Enabling Technologies: Processors and Architectures

AN IDC CONTINUOUS INTELLIGENCE SERVICE

IDC's *Enabling Technologies: Processors and Architectures* research service analyzes the vendors, technologies, and markets for data processing semiconductors in datacenter, client, and edge computing systems, including servers, PCs and workstations, mobile phones, tablets, and embedded and IoT systems. Covered chip types include microprocessors (CPUs), graphics processing units (GPUs), field programmable gate arrays (FPGAs), applications processing units (APUs), baseband processors, and specialized ASICs and ASSPs for machine learning and artificial intelligence (AI).

Markets and Subjects Analyzed

- Server-class microprocessor market shares by vendor, architecture, channel, socket, and system category
- Desktop and mobile PC microprocessor market shares by vendor
- Desktop PC, mobile PC, workstation, and server graphics processing unit market shares by vendor
- Mobile phone and tablet applications processor and baseband market shares by vendor

- Desktop PC, mobile PC, workstation, server, and embedded graphics processing unit forecast
- Desktop PC and mobile PC microprocessor forecast
- AI accelerator vendor coverage and market forecast: Microprocessors, graphics processors, FPGAs, and AI ASICs and AI ASSPs
- Mobile phone and tablet applications processor and baseband forecast

Core Research

- Worldwide Server Microprocessor Market Shares
- Worldwide Data Center Processing Market Shares and Forecasts
- Worldwide PC Microprocessor Market Shares

- Worldwide PC, Workstation, and Server Graphics Processing Unit Market Shares
- Worldwide Mobile Phone and Tablet Market Shares
- Worldwide Artificial Intelligence Processing Forecast

In addition to the insight provided in this service, IDC may conduct research on specific topics or emerging market segments via research offerings that require additional IDC funding and client investment. To learn more about the analysts and published research, please visit: Enabling Technologies: Processors and Architectures.

Key Questions Answered

1. What architectures are winning for processing artificial intelligence inferencing and training in the datacenter and at the edge?
2. How are various data processing semiconductors like CPUs, GPUs, MCUs, and FPGAs and their architectures being positioned in the marketplace?
3. Who are the market share leaders in the server, workstation, PC, mobile phone, and tablet semiconductor markets, and who is best positioned for the future?
4. What are the emerging trends for data processing across the topology of the internet, including in the datacenter, in primary clients (PCs, phones, and tablets), and at the edge, and who are the leading suppliers?
5. What is the size and outlook of the computing semiconductor markets holistically?

Companies Analyzed

This service reviews the strategies, market positioning, and future direction of several providers in the data processing semiconductor market, including:

AMD, Ampere, Apple, ARM, AWS, BrainChip, Broadcom, Cavium, Graphcore, Groq, HiSilicon, Horizon Robotics, Huawei, IBM, Intel, Marvell, MediaTek, Microchip, NVIDIA, Oracle, Phytium, Qualcomm, Samsung, STMicroelectronics, and Xilinx.