March 27, 2008

Comments of Sun Microsystems Inc. on EPA Draft 1 Version 5.0 ENERGY STAR Computer Specification

1(I) Definitions - Thin Client:

Second sentence:
* Delete reference to "data storage" in second sentence. Use of centralized server resources for data storage is common to most desktops in an enterprise environment, not just Thin Clients (TC).

* Change parenthetical clause from "i.e." to "e.g.,".

* Change "*Main* computing..." to "**Most** computing..." to allow for evolving local processing that will become a practical necessity for the market in the future like media streaming.

* Change "...*using* centralized server resources" to "... **on** centralized server resources" to provide more clarity and certainty.

* New phrasing recommended to be as follows:
"Thin Client: An independently-powered computer that relies on a connection to a server to obtain primary functionality. Most computing (e.g., program execution, interaction with other Internet resources, etc..) takes place on centralized server resources."

Operational Modes:

* Eliminate or Consolidate requirement for "Off" and "Sleep" modes -
Allowing for "Off" and "Sleep" modes in the Thin Client would require building in additional functionality which would require additional power to enable those features. It would essentially force a design that has additional energy consumption just to accommodate this aspect of the specification, and in doing so would be self-defeating. Allowing for some power saving mode is desirable, but if this requirement is included in the spec, it should be streamlined (consolidated) as much as possible -- perhaps by identifying just one low power mode for when the Thin Client is not in use.

Networking and Power Management

* Make Wake On LAN (WOL) requirement for Thin Clients conditional -
Since many TCs have no remote management need to wake a sleeping system, the WOL requirement would often be superfluous and should be eliminated. Instead, WOL should be conditional, and only applied where TC implementation actually requires remote access and management. In those cases, TCs should provide a means for remotely resuming from soft-Off or Sleep mode in order to conduct that management. Furthermore, specifying WOL comes close to dictating how a device should implement a certain feature. It would be better to simply set the standard for power usage in various modes, and allow for freedom of design as to how to get there. This provides greater opportunity for innovation and advances in the technology. Conversely, requiring WOL in the Thin Client would require building in additional

functionality which would necessitate additional power to enable those features. This is another case where the practical effect of the requirement would be to force a design that leads to additional energy consumption.

* Consider adding an overall, or "Active", power usage benchmark for TCs. Although most of the computing with TCs does not occur on the client itself, there can still be some potential power use difference between an Idle client and an Active client.

* Adjust testing requirements in Appendix A and Table 5 to reflect those changes to operational mode and power management requirements above (if they are made).