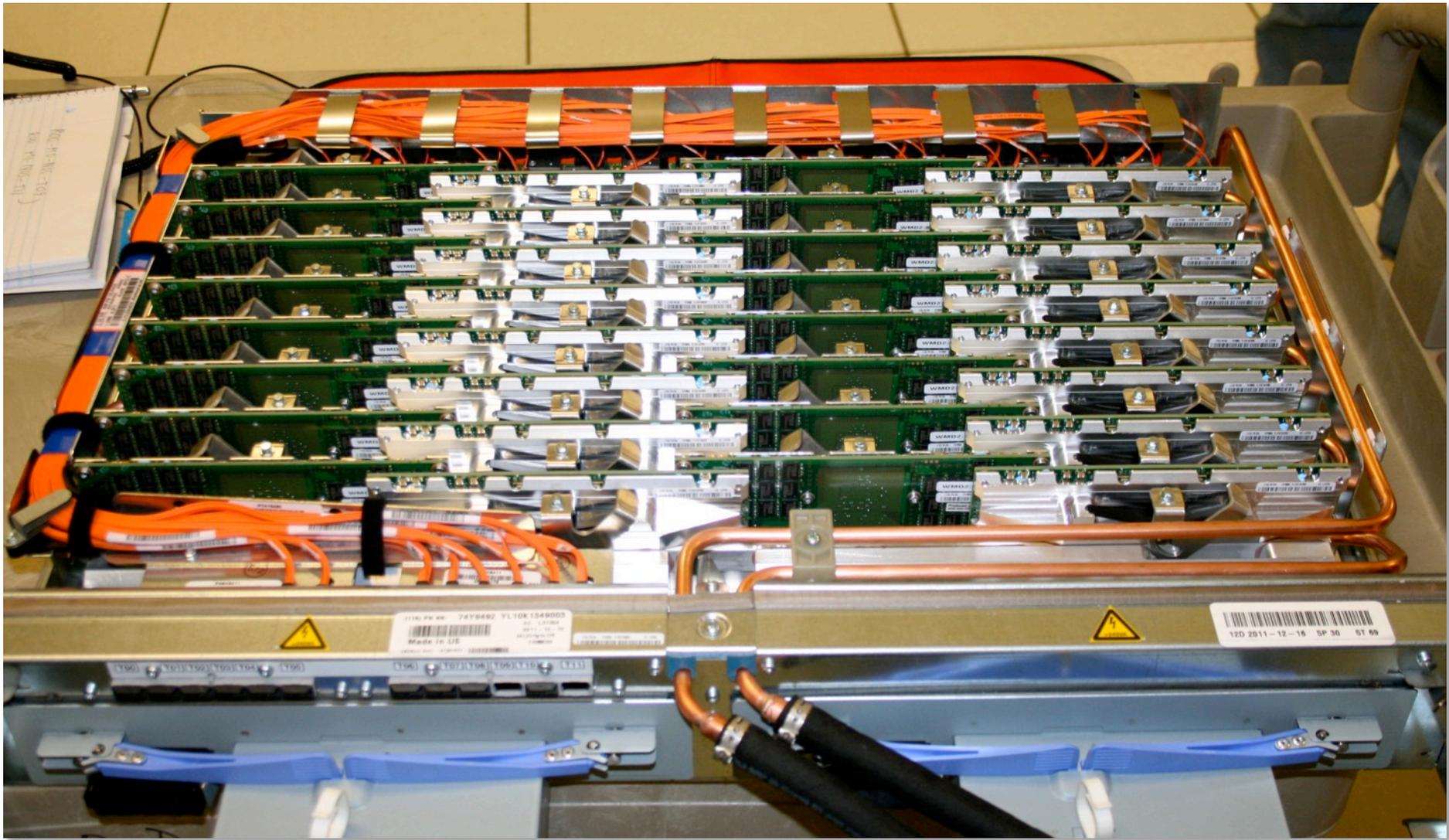


Rolling In



















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.