

# Platform Cluster Manager 3

Simplified Cluster Management for Maximum Uptime, Minimum Risk



## Key Benefits

- Faster time to cluster readiness
- Manage HPC clusters with unprecedented ease
- Perform risk-free software upgrades
- Ensure maximum uptime
- Simplify administration

## Key Features

- Complete, easy-to-use cluster manager
- Web-based management interface
- Robust operational dashboard
- Real-time software updates
- Flexible OS provisioning
- Advanced HPC tools and MPI libraries
- Integration with 3rd party management software

## Overview

With Platform Cluster Manager you can quickly provision, run, manage and monitor HPC clusters with unprecedented ease. The web-based interface enables administrators and users with limited Linux administration experience to deploy and manage sophisticated HPC clusters. A simple and risk-free mechanism for performing software upgrades on the entire cluster without any downtime or re-installation ensures maximum uptime and minimizes risk.

Platform Cluster Manager is fully integrated so that users do not need to become experts in the management software, as they would with multiple open-source software components. With Platform Cluster Manager, administrators can enjoy the best of both worlds – easy access to a powerful, web-based cluster manager without the need to learn and separately administer all the tools needed to manage an HPC cluster environment.

## HPC Clusters Made Simple Web-based management interface for access anywhere

While command line savvy users can continue using the command line interface, Platform Cluster Manager also includes a web-based management interface that make it easy to install and manage an HPC cluster. Because it is web-based, no client software installation is required in order to manage the cluster from a workstation, PC, laptop, or mobile device.

## Operational dashboard for simplified administration

One of the key capabilities of the web-based interface is an operational dashboard that provides a comprehensive set of administrative tools. With this capability, Platform Cluster Manager enables administrators to monitor and report on key performance metrics such as cluster capacity, available memory, and CPU utilization as well as GPU temperature, status and ECC error accumulation. This makes it easy for administrators to identify and troubleshoot potential issues.

## Perform risk-free software upgrades

Using repository snapshots, which are “restore points” for the entire cluster, Platform Cluster Manager provides a simple and risk-free mechanism for performing software upgrades on the entire cluster. Administrators can take a snapshot of a known good repository, make changes to their environment, and easily revert to a previous repository in the event of an unforeseen problem. With other cluster managers this may mean having to re-install the entire cluster. Platform Cluster Manager enables administrators rapidly “rollback” to a known good state without having to re-install the entire cluster, taking the risk out of cluster upgrades.

## Update cluster nodes “on the fly”

Platform Cluster Manager simplifies administration and increases cluster availability by allowing dynamic changes on the cluster nodes. New package installations, patch updates, and changes to configuration files can be propagated to the cluster nodes automatically without the need to re-install cluster nodes. Other cluster management solutions require that nodes be re-booted when updating software, regardless of how minor the change. For common activities such as package and patch installations, Platform Cluster Manager can transparently synchronize files to cluster nodes without any downtime.

## Flexible provisioning

In addition to performing simple package-based installations, Platform Cluster Manager supports image-based installs, allowing cluster nodes to be rapidly “cloned” while also providing support for diskless nodes. Multiple operating system versions can be deployed concurrently to the same cluster.

Based on job resource requirements, Platform Cluster Manager will dynamically boot the Linux or Windows operating system required to run the job. The web interface can also be used to manually switch nodes to the required OS to meet application demands, providing administrators with the flexibility to support special requests and accommodate unanticipated changes.

## Advanced HPC tools

Platform Cluster Manager provides the most advanced suite of HPC infrastructure components, including libraries that are pre-optimized for hardware and networking components. A range of industry standard, pre-tuned MPI implementations are also included, making it easy to get parallel applications up and running quickly. Once the application is provisioned to all of the nodes, standard benchmark tests ensure the cluster will deliver the best possible performance.

## 3rd party management software integration

Platform HPC provides the capability to customize the metrics you monitor, including integrating with 3rd party management software. This enables you to monitor and alert abnormal status for non-server devices in the HPC environment. Custom actions and buttons can be added to the web-based interface, which can trigger a link to a URL or a command launched on the head node. These customizations enable you to create a user and administrator environment that is tailored specifically to your organization’s unique requirements.

## Fully supported by Platform Computing

Platform Cluster Manager is the result of a close and long-standing engineering collaboration with Platform’s software and system partners. With a focus on quality and platform certification, Platform Computing and our partners jointly provide outstanding support on a 24 x 7 basis.

### Platform Cluster Manager 3 System Requirements

Operating System Support	<ul style="list-style-type: none"><li>• Red Hat Enterprise Linux 5.6 and 6.1 x86 64 bit</li><li>• SUSE Linux Enterprise Server 11 SP1 x86 64 bit</li><li>• Scientific Linux 5.5 x86 64 bit</li><li>• CentOS 5.6 x86 64 bit</li></ul>
Installer Node/Head Node Minimum Requirements	<ul style="list-style-type: none"><li>• 2 GB of physical memory (RAM)</li><li>• 80 GB of free disk space</li><li>• Two Ethernet interfaces (public network and compute node connections)</li><li>• DVD drive</li></ul>
Compute Node Minimum Requirements for Package-based Installation	<ul style="list-style-type: none"><li>• 1 GB of physical memory (RAM)</li><li>• 40 GB of free disk space</li><li>• One Ethernet interface</li></ul>
Compute Node Minimum Requirements for Image-based Installation	<ul style="list-style-type: none"><li>• 3 GB of physical memory (RAM)</li><li>• 40 GB of free disk space</li><li>• One Ethernet interface</li></ul>
Compute Node Minimum Requirements for Diskless Installation	<ul style="list-style-type: none"><li>• 4 GB of physical memory (RAM)</li><li>• One Ethernet interface</li></ul>

Platform Computing is the leader in cluster, grid and cloud management software - serving more than 2,000 of the world’s most demanding organizations for over 18 years. Our workload and resource management solutions deliver IT responsiveness and lower costs for enterprise and HPC applications. Platform has strategic relationships with Cray, Dell™, HP, IBM®, Intel®, Microsoft®, Red Hat® and SAS®. Visit [www.platform.com](http://www.platform.com).

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