



arm

HPC @ Arm

Growing momentum in the ecosystem

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17-19 September 2018
Robinson College, Cambridge, UK
Read the latest at: arm.com/summit

- Brent Gorda
- September 15, 2018

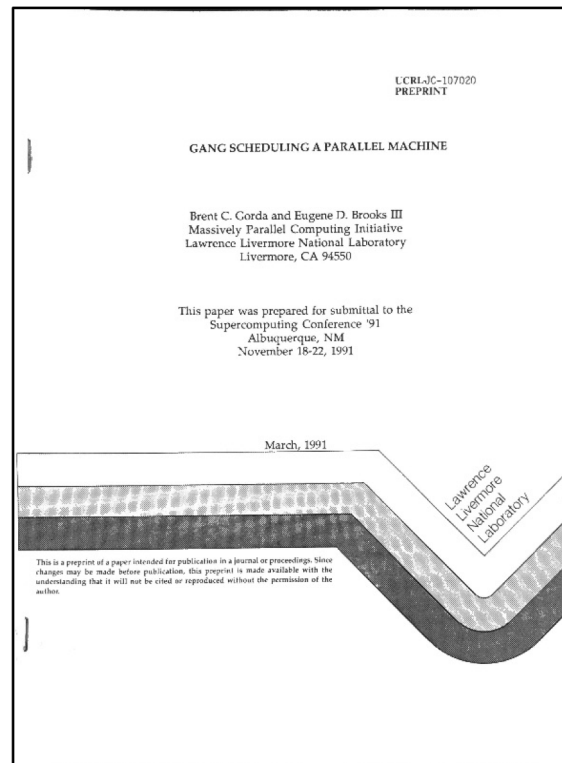
My Background

Transitioning from Vector -> Parallel in HPC

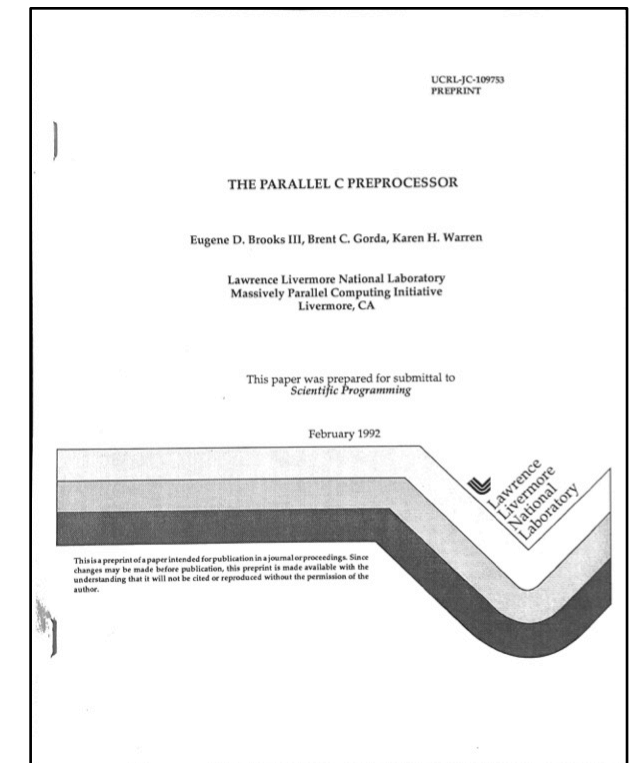
Attack of the Killer Micros



Gang Scheduler (SLURM)



Parallel C (UPC)



More

Scaling up

IBM BlueGene

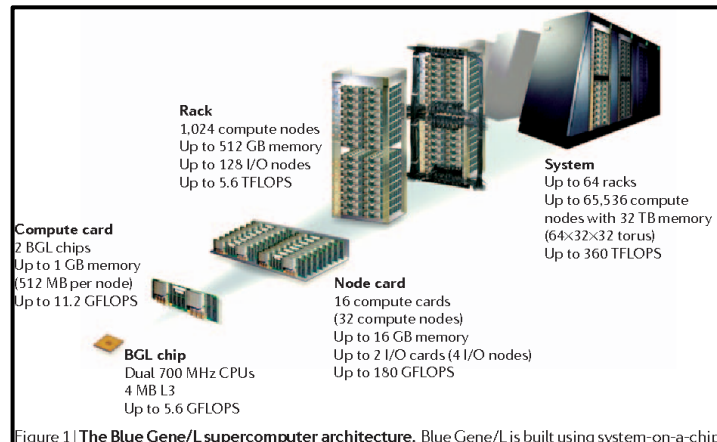


Figure 1 | The Blue Gene/L supercomputer architecture. Blue Gene/L is built using system-on-a-chip

