

# Penguin Computing Scyld ClusterWare<sup>®</sup>

Cluster management software from the HPC experts

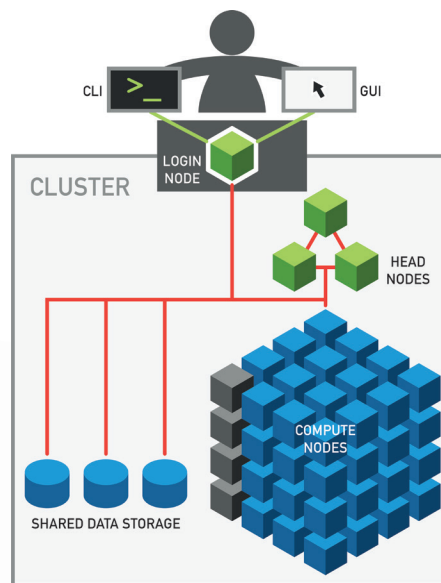
## Scyld ClusterWare Features

- ▶ Rapid image-based provisioning for fast cluster boot times
- ▶ Scalability from tens of nodes to thousands
- ▶ Support for strictest security environments
- ▶ Integrate into Ansible-based IT environments for DevOps automation
- ▶ Node groups and attributes provide extensibility to build out heterogeneous compute environments
- ▶ Monitoring and alerting dashboards and tools
- ▶ Enterprise support provided by HPC experts

High-performance computing has become indispensable to enterprises, the scientific research community, and government agencies to generate new discoveries and to innovate breakthrough products and services. HPC, once primarily deployed in large lab environments, has become mainstream and is now a key contributor to scientific progress, business competitiveness, national security, and engineering solutions of all kinds.

Penguin Computing Scyld ClusterWare<sup>®</sup> is cluster management software that can help organizations tame the complexity of their HPC compute clusters and achieve innovation and high productivity quickly. Organizations in diverse industries around the world rely on Scyld ClusterWare software to help them manage and optimize their HPC environments. With our long history of HPC expertise, extensive vendor partnerships, and broad range of services, Penguin Computing is your ideal partner for delivering HPC and AI compute solutions.

Scyld ClusterWare brings together all the features and components that today's administrators need to get their HPC cluster provisioned rapidly and operating smoothly, providing end-users with the power they need to run their workloads and get to innovation quickly.



System Monitoring, Altering, Orchestration, & Metering Tools

Head Node Cluster

HPC Scheduler

Management, Utility & login Nodes

(CI/CD)

Metric Collection

Resource Manager

Component Monitor

System Image Repo

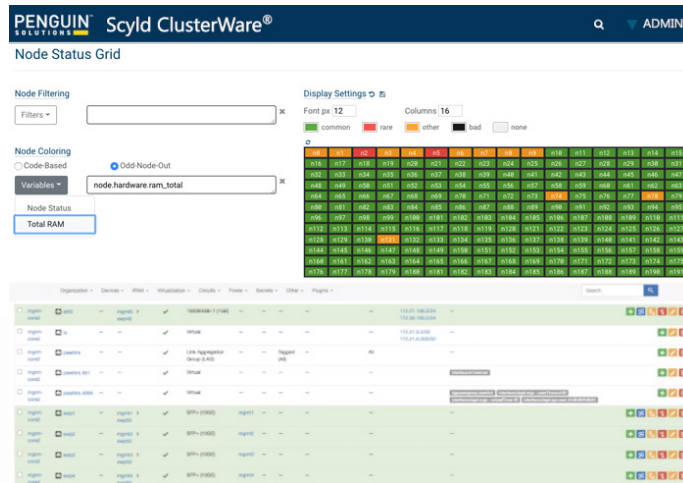
DHCP PXE

## Scyld ClusterWare Benefits

### Tame The Complexity

Administrators will appreciate Scyld ClusterWare’s standards-based CLI and GUI tools to quickly build, manage, and maintain their HPC clusters. Configurable monitoring capabilities, graphical dashboards, and an alerting system ready for integration all contribute to a robust, stable environment for the user community.

Powerful HA capabilities and node state change notifications will give administrators peace of mind; redundancy between the head nodes results in a highly robust cluster.



## Highly Secure

Penguin Computing has worked closely with customers having the strictest of security requirements throughout our long history. These relationships have informed how the security features for Scyld ClusterWare have continually evolved to maintain the highest standards.

