
Readme for Platform Open Cluster Stack (OCS)

Version 4.1.1-2.0

October 25 2006

Platform Computing

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What is Platform OCS?

Platform Open Cluster Stack (OCS) is a pre-integrated, vendor certified, software stack that enables the consistent delivery of scale-out application clusters. Platform OCS enables a new class of users by simplifying Linux® cluster application, deployment and management. Backed by global 24x7 enterprise support, Platform OCS is a modular and hybrid stack that transparently integrates open source and commercial software into a single consistent cluster operating environment.

This product includes software developed by the Rocks Cluster Group at the San Diego Supercomputer Center at the University of California, San Diego and its contributors. For more information, visit <http://www.rocksclusters.org>.

Platform OCS comes in two variants: Platform OCS Enterprise Edition and Platform OCS Standard Edition. Platform OCS Enterprise Edition contains RHEL 4.0 Update 3 AS and WS; Platform OCS Standard Edition contains CentOS 4.3.

For more information about Platform OCS, visit <http://www.platform.com/Products/Platform.OCS/>.

Enterprise Edition

Platform OCS Enterprise Edition includes all the standard cluster tools as well as the following additional components:

- Red Hat® Enterprise Linux 4 Update 3 Advanced Server (AS) for the front end node
- Red Hat® Enterprise Linux 4 Update 3 Workstation (WS) for the compute nodes
- Platform LSF HPC™ 6.2
- Platform Lava 6.1 workload management for batch processing
- Cisco™ Topspin® drivers for 10 Gb Infiniband Host Channel Adaptor (HCA) including MVAPICH (MPI for Infiniband) from Cisco Systems®
- Dell® Drivers and utilities for Dell PowerEdge™ 1950, 2950, 1955, 6950, and SC 1435 servers
- Support for Dell OpenManage™ (OM).
- Optional Intel® Software roll with optimized C/C++ compilers and Intel® MPI library 2.0.
- A wide array of interconnect and MPI drivers, including MPICH, LAM, MVAPICH, and optional Intel® MPI.
- Platform roll has some useful tools to manage your cluster and save you time.
 - The add/remove roll tool lets you add or remove rolls without having to rebuild your entire cluster.
 - The patch management tool lets you install operating system package upgrades and patches to keep your systems up to date.
 - The add-hosts tool allows you to add nodes to your cluster without worrying about booting them in the right order. It also allows you to specify IP addresses.
 - The rocks-compute CLI tool allows you to customize the RPM

- packages and lets you add a script to customize the post-installation.
- The custom-partition CLI tool allows you to customize the root and swap partition sizes on your compute nodes.
- The Modules roll contains the Environment Modules package and various add-on tools and module files. The Environment Modules package enables you to dynamically modify your environment using `modulefiles`.
- Optional CluMon roll (Beta), which fully integrates the CluMon (Beta) monitoring application with Platform LSF HPC and Platform Lava
- Optional Myrinet roll, for Myrinet interconnects.
- Optional Ganglia roll, which integrates the Ganglia monitoring system with Platform OCS.
- Optional ntop roll provides the `ntop` tool that allows you to examine the network patterns of your cluster.
- Optional Extra Tools roll provides a collection of tools that may be useful for cluster management or for users.
- Optional PVFS2 roll provides the components you need to run the PVFS2 distributed file system.
- Optional Volcano roll is a free portal for submitting jobs to LSF HPC or Lava.
- Optional mpirt roll contains Intel's runtime libraries for MPI.

Standard Edition

Platform OCS Standard Edition includes most of components of Platform OCS Enterprise Edition, except it uses CentOS 4.3 for both the front end and compute nodes instead of Red Hat® Enterprise Linux 4 Update 3 Advanced Server and Workstation, and some proprietary rolls have been omitted.

You can download Platform OCS Standard Edition from the Platform web site at <http://my.platform.com/products/platform-ocs>.

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What's New in Platform OCS 4.1.1-2.0?

Platform OCS 4.1.1-2.0 has the following changes and additions from previous versions:

- The `rocks-update` patch management tool lets you install operating system package upgrades and patches to keep your system up to date

- Two new CLI tools are available to ease the process of customizing your compute nodes:
 - The rocks-compute CLI tool allows you to customize the RPM packages and lets you add a script to customize the post-installation.
 - The custom-partition CLI tool allows you to customize the root and swap partition sizes on your compute nodes.
- The compute node installation process is faster than before. Compute nodes no longer waste time checking the same file in and out repeatedly. The kickstart file generation process now uses caching to reduce the load on the front end during installation.
- The autopartition function of the Platform OCS installer now allows you to preserve existing partitions on your front end node.
- The Modules roll contains the Environment Modules package and various add-on tools and module files. The Environment Modules package enables you to dynamically modify your environment using `modulefiles`.
- Optional ntop roll provides the `ntop` tool that allows you to examine the network patterns of your cluster.
- Optional Extra Tools roll provides a collection of tools that may be useful for cluster management or for users.
- Optional Volcano roll is a free portal for submitting jobs to LSF HPC or Lava.
- Optional mpirt roll contains Intel's runtime libraries for MPI.
- The BitTorrent feature added to the SDSC Cluster toolkit 4.1 installer is now disabled. You can reenable this feature by using a CLI tool.

Platform OCS 4.1.1-2.0 Enterprise Edition also provides the following updates:

- Dell® drivers and utilities for Dell's new AMD Opteron based PowerEdge™ 6950, and SC 1435 servers.

