



HP Common Slot Platinum Power Supplies

Family data sheet

Most enterprise businesses today are struggling to harness rapidly escalating costs in their data centers. Rising power costs, trapped power capacity, and increasing hardware costs are the biggest culprits.

The cost of energy needed to run an enterprise data center can account for the majority of a data center's total operating costs. Research has shown that power costs can amount to nearly half of the overall IT budget. These days, it is the power budget, not floor or rack space, which constrains a data center's computing capacity.

Inefficient power supplies are one of the primary reasons for rising power costs. A decrease in power efficiency results in an increase in power required to drive a server or storage device at a specific operating load. As power efficiency decreases, power usage and wastage increases, resulting in higher data center operating costs.

Depending on location, large data centers may be required by law to size their power circuit (that is, their availability of power to the facility) based on the

servers' highest power supply output rating or faceplate rating. This method of provisioning can quickly use up the data center power budget. Most servers, even fully configured servers operating at 100 percent utilization, typically require only 70 percent of their power supply capacity. By consistently overprovisioning power requirements for each server, users may "trap" power capacity in their data centers, thereby creating problems for future expansion and scalability.

IT sprawl has also resulted in increasing hardware costs that can be tied directly to system power supplies. As users buy additional systems, consolidate to newer servers, or build additional data centers, the proliferation of mixed IT systems has become quite common. Managing multiple generations of IT devices can be expensive as you need more number of spares to contain downtime.

Are these your challenges too? If yes, than HP Common Slot Platinum Power Supplies can effectively help you address them.



Power supply type	Percent of efficiency			80 PLUS certification
	@ 20% load	@ 50% load	@ 100% load	
460-watt (AC)	92.44%	94.64%	93.67%	Platinum
750-watt (AC)	93.36%	94.53%	93.03%	Platinum
1200-watt (AC)	92.53%	94.34%	93.21%	Platinum

Meet key power challenges today with HP Common Slot Platinum Power Supplies

HP Common Slot (CS) Platinum Power Supplies share a common electrical and physical design that allows tool-less installation into HP server, storage, and infrastructure platforms that have a CS power supply bay. A key element of HP Thermal Logic technology, HP CS Platinum Power Supplies offer high-efficiency power options in three outputs: 460 W, 750 W, and 1200 W. This flexibility allows users to “right-size” a power supply for specific server configurations, resulting in reduced power wastage, increased energy savings, and avoidance of trapped power capacity in the data center. While HP offers CS power supplies with different efficiency ratings, HP CS Platinum Power Supplies are rated the most efficient in the IT industry with a power efficiency of at least 94 percent¹. Additionally, HP offers multiple system collaboration tools for ProLiant servers, including Load-Balancing/High-Efficiency Mode and Dynamic Power Capping, which help the user to further manage power efficiency and usage in the data center.

Highest efficiency rating recognized by 80 PLUS²

At 94 percent, HP has achieved the highest power efficiency rating recognized by the Ecos/80 PLUS initiative and Electric Power Research Institute (EPRI). All three 94 percent efficiency CS power supply options are Platinum-certified through the ECOS/80 PLUS certification program.

Lower data center costs and increase scalability

HP CS Platinum Power Supplies provide multiple power output options that allow you to “right-size” a power supply for your server configuration. Choosing a power supply output that more closely matches your actual server needs can help you lower operating costs and increase the scalability of your data center. When users overprovision power supplies for their servers, they create power inefficiencies as most power supplies reach their peak efficiencies at 50 percent or higher loads. Power supplies that operate at less than peak efficiency use more power and increase operating expenses. When users overprovision power supplies for their servers, they run the risk of trapping available power capacity in their data centers. Using power supplies that more closely match actual server needs will leave more room on the power circuit for adding hardware when you need to scale the capabilities of your data center.

Using a common design that is compatible across multiple server, storage, and infrastructure solutions, HP CS Power Supplies allow you to further lower operating costs by maintaining a common set of spares for many different HP solutions. As these power supplies can be shared by multiple systems, fewer overall spares are required to contain downtime. This also reduces inventory space and simplifies asset management in the data center.

^{1, 2} The 80 PLUS certification is an incentive program funded by electric utilities to encourage manufacturer development and customer application of more energy-efficient power supplies. To earn 80 PLUS certification, a power supply must be proven through independent testing to be 80% (or greater) energy efficient when delivering 20, 50, and 100% of the rated load capacity with a true power factor of 0.9 or greater. For more information on the 80 PLUS program, visit: <http://www.80plus.org>

1200 W Platinum Common Slot	750 W Platinum Common Slot	460 W Platinum Common Slot
<ul style="list-style-type: none"> • ProLiant G6 Platforms <ul style="list-style-type: none"> – DL380 – DL2000/170e – SL6000 	<ul style="list-style-type: none"> • ProLiant G6 Platforms <ul style="list-style-type: none"> – DL180W – DL2000/170e – SL6000 	<ul style="list-style-type: none"> • ProLiant G6 Platforms <ul style="list-style-type: none"> – DL160W – DL180W – SL6000
<ul style="list-style-type: none"> • ProLiant G7 Platforms <ul style="list-style-type: none"> – DL380 – DL385 – DL580 – DL585 – SL6000 – S6500 	<ul style="list-style-type: none"> • ProLiant G7 Platforms <ul style="list-style-type: none"> – DL360 – DL380 – DL385 – SL6000 – S6500 	<ul style="list-style-type: none"> • ProLiant G7 Platforms <ul style="list-style-type: none"> – DL360 – DL380 – DL385 – SL6000 – S6500
<ul style="list-style-type: none"> • Integrity Platforms <ul style="list-style-type: none"> – DL980 – RX2800 i2 		

For more information on power supply unit (PSU) compatibility, visit the HP ProLiant Server Compatibility Guide at www.hpproliantoptions.com/intro/

System collaboration with most HP ProLiant servers

HP offers multiple system collaboration tools for HP ProLiant servers, including Load-Balancing/High-Efficiency Mode and Dynamic Power Capping, which help you further manage power usage and efficiency in the data center.

