Accenture Green Technology Suite—
Data Center Estimator

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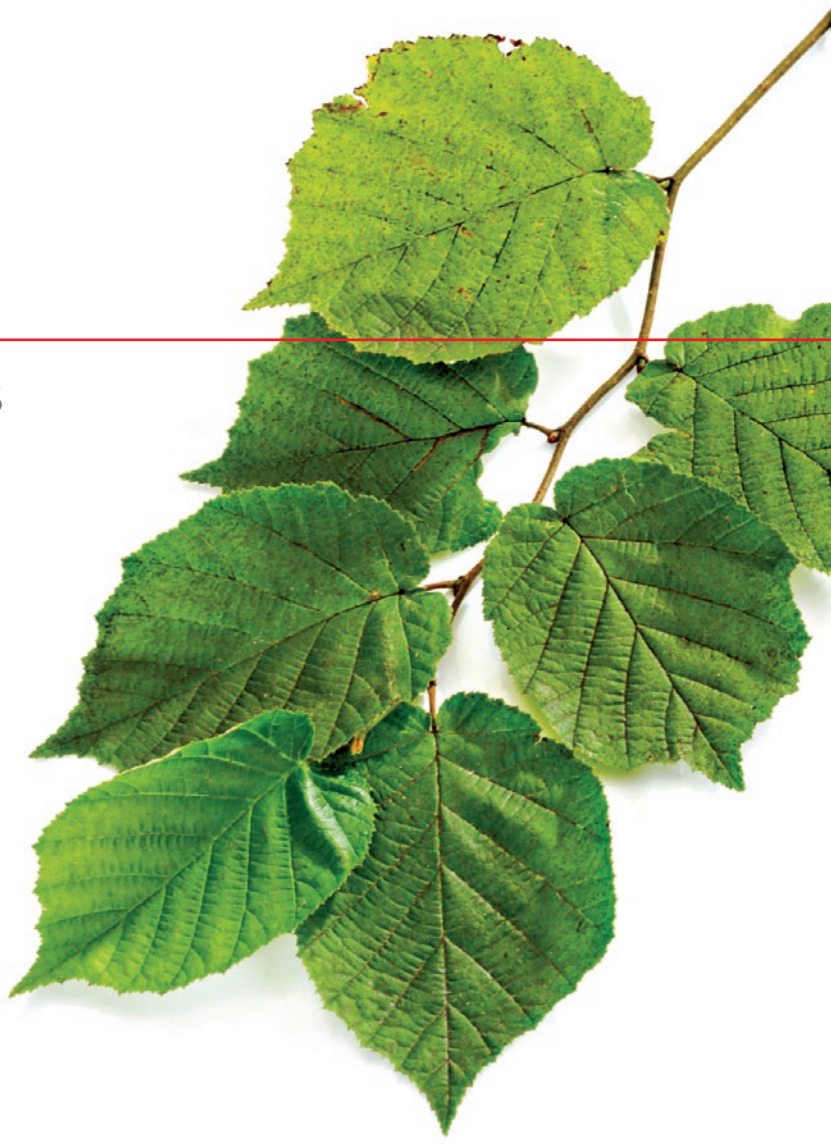
Technology Labs



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Create and execute a strategy for a green data center to reap environmental and bottom-line benefits on the road to high performance

With environmental issues moving to the top of the international agenda, businesses face the challenge of ensuring their IT infrastructures contribute as little as possible to the emission of greenhouse gases. With these requirements becoming mandatory, being able to reduce its carbon footprint will become a prerequisite for high performance. Data centers are one of the largest consumers of energy within an organization's IT systems, and in total, account for some 1.2 percent of the total electricity consumed in the United States (0.8 percent worldwide). Because of their concentration of equipment, data centers consume on average 10 to 15 times more electricity than an office building per square foot of floor space. Some data centers with particularly concentrated layouts can consume up to 100 times more electricity per square foot than normal office buildings.

But greening your data center is more than an environmental imperative: It also makes sound business sense. In fact, it should be seen as a business decision that has environmental ramifications.

