

Pantano, Stephen

From: Tanzer, Herbert J [herb.tanzer@hp.com]
Sent: Thursday, July 02, 2009 8:02 PM
To: storage@energystar.gov
Cc: Tanzer, Herbert J
Subject: Hewlett-Packard Response to ENERGY STAR Enterprise Storage Specification Framework
Follow Up Flag: Follow up
Flag Status: Green

Re: Hewlett Packard Response to ENERGY STAR® Framework Document for Enterprise Storage issued June 4th, 2009

From: Hewlett-Packard Company, Enterprise Storage and Servers Business Unit, Storage Works Division

This document may be published on the ENERGY STAR website.

Hewlett-Packard (HP) is largely in support of the SNIA Response to the Storage Framework Document. HP is one of many member companies that have collaborated on the SNIA response. Included here are just a few items that HP would like additional focus on. Thank you. For follow-up, the primary contact at HP is: Herb Tanzer, Storage Architect, herb.tanzer@hp.com, 719-548-3415

Building Block #1: Definitions

under c. Preliminary List of Definitions, a. Storage Hardware, 2. Storage Product

- 1) HP is concerned about the restriction that excludes aggregating storage elements. There are a number of existing storage products that combine blades, external array, block & file, back-up, etc., and there are increasingly prevalent unified storage products. Will it be possible to take ENERGY STAR compliant storage product elements and aggregate?
- 2) "Storage blade" is a better term to use than "blade storage." A storage blade can be defined as "a single blade containing storage devices that is inserted into a blade chassis." A future certified ENERGY STAR blade system should be able to ship as ENERGY STAR if a storage blade is installed.

Building Block #2: Eligible Product Categories

HP strongly endorses the SNIA storage Taxonomy which identifies categories and classes of products. HP also understands the EPA's desire to target markets with the greatest opportunity for energy savings in the first Specification, while segments with less opportunity may be included in subsequent Specification releases. In addition to the SNIA recommendation for first focus on Taxonomy categories Online-2, Online-3, Removable-2, Removable-3, HP would like to also recommend Online-4. A significant portion of the worldwide storage (of total Exabyte's, per IDC) is contained within Online-4, and is a category that can be expected to introduce important energy-savings features.

Building Block #3: Energy Efficient Criteria and Test Procedures

- 1) Storage power supplies typically come in several types: single-output and multi-output, and with internal fans that either cool just the power supply or the entire storage enclosure. HP recommends that these types are properly specified for use in Storage Products. This includes testing all power supplies without fan power, and allowing for slightly lower efficiencies in multi-output power supplies.
- 2) HP does not recommend the use of net power loss specifications for power supplies; more accurate data can be obtained by testing for efficiency.

Building Block #4: Information and Management Requirements

HP is generally in favor of data measurement and reporting capabilities. However, the implementation may need to be phased due to lack of comprehensive communication protocols within the storage industry. An initial approach may be to measure and report power for at the Storage Product level using an external PDU. Following

approaches may incorporate power, temperature, and utilization reporting at a more granular level such as at a single storage enclosure.