

## Desktop-Derived Servers

### Qualifying Product Definition

**Proposed New Desktop-Derived Server Definition:** A computer that primarily provides services, such as file or printer sharing, to other devices on the network rather than to an individual, local user and which is designed in a pedestal, tower, or other form factor similar to those of desktop computers such that all data processing, storage, and network interfacing is contained within one box/product. While all desktop-derived servers are based on desktop computer designs, they may have multiple processors, larger power supplies, different operating systems, and larger data storage capabilities. For purposes of this specification, this includes the following desktop derived, non-redundant type servers: EPS12V and EPS1U.

**Note:** EPA has updated the definition above in an attempt to further differentiate desktop-derived servers from desktops and workstations. There is some concern regarding the use of EPS12V and EPS1U to identify desktop-derived servers due to the fact that the classification does not apply to all available desktop-derived server models. EPA would like to work closely with server manufacturers to further develop this definition in order to be more inclusive regarding those desktop-derived servers that could qualify as ENERGY STAR. Please note that it is not EPA's intention to address mid-range or large "enterprise" servers under this specification.

### Hardware Requirements

#### **Internal Power Supply Tier I Requirements:**

Desktop-Derived Server - EPS12V	Desktop-Derived Server - EPS1U
75% minimum efficiency at 20% of rated output;	78% minimum efficiency at 20% of rated output;
80% minimum efficiency at 50% of rated output;	83% minimum efficiency at 50% of rated output;
77% minimum efficiency at 100% of rated output	80% minimum efficiency at 100% of rated output

**Power Factor Requirement:** TBD

**Note:** EPA is continuing to conduct research on whether the efficiency levels provided above are appropriate and also contemplating different implementation dates for these requirements. In addition, EPA is considering adding a Power Factor (PF) requirement for the following reasons: (1) to ensure that ENERGY STAR qualified products support high quality power in addition to offering energy-efficient performance; (2) to provide additional utility savings; and (3) to harmonize with PF requirements in Europe and Japan ensuring that ENERGY STAR qualified models can meet global requirements. Specifically, EPA is considering a PF of 0.9 in addition to the proposed efficiency levels provided above. Manufacturers can view the Internal Power Supply test procedure at [www.efficientpowersupplies.org](http://www.efficientpowersupplies.org).

**External Power Supply Tier I Requirements:** If an external power supply is included with the desktop-derived server, that power supply must meet the ENERGY STAR External Single Voltage Ac-Ac and Ac-Dc Power Supply Specification.

### Modes of Operation

**Note:** When revising the computer specification, EPA would like to recognize those computers that are energy-efficient in multiple modes of operation. In the long term the hope is that some form of computer benchmarking metric that recognizes whole machine energy performance can be developed. Realizing that this will take some time and significant energy savings can be captured in the short term, EPA will continue to work with industry stakeholders to identify appropriate energy efficiency levels for each individual operational mode under Tier I until a benchmark can be identified and tested.

**Active Mode Definition:** The mode in which the computer, while connected to a power source, is producing useful work; for example, running application software. To clarify, the low end or minimum power draw of active mode is idle. The high end of active mode would be the maximum power draw capable by the computer.

**Idle State Definition:** For purposes of testing under this specification, this is the state in which the operating system and other software have completed loading, the machine is not asleep, and activity is limited to those basic applications that the system starts by default. Idle state is considered a subset of Active Mode.

**Proposed Tier 1 Levels:** TBD

**Note:** EPA continues to believe that addressing idle state within the computer specification has merit as most computers spend a significant amount of time in this mode of operation. EPA will work closely with stakeholders to determine the appropriate method in which to test idle and further develop a more robust definition for idle state stemming from this test procedure. To date, EPA has limited data on the idle energy consumption of desktop-derived servers and is continuing to test and evaluate the idle performance of this product type.

**Proposed Effective Dates**

**Effective Date Definition:** The date that manufacturers may begin to qualify products as ENERGY STAR is defined as the *effective date*. The dates provided below represent the date of manufacture, which is specific to each unit and is the date (e.g., month and year) on which a unit is considered to be completely assembled. Any previously executed agreement (e.g., MOU) on the subject of ENERGY STAR will be terminated as of the effective date and all computer models manufactured as of this date will be required to meet the new specification requirements.

Specification Requirements	Tier I: January 1, 2007	Tier II: TBD
External Power Supplies	X	
Internal Power Supplies	X	
Idle State	X	
Efficiency Benchmark		X
<b>Interim Testing and Reporting Requirements</b>		
Benchmarking Testing and Reporting	X	X

**Note:** EPA’s goal is to finalize all effective dates and levels for Tier I requirements by the end of 2005 and any subsequent tiered requirements shortly thereafter. The intent of developing a tiered approach is to include those requirements EPA believes are feasible in the near term (Tier I) and allow for a longer lead time for those requirements that are likely to require additional analysis and/or manufacturing lead time before they can be implemented (Tier II). **EPA may be willing to consider alternative effective dates for a subset of these requirements that may require additional time to verify performance and implement.** Please note that once the specification is finalized EPA will allow manufacturers a minimum of 9 months or more to phase out models that do not meet the new Tier 1 requirements.

**Idle Test Procedure and Benchmarking:** It is EPA’s goal to develop an idle test procedure over the next several months to allow manufacturers time to review and comment. Once completed, EPA will then require participating partners to begin testing and reporting product data for qualified models using the agreed upon test method to determine the appropriate specification levels before Tier I goes into effect. EPA will begin discussions in early 2006 with all interested stakeholders regarding the development of a computer efficiency benchmark test.

**Please note that the table presented above may change based on additional discussions with EPA’s international ENERGY STAR counterparts. EPA will inform stakeholders of any changes to this proposal by mid-September.**