June 10 - 13, 2012
Hilton Orlando Bonnet Creek
Orlando, FL

2012 SPRING CONFERENCE

End-To-End Reliability
Mission Critical Facilities

THOUGHT LEADERSHIP

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www.7x24exchange.org
The field of mission critical operations continues to evolve. Before its founding in 1989 as the Uninterruptible Uptime Users Group, learning how to deal with reliability and operational issues largely resulted from individual trial and error efforts. Over the years, the field of mission critical operations has become a major focus of our membership.

WHAT IS 7X24 EXCHANGE?

7X24 Exchange is the leading knowledge exchange for those who design, build, operate and own owners and operators of these facilities. In addition to the annual conference, there are regional seminars and a variety of other events throughout the year. The conference provides a forum for professionals to promote dialog among industry professionals to address the many challenges facing the field of mission critical operations. The organization was founded on the assumption that professionals involved with data center uptime and reliability and industry leading energy efficiency provide insights into what is being planned and executed by others to mitigate or eliminate downtime risks. Recommended practice is to take advantage of the experience and expertise within your own organization. Documentation of the experience and expertise within your own organization. Documentation of the experience and expertise within your own organization.

WHAT IS THE GOAL OF 7X24 EXCHANGE CONFERENCE?

7X24 Exchange conferences provide stimulating conferences that enable informed discussion. 7X24 Exchange conference presentations are geared towards those with an advanced understanding of the concepts that will be discussed. The tutorials are designed to complement the general session presentations by focusing on specific topics. Almost all of the 7X24 Exchange general session presentations are geared towards those with an advanced understanding of the concepts that will be discussed. The tutorials are designed to complement the general session presentations by focusing on specific topics.
SUNDAY
JUNE 10, 2012

9:00 A.M. – 9:00 P.M.
Registration

10:00 A.M. – 1:00 P.M.
ASHRAE New Environmental Guidelines & Data Center Energy Efficiency

Data centers are using an increasing amount of the total energy used by commercial facilities. However, these increases have a downside in that they cause a significant increase in the power required and the heat dissipated by the computing equipment, such that it is becoming very difficult to power and cool these systems in data centers or telecommunication rooms. This seminar examines the best practices for data center energy efficiency by focusing on thermal guidelines for data processing, datacom facility energy efficiency, and actual high density data centers in operation today. The seminar discusses the new ASHRAE IT equipment environment air and liquid cooling guidelines, contamination guidelines, IT power trends and ASHRAE 90.1 standard as it relates to data centers.

Don Beaty, P.E.
President, DLB Associates Consulting Engineers and
Prior Chair & Current Publications Chair,
ASHRAE TC9.9

Roger Schmidt, Ph.D., P.E.
IBM Fellow, Chief Engineer for Data Center Energy Efficiency Server Group
IBM Corporation and
Prior Chair & Current IT Committee Chair,
ASHRAE TC9.9

2:30 P.M. – 5:00 P.M.
Fluid Mechanics 101: Fundamentals of Cooling Airflow in a Data Center

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.

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

6:00 P.M. – 9:00 P.M.
Welcome Reception

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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.
Two hundred thousand miles from Earth, trapped in a tiny computerized spacecraft, Captain Jim Lovell and his Apollo 13 crew faced almost certain death when their oxygen system failed. Stepping into the problem, accepting the need for change and providing sound leadership, Lovell modified the lunar module into an effective lifeboat—conserving both electrical power and water in sufficient supply for their return to Earth. Sharing tales from his 11-year-career with NASA, tracing the history of America’s sometimes turbulent and always amazing space program, and drawing on his experience as a successful telecommunications executive, Lovell takes his audiences to the moon, brings them into the tension-filled cockpit of the Apollo 13 mission, and gives them an exciting look at the possibilities of the twenty-first century. His story embodies the spirits of teamwork, leadership, crisis management, goal-setting, and excellence. Jim Lovell educates and fascinates as he relates the skills required to turn a failed system into a successful mission setting, and excellence. Jim Lovell educates and fascinates as he relates the skills required to turn a failed system into a successful mission setting, and excellence.

