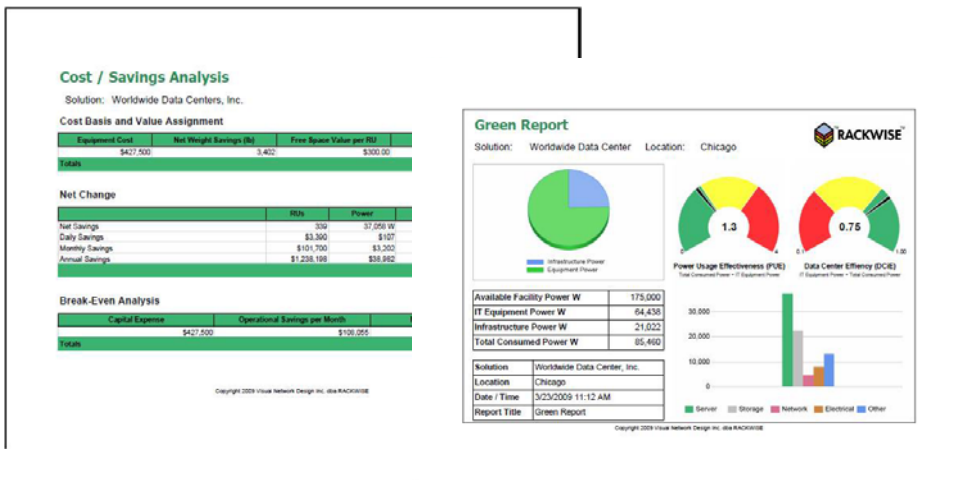


# ENERGY PROFICIENCY IMPACT ANALYSIS

IT budgets aren't increasing – yours included – but your need to support a growing business and new initiatives hasn't changed. So how do you determine how to streamline your IT infrastructure, reduce operational costs and/or capital expenditures, and report back to the CEO and CFO what you've accomplished without compromising support to the business?

GlassHouse's Energy Proficiency Impact Analysis, powered by Rackwise, will provide you with answers. In a straightforward, five-step process, we provide two reports:

- **Cost Proficiency Analysis (CPA):** This identifies opportunities for you to consolidate, streamline, and identify cost savings.
- **Green Proficiency Analysis (GPA):** This provides a current state analysis and offers recommendations for how achieve a more efficient, greener IT environment based on metrics and standards established by The Green Grid.



## Reducing Costs, Increasing Efficiency

The Cost Proficiency Analysis provides you with the critical information necessary to determine the financial impact of proposed data center changes. We can quickly identify equipment to decommission, select equipment to commission, and then build a comprehensive summary of savings. The net change in power, heat, space, and weight is displayed along with the associated value of those changes. Additionally, total CapEx and monthly OpEx are calculated, as well as the number of months to break even on any necessary capital investment; if there's no need for capital investment, the savings are immediately realized. Using this tool, we can help you model various scenarios to determine the best outcome for your environment and your budget.



## It Isn't Easy Being Green

If you have a mandate to move towards a greener IT environment, the information supplied through the Green Proficiency Analysis will help you measure and track your progress with an easy to understand dashboard containing data and metrics based on The Green Grid organization's efficiency metrics:

**Power Usage Effectiveness** measures your data center's effective use of power. This metric is the **ratio of your total facility power to your IT equipment power**. Most efficient data centers will operate at a PUE of 1.5 or below.

**Data Center Efficiency** is the inverse ratio of your IT equipment power to your total facility power. This is a different spin on the same number that can show what percentage of your overall power is consumed by your IT equipment.

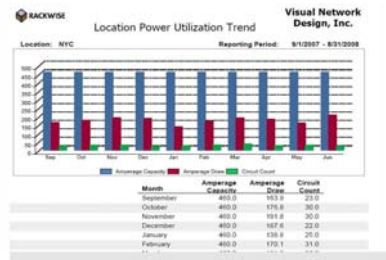
# ENERGY PROFICIENCY IMPACT ANALYSIS

The CPA wizard will step you through:

- Identification and selection of devices to decommission
- Selection of devices to commission (if any)
- Calculation of the cost per kW hour and the value of freed RU space
- Determination of savings in power, heat, RU, space and weight – and translate into local currency.