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Supported Architecture

Enterprise Edition

Platform OCS Enterprise Edition supports the following Linux operating systems:

- Red Hat Enterprise Linux 4.0 U3 AS x86_64 on the front end node
- Red Hat Enterprise Linux 4.0 U3 WS x86_64 on the compute nodes

Platform OCS Enterprise Edition supports the following types of servers:

- Dell PowerEdge® 1950, 1955, 2950, 6950, and SC 1435 servers.
- Intel® whitebox servers from Ace® and Arrow®.

Standard Edition

Platform OCS Standard Edition supports the following Linux operating systems:

- CentOS 4.3 x86_64
- CentOS 4.3 x86

Platform OCS Standard Edition supports the following types of servers:

- HP® ProLiant® servers.

Supported configurations

The following table shows possible front end and compute node configurations for Dell PowerEdge systems:

Intel EM64T

Front end nodes	Compute nodes
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PE 1950	PE 1950
PE 2950	PE 1955
	PE 2950

AMD x86_64

Front end nodes	Compute nodes
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PE 6950	PE SC 1435
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Minimum disk space requirements

Platform OCS requires a minimum of 17 GB of disk space. Each specific partition has the following minimum requirements (with the default installation values in

parentheses):

- Root partition: 6 GB (10 GB by default)
- Swap partition: 1 GB (4 GB by default)
- Export partition: 10 GB (Remainder of the first disk by default)

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Distribution Files

Enterprise Edition

Platform OCS Enterprise Edition version 4.1.1-2.0 is distributed on DVD. Optional tools can be downloaded from the Platform OCS web site (see below).

Platform OCS Enterprise Edition DVD

The Platform OCS Enterprise Edition DVD contains all base platforms and rolls, operating systems, and essential tools, including the following:

- Base
- OS: Redhat Enterprise Linux 4 update 3 x86_64
- HPC: Contains several MPI types, linpack and benchmark tools.
- Kernel: Custom kernel roll separated from base roll, contains scripts to install the kernel, kernel source, and kernel documentation as well as scripts to configure kernel for Platform OCS.
- Platform: Add-hosts, Add/Remove Roll, and Patch Management tools developed by Platform Computing
- Red Hat: RHEL4 U3 AS and WS support RPMs
- Dell: Recommended Dell drivers and configuration settings, plus scripts to automatically configure servers for IPMI traffic.
- Platform LSF HPC™ 6.2
- Platform Lava 6.1: Software for workload and batch processing
- Myrinet: Myrinet® drivers and MPI libraries from Myricom®
- Cisco Topspin IB: Topspin IB drivers and MPI libraries from Cisco
- CluMon: NCSA's Beta cluster monitoring package
- Ganglia: Monitoring package
- PVFS2: Parallel File System
- Modules: Environment Modules package

- Extra Tools: Cluster management tools
- ntop: Network bandwidth monitoring and traffic analysis
- Volcano: A free portal for submitting jobs to LSF HPC or Lava
- mpirt: Intel's runtime libraries for MPI

Optional rolls available by download

Additional rolls are available by download from the Platform OCS web site: <http://my.platform.com/products/platform-ocs>. Contact Platform Computing to obtain a username and password.

During installation, select the optional rolls you want to install.

Standard Edition

Platform OCS Standard Edition DVD

Platform OCS Standard Edition DVD includes CentOS 4.3 instead of RHEL4 U3 AS and WS, but otherwise includes the same base rolls and essential tools as the Platform OCS Enterprise Edition DVD.

You can also download Platform OCS Standard Edition from the Platform web site at <http://my.platform.com/products/platform-ocs>.

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Learn About Platform Products

World Wide Web

The latest information about all supported releases of any Platform product is available on the Platform Web site at <http://www.platform.com>. Forums, e-support, documentation and release information is available at <http://my.platform.com/>.

If you have problems accessing the Platform Web site or the Platform FTP site, contact support@platform.com.

Platform training

Platform's Professional Services training courses can help you gain the skills necessary to effectively install, configure and manage your Platform products. Courses are available for both new and experienced users and administrators at our corporate headquarters and Platform locations worldwide. Customized on-site course delivery is also available.

Find out more about Platform Training at <http://www.platform.com/Services/Training>, or contact trng@platform.com for details.

Technical support

Contact Platform Computing at support@platform.com for technical support. When contacting Platform, please include the full name of your company.

See the Platform Web site at <http://www.platform.com/Company/Contact.Us.htm> for other contact information.

Platform documentation

Roll readmes are packaged with the rolls, and are accessible from the Roll Call page in your front end node: <http://localhost/homepage/list-rolls.cgi>.

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Get Technical Support

Contact Platform

Contact Platform Computing or your Platform OCS vendor for technical support. Use one of the following to contact Platform technical support:

Email

support@platform.com

World Wide Web

<http://www.platform.com>

Mail

Platform Support
Platform Computing Corporation
3760 14th Avenue
Markham, Ontario
Canada L3R 3T7

When contacting Platform, please include the full name of your company.

See the Platform Web site at <http://www.platform.com/Company/Contact.Us.htm> for other contact information.

Get patch updates and hotfixes

Obtain the latest patches and hotfixes for Platform OCS from the following page:

<http://my.platform.com/products/platform-ocs>

To obtain a user name and password, contact Platform Computing technical support at support@platform.com

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