Captain Jim Lovell
NASA Legend and Apollo 13 Commander
been pieced together to give us the “Doomsday” talk surrounding 2012. The Mayans never predicted the end of the world nor are many of the end of the world scenarios thrown about even possible. That doesn’t mean that there aren’t natural phenomena that can cause great havoc upon our society on any date, not just on Dec. 21, 2012. Our panel will present you with both the myth and the reality of what types of doozies nature could have in store for us. What impact could these types of events have on society, which ones are even remotely possible and what we can do about them? After we go through the fantasy we will focus on types of global natural disasters scientists believe we have some level of control over.

C. Alex Young, Ph.D.
Solar Astrophysicist
NASA’s Goddard Space Flight Center with ADNET Systems Inc. and the SOHO/STEREO science team

Holly Gilbert, Ph.D.
Chief of the Solar Physics Laboratory, Heliophysics Science Division NASA’s Goddard Space Flight Center

Ian O’Neill, Ph.D.
Space Science Producer
Discovery News

2:30 P.M.
Make Your Own Sundae Break

3:00 P.M. CONCURRENT BREAKOUT SESSIONS

Breakout A: Parallel Battery Bank Sizing for Enterprise Data Centers

In order to ensure uptime and account for battery failure and degradation, most enterprise data centers deploy battery banks several times the size of the load. This talk will explain how parallel-connected, inherently redundant battery systems allow battery banks to be sized for the actual data center load, not a higher design load. A single parallel battery bank can serve multiple UPS modules, radically changing the battery bank sizing equation and reducing capital costs.

Richard Bourgeois, P.E.
Principal Engineer
GE Energy Storage

Breakout B: Design-Build for Mission Critical Facilities: California ISO

This presentation will discuss the design-build delivery aspects that resulted in the successful early completion of the California ISO Iron Point Facility with a focus on the team structure and relationships along with innovative techniques employed to deliver this critical facility that exceeded the Owner’s expectations. California ISO’s new 278,000 square-foot headquarters in Folsom, is comprised of three distinct wings each created with a different structural system. The building’s two-story public wing features glass and metal panels wrapped around a structural steel frame. This wing houses a main lobby, as well as training rooms, a cafeteria, and support facilities. The mission critical wing supports California ISO’s essential services, including a 60,000sf data center, mechanical and electrical utility services. This wing has a structural steel frame wrapped in precast concrete. The three-story office wing was created for the organization’s more than 500 employees. The open office environment is surrounded by exposed structural precast concrete with a glass and metal façade.

Hector Alvarez
Director, Campus Operations
California ISO

Caroline Fenlon Harding
Vice President
WSP Flack + Kurtz

Katie Twomey
Vice President
Clark Construction

Breakout C: Big Data – The Changes That Will Reshape Your Data Center

Data is growing faster than Moore’s law and the corresponding paradigm shift in data/compute architectures are completely reshaping data centers. In this session, Jack will discuss how the Big Data frameworks, including Hadoop and NoSQL are being used by organizations today to handle fast growing data with unprecedented scalability at a fraction of the cost. He will provide insights about which application types are providing the fastest returns, where to start and how to integrate Big Data applications into an existing cloud infrastructure, and what this means for data center architectures going forward.

Jack Norris
VP, Marketing
MapR Technology

4:10 P.M.
Vendor Knowledge Exchange

Platinum and Gold partners of the Corporate Leadership Program will present informational sessions on various products and services.

