Response from The Green Grid to:

ENERGY STAR® Program Requirements for Computer Servers Final Draft (4/24/09)

The Green Grid Association, a consortium of industry leading companies welcomes the opportunity to comment on an early draft of topics under consideration for the ENERGY STAR for Computer Servers Specification. Some member companies of The Green Grid Association may in addition have provided additional considerations highlighted by their industry or company's particular perspective.   Some members may have also provided their inputs through the Information Technology Industry Council (ITIC) and Climate Savers Computing Council (CSCI).

Introduction

A consortium of information technology providers, consumers and other stakeholders, The Green Grid Association seeks to improve the energy efficiency of data centers around the globe. The organization takes a holistic and comprehensive approach to data center efficiency and understands that addressing this challenge requires a high-level view of the entire data center and cooperation among a wide range of industry principals.   Participants in The Green Grid include such diverse companies as major server and storage equipment manufacturers, major software providers, and large end-users / data center owners.

Overall

The Green Grid's feedback addresses the key topics of concern in final draft prior to specification release later in May. We have highlighted several key considerations and recommendations for the version 1 release. We also request that data reporting specifics be revised to separate information in the "common datasheet" and compliance data submissions. Industry recommendations on the form will be provided through the IT Industry Council. If you encounter any questions, please feel free to contact Henry ML Wong, henry.l.wong@intel.com or Jay Taylor, jay_taylor@dell.com .

Energy Star Requirements for Computer Servers Final Draft

The Green Grid (TGG) appreciates EPA's incorporation of the variety of the considerations voiced on the previous draft of Energy Star for Servers, v1.0. Though several industry requests were incorporated, we were unable to anticipate some of the implementation details, such as the accuracy in reporting dynamic environmental values. We recommend the EPA to hold a trial data review to resolve these implementation concerns.

The industry stakeholders appreciate incorporation of several concerns including:
+ Clarification of 4 Socket systems as a category of product compared to the processor installation requirements in the idle budget.
+ Clarification of I/O adders and accommodations with devices such as SAS controllers;
+ Variance in product family to include processor SKU's for frequency
+ Recognition of accuracy measurements of power at low loads (<100W);
+ Harmonization with ASHRAE environmental guidelines
+ Testing voltage range for DC-DC servers to harmonize with existing industry standards.
+ Separation of the Storage and Network specifications from the Server specification development.

There remain topics we recommend addressing through comments or changes, prior to Tier 1 implementation. The key topics are:
o Utilization reporting accuracy. The variation in formulae across existing Operating systems and hypervisors preclude a single reference for accuracy claims. Though the variations are not significant to appropriations of compute resources (in their respective environments), the lack of formula commonality across the operating environment types makes the accuracy request impossible to demonstrate for Tier1. We recommend stating the value as "estimated utilization" and remove the accuracy requirement and common formula for Tier 1. Indeed, we recommend that for Tier 1 the goals would be to have system operating parameters being made available and utilized; whereas, accuracy could be addressed at a later time.
o Data submissions. We recommend the data submission be split between specific compliance information and a common datasheet for that product family. The common datasheet would be available for end users; however, the compliance data would remain confidential between the EPA and its partner. We believe the compliance data is important for the EPA in maintaining compliance agreements with its partners as well as determining future provisions in the Energy Star program. This level of detail is both unnecessary and could lead to confusion with end users.
o Blade systems. We reiterate our recommendation that Bladed systems be treated similar to 4 Socket systems, given the issues with variety in the configuration and problems with Idle.
o Typical configurations. TGG stakeholders maintain that due to the very nature of the varied configurations of these servers, a "typical" configuration is vague and market application specific. For example, what may be a typical configuration for business intelligence would be very different to a system configured to maximize internet transactions. Therefore, we recommend that typical be removed as part of the data

collection and product family description in the specification. We believe the "book end" classifications of "Maximum configuration" and "Minimum configuration" should be sufficient to describe the product family.

o   Low load on Power Supplies. Though the power factor on low loads on the power supplies were addressed (i.e. "<75W" power factor exemption), the efficiency and consistency with other standards such as external power supplies, requires industry testing changes. These testing changes provide little product efficiency benefits and increases the cost of efficient systems.

TGG continues to consider the EPA and specifically the Energy Star program a key partner in the effort of achieving improved energy efficiency in IT equipment and its application in the datacenter. We recommend quickly addressing these considerations, and pursuing the challenges that have been discussed for Tier 2. We do recommend that implementation be delayed by a few weeks to address the data collection and common datasheet contents noted above.