



Power and cooling services for HP BladeSystem and HP ProLiant server environments

Overview

- Intelligently manage energy use in the data center.
- Cut costs while increasing performance.
- Add capacity without expanding or adding facilities.

Without question, the costs of data center management, power, and cooling are spiraling and in danger of going out of control. Energy is now by far the biggest cost factor in the data center—outpacing hardware and software costs. With global energy costs continuing to rise, businesses need to take a close look at how to significantly change the way they manage power and cooling resources.

Does this mean simply reducing power consumption and putting up with decreased performance and availability? No. You don't have to give up computing performance to achieve energy efficiency. With products like HP BladeSystem and our rich portfolio of services, we can help you pack more computing power into your data center while holding the line on power consumption. You can achieve this quickly by relying on the energy-saving intelligence that is built into our server, management software, and services;

by driving more performance into a smaller energy footprint; and by improving data center management processes.

The challenge is to find a service provider who understands your data center and the current and future pressures on it. Experts from HP Services can help you assess your data center needs, build a plan for improving power and cooling solutions, and assist you in deploying and supporting new technologies and IT solutions.

It's time to rethink the way you manage power and cooling

Consider the specific, tangible benefits your business can gain through smarter management of power and cooling in the data center. HP BladeSystem and ProLiant servers take advantage of unique HP Thermal



Logic technologies to control power consumption and thermal output. This means you can automatically regulate the precise level of power and cooling your systems require—saving money, time, and resources. And with additional HP innovations such as Dynamic Smart Cooling and Insight Power Manager, you can centrally control usage throughout your entire infrastructure.

Reduce energy costs

We can work with you to reduce the cost of energy to power and cool the data center by as much as 60%*. Our services introduce you to products and solutions that can pay for themselves by reducing consumption at rest and optimizing, capping, or throttling energy consumption when in operation.

Control and regulate power consumption

We can also help you gain the benefits of smarter power management with HP Insight Control and Insight Power Manager and unique Thermal Logic technologies.

Improve the way you cool the data center

Our service portfolio is specifically designed to help you transform your data center cooling and cut costs. With new products such as HP Dynamic Smart Cooling, the HP Modular Cooling System, and Liquid Cooling innovations, we deliver innovation that intelligently automates HVAC cooling systems and optimizes thermal management.

Add capacity without adding facilities

We can help you investigate ways to add new compute capacity to existing facilities.

* 60% savings calculated using all of the HP energy-efficient solutions in aggregate and does not constitute a guarantee. Not all data centers are the same; customer's actual savings may vary.

About HP Services for power and cooling

We've designed a services portfolio to specifically meet the entire spectrum of your power and cooling needs. From initial assessment of data center needs to ongoing support for new cooling and power usage solutions, we can show you intelligent ways to conserve energy and cut costs while increasing performance and capacity.

By applying unique processes such as "Thermal Zone Mapping," for example, we can identify the relative influence of each air-conditioning unit, pinpointing areas of over-provision and areas of risk in your data center, and make recommendations for efficiency improvements. And through innovations such as HP Dynamic Smart Cooling, we can help you automate cooling resources and save thermal power.

Service areas for power and cooling include:

HP Data Center Assessment and Planning services

The Data Center Assessment is a detailed review and analysis of your data center facility. According to your requirements, we document findings in a detailed report. If deficiencies exist, HP provides a qualitative explanation for each, including recommended resolutions based on industry standards and operational best practices for mission-critical environments. There are standard and optional components to this customizable service.

You should use Data Center Assessment and Planning services when you need to:

- Determine if your facilities are designed and outfitted to industry standards

- Evaluate the overall condition of the facility and identify any physical risks within the environment
- Optimize space usage and determine the ideal room and equipment layout
- Measure your overall power and cooling efficiency and identify ways to improve them

HP Thermal Assessments

As enterprises move to high-density computing—running increasingly complex workloads—the issues associated with capacity and cooling costs can increase significantly. To help you improve cooling efficiencies and control costs, we offer a series of Data Center Thermal Assessments as part of HP Critical Facility Assessment services.

Thermal Quick Assessment for HP BladeSystem

Environments—Based on the growing popularity of blade server technologies in very dense configurations, HP has developed this blade-specific assessment to help gauge data center readiness and to provide guidance on improving the capacity and efficiency of the data center.

