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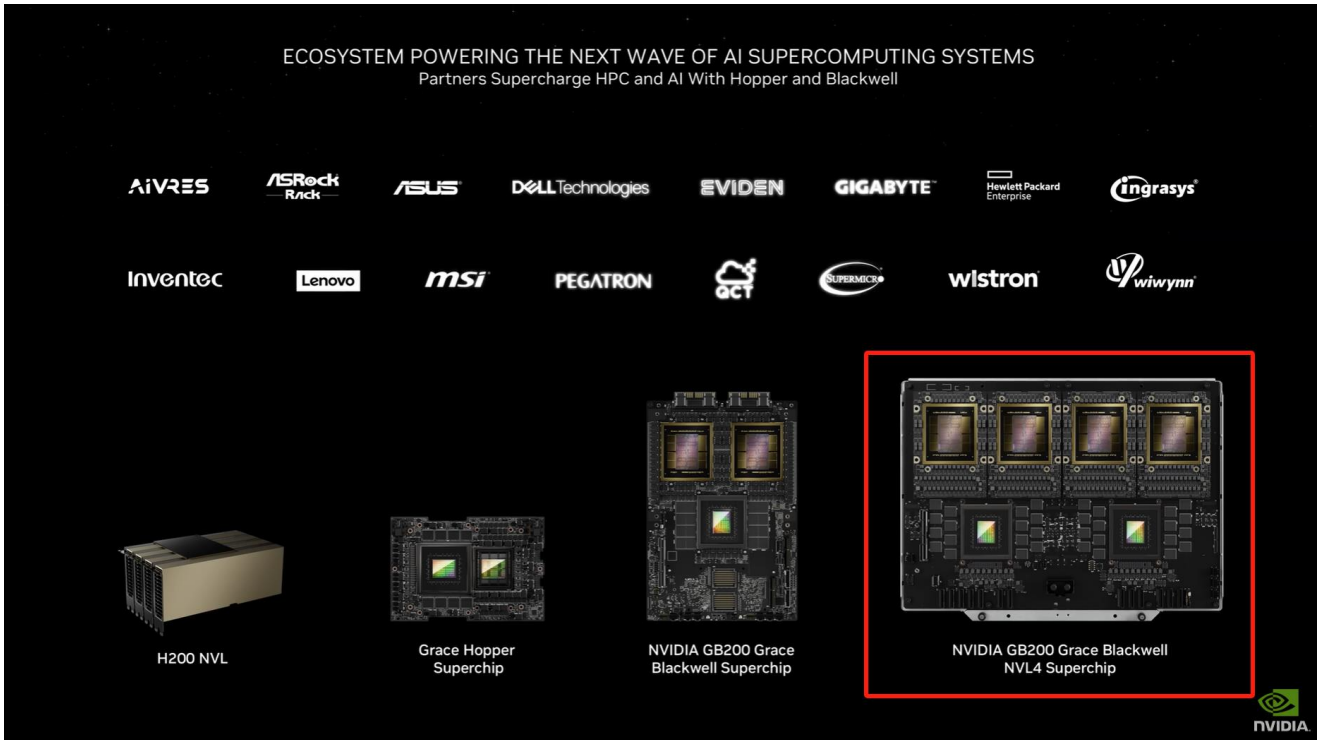
SC24: 英伟达发布 GB200 NVL4 超级芯片及 H200 NVL, 富士康正扩大 Blackwell 生产规模

投资要点:

