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7x24 Exchange INTERNATIONAL

The end-to-end reliability forum.

www.7x24exchange.org

THE GREEN HORIZON

November 16-19, 2008 Palm Desert, CA

2008 FALL CONFERENCE: END-TO-END RELIABILITY

Sessions with content concerning the greening of data centers are indicated with

throughout the conference brochure.

WHAT IS *7X24 EXCHANGE*?

The leading knowledge exchange for those who design, build, use and maintain mission-critical enterprise information infrastructures, *7x24 Exchange* is a not-for-profit organization seeking to improve end-to-end reliability by promoting dialogue among these groups.

The organization was founded on the assumption that professionals involved with data center uptime issues often work in isolation when dealing with technical, budget, political, and career issues. As a result of expensive, time-consuming, and, sometimes, painful trial and error processes, innovative practitioners evolved unique and creative ways of solving problems and building the organizational support needed for their implementation. However, many have been stymied because they did not have access or know how to communicate potential risks to senior management to avoid a downtime disaster occurrence.

7x24 Exchange members work together to advance the state-of-the-art in infrastructure reliability. By collecting and disseminating data on safeguarding information systems and alerting top management to the importance of proactive measures, members can protect their companies' information lifelines.

THE GOAL OF *7X24 EXCHANGE* CONFERENCES

The field of uninterrupted uptime has no textbooks. Before its founding in 1989 as the Uninterruptible Uptime Users Group, learning how to deal with uptime issues largely resulted from individual trial and error. Continuing this random rate of reliability improvement would increasingly restrict the potential productivity of the large, growing investment in computer and communication hardware and systems. It also would interfere with the increasingly critical dependence on information accessible through computers.

With 7x24 operations now common, how much higher will availability requirements be in five years? How can cost-effective, reliable responses be assured? When is a centralized application site requiring ultra-high availability viable? Addressing, and, hopefully, answering these and related strategic questions, *7x24 Exchange* conferences provide stimulating discussion forums. Collectively, we know much about the future options and alternatives available. With *7x24 Exchange*, that knowledge can be shared.

All program elements aim to increase the reliability and availability of an enterprise's information infrastructure by presenting case studies, new ideas, techniques and tools. Open dialogue between attendees and presenters is encouraged throughout. Further, by involving the many specialists from user and supplier/service organizations with formal and informal sessions, the experience is rewarding and enjoyable for all.

WHO SHOULD ATTEND AND WHY

This conference is designed for anyone involved with 7x24 infrastructures — IS, data center, disaster recovery and network/telecommunication managers; computer technologists; facility or building managers, supervisors and engineers. Vendors, consultants, or anyone concerned with uninterrupted access to critical information also will find the conference of value.

Attendees and their organizations benefit from the conference because proactive plans and cooperation from diverse functions are needed to improve reliability. By promoting a dialogue and clarifying the synergies among functions, past conferences have enabled teams of attendees from a given organization to better communicate the critical importance of a proactive approach to continuous uptime. Team members also were able to cover breakout sessions and network with other professionals in similar companies/industries with like problems.

Conference attendees benefit in three ways: professional development and advancement; increased recognition of their function's importance; and exposure to new ideas, contacts and resources. First-time attendees often discover that many companies face similar, if not identical, technical and organizational problems in their quest for higher availability levels. Those still unaware of this often view their situations as unique. However, they learn there are many common downtime risks and failure modes with solutions clustering around universal ideas and attitudes. *7x24 Exchange* conferences provide insights into what is being planned and done by others to mitigate or eliminate downtime risks. Recommended changes can then be justified, both on their practical merits and in the context of business arguments that have been successful elsewhere.

WHAT IS A TUTORIAL SESSION?

7x24 Exchange has been offering tutorials for several years now. The purpose of these tutorials is to provide material refreshers for those attendees familiar with the concepts or to provide a foundation to other attendees who want to become more familiar with the subject matter. All conference registrants are encouraged to attend tutorial sessions. Almost all of the *7x24 Exchange* presentations are geared towards those with an advanced understanding of the concepts that will be presented. The tutorials are intended to complement the Monday to Wednesday presentations and help each attendee deepen their level of comprehension.

Sunday, November 16

10:30 A.M. – 10:00 P.M. **REGISTRATION**

12:30 P.M. – 2:30 P.M. TUTORIAL SESSION A:

FLUID MECHANICS 101: FUNDAMENTALS OF COOLING AIRFLOW IN A DATA CENTER

Suhas V. Patankar, Ph.D.
Professor of Mechanical Engineering
University of Minnesota
and President
Innovative Research, Inc.

This tutorial session will introduce basic concepts of air velocity, airflow rate, pressure, and temperature distribution as applied to raised-floor data centers. You will be shown why the flow distribution through the perforated tiles is usually not uniform. It is governed by the air velocity and pressure variation under the raised floor. By calculating this variation, you can predict the airflow coming out of each perforated tile. Such a calculation allows you to study the effect of variables such as: layout of the CRAC units and the perforated tiles, the height of the raised floor, and the presence of obstructions under the raised floor. Once the flow rates through the perf tiles are determined, the next step is to calculate, in the above-floor space, the air velocity and temperature as the air moves through the server racks and back to the CRAC units. Many examples will be presented to develop an understanding of the physical processes and to draw practical conclusions. The tutorial will show how to create a computational model of a data center layout and calculate the corresponding airflow and temperature distribution.

