

ENERGY STAR Program Requirements for Computer Servers Preliminary Draft Version 1.0 Tier 2 Comments from the European Commission and EU stakeholders

We appreciate start of preparation of ENERGY STAR for servers Tier 2 and we believe the preliminary draft is a good starting point for the specification. We look forward to working with the US EPA, the server industry and other organisations on further developing the specification.

Scope and Overall Timing

We suggest doing the extension of the coverage and inclusion of active mode criteria in two steps.

During the first step, i.e. Tier 2, we would like to keep the focus on the volume servers and extend the coverage to include 3 and 4 socket servers and blade servers. We do not see a high need for further extension in Tier 2. We will suggest that Tier 2 takes effect no later than 1 December 2010, which is about one year after effective date of Tier 1 in EU and one and a half year after the effective date in US. This deadline requires that the specification is completed before 1 March.

A Tier 3 or version 2 Tier 1 could follow one to one and a half years after. Because it is a new specification in a fast moving area, we think it is suitable to have shorter periods between the revisions. The revision areas should be adapted to this timeline.

We suggest these main areas to be included:

- Tier 2:
 - Include 3 and 4 socket servers and blade servers.
 - Include simple version of active mode criteria based on existing rating tools
 - Improve the power and performance data sheet

- Tier 3:
 - Include further server types (e.g. >4 Socket Servers, Server Appliances, Fully Fault Tolerant Servers and Multi-Node Servers)
 - Include a dedicated active mode rating tools developed for this purpose.
 - Improve the power and performance data sheet further.

Energy Consumption Requirements

Power Supply

We see the advantages of the Net Power Loss (NPL) for right sizing and for optimising the efficiency at typical points of the load curve. However, we also see the complications in introducing a new and less known efficiency concept for power supplies.

We believe it is a good approach to maintain the efficiency requirements for qualification and supplement with NPL at typical loads for the Power and Performance Data Sheet giving the possibility to the purchasers to include NPL in the procurement.

We are however open for further discussion a possible use of NPL for qualification.

Active Mode Criteria

Active mode power and performance should be included in Tier 2 using a simple approach. This approach could be based on maximum three existing rating tools or workloads (e.g. web, CPU, database and e-mail), where the final rating is calculated by averaging the results, however, still reporting the individual results. A virtualization workload should preferably be one of the workloads and the two others a CPU oriented benchmark (e.g. SPECpower) and an I/O oriented benchmark.

Because the approach will only in an approximate way report the efficiency of the system, we suggest to consider not to use the 25 percent qualification criteria for the active mode, but rather use it for filtering away the most inefficient systems. The reason is that the Energy Star requirements are used for public procurement both in the EU and the US.

The results of the rating tool do not need to be comparable between main categories such as traditional servers and blade servers, only within the groups.

For the next Tier, we suggest a dedicated active mode rating tools will be developed for this purpose.

Work on the simple rating tool and the dedicate rating tool should be initiated as soon as possible.

Power Allowances for Extra Components

If it is still needed to use power allowances for extra components, they should be kept at a minimum number and the levels should follow the 25 percent principle, i.e. the levels should be set according to the 25 percent most efficient components.

Measurement of Blade Servers

We suggest to measure blade servers in a couple of base configurations.

Data Availability

All the data measured and collected by the manufacturers as part of the ENERGY STAR qualification should be delivered at the registration and made public. The more qualified purchaser can make use of these data for selecting the most efficient solution for a particular need.