

# Conference on Enterprise Servers and Data Centers: Opportunities for Energy Savings

January 31 – February 1, 2006

## Sponsor BIODs



## Advanced Micro Devices, Inc. (AMD)

*“Our customer’s success is our success”*

*“The era of technology for technology’s sake is behind us. Innovation driven by real customer needs — ‘customer-centric innovation’ is the new path to leadership.” -Hector Ruiz*

Founded in 1969 and based in Sunnyvale, California, AMD provides microprocessors, Flash memory devices, and silicon-based solutions for our customers in the communications and computer industries worldwide.

However, our focus goes beyond integrated circuits and transistors. AMD is committed to helping our customers — and their customers — take advantage of the phenomenal capacity of silicon to add value and help differentiate their offerings. To that end, AMD products are developed with customer needs always in mind and not for the sake of innovation alone. Stated more plainly, it means that AMD exists to provide real solutions for real customer problems that exist in the real world today.

We refer to this philosophy as “customer-centric innovation,” and it represents the guiding principle behind everything we do at AMD.

For more information, visit:

[http://www.amd.com/us-en/Corporate/AboutAMD/0,,51\\_52,00.html](http://www.amd.com/us-en/Corporate/AboutAMD/0,,51_52,00.html)

For more information about AMD Opteron™ processors for servers, visit:

[http://www.amd.com/us-en/Processors/ProductInformation/0,,30\\_118\\_8796,00.html](http://www.amd.com/us-en/Processors/ProductInformation/0,,30_118_8796,00.html)

## **American Power Conversion Corporation (APC)**

American Power Conversion (Nasdaq:APCC) (APC) provides protection against many of the primary causes of data loss, hardware damage and downtime. Founded in 1981, APC is a leading provider of global, end-to-end AC and DC-based back-up power products and services, which include surge suppressors, uninterruptible power supplies (UPS), power conditioning equipment, power management software, and DC power systems as well as precision cooling equipment, and professional and consulting services for Nonstop Networking™. APC, known for Legendary Reliability™, sets the standard for quality, innovation and support for power protection solutions from desktop systems to data center operations to entire facilities. Its comprehensive solutions, which are designed for both home and corporate environments, improve the manageability, availability and performance of sensitive electronic, network, communication and industrial equipment of all sizes.

APC sets itself apart from the competition in several ways:

- Global one-stop – APC provides worldwide access to “best-of-breed” offerings.
- Financial strength – APC’s financial position make it an attractive partner.
- Efficient manufacturing – APC provides high quality products to customers worldwide.
- Innovative product offerings – APC designs solutions to address real customer needs.

You can find more information on APC at [www.apc.com](http://www.apc.com)

## **Astec Power**

Astec Power ([www.astecpower.com](http://www.astecpower.com)), an Emerson Network Power company, is a leading international supplier of power conversion solutions. Dedicated to advanced research and development, sophisticated manufacturing automation, and in-process testing to deliver power system solutions, Astec Power produces standard, modified standard, and custom AC/DC and DC/DC power supplies ranging in size from 1 to 18,000 watts. Astec has design and production operations on three continents to best serve its international customer base with quality products that are reliable, delivered on time and competitively priced.

Astec Power delivers power solutions for a diverse range of applications in a variety of industries including enterprise servers, telecommunications, networking, computing, office systems, medical, process control, test and instrumentation. System designers have recognized that as technology advances, the power supply is no longer an afterthought, but a component vital to the operation of sensitive electronics. Astec has the technical resources to solve these demanding applications

As an established industry leader in Distributed Power Architecture, Astec Power enables the implementation of many of today's most innovative technologies incorporating board mount, low profile, high-density DC-DC modules as well as the bulk front end products to drive them.

Astec Power's Advanced Technology Center is chartered with focusing on the critical application developments that drive this leading edge technology. To meet the needs of customers next generation products, Astec's application engineers analyze, computer-

simulate, engineer, and test advanced circuits, topologies, materials, silicon integration, and packaging techniques.

