Lenovo Intelligent Computing Orchestration

AI workload deployment software

Simplify AI Workloads

Lenovo Intelligent Computing Orchestration (LiCO) simplifies the use of clustered compute infrastructure for Artificial Intelligence (AI) workloads, providing an environment to abstract the complexity of using a cluster for AI while providing valuable tools to facilitate model development.

Clustered IT infrastructure provides the most efficient architecture to support a group of AI users, but can require significant onboarding time and training before users can become proficient. LiCO reduces the burden on both IT and users, resulting in highly utilized infrastructure and high user productivity.

For All Deployment Sizes

From small and growing AI environments to large supercomputer organizations, LiCO ensures a quicker time-to-value for your researchers, engineers, and data scientists, and reduces work for your cluster administrators and operational support. LiCO accelerates AI development by reducing end-user complexity while maintaining the underlying cluster orchestration stack for other workloads.

LiCO enables a single cluster to be used for AI workloads alongside other workloads on a cluster, without any configuration changes and provides access for multiple users simultaneously. Running a greater number of diverse workloads increases the utilization of infrastructure, driving more value from the data and the system. Compute and accelerator resources can easily be added to support user growth and scale-out workloads, so IT can deploy infrastructure for today's needs and expand as user demand grows.

Users with limited experience in cluster tools will greatly benefit from workflow templates, access to shared file systems, and the ability to monitor and manage jobs through the single interface.

The Benefits

- Improve Resource Utilization and TCO — Consolidate resource silos into a single environment supporting multiple users and dynamic resource management.
- Intuitive: For All Skill Levels — Simple workload deployment via an intuitive interface improves access to computing resources for all users and skill levels.

ThinkSystem

- For All Deployments — Simplify AI framework deployment in enterprise data centers and HPC environments while increasing the value of your infrastructure.
- Validated Stacks Reduce Time to Implementation — Choice of multiple AI frameworks through containers with both standard and customized templates for users.
- Flexible Infrastructure — Supports both NVIDIA GPUs and Intel® processors in a variety of configurations to suit varying workloads.

For Data Sciences and Artificial Intelligence

LiCO accelerates Deep Learning (DL) and Machine Learning (ML) with integrated support for the most popular AI libraries and frameworks, such as Tensorflow, MXNet, Caffe, and Chainer. Simplified templates and job management allow data scientists and researchers to quickly develop and deploy ML and DL models.

Users have a record of past jobs and models and can easily retest models with new datasets, frameworks, and parameters and monitor results in a single interface. Data scientists can deploy their own custom models, or leverage predefined models across a range of training activities.

AI frameworks change frequently, and LiCO allows users to easily manage and update framework versions to leverage the latest innovations including NVIDIA GPU Cloud (NGC) containers for GPU-optimized workloads. Lenovo AI solutions with ThinkSystem servers and LiCO deliver the freedom for data scientists and data engineers to experiment with different framework and hardware combinations, without having to configure systems or software stacks, giving you more time to spend on optimizing your models.

Built on Lenovo Expertise

Lenovo is the #1 supercomputer provider in the world* and has extensive expertise designing and deploying some of the largest clusters in the world.

Lenovo has leveraged the best practices from our experts and real-world customer needs to develop LiCO and deliver a simple, yet powerful experience that helps you manage your cluster resources. In fact, LiCO was named Best AI Product or Technology for 2018 by HPCWire at the SuperComputing 2018 conference**, and Best Overall AI Platform for 2019 by AI Breakthrough.***
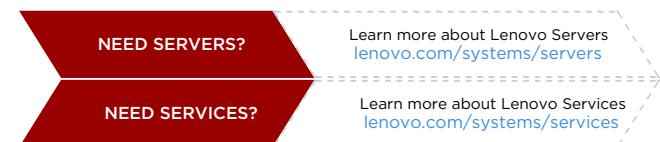
The world-class Lenovo Professional Services team will support you from configuration through deployment to post-implementation maintenance to ensure you're up and running with LiCO as quickly as possible. Ongoing support for the LiCO platform is provided through Lenovo, and customers can deploy LiCO as part of a Lenovo Scalable Infrastructure (LeSI) solution.

Getting Started

LiCO is available in Lenovo AI Innovation Labs around the world, allowing you to test your proof of concept before deploying. The Innovation Centers feature Lenovo system and software resources and are staffed by Lenovo AI experts, as well as experts from Lenovo partners, all available to help you.

For More Information

To learn more about LiCO, contact your Lenovo representative or Business Partner, or visit lenovo.com/ai. For detailed specifications, consult the LiCO product guide.

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