7/25/06

To: *All Computer Stakeholders*

Subject: *Update: ENERGY STAR Approach for Workstations*

This message is being sent to you on behalf of EPA and DOE's ENERGY STAR® program.

Dear ENERGY STAR Computer Partners and Other Interested Stakeholders,

EPA had agreed to update all stakeholders regarding the Agency's plans for workstations on July 17, 2006. At the request of stakeholders who wished to propose refinements to the approach EPA had shared during a conference call on July 13, 2006, EPA held this update until today. This update reflects the approach EPA intends to take for these products in the final computer specification to be released in early September.
This e-mail includes the following:

   Background
   Weighting Methodology
   Test Procedure (Linpack addition)
   Calculations & Data Analysis
   Data Deadline

Background:

Below is a description of how EPA proposes to handle allotting power budgets for ENERGY STAR qualified workstations. EPA's goal is to provide a simple and scalable method of assessing the energy consumption of workstations without dictating how the platform chooses to power down from their maximum consumption level to save energy, taking into account all lower power modes. EPA believes that doing so is more effective for assessing workstation efficiency than the traditional approach of applying fixed levels to particular modes. EPA also sees this approach as preferable to scaling based on power supply capacity.

Weighting Methodology:

The Idle, Sleep, and Off values will be averaged according to defined weights that reflect their relative time contribution to annual energy use. The resulting average power value is then converted to a percent of the maximum measured value. That maximum is compared to the ENERGY STAR limit for % of max. The % of max value is derived by identifying the 25% level for % of max for current systems on the market. Manufacturers can reduce their % of max value by reducing the power of any of the power modes.

Test Procedure:

Max power will be measured uniformly using the following test procedure.
The UUT will be tested with the following software running concurrently:
SPEC viewperf
Linpack*

* Please note that Linpack has superseded SPEC CPU fp rate. In order for this to take full effect, EPA must receive submissions/declarations for every platform/architecture (i.e.; Sparc, Intel, AMD), the optimizations used in the form of compiler switches/options, and run time switches/options upon submittal of data.

A max power reading will be taken at the peak maximum power during this test. Additionally, an adder of x watts (TBD) will be given per Hard Drive installed during the max power test and the result will be added to the peak power during the test to derive the max power value for use in the ENERGY STAR calculation.

Calculations & Data Analysis:

TEC= ∑(%TimeOff * PowerOff) + (%TimeSleep * PowerSleep) + (% TimeIdle*PowerIdle)
TEC% = TEC / MaxPowerObs
HDD adder = # of HDDs * x (TBD)

The attached spreadsheet is intended to illustrate the concepts above.
Please note that the data reflected in the attached spreadsheet is limited and will not be used to set ENERGY STAR levels. Also, given the limited nature of the data, the levels and percentages in the spreadsheet are advisory only and are not necessarily reflective of factors to be included in the final specification.

The first quartile of models (represented by data points in the final data set and based on TEC%) will qualify as ENERGY STAR.

Data Deadline:

As stated previously, EPA will consider all data received by August 4th when establishing levels for products included in the computer specification. For workstations only, EPA asks that interested parties use the attached spreadsheet as the template for data submission, filling out the worksheet labeled "Actual Data". EPA must receive all values to accept these data. EPA will consider data for discrete models but also for discrete configurations of the same model (e.g., Models A & B, as well as for Model A's minimum and maximum configurations). Any variants believed to be of interest to EPA are welcome as well.

Please direct all questions specific to this data collection effort and next steps to Katharine Kaplan Osdoba (osdoba.katharine@epa.gov) or Thomas Bolioli at (617) 923-4132 or tbolioli@terranovum.com.