



NVIDIA Vera Rubin Delivers World-Class Supercomputers for Science

With 7 Exaflops of AI for Science and 5 Petaflops of Native FP64 Performance, Vera Rubin Packs TOP500 Supercomputing in a Single Rack

News Summary:

- NVIDIA Vera Rubin accelerates the world's most demanding HPC workloads including climate modeling, computational fluid dynamics and energy exploration.
- NVIDIA Vera Rubin and Vera CPU to bring agentic AI to scientific computing.
- Leibniz Supercomputing Centre, National Energy Research Scientific Computing Center and Los Alamos National Laboratory next-generation supercomputers based on Vera Rubin will advance open science, energy exploration, earth sciences and national security.
- Global system manufacturers Bull, Dell Technologies, GIGABYTE, HPE and Supermicro announce custom high-density Vera Rubin supercomputing systems with up to 144 GPUs per rack.

ISC High Performance 2026 -- NVIDIA today announced the NVIDIA Vera Rubin platform delivers world-class supercomputers for science, combining native double-precision (FP64) performance, [NVIDIA CUDA-X™](#) libraries and the full-stack capabilities of the NVIDIA AI platform.

Bringing together NVIDIA's complete accelerated computing stack -- from hardware to software and optimized scientific libraries -- Vera Rubin accelerates AI, simulation and data-intensive research, transforming each system rack into a supercomputer for scientific discovery and industrial innovation.

Built to unite high-precision simulation, AI and data analytics, the Vera Rubin platform is designed for the era of agents to advance scientific discovery by accelerating workloads such as climate modeling, computational fluid dynamics, quantum chemistry and energy exploration.

With more than 7 exaflops of AI for science, 5 petaflops of native FP64 support and extreme memory bandwidth with up to 144 GPUs, a Vera Rubin supercomputing system can deliver performance on par with systems on the TOP500 list of the world's most powerful supercomputers. This gives research centers and industrial enterprises the performance to run larger models, improve fidelity and shorten time to discovery.

"Scientific discovery is now a race between the complexity of the world's greatest challenges and the computing systems built to solve them," said Jensen Huang, founder and CEO of NVIDIA. "NVIDIA Vera Rubin is a new instrument for science -- a rack-scale supercomputer that brings simulation, AI and data processing together to help researchers and industries design and discover faster than ever."

Vera Rubin Advances Scientific Computing

The NVIDIA Vera Rubin platform combines NVIDIA Rubin GPUs and NVIDIA Vera CPUs connected via high-speed NVIDIA NVLink™-C2C, NVIDIA ConnectX®-9 SuperNICs and NVIDIA BlueField®-4 DPUs in a direct liquid-cooled architecture.

For scientific computing, Vera Rubin provides native FP64 capabilities to accelerate simulations that need the highest accuracy as well as the AI performance needed for surrogate models, scientific foundation models and AI-assisted analysis. Researchers can use a single platform to run traditional numerical solvers, train and deploy AI models, stream data from instruments and couple simulation with real-time analytics.

Building Next-Generation Supercomputers

Leading supercomputing centers and industrial innovators are adopting Vera Rubin to build a new generation of AI and high-performance computing (HPC) systems.

At Leibniz Supercomputing Centre (LRZ), Blue Lion will be powered by the NVIDIA Vera Rubin platform and second-generation exascale-class HPE Cray supercomputing, delivering approximately 30x the computing power of LRZ's current system. Scheduled to come online in 2027, Blue Lion will support researchers across astrophysics, environmental and life sciences by enabling classic simulation and modeling, machine learning approaches and the use of surrogate models all in one.

At the National Energy Research Scientific Computing Center, Doudna -- the next flagship U.S. Department of Energy (DOE) supercomputer at Lawrence Berkeley National Laboratory -- will be a [Dell Technologies](#) system powered by NVIDIA Vera Rubin and connected to DOE scientific instruments through the Energy Sciences Network. Doudna is being built for large-scale HPC workloads, AI training and inference, and data-intensive workflows across molecular dynamics, high-energy

physics, fusion energy, materials science, drug discovery and astronomy.

Los Alamos National Laboratory (LANL) has selected NVIDIA Vera Rubin, Vera CPU and NVIDIA Quantum-X800 InfiniBand for its next-generation Mission, Vision and Veritas systems, to be built and delivered by HPE using the latest HPE Cray supercomputing system.

Mission is designed for national security workloads, while Vision with the Vera CPU will advance open science research, including foundation models, agentic AI and complex simulations spanning materials science, nuclear energy, fusion energy and quantum computing. Announced at ISC, the new Veritas system, with NVIDIA Rubin GPUs and standalone Vera CPU partitions, is [designed for agents](#) to advance scientific discovery at LANL.

The accelerated computing systems will be built using the NVIDIA GPUs in a single unified system. For modern supercomputing applications, NVL4 optimizes density, energy efficiency and operational simplicity.

Global system manufacturers including Bull, Dell Technologies, GIGABYTE, HPE and Supermicro are bringing NVIDIA Vera Rubin NVL4 to market through direct liquid-cooled AI and HPC racks. The supercomputing racks, built with Vera Rubin NVL4, are designed to help research institutions, national labs and enterprises deploy rack-scale accelerated computing.

The systems expand the NVIDIA accelerated computing ecosystem for scientific discovery, giving organizations a common platform for simulation, AI, data processing and visualization -- from individual rack deployments to large-scale supercomputing centers.

Availability

NVIDIA Vera Rubin NVL4-based systems are expected to be available from global system manufacturers in Q4 this year.

About NVIDIA

[NVIDIA](#) (NASDAQ: NVDA) is the world leader in AI and accelerated computing.

Certain statements in this press release including, but not limited to, statements as to: NVIDIA Vera Rubin being a new instrument for science — a rack-scale supercomputer that brings simulation, AI and data processing together to help researchers and industries design and discover faster than ever; expectations with respect to growth, performance, availability, and benefits of NVIDIA's products, services and technologies, and related trends and drivers; expectations with respect to NVIDIA's third party arrangements, including with its collaborators and partners; expectations with respect to technology developments, and related trends and drivers; projected market growth and trends; expectations with respect to AI and related industries; and other statements that are not historical facts are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the "safe harbor" created by those sections based on management's beliefs and assumptions and on information currently available to management and are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic and political conditions; NVIDIA's reliance on third parties to manufacture, assemble, package and test NVIDIA's products; the impact of technological development and competition; development of new products and technologies or enhancements to NVIDIA's existing product and technologies; market acceptance of NVIDIA's products or NVIDIA's partners' products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of NVIDIA's products or technologies when integrated into systems; and changes in applicable laws and regulations, as well as other factors detailed from time to time in the most recent reports NVIDIA files with the Securities and Exchange Commission, or SEC, including, but not limited to, its annual report on Form 10-K and quarterly reports on Form 10-Q. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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