



HP ProLiant Gen8 Server Series - Power Capping and Dynamic Power Capping Settings in iLO 4 and RBSU

Article Number mmr_sf-EN_US000006556

Environment

HP ProLiant Gen8 Servers

Issue

Power Capping
Dynamic Power Capping
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Peak Observed Power
Minimum Observed Power
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Minimum Power Cap
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iLO Power Capping

Cause

Planning and managing facility power and cooling resources that are critically important.

Resolution

Power capping basically means "limiting how much electricity a server can consume". Cap generally

To configure a Power Cap in iLO:

1. In iLO 2 or iLO 3 GUI, go to **Power Management -> Power Settings** page.
2. Select the **Enable power capping** check box.
3. Enter the power cap value in watts or a percentage.
Click Show values in BTU/hr to toggle the display between watts and BTU/hr. The percentage is the d
4. Click **Apply**.

Power Settings ?

Power Regulator Settings

Power Regulator for ProLiant:

HP Dynamic Power Savings Mode
 HP Static Low Power Mode
 HP Static High Performance Mode
 OS Control Mode

Apply

Power Capping Settings

Measured Power Values	BTU/hr	Percent (%)	Power Cap Thresholds
Maximum Available Power	1570 BTU/hr	354%	Maximum Power Cap
Peak Observed Power	624 BTU/hr	100%	Minimum High-Performance Cap
Minimum Observed Power	252 BTU/hr	0%	Minimum Power Cap
Power Cap Value	<input type="text" value="0"/> BTU/hr	<input type="text" value="0"/> %	

Enable power capping

Show values in Watts **Apply**

Power Regulator for ProLiant:

- **HP Dynamic Power Savings Mode** - Automatically varies processor speed and power usage based on processor load.
- **HP Static Low Power Mode** - Reduces processor speed and power usage. Guarantees a lower maximum power consumption.
- **HP Static High Performance Mode** - Processors will run in their maximum power/performance state at all times unless power capping is enabled.
- **OS Control Mode** - Processors will run in their maximum power/performance state at all times unless power capping is enabled.

Power Capping Settings:

The Power Capping Settings section enables you to view measured power values, set a power cap, and The Measured Power Values section lists the following:

- Maximum Available Power** - The power supply capacity for a non-blade server, or initial power-on request.
 - Peak Observed Power** - The maximum observed power for the server.
 - Minimum Observed Power** - The minimum observed power for the server.
- During POST, the ROM runs two power tests that determine the peak and minimum observed power values.
- Power Cap Value** - This setting is enabled when **Enable power capping** check box is checked.

Power Cap Thresholds as guidelines for configuring a power cap:

- Maximum Power Cap** - The maximum power available for the server. The server must not exceed this value.
 - Minimum High-Performance Cap** - The maximum power that the server uses in the current configuration.
 - Minimum Power Cap** - The minimum observed power usage by the server. A cap set at this point reduces power consumption.
- When a power cap is set, the average power reading of the server over time must be at or below the power cap.

From RBSU Level:

Note: Below screenshots are for reference only. The RBSU in your Gen8 server may slightly vary depending on the server model.

