

BUSINESS BRIEF

Data Center
High-Performance Computing



Fuel Your Insight with Intel® Scalable System Framework

Accelerate Discovery and Innovation with Optimized High-Performance Computing



FUNDAMENTAL DISCOVERY

Advancing Science

And our understanding of the universe



BUSINESS INNOVATION

High Return on Investment

By making timely decisions



A NEW SCIENCE PARADIGM

Data-driven Analytics

Joins Theory, Experimentation, and Computational Science

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.

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 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 data analytics, visualization or artificial intelligence (AI). 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



SCALABILITY

Delivering new dimensions of scalability, from small clusters to the world's largest supercomputers.



FLEXIBILITY

Designed for both compute-intensive and data-intensive application requirements, as well as machine learning and visualization.



BALANCE

Tight integration of processing, memory/storage, fabric, and software provide a balanced foundation for HPC.



EFFICIENCY AND RELIABILITY

Enabling excellent performance and reliability at low power through high levels of integration with fabric interface and memory into Intel® processors.



APPLICATION AND PERFORMANCE PORTABILITY

Preserve your investment in legacy software and coding expertise.



IMPROVED BANDWIDTH

Moving HPC building blocks closer to the processor greatly shortens the distance data must travel, improving bandwidth.

Digital Transformation and Business Innovation

As computing and data analysis evolve, solutions to the challenges currently limiting HPC are emerging. Intel® Scalable System Framework (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.

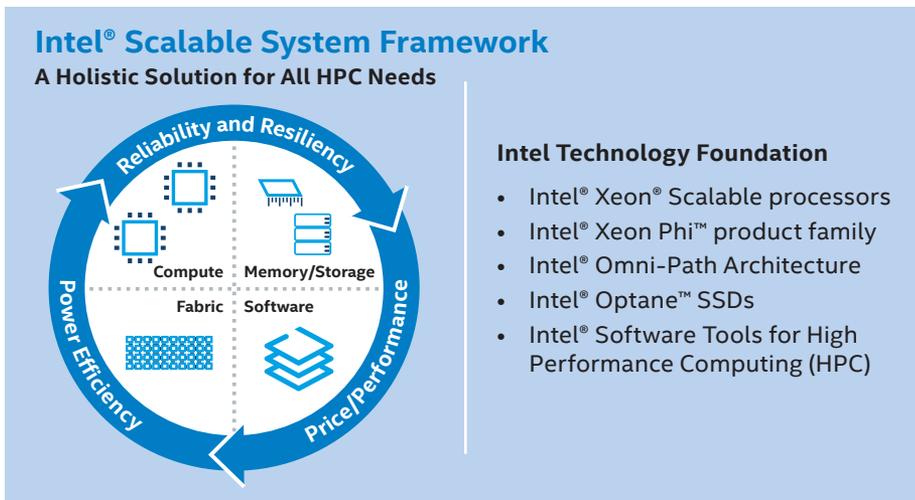
Solution Summary

Intel SSF is an architectural design foundation that enables development and deployment of a wide variety of high-performance, balanced solutions to support compute- and data-intensive workloads. Its standards-based programmability allows engineers to run diverse workloads on a broadly available, common infrastructure, making the power of high-performance computing accessible to businesses of all sizes.

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 Intel's holistic solution for HPC, visit www.intel.com/hpc.



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