IBM Technical Computing Insights
A regular communiqué from the IBM Technical Computing team
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Delivering increased performance, scalability and usability for technical computing

IBM introduces new products, enhancements and integrated solutions to help organizations solve more complex problems and simplify management

What do manufacturing companies, financial services firms, life sciences researchers and government agencies have in common? Many of those organizations increasingly rely on technical computing environments to help develop new products, reduce risk, accelerate discoveries and enhance operational efficiency. But maximizing the value of technical computing calls for finding new ways to boost performance and increase scalability while simplifying management and controlling costs.

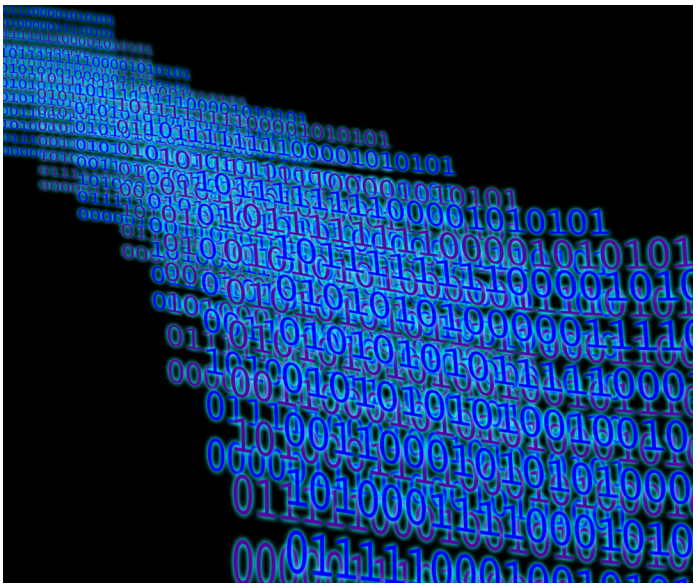
That's why IBM recently refreshed the IBM Technical Computing portfolio and introduced important enhanced high-performance systems, IBM® Platform Computing™ software, services and solutions. These advancements help organizations across industries and fields to achieve the performance, scalability and usability they require.

GET MORE VALUE FROM BIG DATA AND THE CLOUD

New and enhanced IBM Technical Computing solutions can help organizations capitalize on the power of big data by simplifying and accelerating big data analytics. For example, IBM Platform™ Symphony software now provides Apache Hadoop-compatible application programming interfaces (APIs) that allow organizations to run big data applications and achieve near-real-time performance.

Platform Symphony can work with IBM InfoSphere® BigInsights™ to bring the benefits of a low-latency scheduling environment to BigInsights applications. Integrating the IBM General Parallel File System (GPFS™) into low-latency big data environments can help organizations deliver high-speed global access to large volumes of big data.

New, integrated HPC cloud solutions featuring Platform Computing software and IBM Intelligent Cluster™ systems support the pressing demands of today's dynamic compute- and data-intensive applications. These solutions help transform isolated and static computing resources into flexible, high-performance clouds that can be shared, remotely managed and easily provisioned. Plus, those capabilities let organizations deploy efficient, consolidated infrastructures that meet time-critical business and research demands—all while delivering the performance that users need.



SOLVE LARGER, MORE COMPLEX PROBLEMS FASTER AND MORE COST-EFFECTIVELY

Enhancements to IBM Platform Computing solutions are designed to address increasingly complex problems, accelerate results and drive down costs in large and growing environments. For example, IBM Platform LSF®, the industry-leading workload management software, has been upgraded to provide twice its previous performance and scale. Platform LSF can now manage more than 150,000 cores and two million pending jobs for extreme scalability and high-throughput workload management.

Platform LSF is used by a diverse array of companies and institutions across the globe, from Red Bull Racing—which uses Platform LSF to optimize scheduling the aerodynamics simulations essential for designing faster race cars—to the Wellcome Trust Sanger Institute—which uses Platform LSF to run up to half a million genome sequence-matching jobs per day. New enhancements are meant to allow organizations like these to handle additional, larger workloads to achieve faster and more-detailed results.

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IBM Platform HPC is an intuitive, "all-in-one" management software for technical computing environments powered by the Platform LSF workload engine. "For businesses to embrace HPC technology, it needs to be relatively easy to use," says Professor John Bancroft, Project Director of the Hartree Centre. "The combination of the IBM System x® iDataPlex® and IBM Platform HPC software makes this a reality—you can simply request, for example, 100 cores and 1 TB of memory, and the software provisions the environment automatically. And when you've finished with it, the resources are returned to the pool."

To help reduce management costs by enabling administrators to manage previously isolated clusters as a single grid, the enhanced IBM Platform Symphony software now supports 150 percent greater scalability and includes a new multi-cluster capability. Support for IBM PowerLinux™ systems now lets Platform Symphony customers extend the low-latency provisioning environment to this new cost-effective IBM platform.

According to the head of actuarial systems and modeling at a prominent global insurance company, the benefits can be substantial. This professional says that processes that recently took 14 hours can now be completed in less than 3 hours, so decision makers have access to actionable information during the course of the day. For example, this company uses Platform Symphony to orchestrate the MoSes workload—running on a 1,000 CPU grid spread across two data centers—and now can run up to 10 more models with five to six times more data.

To handle the need for greater storage capacity, IBM has doubled the storage capacity and increased throughput for the IBM System Storage® DCS3700. The new DCS3700 Performance Module storage solution is ideally suited for big data analytics and a variety of other technical computing workloads.

SIMPLIFY DEPLOYMENT AND ONGOING ADMINISTRATION

IBM is also introducing solutions designed to simplify deployment and management of technical computing environments. New IBM Platform Cluster Manager - Standard Edition software helps systems administrators quickly deploy, provision and manage a departmental cluster. An easy-to-use interface simplifies infrastructure management with a robust operational dashboard and reporting capabilities.

IBM Platform Cluster Manager - Advanced Edition extends this concept by enabling the self-service assembly of multiple high-performance technical computing environments on a shared compute infrastructure that multiple teams can use. New capabilities in this edition include tighter security for multi-tenant cloud environments as well as integration and support of third-party workload managers. With those new capabilities, organizations can increase resource utilization and lower costs by consolidating disparate cluster infrastructure components into a shared pool of cloud resources.

PLAN, OPTIMIZE AND DEPLOY COMPUTE- AND DATA-INTENSIVE ENVIRONMENTS

Leveraging IBM Technical Computing solutions and the IBM Platform Computing portfolio has become easier than ever. IBM Platform Computing Services are designed to assist organizations as they plan, deploy and manage optimized clusters, grids and HPC clouds. These offerings provide a range of services—from consulting and custom engineering to administration services and ongoing education.

Prepackaged solutions are another way to harness data-driven innovation rapidly. The IBM Flex System™ HPC Starter configuration, for example, helps accelerate deployment of HPC environments with IBM POWER7® or hybrid IBM Power®/x86 hardware solutions—ideal platforms for engineering, oil and gas, and government organizations.

The new enhancements to IBM Technical Computing solutions and the IBM Platform Computing portfolio will be showcased at Information on Demand (IOD) 2012 and SC12. If you can't attend either of those conferences, visit IBM Platform Computing or IBM Technical Computing for more information.