CONCURRENT TUTORIAL SESSIONS

3:00 P.M. – 5:00 P.M. TUTORIAL SESSION B:

LEAN AND GREEN FIRE PROTECTION: THE INTELLIGENT APPROACH TO MAXIMIZING THE FIRE PROTECTION OF YOUR MISSION CRITICAL FACILITY

Bill Howerton
Director, System Sales
Fike Corporation

Bob Lowry
Western Regional Manager
Fike Corporation

While it is crucial to your operation that your facility operate seamlessly, unexpected problems can arise at the worst possible time placing your facility at risk of the unspeakable word "downtime." This valuable breakout session will take you down the most direct path to build a lean and green fire protection plan for your high value asset operation. Bob Lowry and Bill Howerton, two highly experienced fire protection specialists, will enlighten you on the best decision path to achieve the smartest and most economical fire protection customized to your needs. They will show you how to avoid the pitfalls of inefficient planning, the land mines associated with shortcuts and the rewards of doing it right, thus arming you with the tools you need and giving you peace of mind that your facility is protected in the most lean, and green way possible.

TOPICS INCLUDE:

Loss Prevention – Feel confident you have all the tools in place to minimize the possibility of a fire event

Economical – When is your protection enough protection? Maximize your protection within budget

Advanced Technologies – State of the art technologies: An overview and evaluation

NFPA – Be informed of the most recent NFPA changes and gain clarity on how the NFPA affects your operations

&

Green – Protect your assets and be environmentally conscious

Reality – What's practical in being green

Evaluate – Evaluating your options: What are your operational needs and how to fit "green" in the mix

Evolving Mission Critical Facilities – Adapting to changes in environmental trends

Next Steps – How to apply what you have learned into your operational strategy

3:00 P.M. – 5:00 P.M. TUTORIAL SESSION C:

FUNDAMENTALS OF DATA CENTER COMMISSIONING

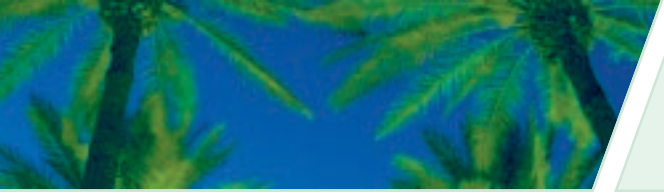
David DiQuinzio
Principal
Strategic Facilities, Inc.

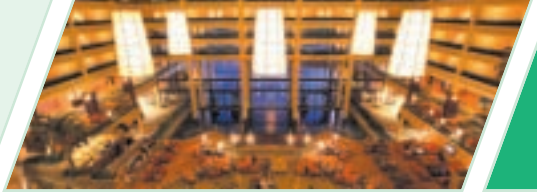
This session explores language, concepts, challenges and developments in the rapidly evolving field of data center facility commissioning with extensive real-world, real-life examples. Participants gain an understanding of who does what in the commissioning process, what factors make for an effective data center commissioning program and how to approach the unique problem of commissioning systems that must operate on a 7x24 basis thereafter.

6:00 P.M. – 10:00 P.M. **WELCOME RECEPTION**

SPONSORED IN PART BY: CATERPILLAR®

Join us for a buffet reception with open bar accompanied by soft music. This is an excellent opportunity to dialogue with conference presenters, meet new people, network, welcome first time attendees, renew old acquaintances, and meet the board members.





Monday, November 17

7:00 A.M. REGISTRATION & BREAKFAST

Check in, pick up your name badge, conference materials and enjoy a hot buffet breakfast.

8:00 A.M. WELCOME AND OPENING REMARKS

Bob Cassiliano, *7x24 Exchange* chairman, will open the conference, provide an overview, review meeting logistics and address general housekeeping items.

James Bradley
Best-Selling Author
Flags of Our Fathers

8:30 A.M. CONFERENCE KEYNOTE: DOING THE IMPOSSIBLE

James Bradley draws upon his vast research into the Pacific War and addresses the mindset it takes to achieve success – both in combat and in life. Bradley cites examples of challenges that experts deemed "impossible" and dramatically illustrates how ordinary people did the impossible by thinking outside the box. He explores not only how victory was achieved, but also what that victory cost, in terms of human life and suffering. Bradley's thrilling presentation will challenge you to understand and remember the example that earlier generations have set, and to move beyond the "impossibilities" in your own life.

Flags of Our Fathers was made into a critically-acclaimed film produced by Steven Spielberg and directed by Clint Eastwood. The book is the true story of the six men, including Bradley's father, who raised the flag in 1945 on Iwo Jima, an image made iconic in the most reproduced photograph in history. A runaway success, *Flags of Our Fathers* exemplifies the power of doing the impossible and the achievement of incredible goals.

