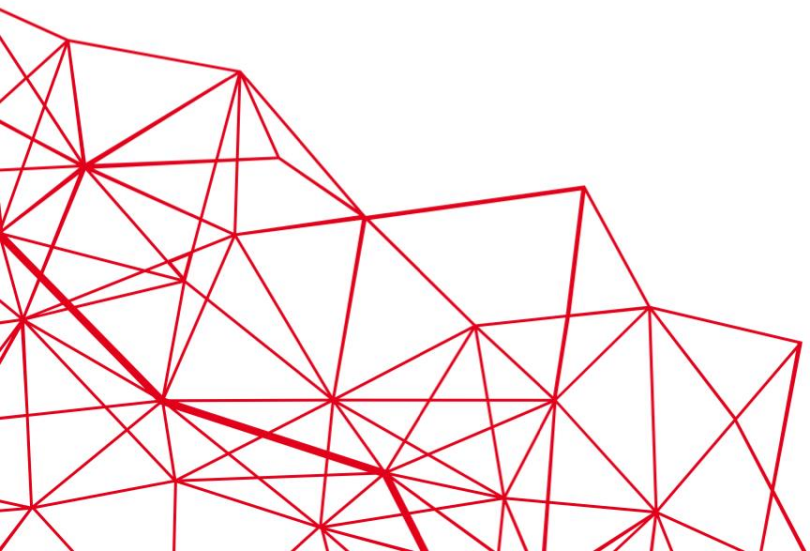

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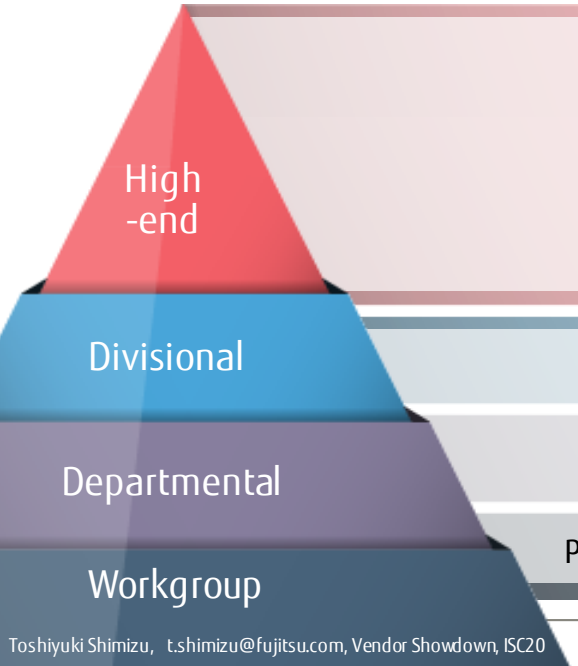
Fujitsu HPC Solutions to Meet Customers' Demands

FUJITSU

- Supercomputers, Fujitsu-developed Arm CPU and x86
- Single system image operation with Fujitsu system software
- High application performance, availability, and reliability



Fugaku
Co-developed w/ RIKEN

PRIMEHPC FX1000

High scalability
with Fujitsu-developed
CPU and interconnect

x86 cluster

PRIMERGY x86 server family

Share the same architecture

arm

PRIMEHPC FX700

PRIMERGY x86 cluster systems support the latest CPUs and accelerators, Arm has been introduced

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Powerful Software Accelerates Customers' Business

FUJITSU

Fujitsu software for scalability and Open env. for easier deployment

Applications

Fujitsu Technical Computing Suite / RIKEN-developed Open Source System Software

Management software	File system	Programming environment
System management for high availability & power saving operation	FEFS Lustre-based distributed file system	XcalableMP, FDPS
Job management for higher system utilization & power efficiency	LLIO* NVM-based file I/O Accelerator for Fugaku	Open MPI, MPICH(PiP), DTF
		OpenMP, COARRAY, Math.libs.
		C, C++, Fortran, AI frameworks
		Debugging, Tuning tools, Containers

Open environment

Management software	Programming env.
OpenHPC / BCM	Additional rich OSS-based Compiler / MPI and tools

Multi-Kernel System: RHEL8 & light-weight kernel (IHK/McKernel)

RHEL8

Fugaku Co-developed w/ RIKEN

arm

arm FX1000

arm FX700

* LLIO for Fugaku only

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“Fugaku” and its Family for an Evolving HPC

FUJITSU

- Wide range support of software environment accelerates customers’ business and resolves social issues in many fields
- Fugaku hardware delivery had been completed, and software setup is undergo for general use for FY2021
- Fujitsu continues to provide solutions utilizing technologies for customers’ Digital transformation

Supercomputer Fugaku will be used to help fight against COVID-19

UPDATE
[April 24, 2020] A new project entitled "Prediction and Countermeasure for Virus Droplet Infection under the Indoor Environment" has been added.
[April 17, 2020] RIKEN is accepting research proposals for trial use of Fugaku to fight against the novel coronavirus.

