

GreenIT

IT's easy being green

Conference

April 10, 2008

Empire State Plaza Convention Center



The NYS Forum
IT Greening Committee

NYSERDA

New York State
Energy Research and
Development Authority

Agenda

7:30 - 9:00 am	Registration at the Base of the Egg		
Morning Welcome, Opening Remarks and Keynotes will be held in the Convention Center			
9:00 - 9:10 am	Welcome	Gregory M. Benson, Jr. <i>The NYS Forum</i>	
9:10 - 9:30 am	Opening Remarks	Donald G. LaVada <i>NYSERDA</i>	
9:30 - 10:00 am	Global Perspective: How IT and the Greening of it Can Help Fight Global Warming	Peter M. Iwanowicz <i>NYS Department of Environmental Conservation</i>	
10:00 - 10:30 am	National Perspective: Green IT: The Next Shockwave	Ken McGee <i>Gartner, Inc.</i>	
10:30 - 11:00 Break & Networking			
11:00 - 11:30 am	State Perspective: Meeting New York's Energy Efficiency Goals	Paul DeCotis <i>NYS Executive Chamber</i>	
11:30 am - 12:00 pm	Bridging the Gap between IT and Facilities	James Warren <i>EYP Mission Critical Facilities®, Inc.</i>	
12:00 - 1:00 Lunch – on your own			
	Meeting Room 2-4	Meeting Room 5	Meeting Room 6
	MANAGEMENT	FACILITIES	IT
1:00 to 1:45 pm	<i>Data Center Efficiency and Best Practices</i> Dr. Roger R. Schmidt IBM	<i>EPEAT (the Electronic Product Environmental Assessment Tool)</i> Sarah O'Brien Green Electronics Council	<i>Planning For Enterprise Equipment: Case Studies in Energy Efficiency from Inside IBM's Project Big Green and Client Examples</i> Michael Desens IBM
2:00 to 2:45 pm	<i>Recycling Options</i> Michelle Ching, PE and Katie Hershey NYS Department of Environmental Conservation	<i>Green Building Technology in the Public Sector (LEED®)</i> Randy Fine and Paul Primeau Dormitory Authority State of New York	<i>Realizing Energy Savings with Windows Desktop</i> Gary Falis Microsoft
3:00 to 3:45 pm	<i>Technology, Innovation and the Environment</i> John Goggin Cisco Systems, Inc.	<i>State Electronics Challenge</i> Lynn Rubinstein Northeast Recycling Council, Inc.	<i>Storage and Virtualization</i> Richard Radin Dell Corp.

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GreenIT:

IT's easy being GREEN

Program

9:00 am

Welcome

Gregory M. Benson, Jr.
*Executive Director
The NYS Forum*

Gregory Benson has extensive experience as a government information technology leader at the international level, serving as a consultant in the Middle East, the European Union, and Russia as part of UN Missions undertaken by UNESCO; at the national level, as chairperson for numerous Federal advisory boards and governing groups; at the state level, as the Director of the New York State Center for Learning Technologies; and at the local level, as CIO for the School District of Philadelphia. Greg has also had extensive corporate experience serving as President of the Education Service Group of BRS, Inc. As Executive Director of The New York State Forum, Greg administers a nationally unique organization representing state and local government and corporate IT leadership in New York.

9:10 am

Opening Remarks

Donald LaVada
*Director of Marketing and Economic Development
NYS Energy Research and Development Authority*

Donald LaVada is Director of Marketing and Economic Development for the New York State Energy Research and Development Authority (NYSERDA). Donald is responsible for coordinating the marketing efforts for NYSEERDA, a public-benefit corporation with assets of more than \$300 million. In addition to marketing, events and publications, Donald also manages the efforts of economic development staff members that work with businesses throughout New York to maximize their workforce and productivity through energy efficient and sustainable business practices. NYSEERDA's mission is to use innovation and technology to solve some of New York's most pressing energy and environmental problems in ways that benefit the State's economy.

Donald spent four years as Special Assistant to the President of NYSEERDA where he was responsible for penning speeches and presentations that furthered NYSEERDA's mission before multiple public and private sector partners, as well as providing policy advice and counsel to NYSEERDA's President and Vice President.