9:30 A.M. REFRESHMENT BREAK

CONFERENCE BREAKS HAVE BEEN SPONSORED IN PART BY: SYSKA HENNESSY GROUP

Mike Manos
General Manager, Data Center Services
Microsoft

Christian Belady, PE
Principal Power and Cooling Architect,
Global Foundation Services
Microsoft

10:00 A.M. MICROSOFT – KICKING ANTHILLS: THE CHANGING LANDSCAPE OF MISSION CRITICAL ENVIRONMENTS

Today, more than ever before, the data center industry is going through a tremendous period of change and turmoil. Topics like container data centers, increased focus and emphasis on energy consumption and efficiency, rising energy prices, paradigm shifts in operating costs, increasing power densities, IT carbon footprint reporting, virtualization, and a host of others challenge the landscape of the modern Facilities and IT professional. This session, led by Microsoft's Michael Manos, General Manager of Data Center Services and Christian Belady, Principal Power and Cooling Architect will cover these topics and more, challenge the status quo and hopefully provoke thoughts on the future of our industry.

Dean Nelson
Senior Director, Global Lab &
Datacenter Design Services
Sun Microsystems, Inc.

11:15 A.M. SUN – DATA CENTER REALITY: SUN'S ECO STRATEGY IN ACTION

This presentation details the $250 million effort Sun has undertaken, applying their Eco strategy to their internal operations. Global Lab & Datacenter Design Services (GDS) is the Sun internal organization that bridges the gap between facilities & IT and leads these data center consolidations and energy efficiency principals and designs. Hear Sun's best practices and challenges around going green. ECO is Ecology and Economics.

The Santa Clara, CA datacenter is 72,000 square feet of next generation, scalable space based on Sun's POD architecture. This datacenter houses the world's largest installation of Liebert XD products as well as the world's largest single install of APC hot aisle containment. See how Sun achieved 88% square footage compression and 61% utility reduction.

12:15 P.M. LUNCH AND NETWORKING

Vali Sorell, PE
Associate Partner
Syska Hennessy Group

Lonnie Alexander, PE
Senior Associate
Syska Hennessy Group

Carlos Herrera
Vice President, Technology
Morgan Stanley

1:30 P.M. MORGAN STANLEY – PERFORMANCE AND COST COMPARISON OF HIGH DENSITY CABINET SOLUTIONS

Multiple vendor high density cabinet solutions are compared against a baseline open rack in both overall performance and total cost of ownership. Third-party testing was performed in a specialized lab environment where each solution was measured and assessed for temperature stability, energy efficiency, fault tolerance and concurrent maintainability, and comprehensive solution cost. The results were normalized for deployment in a typical Tier-4 1MW IT load data center and the associated TCO's calculated. The presentation describes the test methodology and scope, performance pros & cons, and concludes with a summary of the findings.

Monday, November 17

2:30 P.M. **MAKE YOUR OWN SUNDAE BREAK**

3:00 P.M. CONCURRENT BREAKOUT SESSIONS

BREAKOUT A: DATA CENTER PROFILING TOOLS FROM THE US DEPARTMENT OF ENERGY – ASSESSING ENERGY PERFORMANCE

Steve Greenberg
Senior Energy Management Engineer
Lawrence Berkeley National Lab

Steve Greenberg will present a status report on the US DOE's new set of tools to help data center owners and operators track the energy performance of their facilities and identify opportunities for cost-effective improvements. At the core of this new program is "DC Pro", a set of software tools for establishing an initial facility profile, suggesting areas of opportunity that apply to the facility in question, tracking energy performance over time, and benchmarking a facility's performance in relation to its peers. It will also perform initial calculations of the cost-effectiveness of implementing specific energy-saving measures for IT equipment, electrical, and HVAC systems.

BREAKOUT B: THE DILEMMA OF ENERGY CONSERVATION AND HIGH AVAILABILITY

William P. Mazzetti, PE
Vice President
Engineering & Chief Engineer
Rosendin Electric

In this current era of high availability and energy conservation, there is little discussion regarding the precise inflection points for the balance between the capital and operation costs when considering IT system maximization via virtualization and energy conservation, especially when compared with mechanical and electrical system design. In short, where's the best place to spend your money, and how can you minimize operating costs without affecting system availability or uptime? In modern, high-availability utility systems, there is a significant amount of equipment that stands idle, consuming energy, and ready to accept a component failure or maintenance operation. What is the true cost of this design? How can it be mitigated by merging the three families of fundamental and more cutting edge energy-saving techniques, server virtualization and compaction, and high-availability design?

This session will offer the audience a set of guidelines and the theory behind making these kinds of decisions, including: 1. The point at which the processor load render switch from the idle state to the work state and how that affects the redundant electrical and mechanical systems; 2. Routine omissions and mistakes made by system designers that cost you thousands on your energy bills; 3. Where savings can be banked in high-availability utility systems without compromising uptime.

BREAKOUT C: DATA MIGRATION – AN ESSENTIAL COMPONENT OF YOUR GREEN STRATEGY FOR THE DATA CENTER

Anthony Johnson
Principal Consultant
Brocade Services and Solutions

Enterprises are striving for green strategies for their data centers in an effort to reduce costs, realize efficiencies, and do their part for the environment. By leveraging server consolidation, virtualization, and technology refreshes, companies are moving towards that state of green nirvana. What factors do you need to consider to get you there? How do you make those transitions in the most non-disruptive manner? In this session you will learn about challenges, methods and techniques, and how to choose appropriate tools for your environment when considering data migration.

