



IBM Collaborates with Toyota Motor Sales, U.S.A., Inc. and Southern California Edison to Create Green Data Center

World's Largest Automaker Reduces Energy Consumption and Costs Using Advanced Energy Management Technique

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ARMONK, NY - 13 Oct 2009: IBM (NYSE: [IBM](#)) today announced the results of a collaborative effort with Toyota Motor Sales, U.S.A., Inc. (TMS) and Southern California Edison to reduce energy costs and consumption in the TMS data center with the use of IBM's Measurement and Management Technologies (MMT)—a tool set created by IBM Research— which measures, manages and reduces data center energy consumption.

To decrease rising energy consumption and server failure risk, Toyota Motor Sales used IBM's Measurement and Management Technologies in its 20,000 square foot Torrance, California data center over a five-month period. The multi-level measurement tool assesses thermal readings throughout the data center from floor to ceiling and provides a detailed assessment of the heat distribution by creating a three-dimensional chart which pinpoints power and cooling inefficiencies. By using the scanning technology, researchers are then able to create a base model which is used to implement improvements within existing resources at low costs. During the pilot period, the automaker saw a decrease in high temperature hot spots and energy costs in the data center which houses its application development and testing equipment as well as file-sharing, email and printing capabilities.

"As environmental concerns merge with cost reductions efforts, innovative companies across all industries are looking to have more visibility and control," said Rich Lechner, vice president of Energy and Environment at IBM. "Toyota Motor Sales knows this especially well as it continues to offer some of the most energy efficient and economical vehicles in the marketplace. This data center project is an example of how companies can reduce costs and become more efficient through smarter energy management."

Higher computing demands in recent years have caused a rapid increase in data center consumption. The usage accounts for nearly 1.2 percent of the total energy consumption in the United States and holds a 15 percent growth rate, according to a report by Lawrence Berkeley National Laboratory in 2007. Rising operational expenses and possible equipment failure caused by inefficient cooling, thermal issues, lack of reliability and availability and limitations on IT growth have caused data center managers across the globe to look for resolutions in center management.

"In a very short period of time, MMT showed us where to begin making inexpensive changes to air flow and temperature set points in our computer room," said Cathy Tryon, national manager of data

center operations for Toyota Motor Sales, U.S.A., Inc. “This allowed us to safely shut down two computer room air conditioners, resulting in significant energy and cost savings.”

The company also improved air flow management, reduced chilled air leakage, matched cooling capacities to the IT power consumption and implemented a system to separate exhaust air and inlet temperatures within the data center. Although air conditioning units were reduced by 30 percent, TMS still saw an overall reduction in hot spots and a cooler consistent ambient temperature throughout the data center. Toyota Motor Sales’ energy provider, Southern California Edison, quantified the company’s energy savings and determined a demand reduction of more than 10 percent.

IBM also piloted an extension of MMT which includes real-time sensors that are distributed in strategic places throughout the data center. The updated version of the technology allowed IBM to constantly monitor temperature distributions throughout the project.

Southern California Edison is currently working to generalize Toyota Motor Sales’ energy savings and evaluate Mobile Measurement Technology for broad application for energy and demand reductions for clients in its service area.

The data center energy reduction effort is part of IBM’s Smarter Planet initiative which focuses on green infrastructures. The approach has enabled many IBM customers to significantly improve their IT operations within data centers, saving an average of 40 percent on energy costs, and meet their environmental goals.

About Toyota Motor Sales, U.S.A., Inc.

Toyota Motor Sales (TMS), U.S.A., Inc. is the marketing, sales, distribution and customer service arm of Toyota, Lexus and Scion. Established in 1957, TMS markets products and services through a network of more than 1,400 Toyota, Lexus and Scion dealers. Toyota directly employs more than 35,000 people in the U.S. and sold more than 2.2 million vehicles in 2008.

For more information about Toyota, visit www.Toyota.com

About Southern California Edison

An Edison International (NYSE:EIX) company, Southern California Edison is one of the nation’s largest electric utilities, serving a population of nearly 14 million via 4.9 million customer accounts in a 50,000-square-mile service area within Central, Coastal and Southern California. For more information about Southern California Edison, visit www.SCE.com

About IBM

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