

News advisory



HP Thermal Logic Technologies Help Customers Achieve Energy Efficient Computing

IT customers of all sizes are grappling with a new pain point in the data center – rapidly escalating energy bills and scaling limitations resulting from power and cooling needs. HP engineering research estimates that for every dollar of IT spent, a company can expect to spend the same or more during the first three years of operations on power and cooling.

As IT administrators turn to more powerful technologies and more dense data center configurations, these costs will only continue to rise. In addition, customers expect their power and cooling infrastructure to scale as the needs of the business changes.

To alleviate this pain point, HP has introduced new Thermal Logic technology to help reduce power and cooling costs and buy-back data center capacity. Developed in collaboration with HP Labs, HP Thermal Logic is built into the next-generation HP BladeSystem c-Class.

The technology provides customers with a controllable balance between power and cooling to boost data center energy efficiency at the component, enclosure and rack levels for the first time. Thermal Logic aims to turn high-density into a cooling advantage and conserve energy without sacrificing application performance while increasing the capacity of the data center.

HP Thermal Logic technology pools and shares power and cooling as a resource –virtualizing capacity to be conserved and allocated only when needed. The technology actively and automatically monitors and adapts power load and cooling capacity based on changes in demand and environment, via innovations that ensure the highest energy efficiency, redundancy, and scalability of power and cooling.

By using a multi-zone architecture and multiple thermal sensors in each enclosure, HP BladeSystem captures and analyzes power and temperature throughout the entire system and distributes power and cooling control where it is needed most. Customers can customize power and cooling thresholds for the highest level of performance or the most efficiency, or initiate cooling and control cooling levels automatically to react to and remove heat.

With HP Services and other HP power and cooling technology, Thermal Logic expands power and cooling capabilities from beyond the system or rack level to the entire data center. Every aspect of a data center is interconnected.

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Key features of HP Thermal Logic technology include:

- HP Active Cool Fan – Innovative new design with more than 20 patented design elements that can cool 16 blades using as little as 100 watts of power. Its design is based on model airplane technology that can generate fan-tip speeds of more than 130 mph with high pressure and airflow. Compared to traditional fan designs, it requires 50 percent less air flow, cuts noise levels in half and consumes 66 percent less energy than traditional fans.
- HP Parallel Redundant Scalable Enterprise Cooling – Modular model for cooling that combines the best features of both local and central cooling. Enclosures are divided into four zones with hot-plug Active Cool fans located in each to provide direct cooling for all components in that zone and redundant cooling for all others.
- HP Dynamic Power Saver – Pooled power feature that improves power usage by only using the power supplies needed to match the requirements of customers' consolidated infrastructures. Since power supplies are most efficient running at higher loads, this feature keeps them working at their most efficient levels while the power supply remains fully redundant. The HP Dynamic Power Saver feature runs continuously in the background, pooling power distribution to maintain system performance at higher application loads and providing power savings at lower application loads.

Using HP Thermal Logic technology and ongoing engineering research, HP has customers' power needs in mind by utilizing efficient IT engineering from components, to systems, all the way to the data center without compromising performance, density or reliability. This includes energy efficient processors, server power regulators and overall data center assessments. HP continues to drive smart industry solutions to help lower the burden of this key customer pain point.

Pricing and availability

The HP BladeSystem c-Class is expected to be available July 2006, with pricing available at that time.

More information about HP Thermal Logic is available at www.hp.com/go/bladesystem/evaluate. More information about HP BladeSystem technology is available at www.hp.com/go/bladesystem.

More information on HP Power and Cooling technology is available at: www.hp.com/go/powerandcooling.

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