Cisco Data Center Assessment Service for Energy Efficiency, Formerly Known as Data Center Energy Efficiency Assessment Service

Benchmark Energy Efficiency, Lower Energy Consumption, and Plan for Infrastructure Growth

Service Overview

Data centers often update infrastructure systems very rapidly to accommodate changing business needs and regulatory requirements. If not managed correctly, this practice can reduce energy utilization efficiency and lead to higher costs. A comprehensive energy efficiency assessment service can help you maintain efficient energy use as you update and expand your data center. The Cisco® Data Center Assessment Service for Energy Efficiency establishes energy efficiency benchmarks for your data center physical infrastructure to help you utilize resources more efficiently and reduce cooling and energy consumption. The service also provides analyses and recommendations to help you efficiently upgrade and expand the power, cooling, and space to support new equipment or design a new facility. You'll work with Cisco Services and Cisco ecosystem partners with specialized expertise in data center infrastructure energy benchmarking. These experts use best-practice methodologies and advanced tools to identify problems that compromise availability, increase energy consumption, and lower operating efficiencies.

Increase the Energy Efficiency of Your Physical Design

The Cisco Data Center Assessment Service for Energy Efficiency helps you to benchmark the power, cooling, and facilities infrastructure of your data center so you can increase its energy efficiency.

The service includes five activities:

- Inspect physical infrastructure
- Benchmark energy efficiency
- Project efficiency effects of changes
- Model air flow and temperature distribution
- Assess electrical efficiency

Benefits, Activities, and Deliverables

The Cisco Data Center Assessment Service for Energy Efficiency helps you benchmark your data center's energy efficiency and provides recommendations to help you reduce energy consumption. This comprehensive assessment combines analyses of your operating practices and existing physical infrastructure to help you maintain high availability while reducing energy consumption and

costs. Table 1 summarizes the benefits, activities, and deliverables of the Cisco Data Center Assessment Service for Energy Efficiency.

Table 1. Cisco Data Center Assessment Service for Energy Efficiency Benefits, Activities, and

Benefits	
The Cisco Data Center Assessment Service for Energy Efficiency helps you to: • Establish benchmarks for the energy efficiency of your data center's physical infrastructure • Reduce energy consumption by providing recommendations and industry best practices • Identify design, installation, or operating practices that compromise efficiency with recommendations for improvement	
Activities	**Deliverables**
Inspect Physical Infrastructure Inspect the physical infrastructure of your data center to Identify inefficient systems, configurations, or operational practices. This activity includes inspecting, measuring, and analyzing the following: • Uninterruptible power supply (UPS) capacity and redundancy • Main power feed systems to the data center, including generators • Load levels of the switch gear and power distribution units • Load levels for air conditioning components within the white space • Chiller plants and other AC parameters	The physical infrastructure inspection provides: • An up-to-date simplified one-line diagram of the electrical infrastructure • Report on the areas inspected
Benchmark Energy Efficiency • Benchmark your data center's physical infrastructure against the expected values of efficiency based on the inherent design and against other similar data centers • Refine the upper and lower data center infrastructure efficiency (DCiE) values for the benchmark scale (best and worst in class) as more data centers are evaluated • Process includes the following steps: ◦ Collect data on the data center infrastructure systems (power, cooling, and lighting) ◦ Measure the total IT loads ◦ Measure the total power input to the data center ◦ Calculate DCiE using the total IT load and total power measurements ◦ Compare (benchmark) the resulting DCiE to the DCiE of other data centers of similar design	The energy efficiency benchmarking provides a comparison of your DCiE against data centers of similar designs
Project Efficiency Impact of Changes Use an interactive scenario model to do the following: • Calculate the projected efficiency for the following changes, using an interactive model: ◦ Varying IT loads ◦ Infrastructure components, such as uninterruptible power supplies (UPSs), computer room air conditioners (CRACs), and computer room air handlers (CRAHs) ◦ Operational parameters of the data center • Vary data center infrastructure components and predict the effect each modification has on the following: ◦ Energy consumption ◦ Carbon emissions ◦ Energy costs ◦ Data center efficiency • Estimate the ROI for new equipment or other data center upgrades.	This activity provides an interactive scenario analysis model for the data center.

Model Air Flow and Temperature Distribution Create computational fluid dynamic (CFD) models of the data center to verify the recommendations generated from the assessment.	The CFD modeling activity: • Provides a 3D animated model, with scenario analysis • Shows the air flow and temperature distribution within the data center
Assess Electrical Efficiency Analyze the electrical efficiency of power and cooling in the data center by comparing the actual efficiency to the expected efficiency. The analyses are based on the data center design and identify constraints that prevent the system from achieving the expected efficiency.	The electrical efficiency assessment provides: • The efficiency of the data center per the DCiE protocol established by the Department of Energy and The Green Grid • A breakdown of the cooling system losses into CRAC/CRAH, humidification, and outdoor heat rejection losses • A breakdown of the power system losses into UPS and power distribution • Detailed recommendations to improve overall efficiency, based on the equipment, facilities, and operational characteristics of the data center

Why Cisco Services

Cisco Services make networks, applications, and the people who use them work better together.

Today, the network is a strategic platform in a world that demands better integration between people, information, and ideas. The network works better when services, together with products, create solutions aligned with business needs and opportunities.

The unique Cisco Lifecycle approach to services defines the requisite activities at each phase of the network lifecycle to help ensure service excellence. With a collaborative delivery methodology that joins the forces of Cisco, our skilled network of partners, and our customers, we achieve the best results.

Availability and Ordering Information

The Cisco Data Center Assessment Service for Energy Efficiency is widely available. Contact your local Cisco account manager for information about availability in your area.

For More Information

For more information about the Cisco Data Center Assessment Service for Energy Efficiency, visit www.cisco.com/go/dcservices or contact your local Cisco account manager.

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Printed in USA C78-480815-00 06/08