



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

OFFICE OF
AIR AND RADIATION

August 15, 2008

Dear Computer Server Manufacturer or Other Interested Stakeholder:

The U.S. Environmental Protection Agency (EPA) welcomes your input on the attached **Draft 2 ENERGY STAR®** specification for Computer Servers. This Draft 2 specification reflects discussions held during the ENERGY STAR stakeholder meeting on July 9, 2008 in Redmond, WA and subsequent comments and data received over the last few weeks. Discussion notes from this meeting can be found at www.energystar.gov/datacenters (click on ENERGY STAR Enterprise Server Specification Development Process). **Please note that the deadline to provide comments on the Draft 2 specification is September 19, 2008.**

EPA's goal for developing this ENERGY STAR computer sever specification is two-fold: (1) to identify the top performers currently available in the marketplace based on key energy efficiency metrics and (2) to provide end users with more detailed product and performance information so they can make informed purchasing decisions based on consistent manufacturer reporting.

The following are some of the key elements of this Draft 2 specification:

- The computer server definition in Section 1 was revised to address the full range of servers in the marketplace that are used in the data center and could logically be addressed by this server specification. For example, the new definition now allows tower form factors to qualify as ENERGY STAR. Definitions for high and standard redundancy servers have been added to support EPA's proposed newly proposed idle categories.
- DC powered servers are not yet addressed in this Draft 2 specification. EPA will consider adding these product types based on the availability of an industry accepted test procedure and performance data. The Electric Power Research Institute (EPRI) recently released a Draft *Generalized Test Protocol for Calculating the Energy Efficiency of Internal AC-DC and DC-DC Power Supplies – Revision 6.4.1* for review and comment. EPA intends to adopt this test procedure for purposes of measuring and comparing DC-DC power supply efficiency. Stakeholders are encouraged to submit comments on the test procedure to Baskar Vairamohan, EPRI, at BVairamohan@epri.com by **August 29, 2008**.
- New power supply efficiency and power factor requirements are proposed, including separate efficiency levels for smaller (≤ 1000 Watts) and larger (> 1000 Watts) single voltage AC-DC supplies, and power factor levels for multi-voltage supplies at all applicable load points. The proposed requirements represent approximately the top 25% of models included in EPA's dataset.

- EPA is retaining the 10% load requirements for single-voltage power supplies. However, new levels are proposed in this Draft 2 based on a more detailed analysis of the data.
- EPA believes that it is important to identify servers that idle efficiently in addition to active efficiency criteria. However, EPA also understands that configuration affects idle power consumption and therefore, must be considered when determining maximum levels. The Draft 2 specification proposes a simple categorization system for server systems based on system redundancy, number of processors, and the amount of installed memory. Categories and levels will be based on noticeable differences in energy performance. **Manufacturers are encouraged to provide idle and configuration data to EPA for consideration using the attached data collection sheet by September 19, 2008.**
- Power management and virtualization have been removed as potential specification requirements. EPA decided to exclude these criteria given the challenge of writing technology neutral requirements that are also dependent on end user choice and behavior to realize savings. EPA encourages virtualization where it can provide energy efficiency benefits as well as the deployment of power management techniques and features but considers these to be best practices as opposed to specification requirements. However, EPA does believe that full disclosure of these energy saving criteria is important. As such, manufacturers will be required to report power management features and virtualization capabilities as part of the standard information reporting requirements presented in Appendix A of the Draft 2 specification.

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

Stakeholders interested in reviewing the data used to derive proposed Draft 2 power supply requirements can download the masked dataset from the ENERGY STAR enterprise server specification development Web site, referenced above. EPA continues to work toward finalization of this specification by the end of this year.

All stakeholders are encouraged to provide written comments on the Draft 2 specification for EPA consideration to Rebecca Duff, ICF International, at rduff@icfi.com by **September 19, 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 2 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. I look forward to working with you over the next few months to finalize this new specification. Please feel free to contact me directly with any questions or concerns at (206) 553-6377 or via e-mail at fanara.andrew@epa.gov.

Sincerely,



Andrew Fanara, EPA
ENERGY STAR Product Development