RIKEN, in coordination with the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT), has announced that the supercomputer Fugaku will be made available for research projects aimed to combat COVID-19.

Fugaku is currently being installed and is scheduled to be available to the public in 2021. However, faced with the devastating disaster unfolding before our eyes, RIKEN and MEXT decided to make a portion of the computational resources of Fugaku available for COVID-19-related projects ahead of schedule while continuing the installation process.

Supercomputer Fugaku (currently being installed)

Fugaku is being developed not only for the progress in science, but also to help build the society dubbed as the “Society 5.0” by the Japanese government, where all people will live safe and comfortable lives. The current initiative to fight against the novel coronavirus is driven by the philosophy behind the development of Fugaku.

https://www.r-ccs.riken.jp/en/topics/fugaku-coronavirus.html

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Fujitsu

What is your company doing, for its employees, the HPC community, and the world, in the COVID-19 pandemic?

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Which elements of the “RIKEN-developed system software” are going to be open-source and deployable by the general public?

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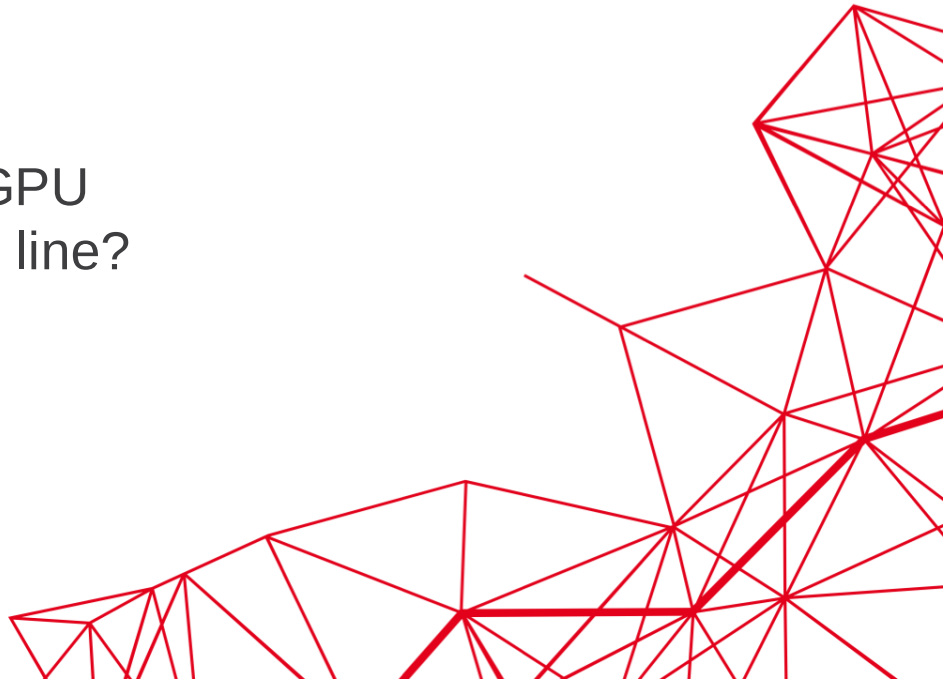
Fujitsu

How long until we see ARM + GPU configurations in the PRIMEHPC line?



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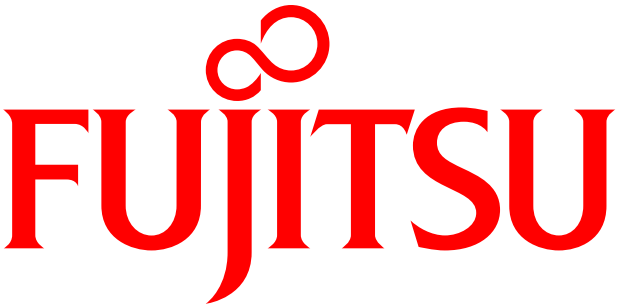
Fujitsu

What is Fujitsu doing to expand the “wide range support of software environment” on ARM?



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