

## Green Initiatives Gain Attention From Government CIOs

David Raths | February 20, 2008

Chris Vein began studying the impact of information technology on the environment after seeing Al Gore speak at a World Environment Day conference in 2005. Soon after, the CIO for the city and county of San Francisco learned an inconvenient truth about IT: Approximately 2 percent of global carbon dioxide emissions are related to manufacturing, distribution and use of information and communications technology, according to research firm Gartner.

"I started realizing that as head of a large technology department, there are things I could do," Vein said. "When I became CIO, I decided green IT initiatives would be one of the core projects of my tenure."

With backing from San Francisco Mayor Gavin Newsom, the city in 2006 became part of the Connected Urban Development Initiative sponsored by Cisco Systems. The networking giant is committing \$15 million over five years to offer expertise, equipment and research to Seoul, South Korea; Amsterdam, Netherlands; and San Francisco to measure the environmental impact of IT infrastructure and take steps to reduce the pollution footprint.

Vein's first job is taking an inventory of the city's IT infrastructure as a base line, so he and his staff can assess the impact of potential changes.

"We CIOs are very good at starting projects like this without beginning and end points to determine whether we have been successful or not," Vein said. "We were already doing an inventory of what and where our equipment is, so we decided to take the next step and try to estimate what energy it's consuming."

The city and county of San Francisco also needs a new data center, and Vein is studying what it will take to design one. "We're working with consultants who understand green IT to help us understand the pitfalls and trade-offs. It's important to find good partners," he said. "You have to delve below the glossy brochures and really look at the numbers."

### Still Lacking Urgency

Few public-sector CIOs are as proactive as Vein on green IT initiatives. Some IT executives haven't put a high priority on environmental concerns - unless political leaders in their jurisdictions are vocal proponents of change. In many public-sector settings, CIOs are being nudged toward green IT initiatives by sustainability teams and environmental departments that include electronics equipment in larger waste-reduction efforts.

Energy and pollution concerns - especially in fast-growing data centers - have taken on a higher profile recently. A 50,000-square-foot data center uses approximately 4 megawatts of power, or the equivalent of 57 barrels of oil a day, according to Sun Microsystems.

Energy efficiency is about the environment; it's also about saving money. Many organizations are cutting costs and energy consumption by consolidating data centers through server virtualization (see [\\_Virtually Served\\_](#)), which can allow data centers to cut back from 50 servers operating at only 10 percent efficiency to five servers running at 80 percent efficiency. Virtualization software vendor VMware suggests the energy cost savings of virtualization can be approximately \$500 to \$600 per server each year.

Despite the prospect of savings - to the bottom line and for the environment - some CIOs are reluctant to push green IT.

The level of concern about a data center's energy use may depend upon a CIO's duties, said Drue Reeves, vice president and research director for data center strategies at the Midvale, Utah-based Burton Group. In some cases, the IT department is totally unaware of energy costs. "If the CIO doesn't have any responsibility for facilities, there still may be a disconnect," Reeves said, "but many are responsible for building out new data centers, and energy is their No. 1 concern."

Larry Goldenhersh, president and CEO of Enviance Inc., a company in Carlsbad, Calif., that helps power companies measure and report greenhouse gas emissions, said the eventual imposition of taxes or cap-and-trade models on carbon output will get people's attention.

"If you have a data center churning out a ton of carbon a year and there's a way to get that number significantly down, people who are not worried about it now will be in a full-on panic later," he said.

The private sector is starting to look at this issue in terms of how it will affect the balance sheet, he said. "Government is slightly different, but those CIOs will start getting pressure if a governor or mayor is told they will take a \$10 million hit."

The industry has responded to these concerns with more energy-efficient products, conferences and new organizations such as the Green Grid, a consortium of companies working on data center energy issues. Some CIOs, though, are wary the label "green IT" is being hyped by consulting firms and equipment vendors as a way to push new products and services.

"There is little sense of selling Popsicles to Eskimos," Reeves said. Some companies are taking products they already sell and remarketing them as good for the environment. "Tape [backup storage systems] is the greenest product ever," he said, "because it just sits there on the shelf."