4:10 P.M CONCURRENT BREAKOUT SESSIONS

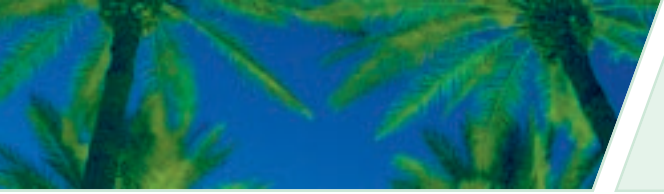
BREAKOUT A: INTEL – DRIVING SUSTAINABILITY THROUGH INNOVATION, ENERGY-EFFICIENT COMPUTING AND CROSS-INDUSTRY COLLABORATIONS

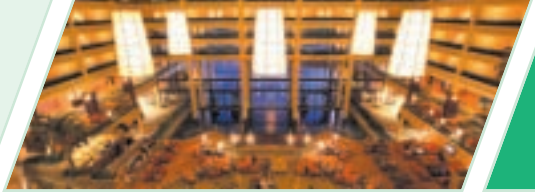
With oil prices rising across the globe and energy consumed by servers and data centers expected to double between 2006 and 2011, the topic at the forefront of the computing industry is green IT. To address the growing problem, facility managers and IT personnel must work together to implement best practices and develop metrics for improving energy efficiency – both at the data center level and on a single system.

Session attendees will learn about Intel's four-pillar approach to eco-technology: sustainable manufacturing, energy-efficient performance, designing for the environment, and policy and industry work. This holistic approach to sustainable computing demonstrates how IT departments and facilities managers can work together for the best cooling, power management, rack density, data center footprint and virtualization options – despite the challenges all of these contributing factors bring to each unique IT infrastructure. Attendees will get an update on industry-wide efforts to work toward energy-efficiency standards such as The Green Grid's Power Usage Effectiveness (PUE) formula for data centers.

Lorie Wigle
General Manager
Eco-Technology Program Office
Intel

The presentation will also include a case study about a sustainable data center designed from the ground up in a collaboration between Intel, an Oregon-based managed services provider, a utility company, local government groups and nation-wide experts from technology, building architecture and many other industries. This cross-industry example of an energy-efficient data center will provide audience members with key takeaways to implement in their own data center optimization or design projects.





Monday, November 17

Douglas H. Sandberg
Director, Field Service Sales & Operations,
US, Caribbean & Latin America
ASCO Services, Inc.

BREAKOUT B: FACTORS AFFECTING SYSTEMS LIFE EXPECTANCY

This presentation has been developed to provide some food for thought and to generate questions that attendees can take back and use to access their critical infrastructure, specifically the emergency power system. The presentation is based on the fact that there are many events which touch systems from inception to the end of their lifespans. Each event may enhance or detract the length of that life expectancy. These touch points are illustrated with commentary. From a green perspective, extending equipment viability conserves resources.

Kenneth L. Box, PE
Regional Manager – Power Electronics
Cummins Power Generation

William B. Holmes, PE
Corporate Realty Services Portfolio Manager
Grubb & Ellis

BREAKOUT C: UPGRADING THE INFRASTRUCTURE OF A LIVE DATA CENTER WITHOUT INTERRUPTION

The complex nature of mission critical facilities presents a significant challenge for owners, engineers, contractors, and suppliers when undertaking new data center construction. However, upgrading the infrastructure of existing data centers in a live, uninterruptible environment presents additional challenges for the construction team. This case study presentation deals with the challenges the owner faced while upgrading his live data center without interruption. Some of the challenges we will discuss include issues that arose due to: fast-track construction (an 18 month schedule, commissioning firm separate from design firm for peer review & commissioning scripts), two electrical subcontract design firms, Green Zone work restrictions from 8:00 P.M. until 6:00 A.M., live loads which permitted no interruptions and no margin for error, installing 6 x 2.92 kW generators on the second floor, and a complex sequence of operations integration into the existing emergency standby power system.

6:30 P.M. – 10:30 P.M. HOSPITALITY SUITES

Conference attendees are invited to visit the hosting companies that support *7x24 Exchange*. Companies hosting hospitality suites provide food and fun in a vibrant networking environment.

Tuesday, November 18

7:00 A.M. BREAKFAST & REGISTRATION

8:30 A.M. OPENING REMARKS

Bob Cassiliano will review day one highlights, recognize the conference Corporate Leadership Program sponsors and give a *7x24 Exchange* update.

9:00 A.M. KEYNOTE: UPTIME INSTITUTE – REVOLUTIONIZING DATA CENTER EFFICIENCY

Rapid and continuing growth in the quantity of servers installed is driving the biggest boom in data center construction history. The OpEx and CapEx costs of these new data centers, which will be totally consumed within three to five years, is creating significant financial challenges for many IT intensive enterprises because facilities costs are now 8% of IT's budget and growing at a rate of three to four times IT's overall rate of budget increase. For some businesses, the consequence will be a meaningfully reduced level of corporate profitability or a squeezing out of important IT initiatives. On a more macro scale, thirty 1,000 megawatt power plants must be built and be online in the US by 2015 just to keep up with the continuing growth in IT energy consumption. Based on current licensing trends for coal and nuclear plants, this outcome is highly unlikely, especially considering unknown future energy shortage consequences.

