Synopsys Embraces NVIDIA RTX PRO Servers to Accelerate Compute-Heavy Simulation Workloads

What's New: Synopsys is adopting NVIDIA RTX PRO™ Servers — a new category of enterprise data center infrastructure built on the NVIDIA RTX PRO 6000 Blackwell Server Edition GPU — to accelerate compute-intensive, AI-driven simulation across silicon, systems, and AI. With double the memory capacity of the previous generation, NVIDIA RTX Pro Servers accelerated by NVIDIA RTX PRO 6000 Blackwell Server Edition GPUs will enhance simulations, rendering, and data speeds, handling detailed models more efficiently than previous generations.

The RTX 6000 PRO Server is expected to support simulation workloads of exceptional scale, including Ansys Fluent® and Ansys Lumerical FDTD™ models with billions of cells. The full list of Synopsys products running on RTX PRO Servers includes:

- Ansys Fluent fluid simulation software
- Ansys FreeFlow™ smoothed-particle hydrodynamics simulation software
- Ansys Lumerical FDTD 3D electromagnetic simulation software
- Ansys Perceive EM™ radio frequency channel & radar signature simulation software
- Ansys Rocky™ particle dynamics simulation software
- Ansys Speos® integrated optical & lighting simulation software

Why it Matters: Engineers face unprecedented complexity and an increasingly rapid pace of innovation. Synopsys is at the forefront of applying AI across its electronic design automation (EDA) and Ansys simulation and analysis portfolio to address these challenges and maximize the productivity of engineering teams. Delivering AI-powered engineering solutions requires cutting-edge AI infrastructure that can handle computationally intensive workloads from complex external aerodynamic analyses to large-scale wireless network and radar modeling. That's why Synopsys is also at the forefront of applying AI infrastructure, including NVIDIA RTX PRO Servers, to cost-effectively speed the development and delivery of its next-generation products.

A Closer Look: Features and benefits of NVIDIA RTX PRO Servers complement simulation and analysis workloads. Here's how:

- **Ray Tracing Power:** Featuring 188 RT cores for modeling light and electromagnetic wave behavior, NVIDIA RTX PRO 6000 Blackwell GPUs enhance the efficiency of Perceive EM for radar signal simulation and Speos for optical light study — boosting simulation speed and reliability while assisting engineers in optimizing designs more effectively.
- **High Memory & Bandwidth:** Equipped with 96 GB of GDDR7 memory and a 512-bit bus, delivering ~1.79 TB/s bandwidth — NVIDIA RTX PRO 6000 Blackwell GPUs are ideal for simulation workloads that demand large computational domains and high-resolution field data.
    - With doubled memory bandwidth, Lumerical FDTD simulations could achieve speeds up to 2x faster than with the prior NVIDIA L40S generation of GPUs
    - The doubled memory capacity allows Fluent models with up to twice the number of cells, supporting higher fidelity physics

Other Resources: Press Release: Industry Leaders Transform Enterprise Data Centers for the AI Era With NVIDIA RTX PRO Servers; Press Release: Synopsys Accelerates Chip Design with NVIDIA Grace Blackwell and AI to Speed Electronic Design Automation; Press Release: Ansys to Integrate NVIDIA Omniverse

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