For the last 23 years Donald has worked in various capacities in New York's energy industry. His experience includes 10 years at the NYS Energy Office evaluating energy conservation programs, managing institutional energy conservation grants, and developing performance contracting initiatives. Upon joining NYSEERDA in 1995, Donald focused his attention on assisting public entities in pursuing energy performance contracting as a method of facility improvements. Donald brought a very practical perspective to performance contracting efforts by NYSEERDA, as Donald previously worked for an Energy Services Company (ESCO) that specialized in implementing K-12 school performance contracts.

Donald holds a Master of Arts in Organizational Communication, a Bachelor of Arts in Speech Communication/Journalism, and is a graduate of the New School of Contemporary Radio and Television.

9:30 am

Global Perspective

Peter M. Iwanowicz
*Director of the NYS Climate Change Office
NYS Department of Environmental Conservation*

How IT and the Greening of it Can Help Fight Global Warming

Global climate change is the most pressing environmental issue of our time. In order to address this, the Office of Climate Change was created in 2007 and is housed at the NYS Department of Environmental Conservation. The office is fast at work on a number of initiatives to help governments and institutions respond effectively to climate change, through emission reductions and adaptations to unavoidable warming. The office's staff includes engineers, an economist and other technical specialists qualified to evaluate evidence of human-generated warming and climate change and to analyze the effects of proposed state policy and program changes. Other staff will work with state and local government agencies and with institutions in the state to develop effective responses at all levels to climate changes that are already underway or are predicted and to coordinate state and local goals and programs. If we are to adequately address the threat, then we need to reduce greenhouse gas emissions 80% by mid-century. All uses of energy and means to become more efficient have to be on the table. Information technology can play a key role and making it even greener is critically important. The NYS Forum can help make New York a leader for this national effort.

Peter M. Iwanowicz, before joining the state, most recently served as Vice President for the American Lung Association of New York State, where he directed the association's advocacy efforts. He also created the association's air quality improvement program. Peter has also worked for the San Francisco-based Resource Renewal Institute promoting sustainability policies in New York State and also worked for Albany, New York based Environmental Advocates of New York, where Peter lead the organization's clean air and clean energy policy work.

Peter graduated from Siena College and he lives in the Albany area with his wife and two children.

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10:00 am

National Perspective

Ken McGee

*VP Gartner Fellow
Gartner, Inc.*

Green IT: The Next Shockware

The Bad News: ICT Accounts for Approximately 2% of global CO2 emissions. The Good News: There are substantial inefficiencies within IT technologies and user behavior that can be readily addressed. Gartner Vice President and Research Fellow, Ken McGee's presentation will address the following key issues:

- What are the IT-related environmental issues and how will that change?
- How are environmental issues affecting the IT industry and IT organizations?
- How should IT organizations and the IT industry respond to the environmental challenges and opportunities?

Ken McGee is a vice president and research analyst at Gartner in Stamford, Connecticut. Mr. McGee currently serves as a member of Gartner's Emerging Trends and Technologies group, where he primarily focuses on determining how individuals and organizations can effectively use real-time information to achieve a competitive advantage. He is the author of a book dealing with real-time information titled Heads Up: How to Anticipate Business Surprises and Seize Opportunities First, published by Harvard Business School Press. Mr. McGee's research also focuses on how IT is leading, or being led by, societal, government, business and economic changes that will bring about fundamental shifts and new opportunities in our business and personal lives. Mr. McGee is also one of only 12 Research Fellows at Gartner. In this role, he is the primary author and project manager responsible for creating The Gartner Scenario, Gartner's annual report on the current state and future directions of the IT industry. Before joining Gartner, Mr. McGee was vice president and director of international telecommunications for Salomon Brothers in London.

11:00 am

State Perspective

Paul DeCotis

*Deputy Secretary for Energy
NYS Executive Chamber*

Meeting New York's Energy Efficiency Goals

Paul will address the challenges and opportunities of meeting New York State's aggressive energy efficiency goals.

Paul DeCotis was appointed Deputy Secretary for Energy on November 19, 2007. Paul previously served as Director of Energy Analysis for the New York State Energy Research and Development Authority where he oversaw state energy forecasting and planning, policy analysis and development, legislative analysis, corporate planning, and energy and R&D program evaluation.