Put simply, businesses in search of more computing power cannot simply continue to add more servers to their data centers. At present, the availability of cheap commodity servers has caused the installed server base to grow hugely (it nearly doubled in the United States during 2000 to 2005). However, adding new servers requires more power and cooling—and cooling increases energy consumption by 50 to 100 percent. The problem here is that power grids are often overloaded and energy costs are rising. "Energy costs, now about 10 percent of the average IT budget, could rise to 50 percent in a matter of years," says Rakesh Kumar, vice president-Research, Gartner.

Businesses also have an obligation—which may be law in some jurisdictions—to reduce their carbon footprints.

In this context, the value proposition of a green data center becomes very attractive:

- To reduce operational costs by reducing energy costs.
- To prolong the life of existing data centers by intelligently refreshing equipment, taking advantage of energy efficiencies.
- To prepare the organization for compliance with future regulations and certifications.
- To take advantage of pricing incentives, tax breaks and rebates offered by utilities, insurance companies and governments.
- To reduce the carbon footprint.
- To reduce the strain on the electricity grid.

Accenture Technology Labs has developed the Data Center Estimator, which is part of the Accenture Green Technology Suite to help organizations undertake the detailed planning and strategic analysis necessary to decide how to green their data centers.

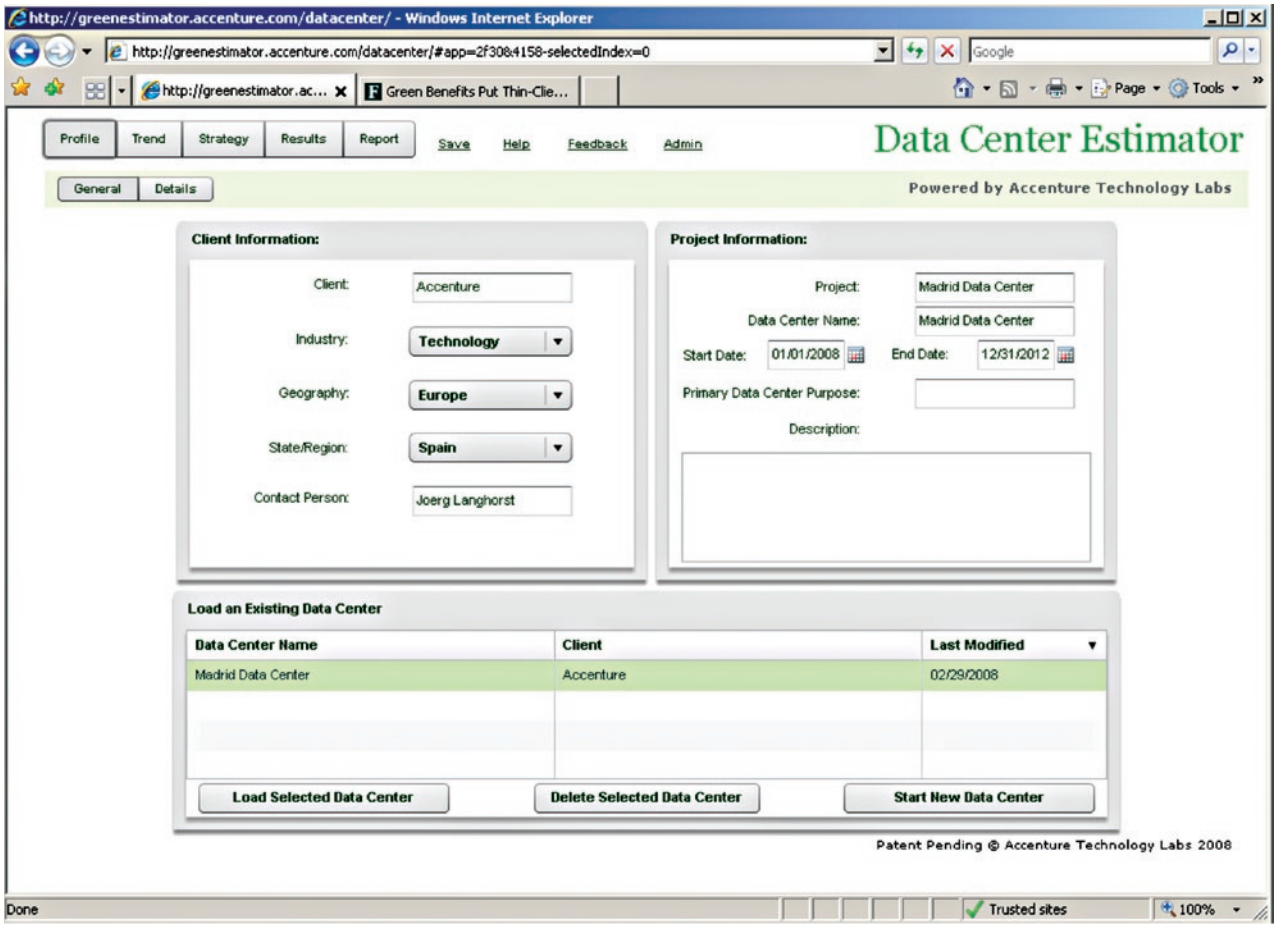
How it works

The Data Center Estimator is a decision-support tool for planning a strategy to achieve an energy-efficient data center. It assists Accenture consultants in providing clients with a rapid assessment of the environmental and financial impact of their data center strategies based on energy savings.

Step 1: The process begins when the user creates an initial assessment of the "as-is" situation documenting the current IT and facilities landscape. Both high-level and detailed assessments are supported.

Step 2: Thereafter, the user can create a number of "what-if" scenarios. For example, these scenarios can show the effects of a rise in the energy price of varying percentages, of a cleaner source of power becoming available, or of a change in capacity demand for servers or storage. Each of these scenarios can be used to evaluate the robustness of the strategy planned.

Step 3: The Data Center Estimator then helps plan a data center strategy road map, thus offering more than a before-and-after snapshot. The estimator helps users to craft a road map by helping to decide which initiatives would generate the most value—and to decide between solutions offered by vendors to accomplish them. The key here is to understand what initiatives make most sense for the particular data center. The process is analogous to deciding which actions (buying new tires, using premium fuel or having a tune-up) would improve a vehicle's fuel consumption. The answer depends on the type of vehicle under consideration: minivan or sports car? By drawing on a database of real-life case studies, the Data Center Estimator can help users to craft the right solution for their particular data center.



