Lenovo's Comments on the Draft 1 Version 3.0 ENERGY STAR Computer Server Specification

1. Test Product Configurations

Low-end performance configuration is too subjective. Various manufacturers may do this configuration in several different ways. Therefore, the proposal is to drop Low-end configuration from version 3.0 test cases. This will reduce the number of test cases from 4 to 3.

2. PSU Efficiency Requirements

The PF criteria are actually way lower than industry data published on 80Plus, especially for wattage above 1000W. Why is this low requirement used?

3. Active State Efficiency Requirements

The proposal is to create a composite efficiency metric from the SERT data that covers the full range (idle (0%) to 100% utilization). Then use the composite metric as the gauge to judge the overall efficiency. Thus, utilizing the full range over which SERT tests incorporates both idle and active state efficiency. And having a quantitative number will allow end consumers to better compare servers. Today, Energy Star criteria is only pass/fail. Making an actual number available is similar to other E* programs where quantitative metrics are shown (e.g. energy consumed over 1 year is shown, appliance efficiency, therms/energy factor, etc.). SERT already collects all the data needed to do this. The work item would just be coming up with the calculation (geometric mean, sum performance/sum power, etc.).

Could the reference score of workload/work let be defined to represent the product family definition? It might be worth adding a summarized score by summarizing weighted score from each work let. Two machines can give same summarized total score, but their best score can differ in some areas.

4. Base Idle State Power Allowance for 1S & 2S

The base idle requirements for idle power of non-resilient servers are too aggressive, especially with the emergence of ARM and AMD high power CPUs. The proposal for a reasonable base idle power for non-resilient servers would be to scale idle power based on the number of CPU cores. CPU packages with a higher number of cores would get a larger idle power allowance.

5. APA/GPU Requirements

Based on internal measurements and feedback from Nvidia, the 30W AC is too low to cover a broad range of GPUs. Propose APAs be treated the same as Section 3.7 in the spec. That is to collect additional data at this time and add in the maximum idle power requirement once enough data is collected to make an informed requirement. APA vendor test data can be use in the server E* submissions similar to how 80Plus report is used for PSU efficiency.