Your total facility power is defined as everything that supports the IT equipment load such as:

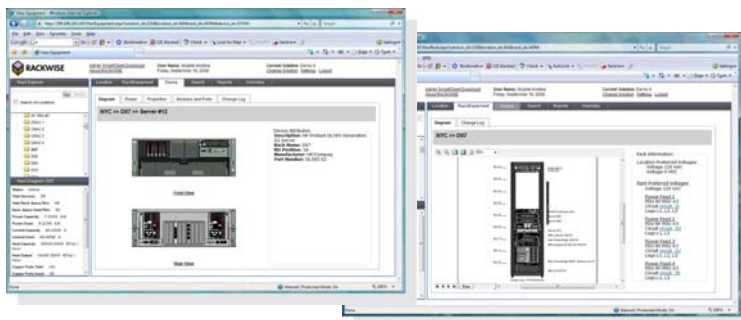
- Power delivery components including UPS, switch gear, generators, PDUs, batteries, and distribution losses external to the IT equipment
- Cooling system components including chillers, computer room air conditioning units (CRACs), direct expansion air handler (DX) units, pumps, and cooling towers
- Computer, network, and storage nodes
- Other miscellaneous component loads such as data center lighting



*Gartner predicts that, "By 2011, more than 70% of U.S. enterprise data centers will face tangible disruptions related to floor space, energy consumption and/or costs."*

Your IT equipment power is the load associated with all of the IT Equipment, such as computer, storage, and network equipment, along with supplemental equipment such as KVM switches, monitors, and workstations/laptops used to monitor or otherwise control the data center.

The dashboard and reports generated with these metrics can break down your consumption of power by resource type, servers, network, storage equipment or other.

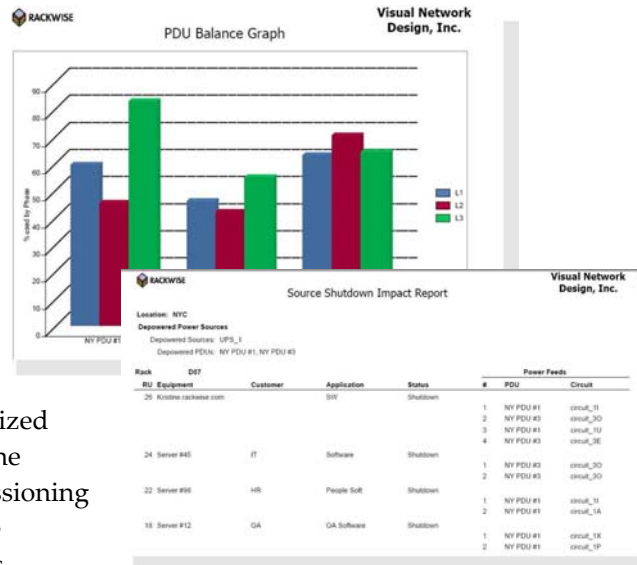


# ENERGY PROFICIENCY IMPACT ANALYSIS

## The Five-Step Process

The Energy Proficiency Impact Analysis' five-step process takes you through a thorough analysis of your IT energy environment and helps you measure and improve your efficiency. Modeling changes lets you identify the impact before implementation – and flag potential surprises – and the result is money saved and the ability to identify the top consumers of resources in your data center.

1. **Discovery:** Understanding what you have in the data center cannot be over-emphasized. Without a true account of your data center assets, it is impossible to produce accurate documentation, modeling, and analysis.
2. **Documentation:** We document your data center and all the devices, recording cooling and power requirements; cabling and connectivity; and space and weight consumed.
3. **Modeling and GPA** will uncover opportunities for savings. By identifying the major power and space culprits, you can make data-driven decisions to decommission unused servers, or consolidate underutilized servers and equipment.
4. **CPA reporting** builds a monetized break-even business case for the decommissioning and commissioning of equipment identified by the modeling and analysis process.
5. **Implementation:** We provide step-by-step assembly instructions including device, rack placement, and cabling connections directly from your data center model.



*GlassHouse Technologies is a global provider of IT infrastructure services enabling organizations to consolidate, virtualize, protect and manage their IT environments. GlassHouse delivers services through Transom<sup>SM</sup>, a unique delivery framework comprised of proprietary software tools, methodologies and domain expertise. We reduce costs, decrease risk and improve service levels by providing measurable results and vendor independent solutions. GlassHouse focuses on the storage, backup and recovery, security, virtualization and data center markets.*

*You're tasked with more than just running an efficient IT department. You need to save money, drive more value out of your assets, support business growth and initiatives, and move towards a greener IT environment. GlassHouse's Energy Proficiency Impact Analysis can help you accomplish this with practical recommendations and measurable results, leading to a completely optimized data center.*