## **Governors' Commitment**

Like Vein in San Francisco, Minnesota CIO Gopal Khanna has strong executive sponsorship for green IT efforts.

As chair of the National Governors Association (NGA), Minnesota Gov. Tim Pawlenty announced in November 2007 an NGA partnership with the Climate Savers Computing Initiative founded by Google and Intel Corp. to spur deployment of more energy-efficient computers and servers in state offices and agencies. The stated goal of the partnership is a 50 percent reduction in energy consumption by state-owned computing equipment over the next four years.

"Thinking green is not a new subject in Minnesota," Khanna said. For instance, Minnesota is No. 4 among all states in wind energy production and is a leader in using ethanol. The state set a goal of 20 percent renewable energy use by 2020, so Khanna said he sees green IT as a natural extension of Pawlenty's emphasis on energy independence and conservation.

In 2005, Minnesota started developing standards for hardware acquisition. Part of that platform is energy utilization.

All desktop computers purchased by the state's executive branch comply with Energy Star 4.0, the latest specification adopted by the U.S. Environmental Protection Agency (EPA). "As desktop computers are refreshed throughout state government," Khanna said, "we will become increasingly compliant and will continue to monitor and update our standards on an ongoing basis."

On the data center side, Minnesota is in the early stages of a data center consolidation business plan. The state seeks to measure savings from any potential consolidation, with security and better energy utilization as top priorities.

Khanna also set up an interdepartmental work team to develop a clear, green-IT blueprint for the state government. "We want to take a holistic view," he explained. "It's not just desktops or the data centers; it's all of our IT assets we want to consider."

## **Rating the Computers**

On the procurement side, an increasing number of CIOs are turning to EPEAT, the Electronic Product Environmental Assessment Tool. The system was launched in 2006 by the Green Electronics Council to rate desktops, laptops and computer monitors based on environmental attributes such as reduction or elimination of environmentally sensitive materials, end-of-life design, energy conservation and packaging.

Like the Leadership in Energy and Environmental Design (LEED) designation used to rate green building projects, EPEAT assigns gold, silver and bronze ratings to products based on their rankings.

In 2007, Phoenix won a Green Electronics Champion Award from the EPA for its program to limit computer purchases to products that meet the EPEAT silver standard.

By purchasing 3,253 EPEAT silver computers and 247 notebook computers, the city estimates it saved enough electricity to power 238 households annually, lowered greenhouse gas emissions equivalent to removing 168 cars from the road per year, reduced 8.6 tons of hazardous waste, and avoided 538 pounds of toxic materials.

According to Charles Thompson, Phoenix's CIO, the focus on green purchasing was a collective effort between the city's Environmental Programs Office, Information Technology, and Finance departments.

"Our team researched the three levels and chose silver because the options at gold were somewhat reduced," Thompson said, "but we will start to push vendors through our procurements and RFPs to go for gold in the next few years."

EPEAT is also catching on at the federal level. The U.S. Department of Energy headquarters created an electronics stewardship "green team" that includes executives from the Office of the CIO. It requires EPEAT registration for desktop hardware and at least the EPEAT silver standard for notebook computers. The Energy Department also implemented after-hours shutdown of noncritical electronics equipment in coordination with network security officials.

Thompson believes it is important for public-sector technology executives to take the lead on environmental issues. "The private sector will move when it makes sense from a revenue and profit motive," he said. "The public sector has a two-pronged approach - gaining efficiencies and in its role as a public steward of resources."

He also thinks IT can help the Phoenix facilities department with technology solutions involving fleet management and intelligent building monitoring. The city is also considering alternative work schedules and telecommuting. "IT may be able to support all these efforts," Thompson said. "We have a sustainability subcommittee that will definitely be looking at how IT can be part of the solution."

Both San Francisco's Vein and Minnesota's Khanna said the fact that their bosses are vocal about energy conservation sets the tone and allows them to feel confident pursuing a green IT agenda. But Khanna adds that after speaking to colleagues at the most recent conference of state CIOs, "It was loud and clear that green IT was on all of our minds. And I think the CIOs' attention will have an impact on the vendor community to respond in ways that will be beneficial for everyone."

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