Adaptive COMPUTING

Adaptive Cluster Manager

A Streamlined, Cost-effective Solution for Building and Managing HPC & AI Linux Clusters

Adaptive Cluster Manager is a cluster management solution for efficiently building, deploying and managing Linux-based HPC & AI clusters consisting of Head node(s), Compute nodes and Storage. Adaptive's solution is designed to simplify and optimize the effort involved in deploying, managing, and scaling high-performance computing (HPC) clusters across diverse environments and scales. We've focused on simplicity and value, providing practical, affordably priced options, making it easier to meet your cluster management needs effectively and within budget. Our goal was to create a straightforward, turn-key solution for cluster management. Adaptive Cluster Manager (ACM) supports on-premises environments with optional cloud bursting to major providers including AWS, Azure, OCI, and GCP.

Manage large-scale HPC clusters with advanced resource allocation. Whether managing traditional HPC & AI clusters, or hybrid cloud environments, Adaptive Cluster Manager is designed to meet the evolving needs of modern computing infrastructures.

Key Features

Adaptive Cluster Manager delivers a comprehensive suite of features designed to simplify the management of Linux clusters. Our solution provides a robust platform for high-performance computing (HPC), AI and other demanding applications, ensuring flexibility, security, and efficiency.

- **Choice of Linux Distributions:** Adaptive Cluster Manager supports a wide range of Linux distributions, ensuring compatibility with diverse system environments.
- **Cluster Management Shell:** A powerful command-line interface for advanced cluster management and scripting.
- **Web-Based User Portal:** Provides a centralized web-based interface for monitoring and managing cluster resources.
- **Node Provisioning:** Efficiently provisions and configures nodes.
- **Cluster Monitoring:** Monitoring tools to track cluster health and performance metrics in real-time.
- **Cluster Automation:** Automates routine tasks and cluster management processes to reduce manual intervention and improve efficiency.
- **User Management:** Facilitates user account management and permissions, ensuring secure and organized access to cluster resources.
- **MPI Libraries:** Supports a range of preinstalled MPI libraries for parallel computing and distributed applications.
- **Environment Modules:** Manages and configures software environments, similar to ParaTools Pro for E4S™, for flexible and efficient application deployment and version control.
- **Cloud Bursting:** Facilitates dynamic scaling of cluster resources by integrating with public and private clouds, extending capacity as needed.
- **NVIDIA CUDA & OpenCL:** Supports NVIDIA CUDA and OpenCL for GPU-accelerated computing, AI and high-performance applications.
- **GPU Support:** Provides support for GPUs as well as a broad range of accelerator technologies.
- **Role-Based Access Control:** Implements role-based access control (RBAC) to manage permissions and ensure secure access to various cluster functions.

Benefits

Deployment and Provisioning

- **Flexible Installation:** Supports deployment on bare metal, and virtual machines. Compatible with multiple Linux distributions.

Management Interfaces

- **Web-Based GUI:** A newly redesigned, intuitive graphical interface for easy management and visualization of cluster status. Customizable dashboards and monitoring tools enhance visibility and control.
- **Command-Line Interface (CLI):** Powerful CLI tools for advanced management and automation tasks.

Monitoring & Analytics

- **Integrated Monitoring:** Comprehensive and customizable monitoring capabilities.

Resource Management

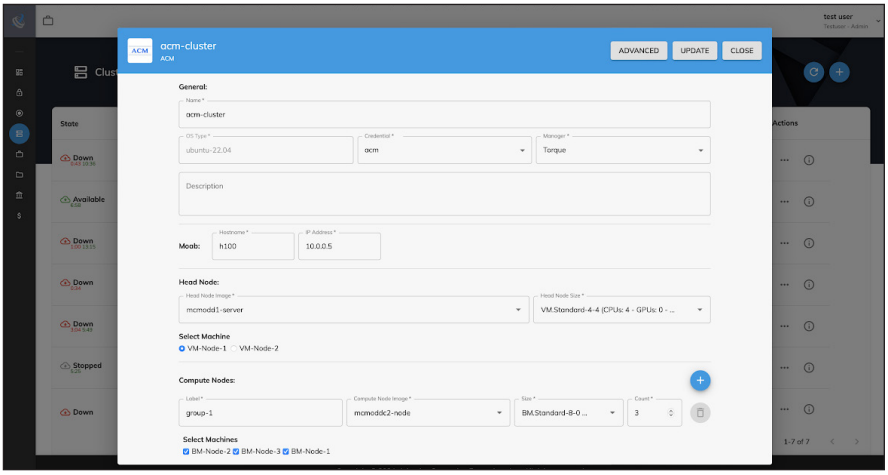
- **Scalable Resource Allocation:** Efficiently manage resources, including GPUs and hardware accelerators.

Cloud Integration

- Seamlessly manage clusters in public, private, and hybrid cloud environments. Automate the process of extending on-premises clusters to the public cloud.

Support and Licensing

- **Enterprise Support:** Subscription-based enterprise support with access to a team of HPC experts and responsive customer service.
- **Flexible Licensing:** Various licensing options to suit different organizational needs and scales.



Cluster Creation Interface

Conclusion:

Adaptive Cluster Manager provides a cutting-edge solution for efficiently building, managing, and scaling HPC Linux clusters. Its blend of flexibility, comprehensive features, and cost-effectiveness makes it an ideal choice for both traditional and hybrid cloud computing environments. By simplifying and automating complex and repetitive tasks, offering robust support for diverse Linux distributions, advanced resource allocation, and integration with major cloud providers, ACM ensures that organizations can meet their high-performance and AI computing needs with ease and precision. With its powerful management interfaces, scalable resource handling, and strong support infrastructure, Adaptive Cluster Manager empowers users to optimize their computing environments while staying within budget. Embrace Adaptive Cluster Manager for a streamlined, efficient, and cost-effective approach to HPC cluster management that adapts to your evolving computing demands.

Adaptive COMPUTING
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About Adaptive Computing
Adaptive Computing is a global software company headquartered in Naples, Florida, USA and has provided advanced applications and tools to the High-Performance Computing industry for over two decades with hundreds of deployments on the world's largest computing installations. Adaptive Computing products and services are used by organizations of all sizes across a broad range of industries such as High-Tech Manufacturing, Aerospace Engineering, Defense, Universities and Research Labs, Life Sciences, Oil and Gas Exploration, Financial Services, and Data Analytics. Some of the world's largest clusters, grids, and data centers use Adaptive's Moab HPC Suite and Cloud Solutions to maximize performance and value, simplify management, and create a competitive advantage.