



Highlights

- Improve productivity with superb repeatable performance
 - Manage large numbers of jobs with a high-performance, scalable architecture
 - Reduce scheduling overhead to achieve high utilisation
 - Enhance the user experience by providing estimated job start times and detailed job pending information.
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IBM Spectrum LSF

Complete workload management for demanding, mission-critical computing environments

IBM® Spectrum LSF manages and accelerates research, simulation and design workloads across distributed compute environments. It provides a comprehensive set of intelligent scheduling capabilities that help make sure the right resources are automatically allocated to the right jobs for maximum application performance and efficiency. With powerful management features and unparalleled scalability, IBM Spectrum LSF lets you take advantage of heterogeneous resources, helping ensure resource allocation is always aligned to business priorities while reducing costs and accelerating time to results.

Ease administration burdens

IBM Spectrum LSF pools resources and manages application workloads across highly distributed environments. Rather than relying on a single cluster administrator, IBM Spectrum LSF provides the flexibility to delegate administrators at multiple levels through the organisation. With project managers and business owners able to control their own group membership and resource allocation policies, users enjoy better service and administrators reduce their workload.



Increase responsiveness and performance

IBM Spectrum LSF delivers superb repeatable performance at large scale for more predictable run times and faster time to results. Regardless of where the work is submitted from, the workload manager schedules and dispatches it to the most eligible compute node or cluster. Reductions in job dispatch, scheduling and communication overhead improve the amount of time for a job to be executed. Increased scalability and efficiency allows IBM Spectrum LSF to support larger numbers of jobs and larger array operations.

Optimise utilisation with smart scheduling

IBM Spectrum LSF provides flexible, policy-driven scheduling capabilities, helping ensure resources are allocated to users, groups and jobs in a fashion consistent with your service-level agreements (SLAs). Utilisation-driven dispatch automatically determines the minimum run time needed to meet a high utilisation rate across the cluster. If a job finishes before the minimum run time, IBM Spectrum LSF can immediately dispatch another job without having to wait on a scheduling cycle. The result: more work is done with fewer resources and lower administration costs.

The user experience features simplified pending reasons that clearly show users the single main reason why their job is not yet running. IBM Spectrum LSF can identify which pending jobs are actually eligible for scheduling and provide a job start time prediction. Users can also drill down in the reason message for a more detailed explanation.

An environment that grows as you grow

IBM Spectrum LSF supports organisations on their journey from small clusters to large, distributed computing environments, on-premises and in the cloud.

IBM Spectrum LSF Suite for Workgroups and IBM Spectrum LSF Suite for HPC deliver complete high-performance computing (HPC) management solutions for organisations running compute environments for science and engineering. Both feature the following capabilities:

- Cluster management and deployment
- Powerful yet simple workload management
- Web-enabled job management
- Support for Linux on IBM POWER8 Little Endian and x86.

IBM Spectrum LSF Community Edition is a no-charge, fully-integrated solution for HPC featuring cluster provisioning and management, workload scheduling, an application-centric portal and an MPI library. Get more details [here](#).

Optional add-ons extend IBM Spectrum LSF to provide a complete set of workload management capabilities – all designed to work together to address your high-performance computing needs (Figure 1).

- **IBM Spectrum LSF Analytics:** An advanced tool for visualising and analysing massive amounts of workload data for improved decision-making
- **IBM Spectrum LSF Application Centre:** A rich environment for building easy-to-use application-centric web interfaces, simplifying job submission, management and remote visualisation. Use the web-based interface to remotely monitor jobs, access job-related data and perform basic operations

- **IBM Spectrum LSF Process Manager:** A powerful interface for designing complex engineering computational processes, capturing repeatable best practices that can be leveraged by other users. Integrate with IBM Spectrum LSF Application Centre to create a consistent web-based environment
- **IBM Spectrum LSF Data Manager:** An intelligent data manager for automating data transfer within and between IBM Spectrum LSF clusters and to and from the cloud
- **IBM Spectrum LSF License Scheduler:** A license management tool that enables policy-driven allocation and tracking of commercial software licenses. Monitor license usage in real time to help improve productivity and increase overall access to license resources
- **IBM Spectrum LSF RTM:** A flexible, real-time dashboard for monitoring global workloads and resources. Gain timely insights into the current status of your HPC environment to help improve decision-making, reduce costs and improve service levels
- **IBM Spectrum LSF Session Scheduler:** A high-throughput, low-latency scheduling solution for IBM Spectrum LSF environments. Schedule high-throughput, low-latency workloads for faster and more predictable job delivery times.

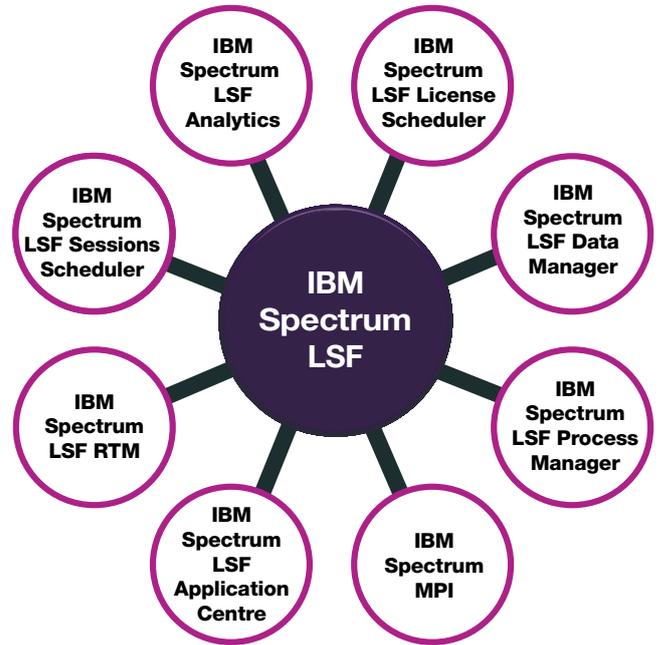


Figure 1. The broad IBM Spectrum LSF family includes a rich set of available add-on products.

Why IBM?

IBM Spectrum Computing offers a comprehensive portfolio of software defined infrastructure solutions designed to help your organisation deliver IT services in the most efficient way possible, optimising resource utilisation to speed time to results and reduce costs. These offerings help maximise 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 in a data centre (DC) or on 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 LSF product family, contact your IBM representative or IBM Business Partner (BP), or visit: ibm.com/systems/spectrum-computing/products/lsf



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