Until his appointment, Paul was also President of Innovative Management Solutions, a management consulting business, specializing in executive and Board development, strategy and planning, and mediation, a position he has held since 1991.

Paul also served in the New York State Energy Office for 15 years, serving in many capacities; including Chief of Policy Analysis, financial analyst, and economist. Since 1985, he has served as an adjunct faculty member at several colleges and universities including the Cornell University, Rochester Institute of Technology, and Sage Graduate School.

Paul is a member of the Board on Energy and Environmental Systems of the National Academy of Science in Washington, DC; a member of the Energy Working Group of the Coalition of Northeastern Governor's; member of the Energy Resources Board of the American University at Kosovo; and an Editorial Board member of the Energy Efficiency Journal.

Paul received his Bachelor of Arts in International Business Management from the State University College at Brockport, his Master of Arts in Economics from the State University of New York at Albany, and his Master of Business Administration in Finance from the Sage Graduate School at Russell Sage College. Paul has published dozens of articles and professional papers in the energy field and has an extensive background in community service, serving on local and elected Boards, Committees, and volunteer initiatives.

11:30 am

Bridging the Gap between IT and Facilities

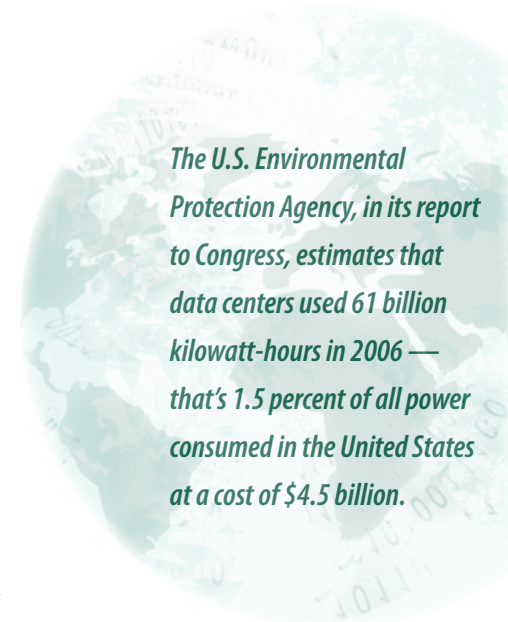
James Warren, PE

*Executive Vice President of Engineering, Americas
EYP Mission Critical Facilities®, Inc*

Mr. Warren will focus on ways the mission critical industry is bridging the gap between facilities and IT. Too often IT and facilities are corporately structured in such a way as to limit communication and collaboration. Each organization typically has separate, and sometime competing priorities. During the discussion, Mr. Warren will cover these challenges and how to overcome them.

James Warren, PE, is Executive Vice President of Engineering Americas in charge of Critical Facilities Design (CFD) and Critical Facilities Assurance (CFA) for EYP MCF (Mission Critical Facilities). He also serves as a Principal-In-Charge on major client engagements. He works closely with EYP MCF individual office Managing Principals to achieve "top line" sign-ups and revenue targets. James is responsible for the strong linkage between the firm's CFD and CFA divisions.

James has proven expertise in electrical engineering and the design of critical facilities. His role as the EVP Engineering Americas coupled with his electrical engineering background offers any project a distinct advantage. His focus on communication and ability to explain complex engineering issues allows a client to comfortably make informed decisions. Mr. Warren has designed generator plants, redundant UPS systems, grounding systems, DC power plants, and emergency life safety systems for both Greenfield and major renovated mission critical facilities.



The U.S. Environmental Protection Agency, in its report to Congress, estimates that data centers used 61 billion kilowatt-hours in 2006 — that's 1.5 percent of all power consumed in the United States at a cost of \$4.5 billion.

Management Track

1:00 – 1:45 pm

Data Center Efficiency and Best Practices

Dr. Roger R. Schmidt
IBM

Data center energy usage in New York State is an estimated \$593 million annually. The presentation will focus on how data center operators, users, chief information officers, and data center designers and consultants can use energy efficiency opportunities and best practices to reduce energy consumption.