Student Cluster Competition

2018 Student Cluster Competition

Once again, the SC Conference series is pleased to host the Student Cluster Competition (SCC), now in its twelfth year, at SC18. The SCC is an opportunity for students to showcase their expertise in a friendly, yet spirited, competition. Held as part of the Students@SC program, the SCC is designed to introduce the next generation of students to the high-performance computing community. The competition draws teams of undergraduate students from around the world.

The application reviews have been completed and the SC18 Student Cluster Competition (SCC) committee has invited 15 teams to compete in this year's event in Dallas, Texas. One extra slot is reserved for the winner of the ISC 2018 Student Cluster Competition. The teams hail from across the U.S., and from Asia, Europe, and Australia.

- Friedrich-Alexander University Erlangen-Nuremberg, Germany
- Illinois Institute of Technology
- Information Engineering University, China
- Laney College, United States
- Monash University, Australia
- Nanyang Technological University, Singapore (The winning team from the SC17 Student Cluster Competition)
- National Tsing Hua University, Taiwan
- Northeastern University, United States
- Purdue University, United States

SCC Winners

- SC17: Denver, CO**
Overall and Linpack: Nanyang Technological University (31.5 Teraflops)
- SC16: Salt Lake City, UT**
Overall: University of Science and Technology of China (31.15 Teraflops)
Linpack: (31.15 Teraflops)
- SC15: Austin, TX**
Overall: Tsinghua University
Linpack: Technische Universität München (7.134 Teraflops)
- SC14: New Orleans, LA**
Overall: University of Texas at Austin
Linpack: National Tsing Hua University (10.07 Teraflops)
- SC13: Denver, CO**
Overall: University of Texas at Austin
Linpack: Nat. Univ. of Defense Tech. (8.224 Teraflops)
Commodity: Bentley University and