Ken Brill
Executive Director
Uptime Institute

This session identifies the three primary drivers of ever-increasing facility costs and identifies the three strategic actions required to throttle uneconomical application demand and re-balance IT's economics. In order to drive implementation, a comprehensive metric for measuring combined IT and facility progress toward a goal of doubling IT energy efficiency by 2012 is proposed. Among the provocative recommendations contained in the presentation are inclusion of facility OpEx and CapEx costs in total cost of ownership ROI for new IT initiatives, appointment of an internal Energy Czar with accountability and authority, and transferrance of financial accountability of data center assets from Corporate Real Estate to the CIO.

Originally developed by Will Forrest of McKinsey and Company and Ken Brill of the Uptime Institute for the Institute's 2008 Symposium on Green Enterprise IT, this presentation will contain additional information.

10:00 A.M. REFRESHMENT BREAK

Tuesday, November 18

Gary Aron
Vice President, Data Center Management
Comcast

John K. Roam
Senior Director, Data Center Management Team
Comcast

Dan McGroary
Senior Project Manager
Bala Consulting Engineers, Inc.

Rich Werner
Senior Director, Data Center Management Team
Comcast

10:30 A.M. COMCAST – YOU SAY YOU WANT AN EVOLUTION: REVOLUTIONARY APPROACH TO DATA CENTERS AND A GREENER FUTURE

Tasked with designing and building more robust, scalable and greener data centers to support the explosive growth of the United States' largest provider of cable services, and one of the world's leading communications companies, Comcast's Data Center operations group built a team based on a commitment to leadership, innovation and sustainable initiatives. Comcast's commitment to sustainable design is evident in their new corporate headquarters, the tallest LEED certified building in the United States. The evolution of Comcast's Data Centers has progressed rapidly, in less than 2 years, moving from traditional design to innovative, energy efficient high density solutions. With a revolutionary Rock 'n' Roll theme and a Virtual Data Center tour, the Comcast team will detail how they built their Data Center team from scratch, challenged conventional design concepts and embraced innovation and sustainable initiatives to develop a national standard for their data centers on the road to achieving the corporation's green goals.

11:30 A.M. CISCO – THE GREEN ROADMAP

Paul Marcoux
VP, Green Engineering
Cisco Systems, Inc.

In defining a forest, the language of tree species is used to articulate its biodiversity. Similarly, a need exists in the Information and Communication Technology (ICT) industry to define its "green diversity". However, ICT lacks a uniform taxonomy or language to do so. This presentation will focus on three issues: articulating Cisco's Green Roadmap; providing a proposed cross-functional green language; and outlining a 21st century IT organizational design foundation.

IT organizations are currently operating under 20th century organizational guidelines. The 21st century requires a new operational paradigm. IT organizations will now need to focus beyond the traditional IT processes to include specialized power, cooling and integrated network management systems. These skills have evolved from facilities or real-estate support domains to a contributing element in an empowered IT organization.

Cisco is driving environmental initiatives in three areas: responsible operations, product stewardship, and network architecture solutions.

Cisco is helping to reduce carbon emissions by making our operations and products more earth-friendly. In addition, Cisco believes that Information and Communications Technology (ICT) can play a central role in reducing greenhouse gas emissions that contribute in large part to global warming by its leverage effect across multiple industries.

Cisco's vision is to use the Internet to monitor, manage and reduce electrical use in offices and homes. In cities, carbon emissions of idling vehicles in traffic can be significantly reduced through the use of smart communication technologies. High connectivity is poised to be the key to cutting carbon emissions.

12:30 P.M. LUNCH AND NETWORKING

12:30 P.M. END-USER INTERACTIVE EXCHANGE LUNCHEON

Moderated by:

David Schirmacher
Vice President
Goldman Sachs & Co.

In response to the many requests from conference participants, the *7x24 Exchange* is pleased to offer a new "End User Only" venue designed to encourage in-depth discussion and debate on the latest challenges in data center planning, design and operation. Topics will include: trends in infrastructure design resiliency, energy efficient design and operational practices, capacity planning and management and the day-to-day challenges in managing data center operations. The moderator will guide the discussion with the use of PowerPoint slides and handouts; however, the real star of this session will be you, the end user! Bring your appetites, but more importantly, be ready to engage your peers for an exciting interactive discussion on the latest challenges of our industry. Don't forget those business cards as this will be a great opportunity to meet your peers in the industry!

