



# Preview: IBM Platform Computing provides significant advancements in ease of use, scalability, and performance as well as monitoring and control for Technical Computing environments

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## At a glance

The Platform Computing family of products is designed to help you attain the highest levels of performance, scalability, and utilization in your computing environment.

- Shorten time to full production readiness with easy-to-use cluster, grid, and HPC cloud management.
- Easily adapt to changing user requirements with automated provisioning.
- Increase user and administrator productivity by leveraging robust workload management.
- Reduce infrastructure costs with optimal resource utilization.
- Accelerate time to results with high-throughput, low-latency scheduling.

## Overview

IBM® Platform Computing is widely viewed as the cluster, grid, and cloud management software of choice for technical and high performance computing (HPC) environments, including computationally and data-intensive design, manufacturing, financial analytics, business, and research applications. Platform Computing products are used both to simplify the deployment, management, and use of small departmental clusters as well as to optimize the deployment of complex applications and workloads in many of the world's largest environments (100,000+ cores). The product portfolio is a critical component for any client that wishes to maximize the utilization of its compute- and data-intensive resources for the highest return on investment while ensuring the shortest time to results.

The latest product releases and additions to the IBM Platform Computing portfolio further extend this value with new features making the products easier to use, enhanced management features, and significant advances in scalability and performance. This preview provides details of the following product family releases:

- IBM Platform LSF® 9.1 ( Express® , Standard, and Advanced Editions), and LSF add-on modules ( IBM Platform Session Scheduler and IBM Platform Dynamic Cluster)
- IBM Platform Symphony® 6.1 (Developer, Express , Standard, and Advanced Editions)
- IBM Platform Cluster Manager - Standard Edition 3.2
- IBM Platform Cluster Manager - Advanced Edition 4.1
- IBM Platform MPI 9.1

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## Key prerequisites

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The IBM Platform Computing portfolio of products require the following:

- A cluster, grid, or HPC cloud computing environment comprised of two or more servers
- Cluster nodes preinstalled with supported operating environments
- Cluster nodes connected via a fast TCP/IP network infrastructure
- Management hosts on the cluster sharing a common network file system

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## Planned availability date

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Previews provide insight into IBM plans and direction. Availability, prices, ordering information, and terms and conditions will be provided when the product is announced.

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## Description

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### **Accelerate results with comprehensive and integrated cluster, grid, HPC cloud, and analytics management**

IBM Platform Computing simplifies and accelerates deployment and management of high-performance clusters, grids, and HPC clouds. Platform Computing products are designed to assist you in optimizing your HPC and technical computing environments of all sizes - including managing small departmental clusters as well as deployment of complex applications and workloads in many of the world's largest environments, including computationally and data-intensive design, manufacturing, financial analytics, business, and research applications.

### **Product portfolio advancements**

The product portfolio is a critical component for any customer that wishes to optimize the utilization of HPC and technical computing resources for the highest return on investment while ensuring shortest time to results. The latest product releases and additions to the IBM Platform Computing portfolio further extend this value with new features making the products easier to use, enhanced management features, and significant advances in scalability and performance.

- **IBM Platform LSF V9.1** further extends this value with significantly enhanced performance, scalability, and usability as well as new scheduling capabilities and parallel job support. The new **Platform LSF - Advanced Edition** is designed to provide greater than three times more scalability, enabling you to consolidate your compute resources to maximize flexibility and utilization. In addition, the integration with IBM Parallel Environment ( IBM PE) Runtime Edition can provide additional performance at scale for larger HPC workloads. With these advances, IBM Platform LSF is architected to directly support over 150,000 cores.
- **IBM Platform Session Scheduler V9.1** is a new Platform LSF add-on option for clients in need of high-throughput, low-latency scheduling. Platform Session Scheduler is particularly well suited to environments that run high volumes of short-duration jobs, and where users require faster and more predictable job turnaround times. Unlike traditional batch schedulers that make resource allocation decisions for every job submission, Platform Session Scheduler enables users to specify resource allocation decisions only once and apply that allocation for multiple jobs in a user session, providing users with their own virtual private cluster. With this more efficient scheduling model, users benefit from higher job throughput and faster response times while cluster administrators realize an overall improvement in cluster utilization.
- If you are looking to improve service levels and utilization with a dynamic, shared HPC cloud environment, the new **IBM Platform Dynamic Cluster**

**V9.1** will be available as an add-on to IBM Platform LSF . Platform Dynamic Cluster will turn static Platform LSF clusters into dynamic, shared cloud infrastructure. By automatically changing the composition of clusters to meet ever-changing workload demands, Platform Dynamic Cluster can improve service levels and help organizations do more work with less infrastructure. Platform Dynamic Cluster will provide the flexibility to automatically provision mixed physical and virtual environments and leverage existing investments in hypervisors, management tools, and virtual machine templates, to create a dynamic private HPC cloud environment. IBM Platform Dynamic Cluster complements the capabilities in IBM Platform Cluster Manager - Advanced Edition, which automates assembly of multiple high-performance technical computing environments on a shared compute infrastructure for use by multiple teams.

