



Windows HPC Delivers High Performance Workload Processing

Microsoft Windows Server 2003 Compute Cluster Edition Runs Platform LSF



Windows Server[™] 2003
Compute Cluster Edition

Platform[™]

Customer Profile

Platform Computing Corporation is the industry leader in high performance computing management software. The Platform LSF[®] family of products comprises grid technologies designed to help companies manage and accelerate their workload processing for compute and data-intensive applications. With more than 2,000 customers and the industry's most extensive library of third-party application integrations, Platform LSF is the leading commercial solution for production-quality workload management.

The Challenge

Scientists, engineers, and analysts need to integrate their end-user applications and clusters, while preserving their investment in the underlying infrastructure. Platform LSF users want the ability to implement Microsoft[®] Windows[®] clusters at the workgroup level, while utilizing the familiar functionality of the Platform LSF job scheduler, and their existing Windows infrastructure and expertise.

Solution

The HPC solution based on Windows Server[®] 2003 Compute Cluster Edition (CCE), running Platform LSF can be deployed at the desktop and workgroup level. The solution allows users to derive all the benefits of a Windows cluster, such as running Windows applications, and exploiting Windows security, while using the uniform and familiar Platform LSF user interface (UI) to submit jobs that are then transparently forwarded to Windows CCE clusters.

Benefits

- Fully integrated Windows clusters
- Simple installation and management
- Local workgroup supercomputing capacity
- Enhanced security for cluster administration
- Highly efficient resource allocation
- Accelerated time to market

Overview

Grid technology virtually pools distributed computing resources, accelerating workload processing. However, the wider adoption of grid computing has introduced the reality of heterogeneous infrastructures. This presents a challenge to organizations that strive to innovate on fixed budgets. Windows customers require a high performance computing (HPC) solution, that preserves IT investments, leverages existing Windows infrastructure and expertise, and seamlessly integrates with the Platform LSF job scheduler for workload processing.

The integration of Windows CCE with Platform LSF extends HPC capabilities and allows users to allocate resources in real-time through a single management console.

Platform LSF

Platform LSF software is used to manage and accelerate workload processing for compute- and data- intensive applications. Platform LSF allows an organization, or workgroup, to intelligently schedule workload across a distributed, virtualized IT environment, increasing the productivity of users by enabling them to run more jobs, more quickly.

Key product features of Platform LSF include:

- High performance, flexible, scalable grid platform (Platform EGO).
- Industry's most comprehensive set of intelligent scheduling policies.
- Advanced self-management, with self-healing and self-adaptive capabilities.
- Heterogeneous platform support.
- Extensive application support.
- Comprehensive, extensible and standards-based security.

Windows Compute Cluster Edition (CCE)

Windows CCE is HPC cluster technology for processing large-scale, complex computing problems at the desktop, workgroup, or datacenter level. Windows CCE provides wizard-based setup procedures to ensure seamless integration with existing datacenters, and can function as either a cluster node in a grid, or independently in local workgroup clusters. By integrating Microsoft Active Directory[®] directory services, Windows CCE enables organizations to enhance the security of their workload by extending user rights and access policies to their HPC jobs.

The Combination

The integration of Platform LSF with Windows CCE provides the following benefits:

- **Efficient use of IT resources.** The solution optimizes IT resources, including desktops, servers and mainframes, by sharing them across both products and eliminating the need to designate specific IT resources for each job.
- **Performance and throughput.** The integration does not impede performance or throughput when passing jobs between clusters, enabling customers to respond to their enterprise needs in a timely manner.
- **Robustness and reliability.** Jobs submitted through Platform LSF to a Windows CCE cluster are persisted in case of system failure.
- **Expanded access to infrastructure resources.** Customers benefit from the sum of all the hardware platforms, operating systems, and interconnects by both Platform LSF and Windows CCE.
- **Higher scalability and flexibility.** Platform LSF users benefit from the increased CPU power available through Windows CCE compute nodes.

Microsoft[®]



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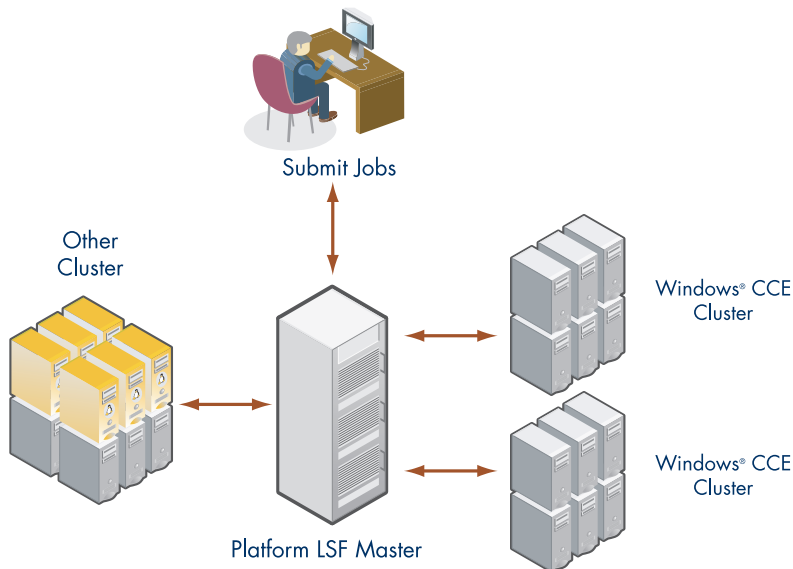


Windows Server[®] 2003
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How It Works

Platform LSF displays the job status of the jobs being executed in Windows CCE clusters. Platform LSF and Windows CCE integration works as follows:

- Users submit jobs to Platform LSF by using the Platform LSF UI.
- The Platform LSF UI displays the job status and resource usage of the jobs being executed on the Windows CCE cluster.
- Platform LSF intelligently forwards the submitted jobs to available servers running Windows CCE.
- When the job is complete, the job status is updated in the Platform LSF UI.



Windows CCE System Requirements

CPU Requirement:	64-bit architecture computer Intel Pentium, or Xeon family with Intel Extended Memory 64 Technology (EM64T) processor architecture, or AMD Opteron family, AMD Athlon family, or compatible processor(s).
Minimum RAM:	512 MB
Maximum RAM:	32 GB
Multiprocessor Support:	Up to 4 processors
Disk Space for Setup:	4 GB
Disk Volumes:	Head node requires a minimum of two volumes (C:\ and D:\). For additional roles, additional partitions are recommended. Compute node requires a single volume. RAID 0/1/5 may be used, but is not required.
Network Interface Cards:	All nodes require at least one. Each node may require additional network interface cards as appropriate for the network topology, for public network access or in support of an MPI network.

For More Information

For more information about Windows Compute Cluster Edition, please visit <http://www.microsoft.com/hpc>

To join the HPC Community, please visit <http://www.windowshpc.net>

For more information about Platform Computing, and Platform LSF, please visit <http://www.platform.com>

For information about purchasing Windows Compute Cluster Edition, email hpcinfo@microsoft.com

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