



Information Technology Industry Council
Leading Policy for the Innovation Economy

TO: RJ Meyers
U.S. Environmental Protection Agency

FROM: Ken J. Salaets
Director

DATE: November 11, 2011

SUBJECT: ENERGY STAR® Program Requirements for Data Center Storage Draft 2, Version 1

ITI welcomes the opportunity to submit comments on behalf of our member companies in response to the above referenced document. This represents our initial engagement on this product sector.

In our view, Draft 2 represents a positive step in the process of creating a new ENERGY STAR® specification for these important products. Even so, a thorough review of the document by industry experts has raised a series of issues that we outline below. These comments will be somewhat general in nature, in recognition that our industry partner The Green Grid will be addressing the technical aspects of the proposal. As a matter of principle, ITI welcomes and encourages the posting of all stakeholder comments on the program web site.

We also wish to acknowledge and thank EPA staff for providing an extension to file these comments. We look forward to working with program staff, agency consultants and other stakeholders in developing a specification that advances energy efficiency in a manner that is sensitive to the critical needs of the ICT industry and our customers. Any questions or comments should be directed to me at ksalaets@itic.org or by phone at 202.626.5752.

Our comments follow:

SCOPE. Draft 2 appropriately narrows the focus of Version 1 of the specification to the high-volume segment of the Storage market. We believe this is appropriate because it represents the greatest potential for achieving energy savings in a manner that reduces the burden, cost and complexity of the process for manufacturers. In the next draft, we recommend that EPA further clarify the scope and impact of the new specification by

- Blade Storage products should be excluded from the scope of Version 1. We are too far along in the process to endeavor to incorporate these products in a meaningful and constructive manner. Industry will welcome the opportunity to explore potential energy savings in this group in a future version of the specification.
- There are performance as well as structural and functional differences between “scale up” and “scale out” storage systems that necessitate a different approach to ensure the development of a specification that addresses efficiency while still meeting customer needs. Consequently, some manufacturers would recommend that “scale out” products be excluded from Version 1. We note, however, that not all manufacturers support this view.
- Given the lack of consensus on an active power performance metric for file-addressed and object-addressed storage systems, some manufacturers recommend that both types of products be out of scope for Version 1. Again, we note that not all manufacturers support this view.

POWER SUPPLIES. In light of the important role power supplies are expected to play in achieving the anticipated efficiencies of the Version 1 specification, we offer the following recommendations:

- Use the 80-Plus standard for assessing power supply efficiency, which best reflects the loading and other characteristics in Storage products.
- Focus power supply requirements on supplies used to power controllers and/or drives and enclosures. This represents the best opportunity for achieving meaningful efficiencies, and avoids the possibility of adverse impacts on other ancillary equipment that are essential to system performance and functionality.

PRODUCT FAMILY DEFINITIONS. EPA’s Proposal to Establish Product Families based on a combination of “Book-ended” Configurations and Drive Types creates a testing process that borders on unworkable and creates (1) a significant cost burden for manufacturers; (2) configuration requirements that do not represent systems purchased by customers; and (3) a qualification taxonomy that ignores the ease with which a customer can add storage media to the minimum or maximum qualified system configuration. Adopting this approach means that entire systems may not be included because of architecture issues that excludes systems in the middle of the bookended range.

This concept did not work well in the server domain, and we do not believe that it will work in the UPS and Storage domains. ITI believes EPA must reconsider their approach, considering options proposed by The Green Grid or ITI member companies. ITI supports The Green Grid’s recommendations in this area, i.e., to set aside the concept of “bookending” in favor of a less time-consuming, more-efficient approach to qualifying storage systems. We also support The Green Grid’s recommendations on how to differentiate family characteristics and define “adders,” as appropriate.

CAPACITY OPTIMIZATION/ENERGY EFFICIENCY. We have some concerns about the approach outlined in the draft specification:

- If Online 2 and 3 are to be included, then the requisite qualifications must reflect and respect their performance characteristics and market positioning. Some capabilities, such as redundancy or Capacity Optimization, are not present in this product segment. Requiring them will actually change market positioning. Price and feature sensitivity are such that even small cost increments could in effect prevent manufacturers from submitting products for ENERGY STAR qualification.
- Most of the features in the Capacity Optimization category are offered as value-added, add-on capabilities. As such, requiring that one or more of them ship as pre-installed and pre-enabled can have negative implications for manufacturers' business models, particularly for Online 3 and 4 products. Ideally, EPA should require manufacturers to list the available Energy Efficiency Features on the PPDS. If EPA wishes to make the availability of the features a requirement, the requirement should be that at least one feature must be available for an ENERGY STAR storage system. It should not be required to be enabled.
- It is essential that EPA avoid prescribing specific features or capabilities, as well as prohibiting features or capabilities, as well as limiting "acceptable" technology to a predefined list. It is absolutely necessary that manufacturers be able to continue to innovate in this product space. Accordingly, we urge consideration of performance rather than architecture requirements, which will allow companies to compete on developing creative approaches to accomplishing program objectives.

REPORTING REQUIREMENTS. One of the inherent differences between servers and storage is that there is no functional activity change required if voltage or temperature variations occur. As a result, there is no equivalent to chip set reporting functions. This means that add-in and/or design-in methods must be deployed. Such changes require longer lead-times that allow for architecture changes for both hardware and software, both of which have incremental cost impacts, incrementing cost for the limited allowed implementation cycle. The impacts will be particularly challenging for Online 2 and Online 3 products, where fundamental infrastructure costs represent a significant portion of product cost as seen by the purchaser. Given that these capabilities are not typical in today's marketplace, it is critical that EPA be sensitive to the cost impacts design changes may impose on the market, particularly for Online 2 offerings.

Finally, some manufacturers feel that it may be premature to publicly disclose equipment level active energy metrics results. ITI is willing to work with EPA and other stakeholders to explore alternative approaches to reporting and managing this data.