### **ColdWatt**

ColdWatt's continuous focus on innovation generates unrivaled energy efficiency and power density for its breakthrough power conversion solutions for the computing, networking, storage and telecommunications markets. Years of innovative research and careful development go into every ColdWatt product. Backed by over 20 patents, our technology provides an exclusive, technological advantage for our OEM customers. Ongoing development by the ColdWatt design team — one of the best in the industry — helps ensure our continued position at the forefront of power conversion technology.

Our compact and cool running power conversion solutions are the foundation of feature-rich and cost-effective datacenter and telecommunications equipment. ColdWatt has the design and manufacturing resources necessary to accommodate a range of needs for OEMs and their customers. Headquartered in Austin, Texas, ColdWatt has technology centers in Dallas and Bangalore.

Design engineers rely on ColdWatt to answer the challenge for reliable power conversion solutions that minimize heat dissipation and reduce space requirements. For more information, visit [www.coldwatt.com](http://www.coldwatt.com) or call 512.439.4900.

### **ENERGY STAR Labeled Products and Buildings Programs**

ENERGY STAR, administered by the U.S. Environmental Protection Agency with support from the Department of Energy, is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency. In the residential sector, the ENERGY STAR label identifies products and new homes which meet guidelines for energy efficiency, and offers guidelines to improve the efficiency of existing homes. In the commercial sector, ENERGY STAR works with businesses and organizations to pursue superior energy management practices.

Last year alone, Americans -- with the help of ENERGY STAR -- saved \$10 billion dollars on their energy bills, and enough energy to power 25 million homes, and avoided the greenhouse gas emissions equivalent to those of 20 million cars. For more information and resources, visit [www.energystar.gov](http://www.energystar.gov).

### **Hewlett Packard (HP)**

HP is a technology solutions provider to consumers, businesses and institutions globally. The company's offerings span IT infrastructure, global services, business and home computing, and imaging and printing. For the four fiscal quarters ended Oct. 31, 2005, HP revenue totaled \$86.7 billion.

HP has a long history of commitment to environmental performance. Our focus on environmental sustainability includes providing products and services that are environmentally sound throughout their life cycles, and conducting our operations in an environmentally responsible manner. Environmental sustainability is a key element of HP's long-standing commitment to global citizenship and is vital to our long-term

business success. We are committed to reducing our own environmental impact, as well as that of our customers, partners and suppliers. HP's overall environmental strategy consists of the following:

- Design and deliver innovative, environmentally superior products and services.
- Ensure environmentally-sound facilities, distribution, and operations.
- Manage supply chain and procurement to optimize environmental performance.
- Develop and deliver responsible end of life take-back and recycling services globally.

### **Lawrence Berkeley National Laboratory**

Lawrence Berkeley National Laboratory's Environmental Energy Technologies Division develops technology that uses, converts and stores energy more efficiently and with less environmental impact, and studies the link between energy use and the environment. An important outcome of its work is the development of technologies and processes to mitigate the environmental effects of energy use.

A major area of research is making residential and commercial buildings more energy-efficient, and maximizing the health and productivity of building occupants. EET Division achievements in this area include:

- Developing energy-efficient windows and energy-efficient electronic ballasts for use with fluorescent lights, in cooperation with window and lighting industries. These technologies now save billions of dollars a year in energy costs, and reduce the emissions of millions of tons of gases from fossil fuel burning.
- Creating major software tools for better building design. These tools help architects and engineers design safe, comfortable, energy-efficient buildings.
- Understanding indoor air quality problems and developing solutions.

Another major focus is analysis of energy efficiency policies and programs in the United States and internationally. EETD has also made significant contributions to international organizations, including the Inter-governmental Panel on Climate Change, with studies of measures to reduce greenhouse gas emissions. The Division also conducts air quality research. Research focuses on measuring and modeling atmospheric chemistry, human exposures to and transport processes of airborne pollutants, particulates in the air, and contaminants such as gaseous emissions from new building materials.