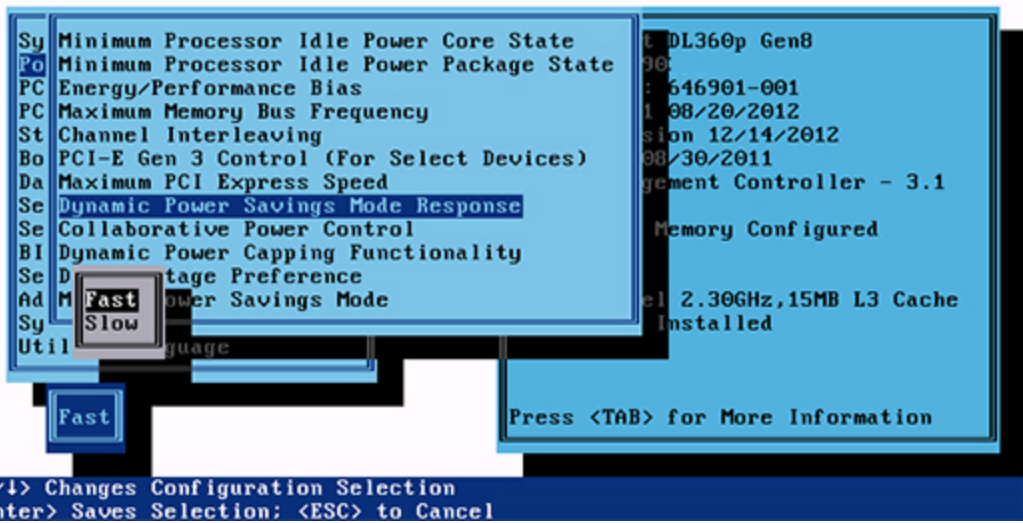
To access the below given settings, Press **F9** at POST to enter RBSU and then choose **Power Management**

Dynamic Power Savings Mode Response

The Dynamic Power Savings Mode Response feature enables the System ROM to control processor performance based on workload. Options include:

- Fast** (default) - Optimal for workloads that require a low latency response to an increase in processor demand.
- Slow** - Optimal for workloads where a longer latency response to increased processing demand is an acceptable trade-off for lower power consumption.

Press **F9** to enter RBSU and then choose Power Management Options -> Advanced Power Management Options

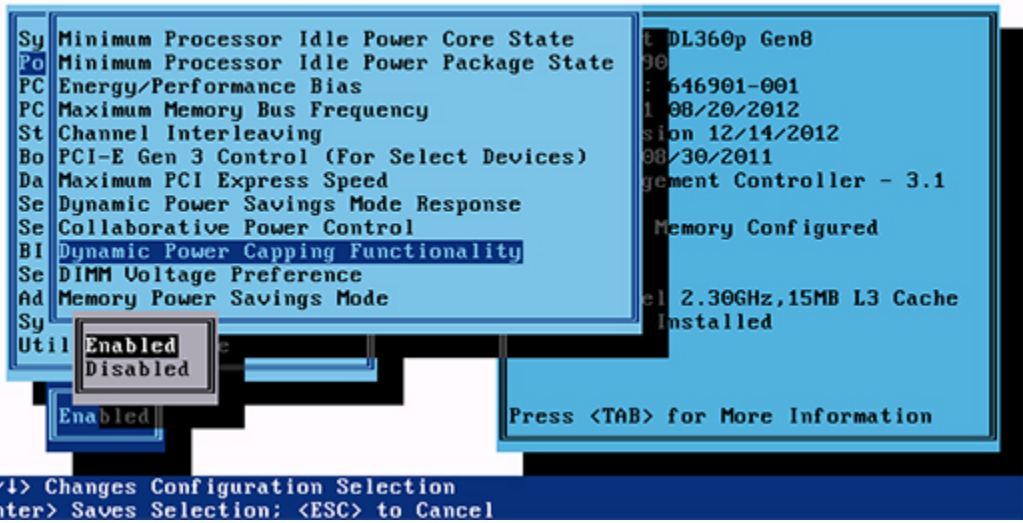


Dynamic Power Capping Functionality

This option controls whether the System ROM Power Calibration is run during the boot process. Options include:

- Enabled** (default) - The System ROM Power Calibration is executed during the boot process.
- Disabled** - The System ROM Power Calibration will not be executed during the boot process. Boot time will be faster, but you will no longer be able to configure Dynamic Power Capping via iLC

Press **F9** to enter RBSU and then choose Power Management Options -> Advanced Power Management Options



For more information on Power Capping, please visit the below links:

- [Click here for Power Capping and Dynamic Power Capping for ProLiant servers.](#)
- [Click here for ProLiant Server Power Management in Red Hat Enterprise Linux 6.x and 7.x.](#)
- [Click here for ProLiant server power management on SUSE Linux Enterprise Server 11 and 12.](#)
- [Click here for iLO 4 User Guide.](#)

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