



News Advisory

HP Redefines HPC and Supercomputing Market with New Portfolio

HP Apollo family delivers breakthroughs in performance, power and cooling requirements in less space for datacenters of all sizes

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LAS VEGAS, June 9, 2014 — HP today announced the [HP Apollo](#) family of high-performance computing (HPC) systems, capable of delivering up to four times the performance of standard rack servers⁽¹⁾ while using less space and energy.

The new offerings reset data center expectations by combining an innovative modular design with breakthrough power distribution and cooling techniques. These innovations let the HP Apollo portfolio deliver superior performance and density at a lower total cost of ownership.

HPC technology has been used to speed breakthroughs in science and engineering by enabling governments and academia to transition their research from the physical laboratory to the digital world of simulations and computer analysis. Recent innovations in HPC technology are making these programs and applications accessible to enterprise customers, who are using them to enhance research and development efforts and gain a competitive edge.

HP Apollo builds on HP's legacy of server leadership and innovation, leading the market in the creation of x86 servers, blade servers and HP Moonshot extreme lower-power, software defined servers. The new HP Apollo portfolio includes:

- The air-cooled HP Apollo 6000 System, which maximizes performance efficiency and makes HPC capabilities accessible to a wide range of enterprise customers.
- The HP Apollo 8000 System, a supercomputer that combines high levels of processing power with a groundbreaking water-cooling design for ultra-low energy usage.
- Comprehensive HP Apollo Services that make HPC more accessible through financing, assessment services, deployment and HP Datacenter Care support. This includes [HP Apollo 6000 & 8000 Servers Financing](#),⁽²⁾ which helps enterprises maximize their data center environments by providing a flexible payment plan to purchase HP Apollo systems along with dual-use support to ease the transition.

"Demand for HPC applications across industries is growing rapidly, and today's data centers are ill-equipped to handle the extensive space, power and infrastructure necessary to run the required level of processing power," said Antonio Neri, senior vice president and general

manager, Servers and Networking, HP. "Only HP has the intellectual property, portfolio, services and support to transform the supercomputing market today to accelerate the pace of innovation for tomorrow."

HP Apollo 6000 System: HPC performance for the enterprise

The HP Apollo 6000 System features a flexible rack design that provides a wide selection of adaptors and power redundancy, allowing customers to optimize their systems for the specific needs of a wide variety of workloads, such as design automation or financial service risk analysis.

Leveraging an advanced air-cooled server rack design, external power shelf and the HP Advanced Power Manager, the HP Apollo 6000 System packs up to 160 servers per rack. When compared to competitive blade solutions, these servers can deliver greater performance and efficiency in less space while using up to 46 percent less in energy, and lowering total operational expenses.⁽³⁾

"We are seeing up to 35 percent performance increase in our Electronic Design Automation application workloads," said Kim Stevenson, chief information officer, Intel. "We have deployed more than 5,000 of these Intel Architecture-based servers, achieving better rack density and power efficiency, while delivering higher application performance to Intel silicon design engineers."

HP Apollo 8000 System: advancing the science of supercomputing

As a cooling medium, liquids offer 1,000 times the efficiency of air. However, design complexities and the risk of damage to expensive HPC systems have made liquid cooling unattractive. HP has addressed these obstacles with new patented technologies that enable liquid cooling without the risk.

The HP Apollo 8000 System is the world's first 100-percent liquid-cooled supercomputer with built-in technology that protects the hardware. Built on a scalable rack design with up to 144 servers per rack, the system can offer four times the teraflops per rack compared to air-cooled designs, and the energy-efficient design helps organizations eliminate up to 3,800 tons of carbon dioxide waste from their data center per year.⁽⁴⁾

Customers also can recycle the warm water used to cool the system as a heat source for their facilities. The U.S. National Renewable Energy Labs (NREL) leveraged the supercomputer's unique design to create one of the greenest data centers in the world, using the waste heat from their supercomputer to heat adjacent office and lab space.

"Leveraging the efficiency of HP Apollo 8000, we expect to save \$800,000 in operating expenses per year," Steve Hammond, director, Computational Science Center, NREL.

"Because we are capturing and using waste heat, we estimate we will save another \$200,000 that would otherwise be used to heat the building. We are saving \$1 million per year in operations costs for a data center that cost less to build than a typical data center."

Simplifying Access to HPC

To address the growing demand for HPC, HP also introduced HP Helion Self-Service HPC, a private cloud solution based on the HP Helion OpenStack® cloud platform that provides a self-service portal containing high performance compute resources via a user-friendly application interface. Customers have the option of self-managing the solution, or selecting HP to manage the system with a pay-for-use model.

Pricing and availability

The HP Apollo 6000 and the HP Apollo 8000 are available for order from HP and channel partners beginning June 10. Pricing is available upon request.

The HP Helion Self-Service offering is available in June 2014 with modular pricing that allows the solution to be tailored to each organization's needs based on both the range of capabilities as well as services required.

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- (1) Based on HP internal estimates. HP Apollo 8000 system provides 4x more teraflops per square foot than IBM 1U rack servers, based on rack and power density, assuming the same processors.
- (2) Financing and service offerings available through Hewlett-Packard Financial Services Company and its subsidiaries and affiliates (collectively HPFSC) in certain countries and are subject to credit approval and execution of standard HPFSC documentation. Rates and terms are based on customer's credit rating, offering types, services and/or equipment type and options. Not all customers may qualify. Not all services or offers are available in all countries. Other restrictions may apply. HPFSC reserves the right to change or cancel this program at any time without notice.
- (3) HP internal estimate compared to Dell M620
- (4) HP internal estimate comparing HP Apollo 8000 to an air-cooled data center with 3 megawatts of IT. A standard sustainability formula was used to derive CO2 savings in tons using the KW-hr savings based on real-world data center analysis.

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