- **IBM Platform Cluster Manager - Advanced Edition V4.1** now includes enhanced security for multi-tenant HPC clouds and support for multiple workload managers including Grid Engine and TIBCO GridServer (formerly DataSynapse GridServer). It will create an agile environment for running technical computing and analysis workloads to consolidate disparate cluster infrastructure, resulting in increased hardware utilization and the ability to meet or exceed service level agreements while lowering costs.
- **IBM Platform Cluster Manager - Standard Edition V3.2** delivers the capability to quickly provision, run, manage, and monitor single HPC clusters with unprecedented ease. Unlike the Platform Cluster Manager - Advanced Edition, which is focused on managing multiple clusters and HPC clouds, Platform Cluster Manager - Standard Edition is the ideal product to manage a departmental cluster comprised of a single HPC cluster with static application requirements.
- **IBM Platform Symphony V6.1** comes complete with a new GUI which improves manageability of both data- and compute-intensive workloads on a shared grid. This new version of Platform Symphony includes support for IBM Power Systems™ and is architected for up to 150 percent greater scalability, enabling clients to deploy large-scale analytics applications, such as credit value adjustments (CVA), in financial services. IBM Platform Symphony - Advanced Edition includes a new multi-cluster capability, which provides the capability to pool and manage multiple, disparate clusters as a single grid.
- **IBM Platform Analytics** provides an advanced analysis and visualization tool for correlating and analyzing massive amounts of workload data, IBM Platform Analytics includes preconfigured dashboards for both IBM Platform Symphony and IBM Platform LSF . As a result you will be able to use a common analytic tool across the Platform Computing product portfolio for improved data-driven decision making.
- **IBM Platform MPI V9.1** scalability has been significantly increased with support for more than 49,000-way scalability. This release also provides performance and availability enhancements, including integration with IBM Parallel Environment ( IBM PE) Runtime Edition so you can more easily take advantage of the capabilities of these tools for application development.

Platform Computing software runs on a variety of hardware and operating environments, including the latest generation of IBM System x® servers, IBM Power Systems , and IBM PureSystems™ . By prequalifying and certifying these platforms as complete solutions, IBM helps take the risk out of mission-critical high-performance technical computing deployments.

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## Product positioning

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### IBM Platform Computing portfolio

IBM Platform Computing complements the IBM systems and technology portfolio by providing simplified management software to help eliminate the complexity of optimizing cluster, grid, and HPC cloud environments. The following products comprise the IBM Platform Computing portfolio:

- IBM Platform LSF product family: Powerful, comprehensive technical computing workload management.

- IBM Platform HPC: Fully integrated, easy to use management software, including cluster management, workload management, reporting, and MPI.
- IBM Platform Symphony product family: High-throughput, low-latency grid management software for compute- and data-intensive applications.
- IBM Platform Cluster Manager: Automated self-service creation, flexing, and management of heterogeneous HPC clusters for use by multiple tenants.
- IBM Platform MPI: High-performance, production-quality MPI implementation for application parallelization.
- IBM Platform Analytics: Advanced technical computing analytics for visualizing, correlating, and analyzing massive amounts of workload data for data-driven decision making.

## **IBM Technical Computing solutions**

The Platform Computing products are an integral part of the IBM cluster, grid, HPC cloud, and big data solutions, delivering a full range of cloud deployment, management, and optimization capabilities for flexible shared Technical and High Performance Computing environments. Platform Computing software runs on a variety of hardware and operating environments. By prequalifying and certifying these platforms as complete solutions, IBM helps take the risk out of mission-critical high-performance technical computing deployments.

Clusters comprised of IBM System x servers offer an ideal hardware platform for IBM Platform Computing products, all of which are certified to run on the M4 generation of System x servers, including the most recent System x iDataPlex® and IBM PureFlex™ systems. The IBM Platform HPC product is an integral part of the IBM Intelligent Cluster™ solution, providing tightly integrated cluster and workload management capabilities. In addition, IBM Platform LSF and IBM Platform Symphony include support for the IBM PowerLinux™ series of products.

IBM Platform Symphony enables the implementation of a shared grid environment running Hadoop MapReduce applications on InfoSphere® BigInsights™ or third-party Hadoop implementations. You can benefit from the low-latency capabilities, heterogeneous application support, and sophisticated scheduling and management.

If you are running applications that benefit from a distributed parallel file system, IBM General Parallel File System ( GPFS™ ) may be deployed together with Platform Computing products, providing improved file system performance for data-intensive applications.

Depending on the nature of your requirement, Platform Computing deployments often include software development and integration services. With its breadth of services capabilities, IBM is uniquely positioned to help you integrate applications and be up and running quickly to get maximum value from your grid computing investment.

## **Business Partner information**

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If you are a Direct Reseller - System Reseller acquiring products from IBM , you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=212-392>

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