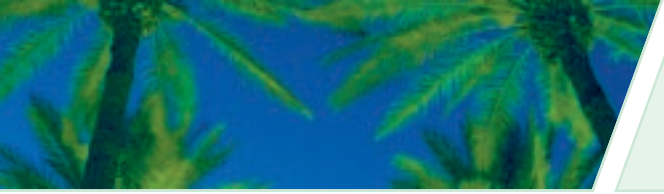
1:45 P.M. CONCURRENT BREAKOUT SESSIONS

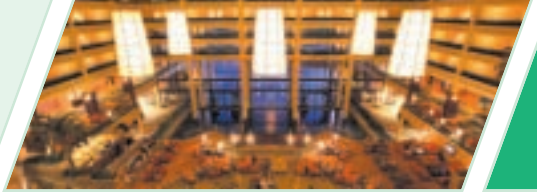
BREAKOUT A: IBM – SHARING THE BEST AND WORST PRACTICES FOR GREENING DATA CENTERS

David Anderson, PE, PMP
Green Consultant
IBM Corporation

Are you Green aware, Green prescriptive, proactively Green or intrinsically Green? How you run your data center and integrate with your business or organization may be at different times at different points along the Green continuum. There are easy-to-implement practices for making data centers greener, and practices that require a great deal of effort, resource investment and risk. Easy improvements in energy efficiency and cooling as well as practices for big gains will be detailed in pictures and costs. Cost is always a concern when it comes to sustainable green practices. An open dialogue of what works and what should be avoided in the journey to a greener data center will assist you in implementing winning green projects and avoiding waste.

This session will give you a detailed understanding of 10 key practices for sustainability and paths that should be avoided when striving for a greener data center.





Tuesday, November 18

BREAKOUT B: DC POWER TODAY

Rudy Kraus
Chief Executive Officer
Validus DC Systems LLC

DC power in the data center can provide substantial "green" benefits while increasing the end to end efficiency and overall reliability of mission critical facilities. Learn about the practical application of DC power in the data center and how it can be deployed safely today while lowering your total cost of ownership over the next ten years by up to 50% compared with traditional AC power distribution systems. Beyond efficiency, the benefits of utilizing DC power in the data center will be explained and topics such as integration with renewable and alternative energy sources will also be discussed. Learn how a DC power infrastructure can help "future proof" next generation data centers while allowing flexibility to support increasing server densities and promoting modularity through its simple, scaleable architecture.

BREAKOUT C: ENABLING THE IT ATMOSPHERE THROUGH REMOTE CONNECTIVITY

Robert Taylor
Global Business Director, Intelligent Infrastructure
CommScope Enterprises

This presentation will begin with an overview of the current data center atmosphere and the difficulties with managing remote network connectivity in a mission-critical network environment. He will then begin discussing industry trends that are shaping the way IT administrators and data center managers are approaching enterprise network connectivity – particularly when faced with managing a complex network infrastructure. He also will discuss some of the hurdles technicians are facing with managing moves, adds and changes as well as network security issues in locations with minimal network support staff while maintaining cost-effectiveness.

The bulk of the presentation will discuss how patching technology with real-time network modification capabilities have been incorporated into data centers for better management of mission-critical network connections. After providing real-world scenarios and cases where patching has been applied, the presenter will go over scenarios where patching would be most appropriate for the costs and benefits associated with incorporating a patching solution – i.e. its effect on Mean-Time-to-Recovery (MTTR) and global network viewing capabilities. He also will discuss the effects patching solutions can have on the data center's cabling infrastructure and how new developments, like port sensing technology, are impacting network security and system visibility.

The presentation will also provide additional examples of how patching systems can be combined with Network Management System software such as HP OpenView, IBM Tivoli, and CA Unicenter to provide even more network vision and capabilities to data center technicians and administrators. Finally, the presentation will discuss what capabilities and advancements in patching the audience can expect to see in the future.

BREAKOUT D: MIRACLES AT MEDIUM VOLTAGE – MINIMIZING CONVERSION & CONDUCTION LOSSES

John Sears
Marketing/Sales Manager
Hitec Power Solutions

This will be a "whole facility" analysis of the data center power system from the Medium-Voltage utility source down to the power supplies used in servers. This will quantify the conversion and conduction losses at every step, showing component and end-to-end efficiencies. With a series of clear graphics, we compare the efficiency of different power distribution topologies and explain why European-style data centers are significantly more efficient than those in the USA. The presentation concludes with recommendations that can reduce efficiency losses by a significant percentage.

2:45 P.M. REFRESHMENT BREAK

3:15 P.M. VENDOR KNOWLEDGE EXCHANGE

Silver Members of the Corporate Leadership Program will present informational sessions on various products and services. Presentations will be given by:

ABB, ACTIVE POWER, APC, CATERPILLAR, CUMMINS POWER GENERATION, CYBEREX, EATON, GLOBAL DATACENTER MANAGEMENT LIMITED, MTU Onsite Energy, PDI, SQUARE D/SCHNEIDER ELECTRIC, AND SYSKA HENNESSY GROUP.

6:30 P.M. – 10:00 P.M. *7X24 EXCHANGE* LANDS AT THE PALM SPRINGS AIR MUSEUM

Fly into the desert with *7x24 Exchange* as we visit one of the world's largest collections of World War II warplanes, artifacts, memorabilia, antique cars and uniforms.

The Palm Springs Air Museum is a non-profit educational institution whose mission is to exhibit, educate and eternalize the role of the World War II combat aircraft and the role the pilots and American citizens had in achieving this great victory. In addition to flying aircraft, related artifacts, artwork, and library sources are used to perpetuate American history. The significance of World War II is unparalleled in all of the history of the world in that it was the greatest, most costly conflict ever fought, taking the lives of more than 70 million people. It was Air Power that altered the outcome of that war and forever changed the lives of every person alive today.