Presentations will be given by:

ABB, Caterpillar, Cummins Power Generation, Cyberex, PDI, RF Code, S&C Electric, Schneider Electric, SIEMENS, Skanska Mission Critical, Syska Hennessy Group
THOUGHT LEADERSHIP
2012 SPRING CONFERENCE

TUESDAY
JUNE 12, 2012

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
IBM – IT Risk Management: A Comprehensive Approach to Mitigating Risk to IT
This session will describe how using a comprehensive approach to IT risk will enable the attendee to improve their risk mitigation techniques while improving their competitive posture. Attendees will gain an understanding of the IT risk domains, their usage and how they may ascertain, assess and plan for IT risk.
Richard Cocchiara
Distinguished Engineer & Worldwide Practice Leader
IBM

10:00 A.M.
Refreshment Break

10:30 A.M.
PANEL: Capacity Planning and Asset Management
Data centers exist to provide the environment for IT assets to support the current and future needs of the business. This panel featuring capacity planning & asset management executives from Facebook, Goldman Sachs and Microsoft will discuss a range of topics from asset life cycle management, how the groups work with their data center teams for internal and external requirements to run their IT services, and best practices to consider adopting. Collaboration and knowledge sharing is required in companies to manage capacity, and this is a unique opportunity to hear from three innovators on a topic you’re all familiar with and is essential for future data center services.
Moderator:
Dave Ohara
Data Center Meme
Green M3
Panelists:
Tamara Budec
Vice President, Critical Systems Engineering
Goldman Sachs & Co.
Amaya Souarez
Director, Strategy & Automation: Datacenter Services
Microsoft
Heather Marquez
Asset Manager – CEA
Facebook

11:30 A.M.
Benchmark the Relative Performance of Your Data Center
You can’t know where you are going without understanding where you are. Leveraging guidelines from the leading sources of data center standards today, including the Green Grid’s Data Center Maturity Model, US Department of Energy, US EPA Energy Star Rating, and the EU Code of Conduct, this session will educate attendees on how to utilize these new benchmarking tools for best-in-class data center energy efficiency and sustainability performance. This session will stimulate data center managers to make improvements to efficiency performance without hampering their mission critical priorities.
John Tuccillo
VP, Global Industry and Government Alliances, Schneider Electric and Chairman of the Board & President, The Green Grid

12:30 P.M.
Lunch and Networking

2:00 P.M.
Probabilistic Versus Empirical Risk Analysis, A Need for Both
A look at current threat and benefit levels imposed by various critical facilities infrastructure equipment and services, from an empirical perspective. A sampling of issues that will be addressed: How UPS technology has radically changed, and what the new cost-benefit is. How do you cost-effectively minimize the failure threats with standby generators? Are flywheels in traditional data centers really more reliable or more green than batteries? How much maintenance is too much for UPS, batteries, generators, etc? What is the actual increase in risk during maintenance events and how to mitigate? What simple, yet cost-effective configuration meets both probabilistic as well as proven empirical standards for high availability? Service response, technician qualification, scripting, commissioning, training – often considered lesser parts of the plan, but what is real impact when they get compromised? Sure ways to go green electrically, yet still assure high availability and low risk. The presenter will also briefly discuss lessons learned during the design, installation and commissioning of a series of modular data centers now in service.
Dennis DeCoster
CEO
Mission Critical West, Inc.

3:00 P.M.
Refreshment Break

3:30 P.M. CONCURRENT BREAKOUT SESSIONS

Breakout A: Lessons Learned – Cloud Contingency Plans
Have you looked at the cloud and thought, wow, this is not going to be easy? If you wrote a contingency plan or will have to write a contingency plan for the cloud, this session is for you! If you are looking to understand the cloud and what to be cautious of, this is for you! If you want to know what works well through someone else’s growing pains, then come, sit, listen, ask questions and go with us to the cloud and beyond.
Mark Spreitzer, CBCP
Executive Consultant
Director, Business Continuity/CIP
CGI Federal Infrastructure and Cloud Services
Breakout B: Comparisons of Alternative UPS Energy Storage Technologies

This presentation will provide a detailed comparison of some alternative methods of UPS energy storage beginning with an overview of standard energy storage technology (such as lead-acid wet cells and VRLA batteries, as well as the newer but generally accepted flywheel/rotary devices). New approaches to providing backup energy for UPS systems, notably the sodium and lithium ion battery systems, will be introduced. After comparison presenters will contrast these new methods with the traditional approach (comparing such topics as building footprint requirements, safety, recharge capability, physical characteristics, etc.) and conclude with a discussion of the paradigm shift. How ready are we to welcome this change?