Dr. Roger R. Schmidt, Distinguished Engineer, National Academy of Engineering Member, IBM Academy of Technology Member and ASME Fellow, has over 25 years experience in engineering and engineering management in the thermal design of IBM's large scale computers. He has led development teams in cooling mainframes, client/servers, parallel processors and test equipment utilizing such cooling mediums as air, water, and refrigerants. He now leads our lab services team on providing customer support for power and cooling issues in data centers. He has published more than 100 technical papers and over 100 patents/patent pending in the area of electronic cooling. He is a member of ASME's (American Society of Mechanical Engineers) Heat Transfer Division and an active member of the K-16 Electronic Cooling Committee. He has been an Associate Editor of the Journal of Electronic Packaging and is now associate editor of the ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) Research Journal and the ASME Journal of Heat Transfer. He has taught extensively, over the past 25 years, Mechanical Engineering courses for prospective Professional Engineers and has given seminars on electronic cooling at a number of universities. He is Chair of the ASHRAE TC9.9 committee on Mission Critical Facilities, Technology Spaces, and Electronic Equipment.

2:00 – 2:45 pm

Recycling Options

Michelle Ching, P.E.
and
Katie Hershey

*Division of Solid & Hazardous Waste
New York State Department of Environmental Conservation*

Michelle Ching and Katie Hershey will provide an overview of why used electronics are an environmental concern, describe electronic reuse and donation options, the regulatory requirements governing electronics, appropriate dismantling and recycling procedures, and resources available to agencies for used electronics.

Michelle Ching, PE has worked for the New York State Department of Environmental Conservation for 23 years. Her experience includes working with businesses and institutions on hazardous waste issues including interpreting the hazardous waste and used oil requirements, and assisting entities in incorporating pollution prevention techniques and equipment. Ms. Ching has tailored training for government, businesses and institutions on hazardous waste and used oil requirements. She currently works in the area of used electronics including regulations and recycling. Ms. Ching earned her BS in Chemical Engineering from the University of Buffalo in 1984.

Katie Hershey has worked with the New York State Department of Environmental Conservation Bureau of Hazardous Waste Regulation, Division of Solid & Hazardous Materials since September 2007, working primarily in the area of used electronics management. Katie also has additional prior experience in the Bureau of Air Quality Surveillance, Division of Air Resources. She received her Bachelor of Science Degree in Marketing and Business Management from Siena College in 2006, and is currently finishing her MBA at Sage Graduate School.

3:00 – 3:45 pm

Technology, Innovation and the Environment

John Goggin
Cisco Systems, Inc.

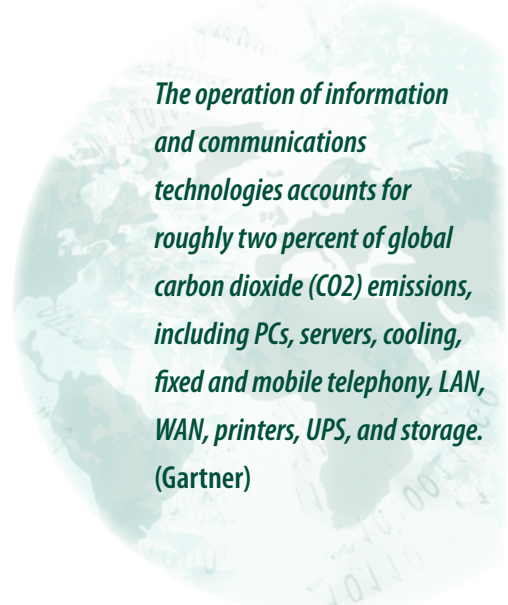
John Goggin will speak about how government can reduce greenhouse gas emissions through the use of new innovations, including virtualizing technology and services.

John Goggin's 35 years of public service experience have made him an internationally recognized leader in innovative solutions for government transformations. He has executive-level experience in strategic planning, organizational transition, budgeting, procurement, and legislation, as well as in implementation of revenue, employment, transportation, and human services systems.