- **事件:** 英伟达在 2024 美国超级计算机大会 (SC24) 上发布 GB200 NVL4 超级芯片及 H200 NVL。
- **GB200 NVL4 超级芯片:** 英伟达新推出的 GB200 Grace Blackwell NVL4 超级芯片集成了四个通过 NVLink 连接的 Blackwell GPU, 并通过 NVLink-C2C 与两个 Grace CPU 统一。与上一代产品相比, 它为科学计算、训练和推理应用提供了高达 2 倍的性能。GB200 NVL4 超级芯片将于 2025 年下半年上市。
- **H200 NVL:** 英伟达新推出的 H200 NVL 是基于 Hopper 架构的 PCIe 版 GPU, H200 NVL 专为寻求低功耗、空气冷却的数据中心客户打造, 具有较为灵活的配置。根据英伟达最近的调查, 大约 70% 的企业机架功率为 20kW 及以下并使用空气冷却。这使得 PCIe 版 GPU 成为关键, 因为它们支持灵活的节点部署, 无论是使用一块、两块、四块还是八块 GPU, 都能让数据中心在更小的空间内容纳更多计算能力。企业可以利用现有机架, 根据需求选择适合的 GPU 数量。与 H100 NVL 相比, H200 NVL 的内存容量提升了 1.5 倍, 带宽提升了 1.2 倍, 能够在数小时内完成大型语言模型 (LLM) 的微调, 并提供高达 1.7 倍的推理性能提升。
- **与富士康合作扩大生产。** 在 SC24 上英伟达透露, 随着对 Blackwell 等 AI 系统的需求不断增长, 英伟达正与富士康合作通过其在美国、墨西哥和中国台湾的新工厂扩大生产规模。为满足全面投产的 Blackwell 产品的需求, 富士康正在使用 NVIDIA Omniverse 平台。这一用于开发工业 AI 仿真应用的平台, 正在帮助富士康加速美国、墨西哥和中国台湾工厂的上线速度。富士康通过 Omniverse 虚拟集成其工厂及设备布局, 利用 NVIDIA Isaac Sim 进行自主机器人的测试与仿真, 并借助 NVIDIA Metropolis 实现视觉 AI 应用。Omniverse 使工业开发人员能够在数字孪生环境中进行测试与优化, 从而最大限度提高效率, 避免在物理世界中执行高成本的变更命令。富士康预计, 其墨西哥工厂单凭这一技术每年即可显著节约成本, 并将用电量减少超过 30%。
- **投资建议:** 英伟达 Blackwell 系列产品即将逐步上量, 建议持续关注 AI 服务器产业链相关标的。
- **风险提示:** AI 终端应用落地不及预期, 算力需求不及预期。

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图1 英伟达发布 GB200 NVL4 超级芯片



资料来源: Nvidia, HTI

图2 GB200 NVL4 超级芯片实物图



资料来源: STH, HTI

APPENDIX 1

Summary

Investment Highlights:

Event: NVIDIA Corporation unveiled the GB200 NVL4 superchip and H200 NVL at the 2024 USA Supercomputing Conference (SC24).

GB200 NVL4 Superchip: The new GB200 Grace Blackwell NVL4 integrates four Blackwell GPUs connected via NVLink and two Grace CPUs via NVLink-C2C, offering up to 2x performance for scientific computing, training, and inference. Available in late 2025.

H200 NVL: The H200 NVL, a PCIe GPU based on Hopper architecture, is designed for low-power, air-cooled data centers with flexible configurations. About 70% of enterprises use racks of 20kW or less with air cooling, making PCIe GPUs crucial for flexible node deployment. H200 NVL offers 1.5x memory and 1.2x bandwidth increase over H100 NVL, enabling large language model fine-tuning in hours and 1.7x inference performance boost.

Collaboration with Foxconn to expand production: NVIDIA Corporation is partnering with Foxconn to scale production in the USA, Mexico, and Taiwan due to growing AI system demand. Using the NVIDIA Omniverse platform, Foxconn accelerates factory setup, integrating layouts virtually, testing autonomous robots with NVIDIA Isaac Sim, and applying visual AI with NVIDIA Metropolis. Omniverse allows testing in digital twin environments, maximizing efficiency and reducing costly physical changes. Foxconn expects significant cost savings and over 30% power reduction annually at its Mexico plant.

Investment advice: With the Blackwell series ramping up, continue monitoring AI server industry chain targets.

Risk Warning: AI terminal applications and computing power demand may be weaker than expected.

附录 APPENDIX

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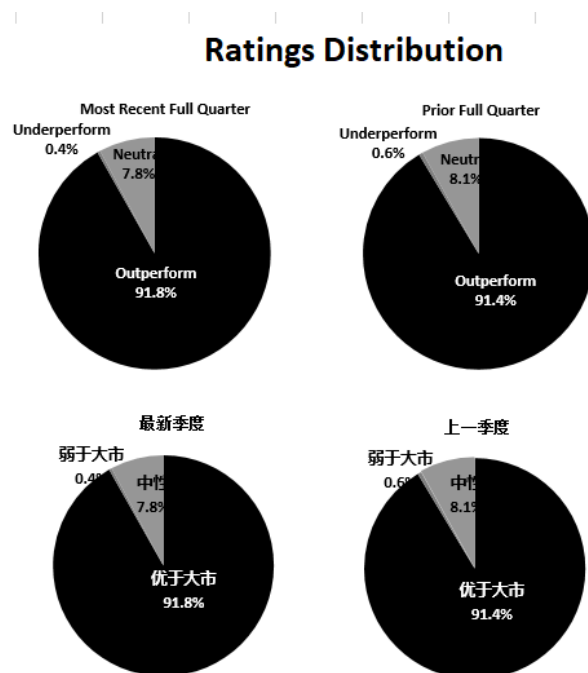
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