



ENERGY STAR®

Version 4.0 Computer Servers Discussion Guide Webinar

U.S. Environmental Protection Agency
April 19, 2022





Agenda

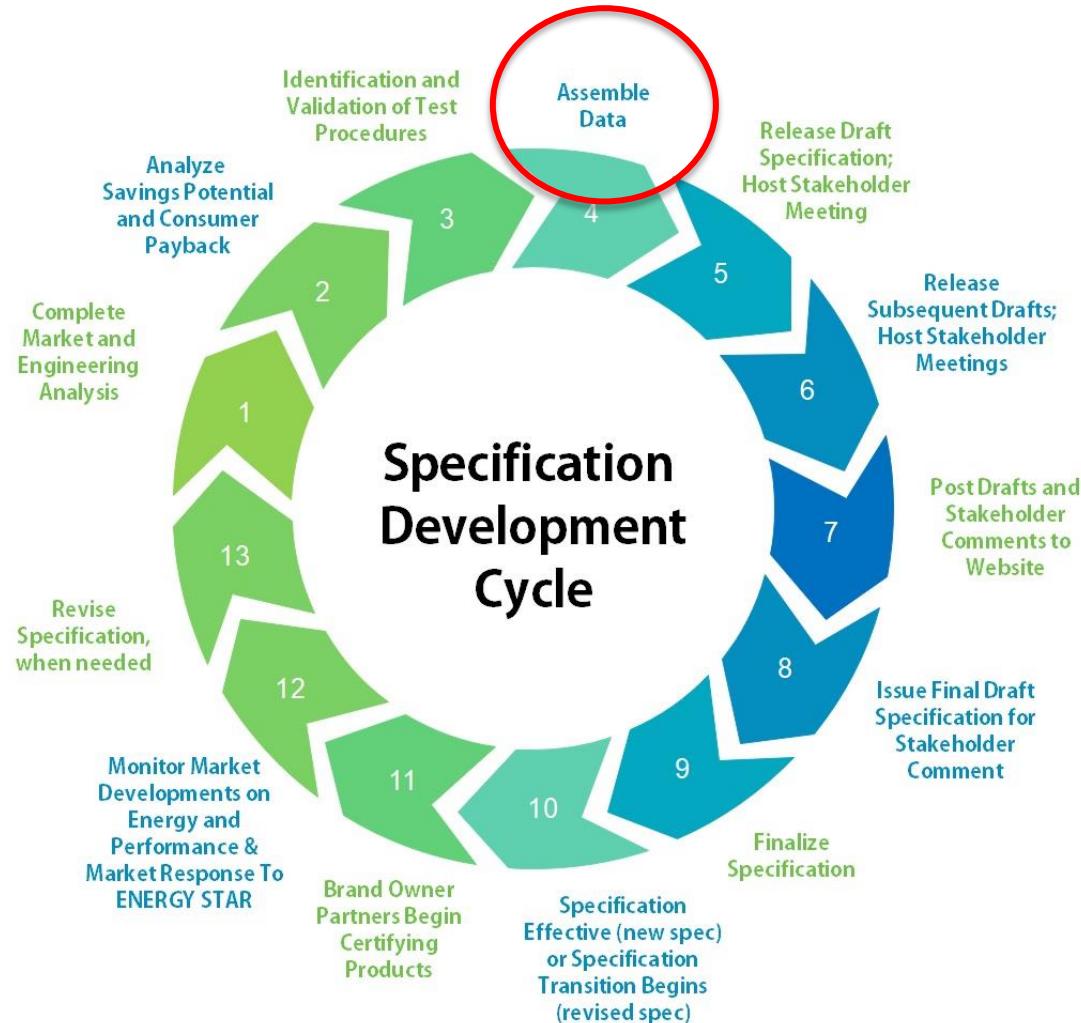
- Introduction/Overview
- Definitions
- Storage “Heavy” Servers
- Revisions to SERT Tool
- Internal Power Supply Efficiency
- Version 4.0 Revision Schedule



Introductions

- EPA
 - Ryan Fogle
 - John Clinger (ICF)

Review of Specification Development Cycle





New Definitions

Based on discussions with stakeholders, EPA feels there is a need to define two new types of server systems to better differentiate products in Version 4.0:

- Storage Heavy Server or Storage Server
- Hyperconverged Server



Updated Definitions

Discussions with stakeholders also led to the suggestion to revise and/or simplify the following two existing definitions in Version 4.0:

- Resilient Server
- High Performance Computing (HPC) System



Questions Regarding Definitions

1. Are there any other new definitions EPA should be considering for Version 4.0?
2. Are there any other existing definitions that EPA needs to update in Version 4.0 to align with recent technology advances?
 - If so, is there existing industry language that can be leveraged to aid in these revisions?



Treatment of Storage “Heavy” Servers

- There is a growing number of servers that support large quantities of storage, in which SERT does not accurately reflect the relevant performance of the products.
- EPA is looking to define what constitutes a storage server and then target them with separate active mode efficiency scores provided the Agency receives the necessary data from manufacturers to do so.
- There are several ways that these products could be defined, including but not limited to minimum storage device count and minimum % of drive bays populated.



Treatment of Storage “Heavy” Servers

- Once defined, there appear to be two primary options for creating new metrics for these systems:
 - Continue to use the existing SERT metrics and weightings and create an adjusted threshold for storage heavy server
 - Continue to use existing SERT scores, but modify weightings to skew more heavily towards storage worklets and create new thresholds off that revised data



Questions Regarding Storage “Heavy” Servers

3. Which of the two solutions on the previous slide best differentiates storage heavy servers from regular servers? EPA welcomes data supporting either approach.
4. Are there other solutions beyond the two on the previous slide that EPA should consider to address the current limitation of SERT to assess storage heavy servers?
5. Do partners have existing SERT data measured on storage “heavy” servers that can be shared to aid in creating a new metric, and if no, can that data be generated 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 and add to existing worklets, allowing for a greater variety of server products to be fully exercised during testing. These changes may include:

- More effective storage worklets
- Active testing of GPGPUs and other APAs
- Testing of HPC and machine learning focused servers
- Testing of DC powered server products

EPA doesn't expect this to be ready for Version 4.0 implementation but will look to adopt these changes in a future revision.



Questions Regarding SERT Tool Revisions

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

EPA is considering raising the efficiency requirements of server IPSs in Version 4.0 as power supply efficiency continues to improve over time, with the server market historically leading the way in the data center space.

- Current Version 3.0 levels are 80 Plus Platinum equivalent for single-output and 80 Plus Gold equivalent for multi-output



Questions Regarding Power Supplies

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



Timeline and Next Steps

- Today: Discussion guide webinar
- May 6: Deadline for written feedback
- Q3 2022: Draft 1
- Q3 2022: Draft 2
- Q4 2022: Final Draft
- Q4 2022: Final Spec
- Q3 2023: Effective date (exact date TBD)



Any Final Questions?



Discussion Guide Comment Deadline

- Send written feedback to servers@energystar.gov

Comment Deadline

Friday, May 6, 2022



Thank You!

- Questions on specification development:

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