When using the Load-Balancing Mode with redundant CS power supplies, the load is shared equally between two or more power supplies. When High-Efficiency Mode is enabled, each power supply in the server is designated as the primary or secondary supply capacity, and the entire server load is shifted to the primary power supplies. This allows the primary power supplies to operate at higher efficiency points on the load curve while the secondary power supplies operate in idle mode—with no output power and very little power being consumed (typically two to four watts per supply). For most server applications that require less than 70 percent of the primary power supply capacity, High-Efficiency Mode can provide the best power efficiency. Beyond the 70 percent capacity, power efficiency will benefit the most by switching to Load-Balancing Mode.

Dynamic Power Capping allows system administrators to set limits on power consumption for a single server or group of servers without affecting server performance. Managed through Systems Insight Manager (SIM) or Insight Control, Dynamic Power Capping enables the administrator to provision data center power and cooling resources to appropriate levels rather than the servers’ highest requirements. This provides increased flexibility in data center planning by allowing the administrator to manage

HP Services

When technology works, business works
 The challenge of virtually every IT organization is similar: To develop and maintain an agile, efficient server infrastructure that delivers the service levels your business needs.

HP Technology Services offers a comprehensive portfolio of HP Care Pack Services to help design, deploy, manage, and support your IT environment, enabling cost-effective upgrades to standard warranty with easy-to-buy, easy-to-use support packages.

- Minimum Recommended HP Care Pack offerings**
- **Support**—3-Year, 13x5, same-business-day, 4-hour onsite response coverage, excluding holidays
 - **Deployment Services**—Hardware installation

- Related service level Care Pack offerings**
- **Support**—3-year, 24x7, same-business-day, 4-hour onsite response coverage
 - **Support**—3-year, 13x5, next-business-day
 - **Support**—3-year, either 6-hour or 24-hour call to repair

- HP Care Pack Services benefits**
- Reduce deployment time and manage ProLiant server solutions smoothly and efficiently
 - Increase uptime and performance of server availability to your business
 - Detect, diagnose, and repair problems to quickly save time, money, and resources

For more information, visit: www.hp.com/services/proliantservices or www.hp.com/go/proliant/carepack

data center parameters that are directly influenced by server power consumption, including data center cooling requirements and electrical provisioning. Power capping also allows the administrator to control server power consumption in emergency situations such as the loss of primary AC power.

Key features and benefits

High-efficiency Platinum-certified power supply

- Meets Platinum requirements for 80 PLUS certification
- Reduces power usage in data centers—significantly more compared to previous generation power supplies
- Reclaims lost power that can be used to add more equipment to your existing infrastructure

Flexibility for optimum power supply usage

- Increase flexibility with three output options: 460 W, 750 W, and 1200 W
- Select how the system can better handle redundant power supply configurations by using either Load-Balanced or High-Efficiency Mode
- Determine the exact amount of power you need to deploy your solution with HP Power Advisor³ for HP ProLiant and HP BladeSystems

Design compatibility across many HP servers, storage, and infrastructure solutions

- Enables you to service your data center environment with ease
- Reduces inventory costs and space requirements with a common design and form factor
- Provides tool-less access to common slot bays for fast replacement
- Offers hot-swap capabilities for redundant configurations

Intelligent Power Discovery

Intelligent Power Discovery (IPD) provides automated server discovery on a network through power line communication technology that is embedded in HP CS Platinum Power Supplies. Power line communication is a feature that allows the PSU to “talk” to the HP Intelligent Power Distribution Unit (HP iPDU). The communication between the PSU and iPDU helps:

- Automatically discover the server when it’s plugged into a power source
- Map the server to the individual outlet on the iPDU

- Identify redundant PSUs and PDUs
- Configure racks in Insight Control
- Avoid human errors and prevent downtime

For more information on Intelligent Power Discovery Solution, visit: www.hp.com/go/ipd

Why choose HP CS Platinum Power Supplies?

If you are looking to decrease operating costs by improving power usage and efficiency in your data center, HP offers many great reasons why you should consider using HP CS Platinum Power Supplies:

- **Access to HP Power Advisor**—makes it easy to right-size the appropriate power supply for your server configuration.
- **Compatibility across many ProLiant servers**—reduces costs to maintain spare power supplies for multiple types of HP systems.
- **Industry-leading power efficiency**—lowers power wastage and costs while avoiding trapped capacity in the data center.
- **IPD enhances your data center capacity**—decreases downtime and the possibility of error by human intervention.

HP Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help you cost effectively acquire, manage, and ultimately retire your HP solutions. For more information on these services, visit: www.hp.com/go/hpfinancialservices

³HP Power Advisor allows you to build a virtual server system and accurately pre-calculates your power needs in the server configuration without having to assemble and run the hardware. HP Power Advisor can be downloaded from the HP website at www.hp.com/go/hppoweradvisor

To take a closer look at HP Common Slot Platinum Power Supplies, visit: www.hp.com/go/proliant/powersupply and learn how these industry-leading, high-efficiency power supplies can help you solve key power challenges.

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