2008 SPRING CONFERENCE

June 1-4, 2008 • Boca Raton Resort & Club • Boca Raton, FL

7x24Change
INTERNATIONAL

The end-to-end reliability forum.

www.7x24exchange.org

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End-to-End Reliability:

THE GREEN OUTLOOK

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.

Founded on the assumption that often professionals involved with data center uptime issues 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 — IT, 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 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.

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

throughout the conference brochure.

10:30 A.M. – 10:00 P.M.

Registration

12:30 P.M. – 2:30 P.M.

TUTORIAL SESSION A:
Fundamentals of Data Center Commissioning

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.

David DiQuinzio
Principal
Strategic Facilities Inc.

3:00 P.M. – 5:00 P.M.

CONCURRENT TUTORIAL SESSIONS
TUTORIAL SESSION B:
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.

TUTORIAL SESSION C:
Commissioning, Inspection, Testing and Maintenance of Fire Protection Systems for Mission Critical Facilities — "Making sure your fire protection systems work the way they were intended"

The nuances of properly commissioning and maintaining fire protection systems for mission-critical applications are not widely known and the absence of subject matter expertise in this regard can lead to dysfunctional systems that create more problems than they solve. This presentation covers the tasks and methods necessary to ensure that the fire protection systems work the way intended and how to bring these requirements into the planning stage. It will also discuss the requirements for ongoing inspection, testing and maintenance of these systems.

Brian K. Fabel, P.E.
Director, National Accounts
Orr Protection Systems, Inc.

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.
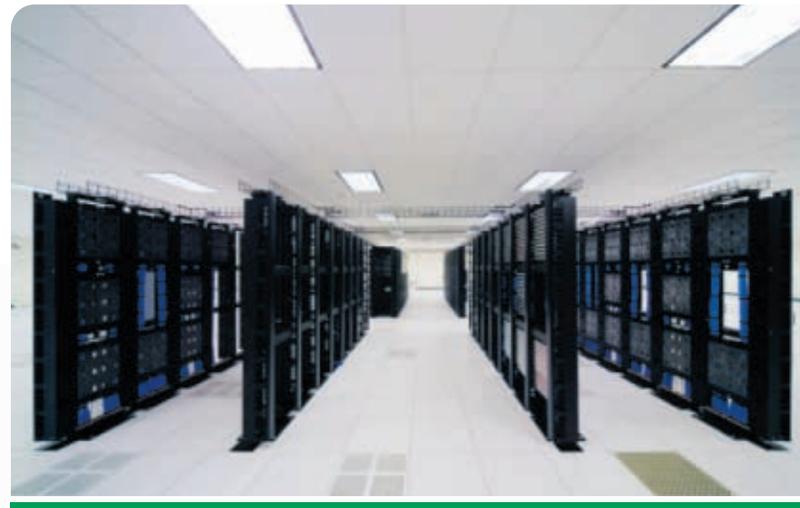
7:00 A.M.

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.

8:30 A.M.

CONFERENCE KEYNOTE:
Intel — Efficiency Driving Intel's Data Center of the Future Strategy

Practical but optimized implementation of the Data Center of the Future is a business-critical requirement for the vast number of companies, world-wide, which operate globally dispersed IT assets. Many companies, including Intel, are architecting substantial consolidations in real time, relative to ongoing operations, such that coincident ratification, adoption and deployment of several new technologies and disciplines—high performance/($-Watt-cu.ft.) multi-core compute platforms, virtualization, storage, consolidation, migration, networks, service models, billing and metering, power-thermal co-optimization—must be executed flawlessly to ensure continuity of expected net free cash flows. Arguably, the trending and re-distribution of a substantial portion of the $62+ trillion global 'GDP' hinges directly on the efficiency with which information management infrastructures are, with relative suddenness, being transformed from decades-old configurations to emerging ones. Unrelenting business and competitive uncertainty drives capacity forecast ambiguity, which forces demand for surprisingly novel collaboration, within companies, among real estate, facilities, engineering, IT, R&D and line-of-business executives and thought leaders. In this presentation, we present trends that are impacting the data center, what Intel is doing around energy efficiency, real data, and examples, whereby a harvest of the fundamentally substantial and continuing DCOF implementation benefits to be derived from facilities innovations is enabled.