Great food, networking and plain fun for all will be provided compliments of:

ABB · ASCO Power Technologies · CHLORIDE · ComRent Load Bank Rentals · DATA AIRE INC. · EMERSON Network Power · GDCM · GE Digital Energy Power Quality · Gilbane Gilbane Building Company · GPS Global Power Supply - Critical Power Systems · IBM · GREENSTONE A Joint Venture Company Geographic Network Affiliates TCN Amicus Parthes · IDC ARCHITECTS · KOHLER · LAYERZERO POWER SYSTEMS, INC. · MITSUBISHI ELECTRIC UPS Division · mtu · Russelectric Power Control People You Can Rely On · SIEMENS · STULZ Air Technology Systems, Inc. · TAS · Virginia Best State for Business

Wednesday, November 19

7:00 A.M. **BREAKFAST**

8:30 A.M. **OPENING REMARKS**

Bob Cassiliano will review highlights from day two and address housekeeping items of interest.

Mark P. Mills
Founding Partner
Digital Power Capital

8:45 A.M. **KEYNOTE ADDRESS: GUESSING THE FUTURE ENERGY LANDSCAPE: FROM OIL SANDS TO DATA CENTERS**

There may be no more polarizing, politicized and important a technology pursuit than energy. Trillions of dollars will be invested in the pursuit of energy resources and technologies in the next two decades. But since the first oil shock 25 years ago, some things have not changed – notably, options for primary energy sources. But some things have changed, profoundly – the infrastructure of the information age has altered the landscape of energy demand leading to the ascendency of the always-on digital-electric economy. Guessing what the future will look like depends less on understanding politics and wishful thinking than it does the inexorable forces of economics and physics.

9:45 A.M. **REFRESHMENT BREAK**

10:15 A.M. **GAINING DECISION-GUIDING VISIBILITY: A CASE STUDY FROM THE UNIVERSITY OF PHOENIX**

Brian Desberg
Senior Manager, Data Center Infrastructure
University of Phoenix / Apollo Group, Inc.

Rick Oliver
Data Center Manager
University of Phoenix / Apollo Group, Inc.

Charles O'Donnell
Vice President, Liebert Monitoring and Professional Services
Emerson Network Power

As availability requirements rise, power and cooling capacities near their limits and data center efficiency takes priority, visibility is vital. Representatives from the University of Phoenix / Apollo Group will discuss the criteria they used to select an asset management system, and how the comprehensive visibility it provided guides decision making when planning for growth, determining server placement and tracking power and cooling usage. Presenters will share how they use their system to enable prioritized disaster recovery, conduct outage analyses, reduce human error and improve staff efficiency. They will end with infrastructure management capabilities on the horizon.

11:15 A.M. **HP – CASE STUDY: DC COOLING ENERGY REDUCTION USING CENTRAL MANAGEMENT**

Bob Pereira
Data Center Infrastructure Architect
Hewlett Packard

This presentation will cover a documented engineering case study of an Energy Reduction Project with objectives to: reduce energy consumption, lower GHG emissions, eliminate hot spots and expand cooling capacity. The solution documents the deployment of HP's Dynamic Smart Cooling Solution in an operational mission critical data center located in Thousand Oaks, California. The presentation will review customer objectives, detailed descriptions of all mechanical and electrical work performed, and then review the outstanding savings resulting from the implementation of this solution.

12:15 P.M. **CONFERENCE ADJOURNS**

WHAT MEMBERS ARE SAYING

"I got exactly what I was hoping for at this conference – ideas that I can implement to help my clients (and myself!) Great job!"

"Impeccably run, organized, and executed, with high-quality insights from various perspectives."

"It's a good place to build friendships with the top professionals in the Mission-Critical Industry."

" A very high value conference, with lots of great take away items."

"The excellent caliber of the speakers & participants makes 7x24 conferences exceptional."

Two Quick Steps to Registration:

1. CONFERENCE REGISTRATION

Complete a Conference Registration Form for each participant on-line or mail or fax a copy of the Conference Registration Form on page 11 to:

7x24 Exchange
322 Eighth Avenue, Suite 501
New York, NY 10001
Phone: **646-486-3818**
Fax: **212-645-1147**
www.7x24exchange.org

To guarantee early bird rate, registrations must be received by October 14, 2008.

2. HOTEL RESERVATIONS

To take advantage of 7x24 Exchange's special rates at the JW Marriott Desert Springs please call Marriott Central Reservations at 888-538-9459 and ask for the *7x24 Exchange* Conference room rate of $249/ night for a single or double plus an optional resort fee and tax.

Please Note: Room reservations are available on a first-come, space-available basis. Space permitting, this block will be available until October 10, 2008. Register for the conference and make your hotel reservations early, as this block will likely sell sell out. Previous *7x24 Exchange* conference room blocks have sold out. *7x24 Exchange* in not responsible for matching rates or finding additional rooms once this block is sold out. *7x24 Exchange* makes every effort to reserve the appropriate number of room nights for attendees. In the event of a sell out *7x24 Exchange* will recommend nearby accommodations.

