



ENERGY STAR Computer Servers Discussion Guide March 2022

Overview

The U.S. Environmental Protection Agency (EPA) is sharing this ENERGY STAR Computer Server Program Discussion Guide: Version 4.0 to invite early stakeholder input on aspects under consideration for the revision of this specification. The topics that EPA feels are of particular importance for discussion prior to a Draft 1, Version 4.0 release are below. EPA is also sharing the anticipated schedule for this revision process. Stakeholders are encouraged to submit any comments to servers@energystar.gov by May 6, 2022.

- Updated and new definitions
- Potential treatment of Storage “heavy” Servers
- Revisions to the SERT tool
- Internal Power Supply Efficiency

EPA will host a webinar on April 19, 2022, from 1-3 PM Eastern Time to engage with stakeholders on the content included in this discussion guide. Participants can register for this webinar [here](#). As always, stakeholder engagement is a vital ingredient in the success of the ENERGY STAR program and EPA looks forward to working with all parties to develop the ENERGY STAR Version 4.0 Computer Servers specification.

Updated and New Definitions

Based on recent discussion with stakeholders, EPA realizes there is a need to define the following new terms below to support revisions to scope and/or energy requirement. EPA welcomes stakeholder feedback on whether there are consensus industry definitions that can be leveraged to define these two newer server types.

- Storage Heavy Server or Storage Server
- Hyperconverged Server

In addition, EPA has been made aware that the following two definitions require modification and/or simplification to align with recent technology changes. EPA welcomes feedback on proposed modifications to the existing definitions for:

- Resilient Server
- High Performance Computing (HPC) System

Additional questions regarding definitions:

1. Are there any other new definitions EPA should be considering for addition to the Version 4.0? This can include definitions related to the addition of the new product types or to clarify what is in scope. If so, is there existing industry language that can be leveraged to define those terms?
2. Are there any other existing definitions EPA needs to update in Version 4.0 to align with advances in technology or changes in the market? If so, is there existing industry language that can be leveraged to define those terms?

Potential Treatment of Storage “Heavy” Servers

EPA has been made aware that there is a small but growing group of computer servers that support large quantities of storage and the current weighting structure in SERT does not accurately reflect the performance of these products. As such, EPA is looking to define and consider separating out this product type into its own category. Dependent on the characteristics targeted to define these servers (e.g., minimum storage device count, minimum % of storage bays populated etc.), these products could potentially be subject to separate active mode efficiency scores. This could take two possible forms, recognizing that the first option is likely preferable in light of the forthcoming SERT Tool revision (see below):

- Continue to use the SERT score and weightings as they exist in Version 3.2 and create an adjusted threshold specifically for these storage heavy products.
- Continue to use the SERT score but use modified weightings skewed more heavily towards storage worklets for storage heavy products and then create thresholds based off those values.

Questions regarding storage heavy servers:

3. Which of the two solutions above best differentiates storage heavy servers from regular servers in a way that generates fair and consistent product efficiency rankings? EPA welcomes any data to support either viewpoint.
4. Are there any other solutions EPA has not identified above that may be a better way to address storage heavy servers given the current storage worklet limitation of the SERT tool?
5. Regardless of the solution chosen, EPA will need to consider additional SERT data for these storage heavy servers to support criteria development. Additional data is needed to allow for the creation for separate active efficiency requirements. Supporting data may be submitted to servers@enegystar.gov by May 6, 2022.

Revisions to the SERT Tool

EPA is aware of substantial upcoming updates to the SERT tool over the next year or two which will fundamentally change or add to existing worklets and allow a greater variety of server products to be more fully exercised during testing. This may include:

- More effective storage worklets, which can allow EPA differentiate storage heavy servers even better in future revisions
- Active testing of GPGPUs and other APAs as part of SERT testing
- Testing of HPC and machine learning focused server products
- Testing of DC powered server products

EPA does not anticipate these changes to be ready in time for the finalization of Version 4.0 but looks forward to incorporating them in a future revision and expanding scope wherever product data availability allows to support the expanded SERT test tool.

Questions regarding SERT:

6. Are there any other more immediate SERT updates EPA should be aware of that could impact the development of the Version 4.0 specification?

Internal Power Supply Efficiency

Version 3.0 currently requires 80 Plus Platinum equivalent IPS requirements for single-output power supplies and 80 Plus Gold equivalent for multi-output power supplies. Traditionally, the market has continued to improve IPS efficiency in computer servers over time as such EPA is considering raising the bar on the power supply efficiency requirements for Version 4.0.

Questions regarding IPS:

7. Do stakeholders have any data or information they can share about recent uptake of 80 Plus Titanium IPS for single-output power supplies in the server market?
8. Do stakeholders have any data or information they can share about recent uptake of 80 Plus Platinum IPS for multi-output power supplies in the server market?

Version 4.0 Revision Schedule

EPA sees value in giving stakeholders insight into the anticipated timeline for the Version 4.0 specification development early in our process. Following this discussion guide, EPA expects to release a Draft 1 and Draft 2 by the end of Q3, 2022 with publication of the final specification in Q4, 2022 that takes effect in Q3, 2023.