Whamcloud & Lustre

The Register
Biting the hand that feeds IT

DATA CENTRE SOFTWARE SECURITY DEVOPS BUSINESS PERSONAL TECH SCIENCE

LECTURES

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Data Centre ▶ Storage

Whamcloud flogs wild Lustre pig into obedience with data whip

It's the only language these open brutes understand

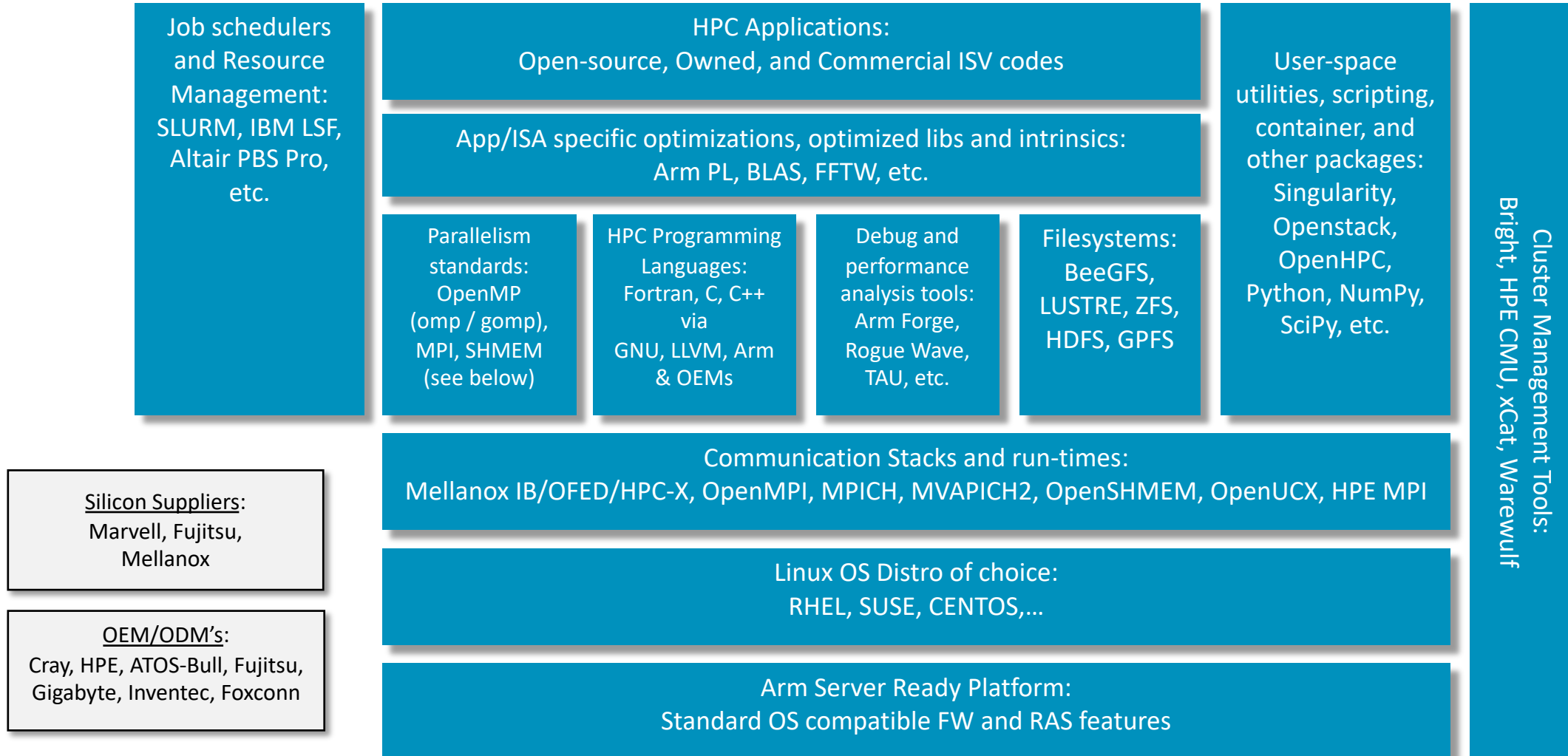
By Chris Mellor 21 Jun 2012 at 07:02 SHARE ▼

Building HPC Momentum with Arm

- MontBlanc
- Catalyst Programme
 - Leading-edge Marvel/ThunderX2 systems
 - Partnership with HPE/Universities in UK
- Publicly announced systems:
 - Isambard (Cray @ Bristol)
 - Astra (HPE @ SNL)
 - Wombat (@ORNL)
- Fujitsu AFX64 Arm CPU @ HotChips
- More to come – exciting times