Before joining Cisco, Goggin was senior vice president of META Group's government strategies practice, where he oversaw a research agenda focused on the effects of technology on public policy. Working with a global client base consisting of federal, national, state, provincial, county, and municipal governments, John developed enterprise strategic plans and delivered CIO developmental boot camps. Specific content included strategic guidance, architecture, governance, strategic partnerships, and customer and business relationship management, while using principles of behavioral sciences to develop and communicate both strategic and tactical plans.

While with New York State, he held various executive positions with responsibilities that included modernizing the state's tax systems, creating an international fuel tax multinational cooperative, and consolidating the state's human services IT services.

A frequent speaker for government-related conferences, Goggin has addressed the National Governors Association; National Association of State CIOs; federal government-sponsored organizations in Canada, Singapore, South Africa and Australia; and numerous federal, state, provincial, and regional organizations.



The operation of information and communications technologies accounts for roughly two percent of global carbon dioxide (CO2) emissions, including PCs, servers, cooling, fixed and mobile telephony, LAN, WAN, printers, UPS, and storage. (Gartner)

Facilities Track

1:00 – 1:45 pm

EPEAT

Sarah O'Brien

Green Electronics Council

EPEAT (the Electronic Product Environmental Assessment Tool) – a stakeholder developed, EPA-supported environmental purchasing standard for electronics, has become widely accepted as a means for sourcing more environmentally friendly desktops, laptops and monitors. Only a year and a half old, EPEAT has become a required Federal purchasing criterion and is in use by dozens of other jurisdictions as well as enterprise purchasers throughout North America, and is increasingly used by purchasers outside the North American market.

In addition to a brief orientation to the EPEAT system, touching on some of the underpinnings of its successful development and adoption by manufacturers and purchasers, this presentation will focus on future developments of EPEAT and similar ratings and evaluation systems for IT and electronic products, covering:

- The standards development process already underway to expand the scope of EPEAT to printers, TVs, servers and mobile devices (cell phones, PDAs);
- The expansion of EPEAT beyond its original geographical area;
- Integration of EPEAT and electronics management criteria into the Green Guide for Health Care, and potentially into other green building standards; and
- The expanding scope of measurement and assessment of IT solutions – beyond products to processes, software, staffing and other elements of the overall service solution.

Sarah O'Brien, of the Green Electronics Council, educates purchasers about EPEAT (the Electronic Product Environmental Assessment Tool) – the system for purchasing “green” electronics. Previously, as EPP Program Manager for HZE/Hospitals for a Healthy Environment, Ms. O'Brien assisted health care organizations to improve their environmental performance through purchasing initiatives. As a Senior Outreach Associate with INFORM, Ms O'Brien helped government agencies and businesses reduce their purchase of products containing persistent toxic chemicals, and as an environmental health advocate for the National Wildlife Federation and Vermont PIRG, she was involved in legislative advocacy and public education efforts around toxics issues throughout New England.

2:00 – 2:45 pm

Green Building Technology in the Public Sector

Randy Fine

and

Paul Primeau

Dormitory Authority State of New York

The use of Information Technology to improve the energy efficiency of our buildings has progressed in recent years. The use of Facility Management software as part of building Commissioning and Retro-commissioning verifies that facilities can be operated as intended in an efficient and sustainable manner as part of an effective operations plan. During this session we will discuss the role of facility management and operations software in the “Greening” of buildings.

Randy Fine is the Senior Manager of Construction Technology at the Dormitory Authority State of New York and previously served as the Director of Information Services for the New York State Inspector General's Office. He also served as a member of the technology team for the State University of New York at Albany. In his 25 years in state service he has seen information technology physically shrink from mainframes to blade servers,

from disk platters to USB mini hard drives, and from cavernous spaces to racks in closets.

Randy received his Master's degree in Information Science and Technology from UAlbany where he had the opportunity to observe the transformation of data centers from power hungry to more energy conserving installations, each now becoming more green as energy requirements, environmental tolerances, component materials, and recycling plans are reconsidered. In his position with the State Inspector General's office, he planned its data center and has lessons learned to share from that experience.

Among other responsibilities, Randy currently works with the “Green Buildings Initiative” team at the Dormitory Authority where there is a commitment to “...promote the construction of green homes and State-owned buildings...” More information about this initiative is available at www.dasny.org/green.

