



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

November 4, 2008

Dear Computer Server Manufacturer or Other Interested Stakeholder:

The U.S. Environmental Protection Agency (EPA) welcomes your input on the **Draft 3 ENERGY STAR®** specification for Computer Servers. Stakeholders are encouraged to submit comments on this draft proposal to EPA **by December 3, 2008**.

The following are some of the key elements of this Draft 3 specification:

- A new proposal regarding ENERGY STAR labeling requirements is provided in the Partner Commitments section. This proposal is similar to requirements set forth in the ENERGY STAR Version 5.0 Computer specification.
- A required characteristic was added to the definition of a Computer Server to exclude systems without power supplies (e.g., DC powered servers that run directly off DC power). Only DC powered servers that include a DC-DC power supply may qualify as ENERGY STAR under this Version 1.0 specification.
- Blade Systems (i.e., Blade Servers, Blade Chassis, Blade Storage) are now excluded from the specification. The decision to exclude these product types was two-fold: (1) Blade Servers and Chassis are often bundled and sold together as a single Blade System, which would compete directly with Computer Servers in the marketplace and (2) while some specification requirements could be relevant for a Blade Chassis, determining how to measure the Idle power consumption of Blade Servers presents significant challenges. EPA will continue to look for appropriate ways to address Blade Systems in future versions of this specification.
- Power supply efficiency levels are proposed for DC powered servers. Manufacturers will be required to use the *Generalized Test Protocol for Calculating the Energy Efficiency of Internal AC-DC and DC-DC Power Supplies – Revision 6.4.1* when measuring DC-DC power supply efficiency. DC power servers are required to meet the same efficiency levels as their AC-DC counterparts due largely in part to the fact that they compete in the marketplace and provide the same functionality to the end user. Manufacturers are encouraged to provide additional DC-DC power supply performance data to support any revisions to these proposed levels.
- Proposed power supply efficiency levels have not been changed from the previous Draft 2 proposal. However, EPA is interested in proposals on setting requirements to address power consumption at low loads (i.e., $\leq 20\%$) without penalizing smaller power supplies.
- New bins are proposed for Idle power consumption requirements based on stakeholder comments. . Manufacturer submitted data indicates observable trends in power consumption based on the number of processors and amount of memory installed in a system. In addition, power consumption allowances are now being proposed for additional memory (i.e. > 32 GB) and number of disk drives (i.e., > 1). **Note:** These power consumption allowances are based on a small dataset and may be revised as new data is received. Manufacturers are encouraged to provide additional data to support or challenge these proposed new allowances for consideration in the next draft specification.

- Further direction is provided regarding the use of the Power and Performance Data Sheet for multiple configurations. It continues to be EPA's intent that all qualifying configurations are individually tested and reported to EPA if they are to be labeled as ENERGY STAR. However, under this recent proposal manufacturers have the option of using one data sheet for multiple configurations as long as they meet the requirements set forth in Section 3C.
- Additional guidance is provided in Section 3D: Data Measurement Requirements regarding measurement, accuracy, and sampling requirements.
- Provisional requirements are proposed under Tier 2 to ensure that in lieu of the preferred benchmark and net power loss approach, the specification will continue to challenge manufacturers and represent the top 25% of models available in the marketplace. The Tier 2 provisional requirements will go into effect if requirements cannot be determined based on power performance benchmarks and net power loss.
- Additional guidance on testing Computer Servers at the appropriate input voltage is now provided in Section 4: Test Criteria. Details regarding qualification, rounding, and reporting of results are also provided in this section.
- New effective dates are proposed for the Tier 1 and Tier 2 requirements: February 1, 2009 and October 1, 2010, respectively.

More details regarding EPA's rationale for making these changes are included in note boxes throughout the document.

Power Management and Virtualization

Although not included in the Draft 3 specification as a proposed requirement, EPA continues to believe that power management and virtualization are important strategies for reducing overall energy consumption in data center operations. As such, EPA is interested in working with industry stakeholders to identify opportunities to promote these and other strategies that seek to improve Computer Server utilization.

Power Supply and Idle Data

Stakeholders interested in reviewing the data used to derive proposed Draft 3 power supply and Idle requirements can download masked datasets from the ENERGY STAR enterprise server specification development Web site at www.energystar.gov/productdevelopment. Manufacturers are encouraged to submit additional data points for EPA consideration in the Final Draft using the appropriate data collection sheets found on the ENERGY STAR Web site. EPA is particularly interested in reviewing additional DC-DC power supply data to further validate the newly proposed levels in Table 3 of the specification.

Comment Submittal

Comments on the Draft 3 specification should be sent to Rebecca Duff, ICF International, at rduff@icfi.com by **December 3, 2008**. All comments will be posted to the ENERGY STAR Product Development Web site unless the submitter requests that their comments remain confidential. If you support the Draft 3 specification, please state this in writing or via email. It is equally important that EPA understand which portions of the draft specification meet with stakeholder approval, in addition to identifying the sections that may need further revision.

Thank you for taking the time to review these draft requirements. Please feel free to contact me directly with any questions or concerns at (206) 553-6377 or fanara.andrew@epa.gov.

Sincerely,



Andrew Fanara, EPA
ENERGY STAR Product Development