



Highlights

- Provides an integrated performance monitoring and reporting framework for IBM® Spectrum LSF environments
 - Monitors FlexNet Publisher and Reprise-based license utilisation, providing both detailed and summary reports
 - Monitors shared storage utilisation with reporting at multiple levels, including by application and organisation
 - Offers powerful productivity tools, including operational dashboards
 - Includes monitoring of system logs, an automated alert and keyword-based fault management toolkit
 - Can be extended to monitor any simple network management protocol (SNMP) or network-attached device.
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IBM Spectrum LSF RTM

Advanced reporting, tracking and monitoring for IBM Spectrum LSF environments

IBM Spectrum LSF RTM is an operational dashboard for IBM Spectrum LSF environments that provides comprehensive workload monitoring, reporting and management. It makes cluster administrators more efficient in their day-to-day activities and provides the information and tools needed to improve cluster efficiency, enable better user productivity and contain or reduce costs. Unlike other monitoring tools that focus on just one facet of cluster monitoring, IBM Spectrum LSF RTM provides a complete, integrated monitoring facility that is designed specifically for IBM Spectrum LSF environments. It enables you to monitor multiple clusters easily and effectively through a single intuitive interface.

Complete, integrated monitoring and reporting for IBM Spectrum LSF clusters

Unlike competing tools that only monitor the infrastructure, IBM Spectrum LSF RTM is workload and resource-aware providing full visibility into IBM Spectrum LSF clusters. It monitors all aspects of workload scheduling facets, including global clusters, hosts, jobs, licenses, queues, users and log files (Figure 1).

In addition to providing comprehensive monitoring, IBM Spectrum LSF RTM includes a flexible alerting facility, which quickly notifies administrators and managers of any issues so they can take proactive action. With its broad set of capabilities, IBM Spectrum LSF RTM can replace multiple tools in typical IBM Spectrum LSF environments with a single, easy-to-use monitoring tool. This results in improved productivity for administrators and users alike as well as reduced cost and complexity.



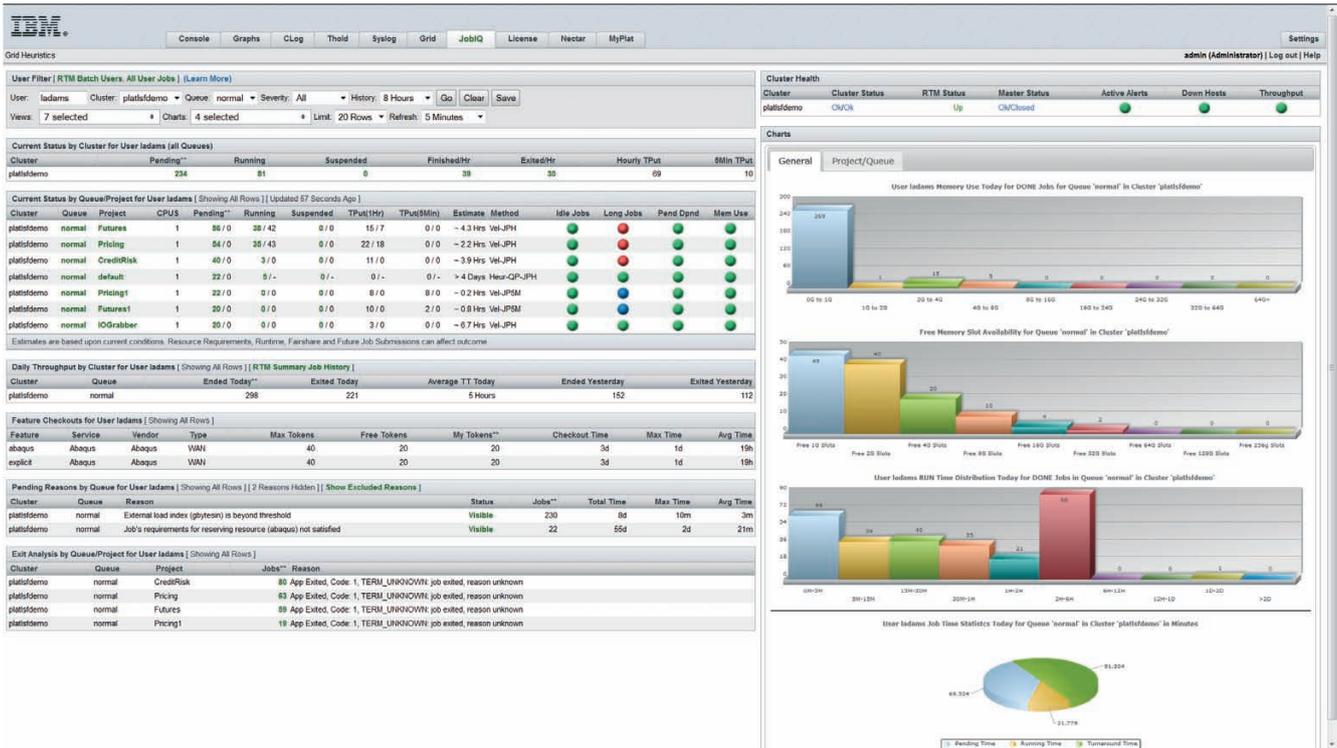


Figure 1. The IBM Spectrum LSF RTM dashboard shows a real-time view of how resources are distributed among users and groups, including multi-host parallel applications.