Paul Primeau is currently the Senior Manager of the Facility Management unit which is responsible for multiple services for the Dormitory Authority State of New York clients including: sustainable design coordination, building commissioning, implementation of facility management software and services, and the New York City permitting and certificate of occupancy program.

Prior to service with the Dormitory Authority, Paul was employed in the architecture and engineering industry, including as principal for his own Architectural practice. Experience involves the areas of commercial and industrial design, waste-to-energy programs and New York State community residences. Paul also worked for the former Shaker Computer and Management Services as project consultant responsible for implementation of software solutions to the construction industry.

Paul is a graduate of the Rensselaer Polytechnic Institute – School of Architecture and is a grandfather.

3:00 – 3:45 pm

State Electronics Challenge

Lynn Rubinstein

Northeast Recycling Council, Inc.

The State Electronics Challenge (SEC) is a voluntary program that encourages state, regional, and local governments, including schools and other public entities, to:

- Purchase greener electronic products;
- Reduce the impacts of electronic products during use; and
- Manage obsolete electronics in an environmentally safe way.

The SEC provides resources to help state, local, and regional government and agencies to become leaders and face the new challenges posed by the electronics waste stream. For more information, visit www.stateelectronicschallenge.net. The SEC was created with funding from the U.S. Environmental Protection Agency.

Lynn Rubinstein has been the Executive Director of the Northeast Recycling Council for eight years. Previously, she was the Solid Waste Manager for the City of Northampton, Massachusetts; the Mercury and Electronics Recycling Program Director at the University of Massachusetts Amherst; and an attorney with the Department of Justice.

She has been the project lead for several grants related to the end-of-life management of electronics, as well as a stakeholder in the NEPSI and EPEAT discussions.

Currently, she is the project lead for the EPA funded State Electronics Challenge and Procuring Green Computers projects.

1:00 – 1:45 pm

Planning For Enterprise Equipment: Case Studies in Energy Efficiency from Inside IBM's Project Big Green and Client Examples

Michael Desens
IBM

In May of 2007, IBM launched Project Big Green, a decade-long investment plan in green technology solutions, services and open infrastructure financing, as well as a set of client principles to address the IT energy crisis.

Project Big Green isn't just for clients; it's also an IBM initiative to reduce its own carbon footprint. IBM runs the world's largest commercial IT infrastructure with more than eight million square feet of data centers on six continents, serving more than 3.2 million corporate users and billions of end users. Using a new energy-efficient approach, IBM expects to double the computing capacity of its data centers within the next three years without increasing power consumption or its carbon footprint. Compared to doubling the size of its data centers by building out new space, IBM expects this effort will help save more than five billion kilowatt hours of energy per year.

Mike Desens, IBM VP System z and Data Center Development will give you an overview of Project Big Green and introduce the client model to navigate this new era of efficient computing.

Michael Desens is the vice president of System z and Data Center Development, IBM Systems and Technology Group, in addition to the Poughkeepsie Senior Location Executive. He is currently responsible for the development of IBM's System z and all data center level initiatives, including energy efficiency and networking. In addition, he oversees site operations at

IBM Poughkeepsie and is the site's executive representative for Corporate Citizenship and Corporate Affairs.

Mike joined IBM in 1984 and has held a wide range of management and executive positions in the strategy, development, manufacturing, marketing and brand management areas.

Mike holds a bachelor's degree in Electrical and Computer Engineering from Clarkson University.

2:00 – 2:45 pm

Realizing Energy Savings with Windows Desktop

Gary Falis
Microsoft

This session will provide a quick overview of Microsoft technologies and products that will support your environmental goals. It will then drill down, in a tactical way, on how energy and cost savings can be achieved with Microsoft Windows. In the ICT Industry there is a big focus on data centers in regards to energy savings and sustainability, however, studies have shown that the bigger opportunity for energy savings is actually on the desktop. The goal of this session will be to help you better understand what can be accomplished with your desktop computer and associated tools.

