

IBM Spectrum Computing Suite for High Performance Analytics

Highlights

- Integrates modern analytic tools and accelerates results
 - Leverages more from your hardware and software investments
 - Improves analyst and IT productivity with powerful new capabilities
 - Avoids disruption to existing analytic environments
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Unleash the power of your infrastructure for a shared analytics foundation

In today's hyper-competitive environments, organizations are under constant pressure to deliver new sources of innovation, and having access to state-of-the-art analytic tools is critical to this mission. While analysts may have used a single tool in the past, there has been an explosion in tools and techniques and analysts today require a flexible, agile infrastructure that provides access to multiple tools and new technologies. Organizations increasingly compete on the effectiveness of their analytic infrastructure and therefore need fast, accurate analytic results while maximizing infrastructure return on investment.

The IBM Spectrum Computing Suite for High Performance Analytics (HPA) helps organizations deliver faster, deeper analysis using modern analytic tools. By enabling users of leading commercial and open source analytics applications to share infrastructure efficiently, it maximizes hardware and software investments and increases productivity. The IBM Spectrum Computing Suite for HPA combines the comprehensive functionality of IBM Spectrum LSF with built-in easy and transparent access to additional resources with automated and dynamic cloud bursting.

With powerful management features and policy controls, the IBM Spectrum Computing Suite for HPA simplifies system administration and helps ensure resource allocation is always aligned to business priorities while reducing costs and accelerating time to results.

Integrate modern analytic tools and accelerate results

The IBM Spectrum Computing Suite for HPA helps deliver faster, deeper analytic results using a variety of modern analytic tools for better business outcomes. By distributing execution across a scalable shared grid, and leveraging state-of-the-art containerized applications and GPUs, users can manage larger datasets and obtain results more quickly. Users can create and share customized analytic workflows comprised of multiple tools to quickly and reliably perform tasks multi-step tasks including extract-transform-load (ETL) operations, analysis, and model training.

Supported commercial applications include IBM DataStage, SAS applications running on SAS Grid Manager for Platform, MathWorks, MATLAB and hundreds of other application already integrated IBM Spectrum LSF. Pre-packaged connectors and integration recipes are provided for popular open-source tools including Python, R, Apache Spark, Dask, and Jupyter Notebooks along with leading machine learning frameworks for easy deployment.

Get more out of your infrastructure investment

The IBM Spectrum Computing Suite for HPA enables multiple users, project teams, and applications to share a cluster of computing resources optimizing utilization and cost efficiency and simplifying management.

Flexible, policy-driven scheduling capabilities help ensure that resources are allocated to users, groups, and jobs in a fashion consistent with your service-level agreements (SLAs). The result: more work is done with fewer resources and lower administration costs.

Built-in cloud resource connectors and multi-cluster functionality provide a straightforward path to hybrid cloud computing providing IT managers increased flexibility to pursue new IT service delivery models. The IBM Spectrum Computing Suite for HPA supports secure, seamless, application-aware bursting to your choice of clouds or remote IBM Spectrum Computing Suite for HPA and IBM Spectrum LSF clusters in a manner that is transparent to analysts and data scientists.

With customizable reports, management dashboards, and sophisticated policy controls, administrators can centrally manage infrastructure and monitor cloud resource usage and adjust policies to maximize service levels and ROI while containing spending on infrastructure.

Improve analyst and IT productivity

The Suite for HPA enables analysts and data scientists to create and share automated, repeatable workflows comprised of multiple analytic tools that run quickly and reliably. By accessing multiple versions of workflows and data through a shared portal, analysts can collaborate more easily and work efficiently.

Administrators can expose self-documenting interfaces tailored to individual applications and workflows or leverage industry standard Notebooks to collaborate on models and data. By hiding complexity and simplifying the management of jobs and workflows, analysts can focus on outcomes rather than how to interact with the system.

Mobile clients for Android and iOS provide job monitoring and notifications on the go, and a tightly integrated desktop client for Microsoft Windows provides a seamless user experience.

Features	Benefits
Run diverse analytic applications and workloads	<ul style="list-style-type: none"> • Share infrastructure among applications and users for improved efficiency • Reduce costs by leveraging common management tools across applications and groups • Avoid managing separate siloed computing environments for each application and framework
Application-aware cloud bursting	<ul style="list-style-type: none"> • Deploy workloads on-premise or in your choice of public clouds • Enable seamless migration from on-premises to in-cloud computing • Stay flexible and avoid becoming locked-in to a single cloud provider
Application integration features	<ul style="list-style-type: none"> • Support customized application-specific interfaces • Reduce end-user training costs requirements • Reduce job submission errors
Web-enabled job and workflow management	<ul style="list-style-type: none"> • Improve end-user and administrator productivity • Simplify access to grid resources • Enable multiple analytic tools to be combined in a single workflow
Desktop and mobile device support	<ul style="list-style-type: none"> • Manage applications and jobs from the desktop for mobile device • Improve analyst productivity with automated data handling
Integrated reporting and dashboards	<ul style="list-style-type: none"> • Simplify troubleshooting solve problems faster • Usage-based reporting for capacity planning and chargeback management • Easily create customized dashboards and tailored reports
Automated workflows and calendar management	<ul style="list-style-type: none"> • Automate complex businesses processes • Capture and share best practices and improve process reliability • Trigger flows automatically based on calendar expressions
GPU-aware scheduling	<ul style="list-style-type: none"> • Support modern GPU-aware distributed deep learning frameworks • Maximize the use of expensive GPU resources • Transparently access GPU resources when needed in the cloud

Support for Docker and other container environments	<ul style="list-style-type: none">• Expand the range of workloads that you can run on a shared cluster• Share resources among containerized and non-containerized applications
Share resources among geographically distributed teams	<ul style="list-style-type: none">• Leverage Multicluster technology to share resources among distributed teams• Tap remote software and infrastructure for increased utilization• Collaborate globally through intuitive interfaces and shared Notebooks
Simplified Ansible-based installation	<ul style="list-style-type: none">• Leverage industry-standard tools• Simplify cluster installation and deployment

Why IBM?

IBM Spectrum Computing offers a comprehensive portfolio of software-defined infrastructure solutions designed to help your organization deliver IT services in the most efficient way possible, optimizing resource utilization to speed time to results and reduce costs. These offerings help maximize the potential of your infrastructure to accelerate your analytics, HPC, Hadoop, Apache Spark and cloud-native applications at any scale, extract insight from your data and get higher-quality products to market faster.

Whether deployed on-premises or in the cloud, IBM Spectrum Computing solutions are widely viewed as the systems software of choice for technical and HPC applications, including computationally and data-intensive design, manufacturing, financial analytics, business and research applications. The core value of the portfolio is simplifying and accelerating high-performance simulations and analysis to help you uncover insights into your business, products and science.

For more information

To learn more about the IBM Spectrum Computing family of products, contact your IBM representative or IBM Business Partner, or visit:
www.ibm.com/it-infrastructure/spectrum-computing.

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