Gary Howard
Senior Solutions Architect
Data Center of the Future Domain
Intel® Solution Services

9:30 A.M.

Refreshment Break

CONFERENCE BREAKS HAVE BEEN SPONSORED IN PART BY:

SYSKA HENNESSY GROUP

10:00 A.M.

Greening the Data Center

As the global demand for more data and faster performance increases, data system energy costs continue to rise. With energy costs rising and information technology equipment stressing the power and cooling infrastructure there is an increased need to improve data center efficiencies. While creating a green data center can be a complex undertaking, there are many solutions and techniques available to support the transition. A panelist of recognized industry leaders from IBM, HP, PG&E and The Green Grid led by Mike Zatz of the EPA will explore ways to optimize your computing environments to the benefit of your bottom line as well as share insight in applying energy efficient technology, products, skills and services to help you reduce data center energy consumption.

MODERATOR:

Michael Zatz
Chief, Market Sectors Group
ENERGY STAR Commercial and Industrial Branch
Office of Air and Radiation, USEPA

PANELISTS:

David F. Anderson, PE, PMP
Green Consultant
IBM Corporation

Kenneth R. Baker
Datacenter Infrastructure Technologist
Hewlett Packard Company

Mark J.E. Bramfitt
Principal Program Manager
Customer Energy Efficiency
Pacific Gas and Electric Company

Jack Pouchet
Technical Committee Member
The Green Grid

11:15 A.M.

Citigroup — Going Green: How to Achieve LEED™ Certification & Its Benefits in Your Data Center

Learn how to modify your traditional design and construction practices to insure that your data center can achieve LEED™ certification, which provides the building with healthier workspaces and lowers the operating costs and impacts on the environment. Particular emphasis will be placed on the strategic and tactical decisions that maximize the benefits of the

LEED system specifically for data centers. Understand the program objectives by learning about the history of the United States Green Building Council's development of the Leadership in Energy and Environmental Design (LEED™) certification system. Participants will understand the benefits of a LEED-certified data center, not only to the building owners, but to our society and environment, as well. We will clarify the LEED point rating system and certification process and highlight the points that are reasonable to attempt while maintaining the reliability we expect in these centers. Details will be provided on the strategies we used to incorporate the requirements in the design and construction of a recently completed, LEED-certified data center project.

Susan Kessler, P.E., LEED AP
LEED Advisor
EYP Mission Critical Facilities Inc.

William (BJ) Butler
VP & Senior Asset Manager
Citigroup

Brian George
Principal
Corgan

12:15 P.M.

Lunch and Networking

1:30 P.M.

APC-MGE — Greening the Data Center and Your Company's Bottom Line

Energy consumption in the data center traditionally has not been a major consideration, but thanks to the growing cost of energy, impending regulations, and the desire to reduce environmental impacts, more companies are looking at ways to reduce their energy needs. This presentation will look at ways to keep the data center running smoothly while using much less power, how companies can assess their current energy reduction opportunities, and how to take steps to go green for both existing and new data centers.

Neil Rasmussen
Chief Technology Officer; Vice President and Co-Founder
APC-MGE

2:30 P.M.

Make Your Own Sundae Break

3:00 P.M.

CONCURRENT BREAKOUT SESSIONS
BREAKOUT A:
Corning — 10G & Beyond in the Data Center with OM3 Fiber

10G optical connectivity with OM3 fiber has emerged as the primary media choice for data center and LAN applications in response to optimized pathway and space utilization; ease of installation and testing; power and cooling benefits, and for supporting high electronic and patch panel densities. Two-fiber serial transmission has been the de facto transmission method used for Ethernet and Fibre Channel for speeds up to 10G. Parallel optics with OM3 will now emerge as the transmission method to support future data rates such as 32G to 100G and beyond for short distances up to 100-300 m. This presentation will review the benefits of 10G optical connectivity and will provide guidance on parallel optics for Ethernet, Fibre Channel and InfiniBand applications when using OM3 fiber.