### **On Semiconductor**

ON Semiconductor is a preferred global supplier of power conversion, circuit protection and power control semiconductor solutions. Focused on developing power efficient products, the company helps solve some of the toughest power management and power distribution challenges facing the electronics industry.

The company has a portfolio of more than 15,000 devices that range from analog converters, controllers and power factor correction ICs to rectifiers, diodes and MOSFETs. Its products are found in power supplies, networking, automotive, LED lighting, portable, wireless and consumer applications.

Please visit the ON Semiconductor website at <http://www.onsemi.com>.

For more information contact Ross Ayotte at: [ross.ayotte@onsemi.com](mailto:ross.ayotte@onsemi.com) or Anne Spitz at: [anne.spitza@onsemi.com](mailto:anne.spitza@onsemi.com).

## **Power-One**

Power-One provides power solutions for high-availability infrastructure applications such as data servers and storage, wireless communications, routers, and optical networking equipment. Over 2500 products support every step in the processing of utility-grade AC into the low DC voltages required by high-speed semiconductors. Product breadth is further enhanced with programmable and modular architectures, and the capability to use standard products as platforms for modified and custom solutions.

Insights gained from a 30-year power-conversion focus have fueled a proven track record of innovation. Power-One's advanced topologies deliver industry-leading efficiencies; reducing power consumption and increasing power densities in ac-dc front-ends designed for data server and storage applications. Power-One also introduced the industry's first digital-power solution; Z-One Digital IBA seamlessly integrates power management and conversion to increase power densities and reliability, and reduce costs and development time.

Additional innovations include offering RoHS-compliant products in both lead-free and lead-solder-exempted versions. This two-tiered strategy provides our customers with the full range of compliance options described in the European Union's RoHS Directive.

With strategic presences in the Americas, Europe, and Asia, Power-One is positioned to provide world-class support. Power-One employs over 2,000 people worldwide and is certified to ISO standards for all facilities, including joint ventures and contract manufacturing partnerships. Corporate headquarters are located in Camarillo, CA. Global sales offices are supported by manufacturing and R&D facilities located in China, Dominican Republic, Ireland, Slovakia, Switzerland, and the United States. Please visit [www.power-one.com](http://www.power-one.com) for further information.

## **Power Supply Manufacturers Association (PSMA)**

PSMA is an active organization consisting of power supply manufacturers, users, power component suppliers, academics and consultants, interested in furthering the cause of the power supply industry. It is a non-profit, democratic and participative organization, whose main and common goal is to enhance the stature of the power supply industry and provide education and information about this unique industry through published reports, educational seminars, technical workshops and conference exhibits. PSMA provides leadership to the industry through its members, which include most major power supply companies.

## **SUN Microsystems**

A singular vision -- "The Network Is The Computer" -- guides Sun in the development of technologies that power the world's most important markets. Sun's philosophy of sharing innovation and building communities is at the forefront of the next wave of computing: the Participation Age. Sun innovates to help people participate on the network, reduce

energy demands, and use finite resources more wisely. Sun can be found in more than 100 countries and on the Web at <http://sun.com>.

**Transistor Devices, Inc. (TDI)**

Transistor Devices, Inc. (TDI) is a global supplier of Power Systems Solutions for the Computer/Networking market. We offer the broadest range of High Technology power conversion products available in the marketplace, including DC and AC Power Systems, Power Supplies, Rectifiers, Converters and accessory equipment. TDI offers modular and scaleable technology that permits rapid and efficient creation of tailored power systems with outputs from 1,000 watts up to a megawatt. The systems are created for diverse applications and include local and remote control and monitoring, multiple input power sources and fault tolerant N +1 modular redundancy. Established in 1960, TDI is headquartered in New Jersey, has over 1000 employees and seven facilities located throughout the world. For more information on TDI, visit our website at [www.TDIpower.com](http://www.TDIpower.com) or contact Heather Maguire at [heather\\_maguire@tdipower.com](mailto:heather_maguire@tdipower.com).