AMERICAS TECHNOLOGY: HARDWARE

Traditional & accelerated servers: An industry primer

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This report serves as a comprehensive primer on the server industry, designed for both seasoned technology investors and those new to the hardware sector. It provides a foundational analysis of the market's technological evolution over the last 70 years, current competitive dynamics, and the financial frameworks governing the industry. By grounding our analysis in historical trends and current unit economics, this report aims to equip investors with the necessary tools to navigate the near-term volatility and long-term shifts within the global server ecosystem.

Key areas of focus in this primer include:

- 2026-30 server market forecast: 650 Group forecasts the global server market to grow at a +38% 5-yr CAGR to $1.4 tr by 2030, driven by +13% growth in traditional servers ($164 bn in 2030) and +45% growth in accelerated servers ($1.2 tr in 2030). Both the traditional server and accelerated server markets should see double digit growth across all customer verticals, with strength in hyperscaler & neocloud driven by continuous AI infrastructure build outs, while enterprise demand should benefit from data center modernization efforts in support of agentic AI adoption & broader technology refresh. Also includes a summary of the role of a CPU and GPU within AI infrastructure deployments.
- Market structure and vendor dynamics: An examination of the server vendor landscape, where market share varies meaningfully based on the customer vertical. Enterprise market is highly concentrated and dominated by branded OEMs, including Dell, HPE, Lenovo, and IBM, while the hyperscale opportunity is primarily addressed by white box vendors; neoclouds currently use a mix of both OEMs and ODMs.
- Unit economics and impacts of changing commodity costs: A detailed breakdown of traditional and AI server bill of materials (BOM). We estimate that server OEMs typical earn 15% gross margins and 5-7% operating margins on a CPU server sale. DRAM & NAND historically represented ~30% of the bill of materials for a traditional server, but under current industry expectations price increases in 2026/27, memory could represent >60% of the bill of materials for a traditional server by the end of calendar 2026, assuming no offsetting actions.