Paul A. Marcoux
Senior Vice President
Branch Bank & Trust

Jerry Sumrell, P.E.
Associate Partner
Syska Hennessy Group

Breakout C: Seawater and Deep Lake Water for Data Center Cooling

Low temperature water from seawater and deep lakes is becoming an option as a data center heat sink. The first system in the U.S. at Ithaca, NY, which serves about 51 megawatts of cooling, will be studied for fresh water. A data center in Hamina, Finland will be reviewed for using seawater. Each will examine the potential advantages, disadvantages, and lessons learned from the unexpected. For data centers, the additional requirement to meet higher reliability standards will be also be reviewed.

John Peterson
Senior Associate
Hewlett-Packard Critical Facilities Services
Get ready for an incredible event with 7x24 Exchange—a special event that fills three different venues at Universal CityWalk® in Universal Orlando® Resort. Take a side trip to New Orleans at Pat O’Brien’s®, explore the home of the king of reggae at Bob Marley–A Tribute to FreedomSM, and take the stage at CityWalk’s Rising Star karaoke club.

Immediately following, you’ll enjoy desserts, rides and entertainment. You’ll have unlimited access to all the rides and attractions at The Wizarding World of Harry Potter™.

It’s an entire evening of thrills and excitement—and it’s all yours!
WEDNESDAY
JUNE 13, 2012

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.

8:45 A.M. KEYNOTE
Birth of a Successful Data Center: How the Executive Team Makes Decisions and Leads the Team to Success
This panel will discuss lessons learned and how to overcome obstacles from current and previous mission critical construction projects. The panelists will deliver their view of thought leadership from three different perspectives: the owner, the contractor and the architect and how the varied point-of-view of each member can result in successful projects. The group will discuss topics related to project delivery methods, core team decision making and partnering. Learn how project teams can proactively reach consensus to avoid conflicts and delays. Learn to effectively partner and create high-performing collaborative teams to optimize the benefits for everyone involved.

Jennifer Fraser
Director of Engineering and Construction
Vantage Data Centers

Mark Rothman, AIA, DBIA, LEED AP, BD+C
Associate Principal
Fentress Architects

Todd Temple
Project Manager
Hensel Phelps Construction

9:45 A.M.
Refreshment Break

10:15 A.M.
Data Center Power Savings Through High Ambient Data Center Operations
In a typical data center, almost 40% of the total power consumption is spent on data center cooling. In addition, the capital expenditure costs for the cooling infrastructure are also significant. Large internet portal data centers are looking at every possible way to reduce the cooling cost. One of the emerging trends in the industry is to move to higher ambient data center operation. Some data center operators even want to operate the data centers at ambient as high as 40°C. It is shown that both server power increase and facility level cooling power savings must be considered to determine net power savings at the data center level. CFD modeling is used to demonstrate that following best practices in airflow management: using blanking panels, floor layout, eliminating cable obstructions, hot/cold aisle containment and bypass and recirculation reduction are first important steps to get ready for high ambient data center operation. It is shown that without these practices, there is large variation in inlet air temperature from one server to another creating hotspots forcing thermostats on CRAC units to be set low. It is shown that CFD modeling can be used to quantify how cooling path management improves with hot/cold aisle containment. The study shows that significant data center level power savings can be achieved by operating the data center up to 35°C with the use of economizers.

