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IT@Intel Brief

Intel Information Technology
Computer Manufacturing
Energy Efficiency

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Intel IT Commits to the Climate Savers Computing Initiative

Intel IT is expanding our ongoing commitment to energy-efficient computing to meet the goals of the Climate Savers Computing Initiative.

Currently, we engage in a number of energy-saving initiatives to reduce costs and support business goals. These include constructing high-efficiency data centers, reducing energy consumption through server virtualization and consolidation, and adopting energy-efficient hardware such as LCD monitors throughout the enterprise.

Profile: Intel IT Commitments

- 80-percent efficient power supplies for desktop PCs by June 2008

- 85-percent efficient power supplies in volume server purchases by June 2008

- Reduced PC energy use through advanced power management

We are extending our efforts to be a role model enterprise IT organization by supporting the Climate Savers Computing Initiative, which aims to drive a 50 percent reduction in computer-related CO_2 emissions worldwide. Intel IT plans to meet the goals of the Initiative through advanced power management for desktop and laptop PCs, and purchases of high-efficiency power supplies for desktop PCs and servers. Table 1 outlines some of our current programs and future commitments.

Table 1. Intel IT's Existing Energy Efficiency Programs and New Commitments

Existing Energy-Saving Programs	New Climate Savers Computing Initiative Goals
High-efficiency data centers. We achieve greater energy efficiency through advanced thermal-management techniques and energy-efficient servers.	**Advanced power management.** We will implement advanced power management on clients including IT-managed desktops based on Intel® vPro™ processor technology and laptops based on Intel® Centrino® Pro processor technology.
Server consolidation and virtualization. Better utilization reduces power requirements.	**Desktop purchases.** Our purchases will be 100 percent ENERGY STAR 4.0 qualified by June 2008, including power supplies that are 80-percent efficient.
Mobility. In our ongoing shift to mobile computing, currently about 80 percent of our client systems are laptops, which use less power than desktops.	**Volume server purchases.** By June 2008, at least 20 percent of purchases will include power supplies that are 85-percent efficient.
Monitors. We installed LCD monitors and implemented power management enterprise-wide as part of the Million Monitor Drive, an ENERGY STAR* campaign.	

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The Climate Savers Computing Initiative

The Climate Savers Computing Initiative, co-founded by Intel and Google, aims to drive USD 5.5 billion in yearly energy savings and a 50 percent reduction in computer-related CO_2 emissions by 2011. The initiative hopes to achieve this through the development and use of high-efficiency power delivery components such as power supplies and efficient motherboard design, and through advocating use of advanced power management tools.

To participate in the Climate Savers Computing Initiative, enterprises commit to including high-efficiency components in their corporate PC and volume server purchases, and to using power-management tools on PCs. The potential for energy and cost savings is huge: Today, the power supply of an average desktop PC is only 68 to 75 percent efficient. Additionally, implementing aggressive power management policies alone could save approximately 60 percent of the total electricity that a typical business desktop PC currently consumes.

Intel IT Background

Intel IT has an extensive tradition of programs that save energy while supporting our strategic goals, delivering ROI partly due to reduced energy costs.

- **High-efficiency data centers.** We are designing and building air-cooled data centers that support very high server densities, yet save millions of dollars by using less energy than many other data centers. We achieve this by applying a broad array of techniques including specialized server cabinets, economizers, and extensive airflow modeling.

- **Server consolidation and virtualization.** We are consolidating and virtualizing the workloads of thousands of older business computing servers onto fewer, more powerful servers based on newer energy-efficient Intel® multi-core processors. This is generating significant savings in power and cooling costs.

- **Mobility.** In 2003, we accelerated an enterprise-wide transition to mobile computing with the release of Intel® Centrino® processor technology. Currently, about 80 percent of our client systems are laptops, which consume less power than typical desktops.

- **Monitors.** We installed thousands of low-power LCD monitors. We also implemented power management for monitors across the enterprise as part of the ENERGY STAR* Million Monitor Drive.

Computing Initiative Commitment

Intel IT will complement our existing energy-saving initiatives by committing to the goals of the Climate Savers Computing Initiative. This includes specific steps to substantially reduce the power consumption of desktop machines and servers.

- **Clients.** We are installing desktops based on Intel® vPro™ processor technology, which includes Intel® Core™2 Duo processors that substantially reduce power requirements as well as advanced management features. Our goal is that by June 2008, 100 percent of our desktop purchases will meet the ENERGY STAR 4.0 specification, including an 80-percent efficient power supply. Our mobile systems will feature Intel Centrino Pro processor technology moving forward.

  We will use the advanced power management features of the operating system to further reduce electricity consumption and potentially generate significant savings with desktop and mobile clients..

- **Servers.** Our goal is that at least 20 percent of volume rack-mount and pedestal server purchases will include 85-percent efficient power supplies by June 2008, assuming power supplies meet price and availability constraints set by the Climate Savers Computing Initiative. This will apply across our business and manufacturing computing environments. Our design computing environment is rapidly shifting to blade servers, which also are highly power-efficient.

Costs

At least initially, we expect to pay a small premium for more-efficient power supplies. We expect this will be less than USD 20 for each desktop PC, and the Climate Savers Computing Initiative has set a target of less than USD 30 for desktops and servers. This cost will be offset by energy savings, and over time we believe that volume purchasing commitments by Intel and other enterprises will help bring down prices, in turn encouraging broader adoption of these products by other companies and consumers.

Future Considerations

Longer term, we intend to continue to encourage our vendors to include more power-efficient components in their products. We believe that reducing energy consumption will benefit Intel, other IT organizations, and the environment.

For more information about the Climate Savers Computing Initiative, visit www.climatesaverscomputing.org.