Future-Ready Analytics

Intel® Xeon® Scalable processors empower advanced analytics for business transformation

Why Intel® Xeon® Scalable Processors for Advanced Analytics?

1. You'll **reduce time-to-insight** with fast, powerful processing for all types of analytics workload

2. You'll **boost security and reliability** with fast encryption and a wide range of enhanced reliability, availability and serviceability capabilities

3. You'll create a **future-ready analytics platform** that offers flexibility, scalability and ROI to support future development and investment

In today's data-dependent world, businesses must work smarter and faster to stand out from the competition, deliver new products, and achieve results. Regardless of industry, geography or size, now is the time to consider what you need from your data in order to succeed in this new business landscape, and what you must do to ensure these needs are met.

Businesses Demand Better Analytics

A 2017 Gartner survey of more than 2,500 CIOs found that spending on "business intelligence and analytics" was the top investment priority in all types of organizations. The analyst house has indicated that it expects advanced analytics will be a USD 76 billion business by 2020[1].

It's clear that every business is becoming a data business. Yet the challenge is no longer about acquiring data or building infrastructure to contain it. Instead, it is about extracting insight fast enough to matter and provide return on investment (ROI).

As the notion of "time-to-insight" has become a critical metric for business leaders, data scientists and technology leaders are demanding far more from their analytics infrastructure. They need answers faster, with greater efficiency and more flexibility, all while ensuring the enterprise-wide security of mission-critical data. Being unable to meet these needs will quickly reduce a company's ability to compete, leaving it open to disruption.

Intel's Continued Commitment to Enterprise Analytics

Enterprises who wish to deploy analytics or further their current analytics investment, demand increased performance and agility in the data center to support diverse analytic workloads. Technology must be scalable and versatile enough to keep up with demanding changes in these workloads, and with evolving business strategy.

The new Intel® Xeon® Scalable processors build upon the exceptional performance, efficiency and value of previous Intel® Xeon® processors which have been the workhorse of the enterprise for nearly two decades. These technology gains, coupled with the innovation of system and solution vendors, have enabled incredible economic advantage for enterprises pursuing analytics. For example, IT can replace four four-to-five year old servers with only one Intel Xeon Scalable processor based server[2], lowering four-year total cost of ownership (TCO) by up to 65 percent. This ultimately allows the business to invest more in its analytics strategy and support more advanced analytics use cases[3]. Intel's dedication to delivering unmatched enterprise-ready platforms represents our commitment to underpinning our customers' business success.

The new Intel Xeon Scalable processors have been designed to accelerate analytics as well as artificial intelligence, providing a more scalable, agile, and efficient platform with increased security features for all enterprise use cases.

Analytic workloads can range from in-memory computing ("scale-up"), to highly distributed workloads like Hadoop* ("scale-out"), to the synthesis of these models such as streaming analytics. Previously the conventional wisdom has been that customers requiring scale-up solutions would select systems based on the Intel Xeon processor E7 family for massive memory and high reliability. For customers seeking scale-out solutions, the Intel Xeon processor E5 family was the choice with its dual-socket configuration more suited to massive clusters. However, the new Intel Xeon Scalable processors bring the value of these two platforms into one, scaling from two-socket to eight-socket and beyond while still offering all the rich capabilities and software compatibility that enterprises have known and loved about previous Intel Xeon processor generations.

Accelerate Business Insight from Data

Perhaps the most important attribute for analytics infrastructure is that it is fast. In some cases – such as medical diagnostics or air traffic control – seconds matter and human lives are at risk. In other cases – such as financial trading data – microseconds can be worth millions of dollars. Real-time insight is fast becoming a necessity.

For large in-memory and distributed analytic workloads, Intel Xeon Scalable processors deliver impressive gains due to significantly increased cores, memory bandwidth and I/O. For example, SAP HANA* running on the new Intel Xeon Scalable processor achieved 1.5 times more queries per hour[4], meaning faster time-to-insights for business-critical applications, while IBM* also announced similar gains on its DB2* software, with 1.4 times faster response time[5] – both when compared to previous generation Intel Xeon processor performance.

Intel Xeon Scalable processors also deliver gains for distributed scale-out analytics. For instance, on Big Data queries, the new Intel Xeon Scalable processor performed

Advanced Analytics Results with Intel® Xeon® Scalable Processors

Reduce 4 year TCO by up to **65%**

1.5X more queries / hour with SAP HANA*

1.4X faster response times with IBM DB2*

4.6X more operations per second with Cassandra* NoSQL databases

UP TO **2X FASTER** insights based in SAS Business Analytics

1.4 times faster batch analytics on average compared to the previous generation Intel Xeon processor[6]. Additionally, enterprises deploying the Cassandra* NoSQL database, particularly to older installed-base servers, can expect to attain up to 4.6 times the number of operations per second and support five times the number of clients when using new Intel Xeon Scalable processors[7].