- ▶ SELinux support, both targeted and MLS
- ▶ Support for FIPS 140-2
- ▶ Support for STIGs
- ▶ Support for air-gapped deployments
- ▶ TPM support for LUKS

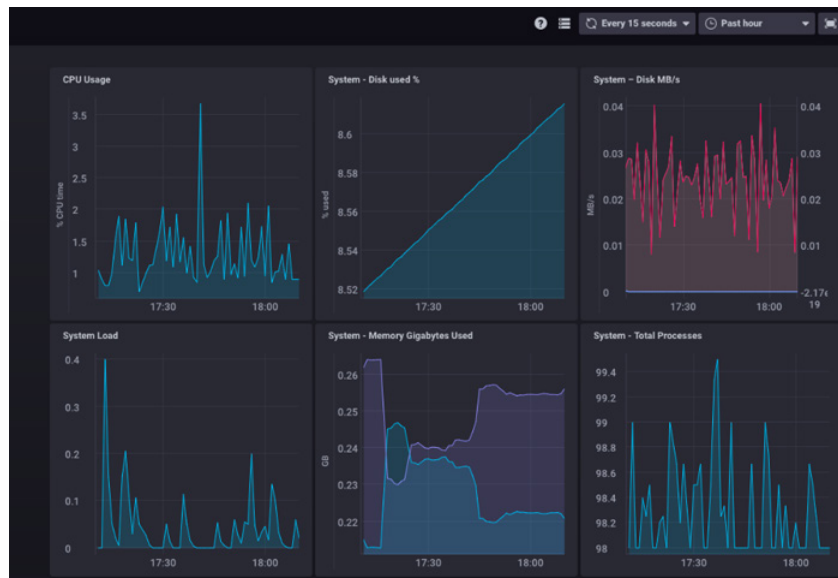


## Performance and Scalability

Today's clusters scale up to many thousands of compute nodes. Scyld ClusterWare assists system administrators by delivering rapid provisioning; time to boot the cluster is vastly reduced.

New node configurations can be easily created as derivatives of existing configs and deployed on selected nodes with simple commands. Changes can be tested and rolled back with similar simplicity.

Node configuration automation is possible using Ansible or more crafted tools as appropriate and necessary.

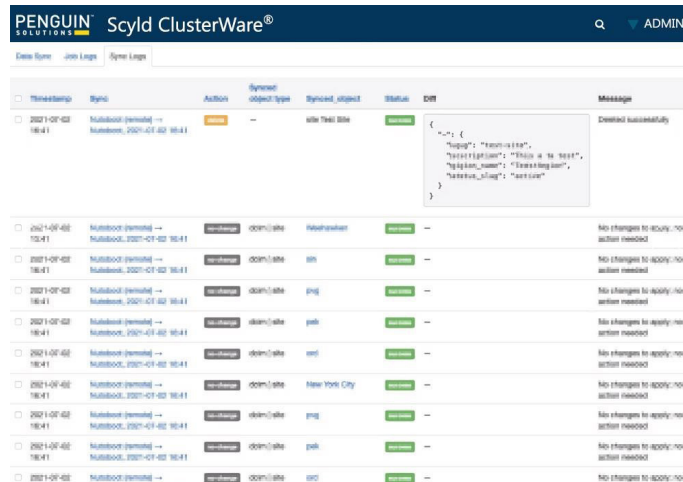


## Flexibility

Scyld ClusterWare is suitable for a wide range of HPC and AI use cases supporting a wide range of operating systems on x86-based or Arm® nodes. Support for a wide range of HPC middleware like MPI implementations, libraries, and schedulers come pre-bundled with tooling making integration seamless.

In addition to the CLI and the web-based GUI for cluster management, a RESTful API gives administrators many options for customizations for monitoring and management.

Customers can be confident that Scyld ClusterWare helps futureproof their HPC investment and all this flexibility comes with best-in-business support.



The screenshot shows the Scyld ClusterWare web interface. At the top, there's a header with the Penguin Solutions logo and 'Scyld ClusterWare®'. Below the header, there's a navigation bar with 'Data Home', 'User Logs', and 'System Logs'. The main content area is a table with columns: 'Timestamp', 'System', 'Action', 'System object type', 'System object', 'Status', 'DVE', and 'Message'. The table contains several rows of system actions, mostly 'delete' actions on 'node' objects. The first row is expanded to show a JSON message: 

```
{ "type": "node/delete", "system_name": "Penguin", "system_id": "123456789", "system_label": "node" }
```

## ABOUT PENGUIN SOLUTIONS

### An **SGH**™ Brand

Penguin Solutions accelerates digital transformation with the power of emerging technologies in HPC, AI, and IoT with solutions and services that span the continuum of edge, core, and cloud.

Penguin Computing specializes in innovative and emerging technologies for the world's most demanding workloads.



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