Power Supplies

An Industry Perspective

Agenda

- Industry Concerns
- Projected savings
- Cost vs. Savings
- Industry Proposal
- Desktop Derived Servers (DDS)
  - Definition clarification
- Backup

Industry Concerns

- Industry believes internal power supply efficiency targets can be a mechanism in reducing active/idle mode power consumption
- The technology required to produce 80% efficient internal power supplies is available today
- Industry requests the EPA to take the following concerns into consideration when specifying levels:
  - None of the ITI member companies currently use any of the suppliers Ecos has currently certified as 80%
  - Separate labels should not be developed or required for internal power supply manufacturers
  - Manufacturers require the flexibility to self certify their own supplies

Projected Savings

- EPA presentation shows benchmarking software test comparing a typical PS (70% efficient) to a highly efficient (80%) PS saves the following:
  - 20-25% peak power savings (about 20 Watts)
  - 15-20% idle power savings (about 10 Watts)
  - Ecos projects PC's with an 80% efficient PS can save about $25.00 in utility bill reductions over a 4 year period

Cost vs. Savings

- Utilizing current supplier efficiency levels, EPA usage patterns, and associated cost increase to achieve the proposed efficiency levels:

Product Type	Utility savings required to cover initial supplier costs	Acceptable
Mainstream Desktop	4	✓
Mid Range Workstation/Server	3	✓
High End Workstation/Server	10	✗

Scheduling

- Industry proposes implementation should be extended to
  - **January 1, 2008**
- Technology is unproven in the high volume computer market
  - Increased field failures
  - Delay product launches
- Any new requirements will require at least 18 months for power supply vendors to qualify for all regulatory and safety approvals (July ‘05 –Jan ‘07 = only 17 months)
- This would allow manufacturers enough time to research alternative solutions, perform extended life cycle analysis of the proposed solutions, and not retrofit projects currently under development with unproven solutions

Desktop Derived Servers Proposed definition change

- **In order to help clarify the current EPA definition of a Server, Industry would like to propose the following:**

EPA definition

Server: A computer that primarily provides services to other devices on the network rather than to an individual interactive user. For purposes of this specification, this includes the following desktop derived, non-redundant type servers: EPS12V and the EPS1U. Both are derived largely from desktop computer designs, but have slightly different form factors and may often have multiple processors, different operating systems, and larger data storage capabilities.

Industry preferred definition (proposal)

Server. A computer that primarily provides services to other devices on the network rather than to an individual interactive user. For purposes of this specification, this is limited to non-redundant type servers: EPS12V and the EPS1U. Both are derived largely from desktop computer designs, but have slightly different form factors and may often have multiple processors, different operating systems, and larger data storage capabilities.

Backup

Assumptions

- Power Consumption Methodology:

	Hours per Day				Hours per Year			
			Active Mode				Active Mode	
	Off Mode	Sleep Mode	Idle State	High Performance State	Off Mode	Sleep Mode	Idle State	High Performance State
Commercial Desktop/Laptop	6.4 hrs	0.8 hrs	16.1 hrs	0.7 hrs	2344 hrs	280 hrs	5886 hrs	250 hrs
Residential Desktop/Laptop	14.3 hrs	0.3 hrs	8.0 hrs	1.4 hrs	5233 hrs	93 hrs	2927 hrs	507 hrs
Server	0.0 hrs	0.0hrs	19.0 hrs	5.0 hrs	0 hrs	0 hrs	6935 hrs	1825 hrs

- EPA presentation comparing a Stock PS (70% eff) to a Highly efficient PS (80% eff)