JW Marriott Desert Springs
74855 Country Club Drive
Palm Desert, CA 92260
760-341-2211

VENDOR/CONSULTANT POLICIES & PROCEDURES

INFORMATION TABLES

All vendors and consultants are encouraged to participate in *7x24Exchange*. Tables are provided at the conference for the distribution of product literature, educational material and other useful information at no cost. Display signs are not permitted on literature tables. Overt selling at *7x24 Exchange* meetings and the use of *7x24 Exchange* membership lists for direct selling are prohibited.

HOSPITALITY SUITES

Hospitality suites/demo rooms are permitted on Monday, November 17, 2008 between the hours of 6:30PM and 10:30PM. All hospitality suite hosts must be a Key member of the *7x24 Exchange* Corporate Leadership Program (CLP). In order to be recognized by *7x24 Exchange* vendors must complete a suite registration form.

As always, hosting a hospitality suite gives vendors direct access to the conference attendees and provides the opportunity to promote products and services in an enjoyable relaxed environment.

If you are interested in hosting a suite on Monday, November 17, 2008, please contact Brandon Dolci at 646-486-3818 x108 before October 27th.

2008 Fall Conference Registration Form:

PLEASE PRINT OR TYPE CLEARLY

Name:

(Informal Name/nickname for badge)

Position/Title

Company

Address

City State Zip

Phone ( ) Fax ( )

E-mail

CONFERENCE FEES:

	Early Bird Discount through Oct 14th	After Oct 14th
Member:	$1,400	$1,700
Non-member:	$1,700	$2,000

PAYMENT METHOD

❑ Check enclosed

Charge (check one):

❑ American Express ❑ Visa ❑ MasterCard ❑ Discover

Card Number: Exp. Date:

Name (as it appears on the card)

Signature

DO YOU PLAN TO ATTEND?

Sunday

12:30 – 2:30 P.M. • Tutorial Session A: Fluid Mechanics ❑ Yes ❑ No

3:00 – 5:00 P.M. • Tutorial Session B: Fire Suppression ❑ Yes ❑ No

3:00 – 5:00 P.M. • Tutorial Session C: Commissioning ❑ Yes ❑ No

Sunday Evening's Buffet Reception ❑ Yes ❑ No

If yes, do you plan to bring a guest? ❑ Yes ❑ No

Name of guest:

A guest is a spouse/significant other, friend or an adult child (18 and over) who is not in an industry related occupation. ***Co-workers or associates in the industry may not use the guest registration category and are required to submit a separate registration form.*** *Guests are invited to attend the Welcome Reception, Hospitality Suites, the Vendor Sponsored Event and Wednesday Morning Breakfast.*

Monday

3:00 – 4:00 P.M. • Breakout A: Assessing Energy Performance ❑ Yes ❑ No

3:00 – 4:00 P.M. • Breakout B: Dilemma of Energy Conservation ❑ Yes ❑ No

3:00 – 4:00 P.M. • Breakout C: Data Migration ❑ Yes ❑ No

4:10 – 5:10 P.M. • Breakout A: Driving Sustainability ❑ Yes ❑ No

4:10 – 5:10 P.M. • Breakout B: Factors Affecting Systems Life Expectancy ❑ Yes ❑ No

4:10 – 5:10 P.M. • Breakout C: Upgrading the Infrastructure ❑ Yes ❑ No

Tuesday

1:45 – 2:45 P.M. • Breakout A: Sharing the Best and Worst Practices ❑ Yes ❑ No

1:45 – 2:45 P.M. • Breakout B: DC Power Today ❑ Yes ❑ No

1:45 – 2:45 P.M. • Breakout C: Enabling the IT Atmosphere ❑ Yes ❑ No

1:45 – 2:45 P.M. • Breakout D: Miracles at Medium Voltage ❑ Yes ❑ No

Vendor Sponsored Evening ❑ Yes ❑ No

Do you plan to bring a guest? ❑ Yes ❑ No

Name of guest:

COMPANY PROBLEM/CASE STUDY

An important part of *7x24 Exchange* conferences is the discussion of real world uptime issues, problems and solutions. Each attending organization is requested to provide a short write-up of a recent experience, major question, problem or issue which might be of interest to conference attendees:

(include additional sheets if necessary)

May we identify your company as submitting information? ❑ Yes ❑ No

These write-ups will be reviewed by the *7x24 Exchange* Board of Directors and provided to appropriate moderators for possible inclusion in their sessions.

Other comments, suggestions:

Do you wish to receive membership information? ❑ Yes ❑ No

❑ Check here if this is your first time attending a *7x24 Exchange* Conference

❑ If yes, how did you hear about *7x24 Exchange*?

The conference registration fee covers conference sessions and activities, handout materials, Sunday's reception, lunches and breakfasts on Monday, Tuesday and Wednesday. Participants are responsible for all other expenses, including guest meals, transportation and hotel accommodations. The dress code is business casual. Cancellations received by October 27th will be refunded, less a $100 handling fee. There will be no refunds after October 27th. However, substitutions of company participants may be made at any time.

Return this form to: **7x24 Exchange**
322 Eighth Avenue, Suite 501, New York, NY 10001
Phone 646-486-3818 • Fax: 212-645-1147

Registration is also available online at
www.7x24exchange.org

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