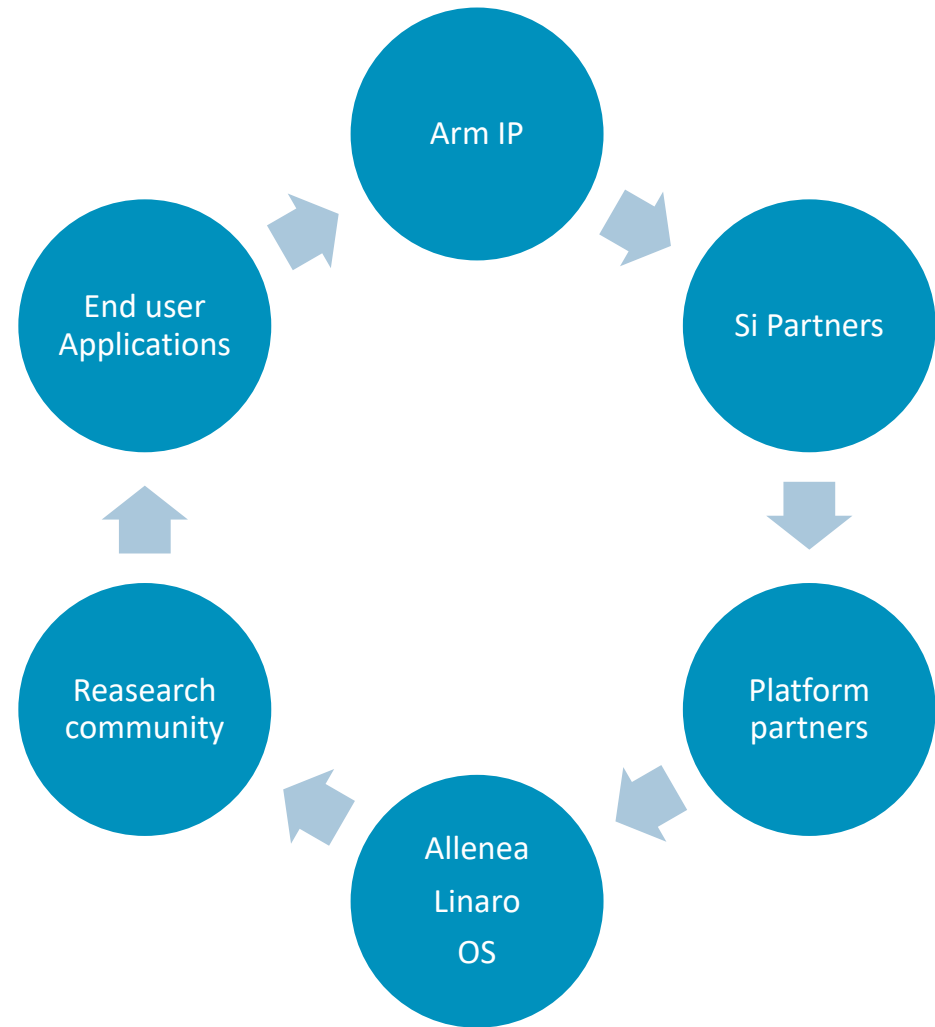


The Maturing Software Environment



The Growing Arm HPC Ecosystem – an expanding story

- The virtuous cycle for HPC with Arm
 - Arm IP -> Si partners -> platform partners
 - Allinea Software + OSS
- Research activity
 - Fundamental to the ecosystem
 - Opportunity for commercialization
- Your role in the success of the community




How to find information

www.arm.com/hpc

Home / HPC

Welcome to the Arm HPC Ecosystem


Overview HPC Software ▾ Blog News Events Resources ▾



Get started

Learn about HPC on 64-bit Arm (AArch64) platforms.


Get started on Arm



Develop

Maximum performance for your HPC and scientific codes.

Learn more



Run

Build and run common HPC applications on Arm.

Learn more



Collaborate

Join and share with a growing community of HPC users.

Learn more

Software Ecosystem for HPC on Arm

Learn more about commercial and open-source HPC tools.

community.arm.com/tools/hpc/

Communities Blog Forums Activity Support Arm Employees

High Performance Computing ▾

Blog
Forums

New

Arm Alinea Studio 18.4 now available with support...

Arm Alinea Studio 18.4 is now available, with an updated Arm Performance Libraries and improved compilers. In this blog, I have captured the highlights of the release, including new Fortran Directives (IVDEP, OMP SIMD), compiler option updates, new math routines and other performance improvements. New Fortran directives - IVDEP and OMP SIMD IVDEP support Arm Fortran Compiler in 18.4 supports the IVDEP Fortran Directive. You can use this g...

Ashok Bhat


Unanswered Questions

Unanswered questions and discussions ▾

By date ▾ Descending ▾

Welcome to the new HPC Community Forum 34 views 0 replies Started 7 days ago by Darren Cepulis


Latest Blogs



Pulling it all together: The Arm HPC Ecosystem and Community

We provide an overview of the information and collaboration hubs available to the Arm High Performance...


Darren Cepulis



Arm Alinea Studio 18.4 now available with support for new Fortran directive and math routines

Arm Alinea Studio 18.4 is now available, with an updated Arm Performance Libraries and improved compilers...

Ashok Bhat



Continuous Integration with Arm Forge

Continuous integration (CI) is used to improve software integration and quality. In this article we are...

Florent Lebeau

Community Owners

The place for collaboration, information sharing, and feedback in the realm of super-computing and large scale systems.

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HPC - Most active

Rank Name

1	 Darren Cepulis
1	 Beau Paisley

Resources

- Arm HPC developer
- HPC Packages Wiki

Thank You

Danke

Merci

谢谢

ありがとう

Gracias

Kiitos

감사합니다

धन्यवाद

תודה

arm

www.arm.com/hpc

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