Fuel Your Insight with Intel® Scalable System Framework

Accelerate Discovery and Innovation with Optimized High-Performance Computing

Industry Strategic Challenges

Staying ahead of the competition requires finding solutions first. For an oil company, that may mean increasing the hit-rate of wells; for a pharmaceutical company, quickly identifying effective medical treatments and for a financial institution, it may translate to finding the means to manage risk better. In today’s increasingly data-intensive world, processing massive amounts of data to quickly gain to meaningful insights can be complex and costly. For many businesses focused on staying competitive, high-performance computing (HPC) offers an answer, with the promise of accelerating discoveries and reducing time to solution.

Implementing and optimizing HPC can be challenging, however. System bottlenecks—in areas such as memory, I/O, storage and performance—can impose limitations on the value of HPC. Diverse workload needs can create a need for divergent system infrastructure—for example, a business may choose to implement specialized architectures for big data, visualization or machine learning. These factors, combined with software that’s similarly specialized to match the hardware, can make it difficult to achieve economies of scale with HPC.

Reducing the complexity of creating and using HPC systems is the key to making HPC’s innovative and competitive benefits more widely available.

Business Drivers and Desired Outcomes

A holistic system on a common infrastructure that can be deployed on premise or in the cloud offers significant advantages to businesses of all sizes:

Experience the Benefits of Intel® Scalable System Framework

“Intel® SSF is a flexible blueprint for both computationally- and data-intensive computing that provides optimized system performance at any scale – while maintaining reliability and ease of programming through open standards.”

Charlie Wuischpard
HPC General Manager, Intel Corporation
Digital Transformation and Business Innovation

As computing and data analysis evolve, solutions to the challenges currently limiting HPC are emerging. Intel® SSF provides a scalable solution performant across compute- and data-intensive workloads in an energy-efficient fashion. Standards-based programmability means businesses can extend their current investments in existing code, rather than reinventing the wheel. This allows IT developers to build a common infrastructure to support a broad range of workloads and to take advantage of a thriving, open, innovative ecosystem of hardware vendors.

Enabling Transformation

Delivering on the promise of HPC requires innovative technologies that address challenges across the gamut of an HPC system’s needs. Intel® SSF represents a state-of-the-art, standardized architectural design framework for developing and deploying high-performance, balanced, power-efficient and reliable HPC solutions capable of supporting a wide range of compute-intensive and data-intensive workloads.

Intel® SSF, with industry-leading CPU performance, fast access to data, low-latency fabric and standardized software, simplifies HPC system deployment and management, making the benefits of HPC accessible to businesses of all sizes. The standards-based programmability of Intel® SSF means that businesses can take advantage of new features and advances in hardware without abandoning previous modernization efforts, learning a new language or completely rewriting legacy code. Because Intel® SSF enables building a common infrastructure to serve a business’ entire application base, it provides a single system architecture to load balance across. This can help reduce acquisition and management costs while increasing efficiency. Intel® SSF is available from the industry’s largest hardware vendors.

Intel Technology Foundation

- Intel® Xeon® processor E5-2600 v4 product family
- Intel® Xeon Phi™ product family
- Intel® Omni-Path Fabric
- Intel® Enterprise Edition for Lustre® Software
- Intel® SSD Data Center Family for NVMe
- Intel® HPC Software Platform
- Intel® Software Tools for High Performance Computing (HPC)

Where to Get More Information

To find the best solution for your organization, contact your Intel representative or register at Intel IT Center.

To learn more about recommended configurations, reference architectures and reference designs visit www.intel.com/ssf.