Powerful productivity tools

IBM Spectrum LSF RTM provides comprehensive workload monitoring, reporting and management tools to increase productivity, reduce costs and position your employees to work more effectively.

Cluster monitoring and control: IBM Spectrum LSF RTM enables a single administrator to manage all activities on one or more IBM Spectrum LSF clusters, helping to increase

productivity through faster problem resolution. The IBM Spectrum LSF RTM dashboard shows a real-time view of cluster hosts' health and services with visual indicators and drill-down and drill-around options. Enhanced monitoring capabilities allow administrators to track which users or groups are consuming data and disk space on any file system – grouping data by either file extension or application.

License utilisation monitoring and reporting: For sites running licensed commercial applications licensed using FlexNet Publisher and Reprise License Manager, IBM Spectrum LSF RTM provides insight into license usage by feature and vendor as well as information including license status, version, feature counts and expiration dates. By monitoring license usage together with workloads, administrators can quickly detect and address license-related bottlenecks and boost productivity by making better use of software licenses. You can also reduce costs by allocating scarce licenses to the most critical projects and by analysing license usage in the context of cluster resources.

Storage utilisation and reporting: IBM Spectrum LSF RTM provides a distributed filer disk utilisation and reporting framework that monitors the utilisation of your remote filers by user, group, organisation, application and file extension. It reports on the age of files in three categories and allows this utilisation to be tracked over time. IBM Spectrum LSF RTM provides a framework to monitor an unlimited number of filers using a distributed framework. When organisations choose to import their organisation's hierarchy, IBM Spectrum LSF RTM will also provide storage utilisation by organisation group, unit or division.

Flexible charting options: Key metrics can be graphed and reported using hundreds of built-in charts, so administrators can adjust scheduling policies based on trends to improve efficiency, solve small problems before they escalate and make better capacity planning decisions.

Performance tracking: To help track cluster performance, administrators can enable IBM Spectrum LSF RTM to collect performance data dynamically or set a sampling period of time. Performance metrics are calculated at the end of each sampling period, allowing administrators to identify the cause of system slowdowns and take corrective action before they become critical.

Job-level profiling: IBM Spectrum LSF RTM enables monitoring of job-level resources based on user, group or project, providing administrators with precise information about how host-based resources such as central processing units (CPUs), memory and swap space are being consumed so they can fine-tune to increase cluster use, improve job throughput and reduce wait times.

Contextual help links: To assist new administrators and guide them through setup, configuration and monitoring tasks, the IBM Spectrum LSF RTM home page includes page-level help for each link in the console tab.

Resource allocation monitoring and reporting: A variety of real-time views shows how resources are distributed among users and groups in multi-host parallel applications, with summary statistical reports that can be run over various time periods. With visibility into resources sharing, including host-based resource usage, administrators can modify IBM Spectrum LSF policies to further improve allocation efficiency and maintain service levels.

Automated alerts and exception handling

The integrated alerting and automated exception handling in IBM Spectrum LSF RTM instantly warns administrators of issues that can affect productivity. Because remedial actions can be automated, administrator workload can be further reduced and cluster availability improved.

Unlike other monitoring solutions that send alerts based on simple thresholds or conditions like services being up or down, IBM Spectrum LSF RTM can raise alerts based on measures that directly affect user productivity. For example, an administrator may want to be notified when the number of jobs pending for more than one minute spikes beyond a threshold level because pending time directly affects service levels and user productivity.

Complete, integrated cluster monitoring

As the number of nodes per cluster and the number of clusters increase, organisations need monitoring and management tools that enable administrators to scale and manage multiple clusters globally. IBM Spectrum LSF RTM offers the most comprehensive workload monitoring and reporting dashboard for IBM Spectrum LSF cloud environments. It provides monitoring, reporting and management of clusters through a single web interface. This lets administrators manage multiple clusters easily while providing better quality of service to cluster users.

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, High Performance Computing (HPC), Hadoop, Apache Spark and cloud-native applications at any scale. The core value of the portfolio is simplifying simulations and analysis to help you uncover insights into your business or science and get higher-quality products to market faster.

For more information

To learn more about IBM Spectrum LSF RTM, contact your IBM representative or IBM Business Partner (BP), or visit: ibm.com/systems/spectrum-computing/products/lsf/resources.html



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