

Implementing Green Strategies for IT

Cisco IT takes steps to reduce its carbon footprint.

A priority for Cisco in the upcoming fiscal year 2009 is to develop strategies for dealing with the issues of climate change, energy consumption, and environmental sustainability from an IT perspective. Sean Worthington, vice president for IT Business Services, believes that Cisco IT has a strategic opportunity to show “green” business value. Worthington leads Cisco IT’s environmental initiative.

“As part of the coordinated company approach, our focus is to use Cisco IT’s technology, knowledge, and employee goodwill to improve Cisco’s environmental performance while we share our learnings with our customers and partners,” says Worthington.

Cisco IT is tying its green efforts to Cisco corporate efforts already under way, which include:

- Reduce the environmental impact of Cisco business operations, supply chain, and products and services
- Innovate, collaborate, and exploit the use of information and communications technology to tackle climate change
- Achieve carbon dioxide reduction as a commercial and cost-saving opportunity for Cisco and its customers

Cisco’s company goal is to reduce its greenhouse gas emissions, seeking to achieve a 25 percent reduction by 2012, in large part by drastically decreasing employee air travel. To achieve this

goal, Cisco is investing more than US\$20 million in unified communications technologies, as well as Cisco TelePresence and WebEx collaboration solutions.

Unified Communications and Collaboration Technologies

While its green efforts are in the early stages, Cisco IT is actively deploying unified communications and collaboration technologies internally to help business productivity and meet environmental goals.

TelePresence Reduces Energy-Consumptive Business Travel

To deliver on its commitment to the Clinton Global Initiative, which seeks to solve global problems that affect the quality of human life, Cisco is aggressively deploying and adopting collaboration technologies such as Cisco TelePresence within the company to reduce the impact of employee business travel on the environment.

At Cisco, “carbon-lite” virtual meetings take advantage of Cisco TelePresence technology and Web conferencing collaboration applications such as WebEx to enhance the ability to collaborate from Cisco offices and avoid traveling to business meetings to meet face-to-face with colleagues and customers.

Approximately 27 percent of total TelePresence meetings held at Cisco resulted in travel avoidance and saved 12 million cubic meters of carbon

emissions, which is roughly equivalent to taking 5000 cars off the road.

Mobile Workforce

Cisco encourages a mobile workforce that allows employees to work from home and provides collaboration and unified communications technologies, and telecommuting capabilities, to employees. The Cisco Enterprise Class Teleworker (ECT) solution provides hardware that enables Cisco employees to use virtual private networking (VPN) to work more efficiently from home and offers a greener alternative by reducing the necessity for employees to commute to a Cisco office every day. Cisco ECT recreates the enterprise office for employees who work at home, providing high-quality voice and improved security.

More than 12,000 Cisco employees work online at any given time. Cisco estimates that if 50,000 employees each avoided driving 25 miles (or 40 km) per week for an entire year by telecommuting, this would save about 25,000 metric tons (or 55 million pounds) of carbon dioxide.

Cisco Connected Workplace Eases Impact on Environment

The Cisco Connected Workplace gives employees a flexible working environment through the innovative use of Cisco Unified Communications and Unified Wireless solutions. Employees can work at a variety of locations, including their desks, conference rooms, or outdoor environments.

Cisco employees who work in the Connected Workplace report higher levels of job satisfaction and productivity, and the company and the environment benefit as well from reduced energy and

paper usage. The innovative office-space concept accommodates up to twice as

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many employees than can be accommodated in a traditional office environment, and the Cisco Connected Workplace environment reduces per-capita use of equipment, IT infrastructure, and power. By implementing the Cisco Connected Workplace, Cisco has:

- Reduced number of per-capita IT-related devices by 22 percent
- Reduced cabling requirements by 54 percent
- Reduced total IT equipment wattage by 44 percent
- Increased office space utilization by 40 percent
- Reduced greenhouse gas emissions
- Helped lower traffic congestion and alleviated the strains of commuting

An analysis by WSP Environmental Strategies concludes that a 40-percent increase in employees assigned to a 100,000-square-foot office space potentially saves 1500 tons of concrete, 280 tons of steel, and 2850 tons of greenhouse gas emissions.

Reduced Waste, Paper Use, and Printing

By requiring that all Cisco sites default to duplex printing, Cisco IT estimates that the company realizes a 25 percent savings in paper consumption.

Before switching to duplex (two-sided) printing, Cisco printed 6 million pages and consumed 1100 boxes of paper per month. This translated to an estimated US\$1.1 million spent per year on paper alone. With duplex printing, Cisco has stopped using 700 tons of paper.

IT is also asking employees to “print differently and ask others to do the same.” Cisco IT estimates that the cost of printing in color is eight cents per page, while black and white printing costs only one cent per page. In addition, color printing uses five times the number of toner cartridges. Reducing color printing reduces Cisco’s carbon footprint.

Virtualization in the Data Center

Cisco IT is beginning to see results in data center design and server, storage, network, and firewall virtualization, which, in addition to boosting efficiency and agility, also bode well for the environment.

Still in the early stages of adoption, virtualizing servers, storage, firewalls, and load balancing helps IT maximize data center output while minimizing environmental impact and increasing efficiencies. Potential savings can be huge, while the challenge is in being able to manage complex virtualization technology to avoid interrupting mission-critical functions.

Today, Cisco IT can deploy servers in days, not months, and the virtualized server platform is becoming a standard choice. Virtualization is improving power utilization, contributing to the company’s green efforts. In addition, Cisco’s deployment of more than 2700 virtualized servers since 2004 translates to more than US\$19 million in cost avoidance and savings.

Energy-Efficient Cisco Production Data Center

Cisco IT is taking a two-pronged approach for achieving environmental sustainability in its newly opened production data center in Richardson, Texas. First, green considerations have been used in 40 separate areas of site construction, including mechanical, electrical, and operational construction elements. Second, Cisco IT is using a service-oriented framework for the data center, which comprises consolidation, virtualization, and automation of data center resources to reduce power and space needs while increasing agility and service resiliency.



Through deployment of efficient network architectures, Cisco IT has moved services into the network that provide more electrical efficiency than traditional designs.

Future Plans

Cisco IT plans to increase its knowledge of how business operations affect the environment and increase its reporting capabilities to guide and measure existing and future green efforts.

“Cisco IT is drawing on the power of the human network by calling for interested and passionate volunteers from across its global operations,” says Worthington.

Cisco on Cisco Links

[Cisco IT Case Study: Connected Workplace](#)

[Cisco IT Case Study: Green Office Design](#)

[Cisco IT Data Center Solutions](#)

[Cisco IT Unified Communications Solutions](#)

[Cisco IT TelePresence Solutions](#)

[Cisco IT Mobility Solutions](#)

[Trends in IT Article: VFrame Data Center First Customer](#)

Further Cisco Resources

[Greener Data Centres in Europe](#)

[Cisco and the Clinton Global Initiative](#)

[Cisco Corporate Social Responsibility: The Environment](#)

[Enterprise Data Center: Evolution of Green IT](#)

[Unified Communications White Paper on Using Virtual Collaboration to Improve Environmental Sustainability](#)