Step 4: The Data Center Estimator finally allows users to visualize the expected outcomes with respect to carbon output, cost reduction and electricity consumption across scenarios. This estimation is based on the database of actual figures from real implementations, and so provides a realistic picture of what the benefits are likely to be. The tool also recommends a set of further options to reduce carbon dioxide emissions further.

Estimating cost and benefits

The Data Center Estimator thus helps organizations of all sizes to create a detailed strategy for optimizing their data centers over time. The benefits of using this tool are:

- **Reduced risk.** The ability to compare different scenarios helps reduce risk and maximizes benefits in the light of expected business and other conditions.
- **Better planning.** The ability to compare the as-is state with an achievable end state—and the effects of initiatives depending on their timing—means that planning becomes dynamic. Users establish not only where they want to go, but how to get there, including the effects of scheduling individual initiatives over time. In this way, savings from each phase of the project can help to fund the next phase.
- **Better decision making.** By creating a detailed cost/benefit analysis for scenarios based on real-life information, users can make decisions based on probability. In this way, too, the competing claims of energy-efficiency vendors can be assessed.

The Data Center Estimator was developed by Accenture Technology Labs to give clients a tool to help them reap maximum rewards from initiatives to reduce their carbon footprint.

About Accenture Technology Labs

Accenture Technology Labs, the dedicated technology research and development (R&D) organization within Accenture, has been turning technology innovation into business results for 20 years. The Labs create a vision of how technology will shape the future and invent the next wave of cutting-edge business solutions. Working closely with Accenture's global network of specialists, Accenture Technology Labs helps clients innovate to achieve high business performance. The Labs are located in San Jose, California; Chicago, Illinois; Sophia Antipolis, France; and Bangalore, India. For more information, please visit our website at www.accenture.com/accenturetechlabs.

About Accenture

Accenture is a global management consulting, technology services and outsourcing company. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. With 178,000 people in 49 countries, the company generated net revenues of US $19.70 billion for the fiscal year ended August 31, 2007. Its home page is www.accenture.com.

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