Nishi Ahuja
Senior Data Center Architect
Intel

11:15 A.M.
Optimizing Data Center Facility Operation
Much of the thought leadership with data centers over the last decade or more has been focused on building best-in-class data centers with ever-improving reliability, energy efficiency and cost efficiency. Data center owners are increasingly focusing not just on data centers “as designed and built” but also “as operated”. McKinstry will talk about our lessons learned in operational optimization from our experience in partnering with some of the largest data center owners in the country and working with them to develop best-in-class facility operations programs that optimize performance and business results.

Mark Guymon
Regional Director
McKinstry

Greg Bogard
Project Executive
McKinstry

12:15 P.M.
Conference Adjourns
TWO QUICK STEPS TO REGISTRATION

2012 SPRING CONFERENCE

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 the next page 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 May 18.

2. Hotel Reservations
   To take advantage of 7x24 Exchange’s special rates at the Hilton Orlando Bonnet Creek or the Waldorf Astoria you can visit the conference website at www.7x24exchange.org to make an online reservation, or call Hilton Reservations directly at 1-800-HILTONS (445-8667) and ask for the 7x24 Exchange Conference room rate of $159/night for a single or double plus tax at the Hilton Bonnet Creek or $179/night for a single or double plus tax at the Waldorf Astoria. Please refer to Group Code ZEXC when calling.

   Please Note: Room reservations are available on a first come, space-available basis. Space permitting, this block will be available until May 18, 2012. Register for the conference and make your hotel reservations early, as this block will likely sell out. Previous 7x24 Exchange conference room blocks have sold out. 7x24 Exchange is 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 sellout 7x24 Exchange will recommend nearby accommodations.

VENDOR/CONSULTANT POLICIES & PROCEDURES

Information Tables
All vendors and consultants are encouraged to participate in 7x24 Exchange.

However, the group is primarily driven by user interest. 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, June 11th between the hours of 6:30PM and 10:30PM. All hospitality suite hosts must be a Silver Partner 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, June 11th please contact Brandon Dolci at 646-486-3818 x 108 before May 18th.
Name:

(In informal name/nickname for badge)

Position/Title

Company

Address

City State Zip

Phone Fax

E-mail

CONFERENCE FEES:

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PAYMENT METHOD:

☐ Check enclosed

Charge (check one)

☐ American Express ☐ Visa ☐ MasterCard ☐ Discover

Card Number: Exp. Date:

Name (as it appears on the card)

Signature

Promotion Code:

DO YOU PLAN TO ATTEND?

SUNDAY 10:00 A.M. - 1:00 P.M.

☐ Yes ☐ No

SUNDAY 2:30 P.M. - 5:00 P.M.

Fluid Mechanics ☐ Yes ☐ No

SUNDAY 6:00 P.M. - 9:00 P.M.

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, Monday Morning Keynote, Hospitality Suites, the Vendor Sponsored Event and Wednesday Morning Breakfast.

MONDAY 3:00 P.M. - 4:00 P.M.

Breakout A: Battery Bank Sizing ☐ Yes ☐ No

Breakout B: Design/Build: California ISO ☐ Yes ☐ No

Breakout C: Big Data ☐ Yes ☐ No

TUESDAY 3:30 P.M. - 4:30 P.M.

Breakout A: Cloud Contingency Plans ☐ Yes ☐ No

Breakout B: Alternative UPS Technologies ☐ Yes ☐ No

Breakout C: Seawater & Deep Lake Water Cooling ☐ Yes ☐ No

Vendor Sponsored Evening ☐ Yes ☐ No

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

Name of guest:

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?

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

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 May 11th will be refunded, less a $150 handling fee. There will be no refunds after May 11th. However, substitutions of company participants may be made at any time.
2012 Spring Conference Corporate Leadership Program Partners (at press time)

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Register online today @
www.7x24exchange.org

Questions? Call 646-486-3818 x100
or e-mail info@7x24exchange.org