Gary Falis is a Senior Director in Microsoft's Public Sector Division. He has been with Microsoft for over 13 years in various roles ranging from a Technical Architect to his current senior management role. Gary has over 30 years experience in the Industry. As part of his role, Gary was asked to architect and manage Microsoft's US Public Sector "Sustainability" initiative in order to work with Microsoft's State and Local, Federal and Education customers and partners who support them. He also is a core member of the Sustainability team at Microsoft corporate assisting with collateral creation, strategy and messaging. In his "Sustainability" role he has worked with various government agencies, educational institutions, environmental organizations and corporations throughout the world.

3:00 – 3:45 pm

Storage and Virtualization

Richard Radin
Dell Corp.

Virtualization is an often used and somewhat misunderstood term. It can manifest itself in technology when we discuss datacenter based servers and storage, end user client computers such as laptops and desktops, as well as fabric and I/O virtualization. Regardless of which definition or use case we consider, virtualization is a cornerstone driver for both simplifying information technology infrastructure, as well as making computing platforms more efficient and more "green." The presentation will discuss the building block elements that can help simplify and green IT infrastructure both with today's tools and some that are on the near term technology horizon. The goal is to show how dollars, Kilowatt hours, and carbon output can be saved or lessened, as well as how datacenter computing environments can be made more efficient and simpler to operate.

Case Study: The NYS Office of the Comptroller will discuss their experience in moving to a virtualized environment. They will review their successes in increasing operational efficiency, reducing server management time and reducing energy consumption.

Richard Radin, Enterprise Technologist at Dell, focuses on strategic planning and customer-facing message delivery around server architectures, virtualization, datacenter environmental, and green computing initiatives. Mr. Radin brings over 17 years of industry experience and perspective in the area of server centric technologies. Prior to joining Dell, Rich provided systems design, systems engineering, consulting and IT management for corporations including Procter & Gamble, NBC/Universal, and Madison Square Garden, in addition to being part of multiple successful technology startups.

10 Things You Can Do Today to Green Your IT Operations



1 Replace CRT with LCD flat screens.

According to ENERGY STAR, the energy-consumption of an average LCD display is far less of that for an average CRT. A 20" CRT can use as much as 150 watts of power while a 20" LCD will typically use only 30 watts.

2 Activate sleep features across entire networks of computers.

Tools to implement this include free solutions that utilize open source software and/or tools that you may already have at your disposal. According to ENERGY STAR, you can save up to \$75 a year in power by implementing simple power management features. ENERGY STAR Power Management features are standard in Windows and Macintosh operating systems. Lock those settings in place, so that users cannot change them.

3 When you're done with your monitor, turn it off.

Although leaving it to enter sleep mode or turn black by itself uses a lot less energy than full-power mode, it still draws anywhere from one to five watts of power (and on some devices, it may draw much more).

4 Recycle – make it a part of your procurements for new equipment.

The Institute for Local Self-Reliance estimates that 75 percent of obsolete electronics are currently being stored. Storage is a short-term solution that will one day result in a massive disposal issue for the country and the world.

5 Minimize the use of external power adapters.

External power adapters, also known as power supplies, are crucial to the operation of virtually all small electronic devices. Plug them in only when necessary. As many as 1.5 billion are in use in the U.S. — that's about five for every person. The total electricity flowing through all types of power supplies is about 207 billion kWh/year. 207 billion kWh/year = \$17 billion a year, or six percent of the national electric bill.

6 Baseline your IT energy consumption and continue to monitor it on a regular basis.

Base lining allows you to compare savings year over year. This site can help you estimate your IT energy budget. http://www1.eere.energy.gov/femp/procurement/eep_eccalculators.html

7 Measure your energy consumption.

With a simple power meter, you can calculate the electrical expense of a device by the day, week, month, or even an entire year. These devices are under \$30 and can be used in evaluating and base lining equipment.

8 Improve your printing processes.

- Replace individual desktop printers with small group or department printers.
- Add this statement to the bottom of each email message:
"Save Paper - Think before you print."
- Make double sided printing the default on every printer or multi-function device.
- Use recycled paper where possible (it is getting better now - less fraying into the printing/copying device).
- Recycle the waste paper that you produce.

9 Review the data center floor design.

Check hot-aisle and cold-aisle configurations, as well as proper placement of vented tiles.

10 Turn the thermostat in your datacenter up.

ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers) recommends 77 degrees. Note: It is advisable to check with your equipment manufacturers prior to making thermostat adjustments.