When combined with Intel® Optane™ Technology and Intel® Solid State Drives (Intel® SSDs), further analytics advantages are evident. With SAS*, the gain for this combination was two times faster than the Intel best-of-breed platform only one year ago[8].
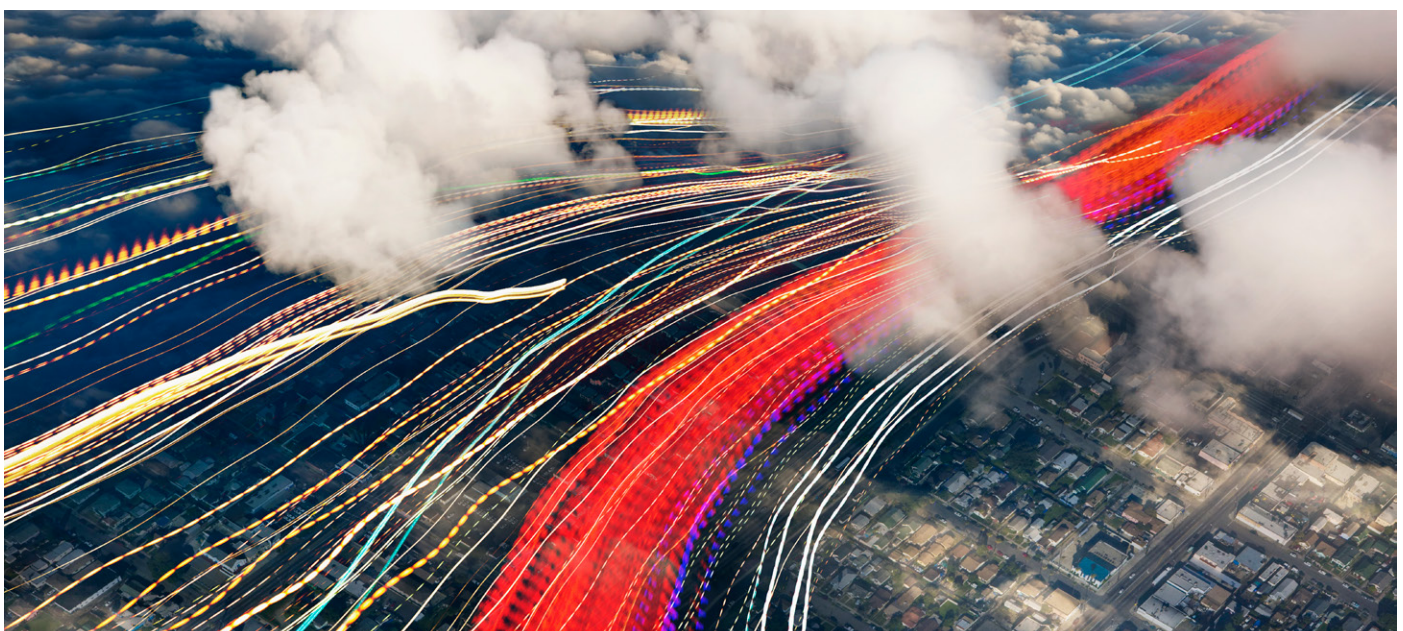
Enhance Security and Reliability

One of the major concerns in building analytics infrastructures is securing the data both in transit and stored across the enterprise. With micro-architecture improvements, Intel Xeon Scalable processors vastly increase the speed at which enterprises can encrypt their data with negligible impact on overall performance, allowing IT to maintain fast analytics while protecting information. Furthermore, Intel has taken all of the reliability, availability and serviceability (RAS) features of the Intel Xeon processor E7 family and enabled them on the new processor, including the expanded Intel® Run Sure Technology. This provides IT with additional peace of mind for the analytics infrastructure they rely upon.

Prove Analytics ROI and Ensure Future Flexibility

For enterprises eager to compete on data in the digital age and wondering whether their technology can be flexible enough for the future, the answer is in solutions based on Intel Xeon Scalable processors. With the choice of scaling from two-sockets to eight-sockets and beyond, and increased memory bandwidth to power both in-memory and distributed solutions, IT teams have the flexibility and scalability to support increasingly complex and demanding analytic workloads. At the same time, enterprises can choose from a wide range of advanced analytics tools and software developed by leading ecosystem players and optimized for Intel Xeon Scalable processors. With the faster, more targeted analytics that these solutions enable, ROI can be expected quickly.

By increasing the speed, complexity and scalability of your advanced analytics capabilities, you'll be taking a critical step in ensuring you're well placed to compete today as a disruptor, rather than a disruptee. With the Intel Xeon Scalable processors you will equip your organization with the technology infrastructure to drive ongoing innovation and success in the future.

Find the solution that's right for your organization. Explore **intel.com/analytics**