

SuperCloud Orchestrator

A Web-based Workflow Framework to Accelerate Service-Ready Data Center Deployments for Cloud, HPC, and AI

Key Challenges

- Managing deployment of cloud, HPC, and AI software stacks that involve intricate configuration and dependencies.
- Ensuring that all hardware components are compatible and have optimized functionality can be challenging and time consuming
- Ensuring consistent configurations across all environments can be difficult, leading to potential discrepancies and errors.

Benefits

- Simplify complex software deployment processes across cloud, HPC, software-defined storage, and AI solutions.
- Pre-defined workflows ensure consistent and reliable deployments, minimizing human error and operational discrepancies.
- Organizations can tailor deployment processes to their specific needs.
- Built-in benchmark suites offer rapid, insightful reports that ensure optimized service delivery.
- Pre-deployment GPU diagnostics ensure hardware is functioning properly, avoiding ineffective deployment.

SuperCloud Orchestrator (SCO) is an advanced web-based workflow framework designed to streamline and simplify software deployment complexity across cloud, high-performance computing (HPC), and artificial intelligence (AI) environments. With a robust suite of pre-configured deployment workflows for numerous open-source software packages, SCO enables organizations to accelerate sophisticated IT infrastructure setup and deployment to quickly achieve service-ready data centers and reduce time-to-market operational complexity.



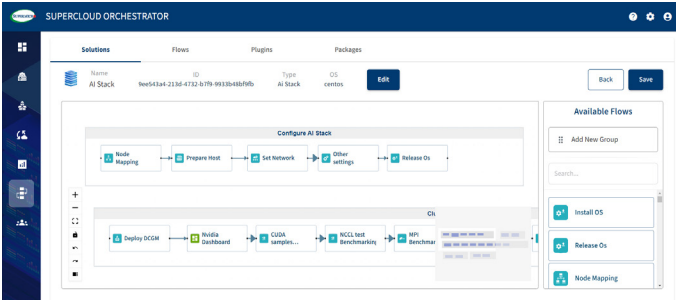
Enable Enterprise-Grade Software Solutions

SCO provides a foundational tool for seamless deployment of enterprise-level software solutions including renowned platforms like OpenStack, Kubernetes, Ceph, Slurm, and Supermicro’s AI stack software solution. SCO conducts pre-deployment GPU diagnostics on a RAM disk to ensure system reliability and stability for deploying and operating cutting-edge AI solutions.

Streamline Deployment with Workflows

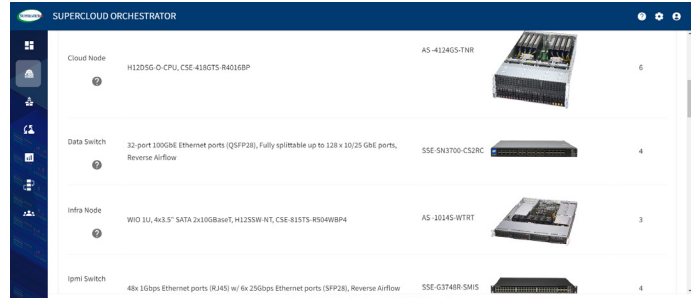
The powerful SCO platform revolutionizes workflow framework, offering flexible and scalable customized deployment processes based on organizations’ specific needs. From provisioning resources to configuring software stacks, SCO’s workflows adapt to diverse requirements to ensure deployment consistency and reliability. Supermicro SCO empowers organizations to accelerate time-to-market by leveraging automation to minimize human errors during deployment, which significantly reduces troubleshooting time and helps achieving a service-ready data center.

Workflow Development and Management



Web-based design tool enables users to compose multiple workflows into a solution using drag-and-drop.

Built-in Reference Design for Solutions



Reference Design can recommend high-performance Supermicro servers and configurations based on the desired software solution.

Feature	Benefits
Built-in Reference Designs	Simplifies and automates the deployment process by providing pre-validated, optimized reference designs and configurations for various solutions, ensuring best practices and reducing the risk of configuration errors.
Multi-site Support	Ensures deployment process consistency across multiple locations, providing centralized control and standardized configurations. Multi-site deployment enhances operational efficiency and reduces software deployment management complexity in different environments.
OS Provisioning	Integrates with cluster managers including Supermicro SuperCloud Composer, xCAT, and Foreman to automate installation of operating systems. OS Provisioning reduces manual intervention and ensures consistency across all nodes.
Built-in Cloud, HPC, and AI Solution Deployment	Streamlines deployment of complex software solutions by integrating pre-configured deployment packages including OpenStack, Kubernetes, Slurm, OpenMPI, Ceph, Nvidia CUDA, and AMD ROCm to reduce setup time and minimize errors.
Workflow Framework	Customers can customize pre-defined deployment workflow and add-on features to their solution using workflow design tool. Users can flexibly adjust front-end parameters using built-in scripts, which support multiple languages from back-end including Ansible, Python, and Shell. Reference designs with pre-defined workflow ensure deployment processes are versatile and adaptable to user's specific needs.
Mainstream Benchmark Test	Offers built-in benchmark tools including HPL Single/Multi, SpecAccel, SpecCPU, IPerf3, MPI benchmark, NCCL test, CUDA samples, and Ceph benchmark to evaluate system performance and identify potential bottlenecks to ensure deployed solutions are in optimized configuration and performance.
GPU Diagnostic Plug-ins	SCO provides pre-deployment plug-ins for GPU hardware diagnostics featuring NVIDIA Field Diagnostics, Bug Report, AMD RVS, and RochPCG benchmark tests to prevent deployment failures or suboptimal performance.
Role-based Access Control	Enhances security and management by allowing organizations to define and control user access based on roles, whereby only authorized personnel can perform specific actions.
Event Notification	Records resource creation, deletion, and modification events and monitors workflows such as software deployments. If any errors occur, notifications will be sent via email to ensure prompt awareness and response to issues.
Solution Dashboard	Solution Dashboard allows users to directly monitor and utilize deployed solutions—OpenStack, Kubernetes, Slurm, etc. SCO also integrates NVIDIA DCGM to provide real-time GPU monitoring data, including utilization and memory usage that help users to effectively manage and optimize GPU resources.
Permanent License	Offers a long-term, cost-effective solution without recurring licensing fees, providing better ROI and budget predictability for organizations.

SuperCloud Orchestrator License Structure

Type of License	Description	License P/N
Trial License	Free 90-days trial license with 200 managed nodes activation. Applicable only for SCO instance.	• SFT-SDDC-TRIAL
Management License	Single managed node license activation. One license key per node managed by SCO instance.	• SFT-SDDC-SINGLE

Get a free limited trial version of SuperCloud Orchestrator today and experience a new and revolutionary way to manage your data center with agility, speed, and simplicity. Contact us @ supercloudorchestrator@supermicro.com