NVIDIA AI Turbocharges Industrial Research, Scientific Discovery in the Cloud on Rescale HPC-as-a-Service Platform

As industrial giants increasingly turn to the cloud, NVIDIA teams with Rescale to bring the full stack of NVIDIA AI software to every major cloud service provider.

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Just like many businesses, the world of industrial scientific computing has a data problem.

Solving seemingly intractable challenges — from developing new energy sources and creating new modes of transportation, to addressing mission-critical issues such as driving operational efficiencies and improving customer support — requires massive amounts of high performance computing.

Instead of having to architect, engineer and build ever-more supercomputers, companies such as Electrolux, Denso, Samsung and Virgin Orbit are embracing benefits offered by Rescale's cloud platform. This makes it possible to scale their accelerated computing in an energy-efficient way and to speed their innovation.

Addressing the industrial scientific community's rising demand for AI in the cloud, NVIDIA founder and CEO Jensen Huang joined Rescale founder and CEO Joris Poort at the Rescale Big Compute virtual conference, where they announced that Rescale is adopting the NVIDIA AI software portfolio.

NVIDIA AI will bring new capabilities to Rescale's HPC-as-a-service offerings, which include simulation and engineering software used by hundreds of customers across industries. NVIDIA is also accelerating the Rescale Compute Recommendation Engine announced today, which enables customers to identify the right infrastructure options to optimize cost and speed objectives.

"Fusing principled and data-driven methods, physics-ML AI models let us explore our design space at speeds and scales many orders of magnitude greater than ever before," Huang said. "Rescale is at the intersection of these major trends. NVIDIA's accelerated and AI computing platform perfectly complements Rescale to advance industrial scientific computing."

"Engineers and scientists working on breakthrough innovations need integrated cloud platforms that put R&D; software and accelerated computing at their fingertips," said Poort. "We've helped customers speed discoveries and save costs with NVIDIA-accelerated HPC, and adding NVIDIA AI Enterprise to the Rescale platform will bring together the most advanced computing capabilities with the best of AI, and support an even broader range of AI-powered workflows R&D; leaders can run on any cloud of their choice."

The companies announced that they are working to bring NVIDIA AI Enterprise to Rescale, broadening the cloud platform's offerings to include NVIDIA-supported AI workflows and processing engines. Once it's available, customers will be able to develop AI applications in any leading cloud, with support from NVIDIA.

The globally adopted software of the NVIDIA AI platform, NVIDIA AI Enterprise includes essential processing engines for each step of the AI workflow, from data processing and AI model training to simulation and large-scale deployment.

NVIDIA AI enables organizations to develop predictive models to complement and expand industrial HPC research and development with applications such as computer vision, route and supply chain optimization, robotics simulations and more.

The Rescale software catalog provides access to hundreds of NVIDIA-accelerated containerized applications and pretrained AI models on NVIDIA NGC , and allows customers to run simulations on demand and scale up or down as needed.

Rescale now offers the NVIDIA Modulus framework for developing physics machine learning neural network models to support a broad range of engineering use cases.

Modulus blends the power of physics with data to build high-fidelity models that enable near-real-time simulations. With just a few clicks on the Rescale platform , Modulus will allow customers to run their entire AI-driven simulation workflow, from data pre-processing and model training to inference and model deployment.

Rescale is additionally integrating the NVIDIA Base Command Platform AI developer workflow management software, which can orchestrate workloads across clouds to on-premises NVIDIA DGX systems.

Rescale's HPC-as-a-service platform is accelerated by NVIDIA on leading cloud service provider platforms, including Amazon Web Services, Google Cloud, Microsoft Azure and Oracle Cloud Infrastructure. Rescale is a member of the NVIDIA Inception program.

To learn more, watch Huang and Poort discuss the news in the replay of the Big Compute keynote address.

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