

## ***Comments on the revised definitions for computer servers***

### **Definitions**

#### ***Number of processor sockets***

The revision of the definition for computer servers to be covered by the Energy Star programme is appreciated. The new definition solves the problem of a potential loophole for some entry level servers which may have not been covered by the criteria defined in the specifications for computers.

On the other hand it provides a cut off criterion (1-4 processor sockets) which puts the focus on volume servers. This definition of the scope is reasonable for a first version of the Energy Star specification since it allows to cover most volume or entry level servers (there may be a few 8 socket servers which could be accounted to the price band of volume servers like for example the HP DL 785, but this is rather the exception). Typically volume servers of the major manufacturers (HP, Dell, IBM, SUN, FSC etc.) provide 1-4 sockets for single, dual or quad core processors. This is also the major product segment to be addressed in terms of energy consumption and saving potential (roughly 80% of server energy consumption worldwide).

Mid-range servers typically provide also 8 or 16 sockets. They are much less important in terms of energy consumption due to much lower numbers of installed servers and thus less relevant for the Energy Star programme.

As stated earlier, high-end servers should be out of the scope of the Energy Star programme anyway due to specific application, complexity and comparably little potential for energy savings.

Summarising these aspects the current definition of the scope by 1-4 processor sockets is supported. Nevertheless it is proposed to monitor the market and technology development to be able to set criteria for subsequent tiers in accordance with observed trends.

### ***Dedicated management controller (features for remote management)***

Some (entry level) servers do not provide a service processor or BMC in the basic standard configuration. In this case the service processor may be supplied as an optional processor card. Therefore it makes sense to broaden the criterion to WOL (Wake on LAN), respectively to the requirement that either BMC, a service processor or WOL has to be provided.

### ***Class A versus Class B classification according to EN55022:1994***

Overall it should be noticed that EN55022:1994 is an old version of the standard. Although it has no implications for the specific issue the current version EN55022:2006 or (2008) should be referenced. Class B requirements are more stringent than Class A and are typically recommended for home equipment to avoid interference between applications. However EN55022:2006 does not define Class B level as mandatory for home equipment but requires a declaration for class A equipment saying that there may be interference with other equipment.

Looking at the usefulness of this criterion for the specific issue of defining the scope of Energy Star specifications it seems to be of rather limited relevance since most servers will be class A equipment meeting the less stringent Class A criteria.

Home servers, as they may become more abundant in the future and may also be addressed by Energy Star at a later stage may comply with the more stringent Class B specifications.

### ***Blade chassis***

Blade chassis are normally designed to host servers of a specific type and vendor. So it should be rather uncommon to host different brands in the same chassis even if it is partly possible from a technical point of view. This would also be an issue of limited warranty by manufacturers.

### ***Storage equipment***

Storage equipment can significantly add to overall energy consumption and offers potential for energy saving measures. Consequently it is proposed to consider external storage in one of the subsequent tiers.

### ***Network and other equipment***

It is possible to define other types of equipment besides servers and storage (e.g. firewall and other network appliances). However this may have second priority and should rather be addressed in a second version of the specifications to allow an efficient and fast process for the main equipment (server and storage).

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