On-Line Resources

<http://www.thegreengrid.org/home>

The Green Grid is a global consortium dedicated to advancing energy efficiency in data centers and business computing ecosystems.

<http://www.productstewardship.net/productsElectronicsEPPGuide.html>

A Guide to Environmentally Preferable Computer Purchasing, a report from the Northwest Product Stewardship Council, a group of government organizations that works with businesses and nonprofit groups to integrate product stewardship principles into the policy and economic structures of the Pacific Northwest.

<http://www.greenpeace.org/raw/content/international/press/reports/greener-electronics-ranking-c.pdf>

A Guide to Greener Electronics, as ranked by Greenpeace, this Guide ranks leading mobile phone, game console, TV and PC manufacturers on their global policies and practice on eliminating harmful chemicals and on taking responsibility for their products once they are discarded by consumers.

<http://www.epa.gov/opptintr/epp/>

The US EPA (Environmental Protection Agency) Environmentally Preferable Purchasing (EPP) program. EPP helps the federal government “buy green,” and in doing so, uses the federal government’s enormous buying power to stimulate market demand for green products and services. Geared first to help federal purchasers, this site can help green vendors, businesses large and small – and consumers.

http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_management

ENERGY STAR Power Management features are standard in Windows and Macintosh operating systems and place monitors and computers (CPU, hard drive, etc.) into a low-power “sleep-mode” after a period of inactivity.

http://www1.eere.energy.gov/femp/procurement/eep_eccalculators.html

The Energy Cost Calculators at the US Department of Energy’s web site allow users to enter their own input values (e.g., utility rates, hours of use, etc.) to estimate the energy cost savings from buying a more efficient product.

<http://eerc.ra.utk.edu/ccpct/eebc/eebc.html>

The Electronics Environmental Benefits Calculator, from The Center for Clean Products and Clean Technologies, is intended to assist institutional purchasers, including Federal Electronic Challenge (FEC) program participants, in qualifying the benefits of environmentally sound management of electronic equipment.

<http://www.federalelectronicchallenge.net/>

The Federal Government (FEC) is in the act. The FEC program promotes initiatives to encourage the Federal Government to:
Purchase greener electronic products.
Reduce impacts of electronic products during use.
Manage obsolete electronics in an environmentally safe way.

<http://www.nyserda.org/default.asp>

NYSERDA’s focus includes promoting and funding of energy-efficiency programs, research and development initiatives, low-income energy programs, and environmental disclosure activities.

http://www.ny.gov/governor/press/lt_conservation.html

June 24, 2007, Announcement Creating New York’s Renewable Energy Task Force, *Increasing Renewable Energy Generation Promoting Energy Conservation*.

http://www.ny.gov/governor/press/0828071_print.html

August 28, 2007, Announcement of Green Building Initiatives.

http://www.ny.gov/governor/keydocs/0419071_speech.html

April 19, 2007, “15 by 15” *A Clean Energy Strategy for New York*.

<http://www.p3international.com/products/special/P4400/P4400-CE.html>

A source for inexpensive power meters, P3 International strives to develop products that are easy to use and ahead of their time.

http://www.sun.com/solutions/documents/white-papers/gv_simplygreen.pdf

Simply Green – A Few Steps in the Right Direction Toward Integrating Sustainability into Public Sector IT, A Green Paper from the Center for Digital Government, a national research and advisory institute on information technology policies and best practices in state and local government.

<http://www.itbusinessedge.com/search/?q=Green>

Visit *IT Business Edge* for white papers on Green IT. The IT Business Edge editorial staff is dedicated to simplifying the technology decision maker’s workday by providing in-depth reports that cover the most important trends in a variety of business technology topics.

<http://www.greenmypcs.com/>

Eighty percent of users disable their computers’ power management features within 90 days. This site offers a free kit to enforce power settings.

Please note: The 10 Things You Can Do Today to Green Your IT Operations and the On-line Resources do not constitute an endorsement by the NYS Forum or its members. All users are encouraged to verify the information independently and should check with equipment manufacturers to ensure that proper equipment standards are met. This information is being provided for informational purposes only.