Thermal Assessment Services—This custom service includes sophisticated 2D thermal modeling or 3D thermal-dynamic modeling using HP-exclusive Thermal Zone Mapping. This assessment also includes an analysis of the impact of room and rack configuration, management practices and failure scenarios, as well as detailed energy optimization recommendations. It is available for facilities with raised floors or in-room cooling.

Installation and hardware support for modular cooling systems

The HP Modular Cooling System offers innovative self-cooled racks for high-density server deployments in your data center. Convenient HP Care Pack services are available to streamline system implementation and provide the rapid-response support you need for increased availability.

- **Hardware installation**—A highly trained HP specialist verifies that all pre-installation requirements are met, then installs the system and provides a technical orientation, responding to any usage and maintenance questions you may have.
- **Hardware support**—A choice of either 24x7 or 13x5 support is available, with the option of either same day, 4-hour onsite assistance or 6-hour call to repair.

Rack and rack option services

Uninterruptible power supply (UPS) units are designed to provide a backup source of power when the data center's primary supply experiences a problem. Our service portfolio for these options includes:

- HP Care Pack services for rack-mounted ProLiant DL servers and storage: these include coverage for all qualified UPS units and other rack and power options, which are covered at the same service level and period as the server. Coverage of the UPS battery is not included.
- Modular 3-phase Uninterruptible Power Supply (UPS) Installation Support: this service delivers specialized short-term expertise to complement your in-house capabilities and accelerate 3-phase UPS implementation.

HP Care Pack support services offerings help increase uptime and productivity by making sure any UPS problems are dealt with rapidly and efficiently.

Dynamic Smart Cooling services

Our lifecycle services for Dynamic Smart Cooling help you achieve a fast return on your investment by helping implement your monitoring and management infrastructure speedily and according to best practices—using a highly flexible design that improves power and cooling utilization. To achieve the most effective implementation of a smart cooling solution, we recommend you begin with a Thermal Assessment of your data center. The results of this assessment will help you develop the most effective approach to thermal management and energy efficiency. HP experts rely on sophisticated modeling tools and techniques to understand the unique thermal conditions in your data center. For example, modeling can show if there is any recirculation of the warm exhausted air from the servers back to the intake of the servers. Because implementation of a Dynamic Smart Cooling solution is unique to each customer's data center, each deployment is based on a custom quote.

In addition, we offer a range of integrated Support Plus Care Pack services for Base Station and Energy Management software, which provide integrated support for both hardware and software. Working with your staff, HP Services engineers deliver onsite hardware support and over-the-phone software support for speedy problem resolution. This service also provides for Energy Management software updates.

HP Relocation Services

HP Relocation Services provide a single point of responsibility for every move-related task—from planning and new site surveys to equipment reinstallation and testing. We have the expertise and experience to relocate even the most sensitive mission-critical environments. Service highlights include relocation planning, equipment preparation, decommissioning equipment transportation, destination site preparation, and reinstallation.

Energy and the environment: How does the data center “go green”?

Experts from HP Services are helping companies around the world realize the economic and environmental benefits of comprehensive energy-wise strategies. Based on our experiences with our customers as well as our own data centers, we believe we can help your business cut data center energy costs by as much as 60 percent.

Gains like these aren't achieved with point solutions that address narrowly targeted issues. They are made possible only through comprehensive strategies for cutting energy consumption and reducing environmental impacts.

From our 11-year-old “Cool Team” energy and thermal solutions initiative to our comprehensive print cartridge recycling programs, from our involvement with the Green Grid technology project to our 1,000 energy-efficiency patents, we have long worked to create more sustainable computing environments.

The HP advantage

The area of power and cooling is just one example of how HP is making huge strides in innovation to help businesses like yours do more. We deploy the power of HP Labs and an annual \$3.6 billion company-wide investment in R&D to continually discover new ways to reduce data center costs while improving performance.

With our 73,000 service professionals in 170 countries throughout the world, you can rely on expert assistance wherever and whenever you need it—onsite, near shore, and offshore, with 24x7 support capabilities. Together with our network of Authorized Channel Partners, we deliver global services with a local presence, designed to closely align with the changing worldwide needs of your business. And because our services portfolio is so comprehensive, you can choose the precise delivery model that works best for you.

Find out more

To learn more about how the professionals at HP Services can help you significantly improve the way you manage data center power and cooling, please contact your local HP representative or Authorized Channel Partner, or visit:

www.hp.com/services/datacenter

To learn more, visit www.hp.com

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