Doug Coleman
Manager, Technology and Standards, Private Networks
Corning Cable Systems

BREAKOUT B:
Strategic Facilities — Breaking the Mold

A case study of one firm's decision to manage critical facilities without facility managers. A standard third party operations audit on an aging legacy mainframe data center revealed failing grades on conventional staffing and yet the appearance, reliability, availability and security could be compared with recently developed TIER IV facilities and achieved at an operating cost well below comparative technology centers. Using an IT Operations model one firm defied convention by developing trusted relationships, implementing automation and a style of question and analysis to achieve performance excellence that exceeds "Best in Class" peers. The presentation will focus on successes in; achieving trusted relationships with business units and with vendors; automation for awareness, response, trending and analysis; a philosophy of questioning that allows appropriate solutions and minimizes invasive procedures; and the significant cost benefit to staffing with the right people at the right time.

John Diamond
Principal
Strategic Facilities Inc.

BREAKOUT C:
Schneider Electric — Increasing Power System Performance Through Vendor Partnering

In today's data center environment, insuring an adequate supply of power is vital. Further, the constant demands of increased uptime and growing energy efficiency concerns can greatly stress the existing data center power system infrastructure. Working in partnership with an electrical equipment vendor is one way to reduce the stress and increase the performance associated with a data center's power system. RagingWire Enterprise Solutions, Inc., a 105,000 sq. ft. co-location data center in Sacramento, CA, in partnership with Schneider Electric, presents a case study of the successes associated with such partnering.

Richard Fennimore
Senior Sales Executive
Schneider Electric

Joseph Kava
Chief Operating Officer
RagingWire Enterprise Solutions^{SM}, Inc.

CONCURRENT BREAKOUT SESSIONS

BREAKOUT A:

KlingStubbins — Economizers: Best Practices Energy Management Delivers Savings

"Until recently, data center designers and operators worried primarily about data center reliability, with little or no focus on energy efficiency. Now that data center power density is leading to power and cooling limitations, there is a growing interest in energy efficiency as a potential solution to these problems."

In August 2007, the U.S. Environmental Protection Agency (EPA) delivered a report to Congress on server and data center efficiency, in response to Public Law 109-431. The 133-page document considers the opportunities for energy efficiency improvements for government and commercial computer servers and data centers in the United States. The report shows that data centers can potentially save up to $4 billion in annual electricity costs through more efficient equipment and operations, and by adopting "best energy management practices," such as "free cooling" through the use of airside and waterside economizers. Recent studies show that combined with best-practices air management, such as strict hot aisle/cold aisle configuration, an airside economizer can reduce data center cooling costs by over 60%. Waterside economizers that use heat exchangers can be similarly effective while reducing the risk of airborne pollutants.

This presentation will look at both air-side and water-side economizers, comparing and contrasting both techniques and providing perspective on the best options based on a case study of two (2) side-by-side designs of a 20,000 sq ft. raised floor data center for two different locations in northern New Jersey. The case study will include cost models and energy simulations for two alternate design solutions: 1) conventional distributed CRAC units with water-side economizer, and 2) a central air handling system with air economizer.

Allen L. Frakes, PE
Engineering Design Principal
KlingStubbins

Michael Schwarz, PE, LEED® AP,
Project Engineer
KlingStubbins

BREAKOUT B:

Thornton Tomasetti — Hurricane Mitigation and Risk Assessment for Mission Critical Facilities

Organizations spend significant resources developing mission critical infrastructure but often overlook the building envelope and engineering systems that protect and support them. Natural disasters can lead to significant downtime resulting from direct damage to buildings, contents and mechanical systems as well as from damage to the outside infrastructure. While mitigation and risk assessment is applicable to all types of natural disasters, projection of hurricane losses and the mitigation that many times ensues is extremely important to a business continuity / disaster recovery plan. Real-world examples will be discussed in the context of the various hurricane hazards and vulnerabilities which plague facilities and the

methodology used to identify them. Methods will be discussed that will enable you to better assess the potential financial and operational losses from hurricanes and other natural disasters. Understand how the implementation of both innovative and sometimes simple loss mitigation measures can reduce potential losses during a catastrophic event.

Scott Katzer, P.E.
Senior Project Director
Thornton Tomasetti

Richmond W. Wall, CBCP
Senior Associate
Thornton Tomasetti

BREAKOUT C:

ASHRAE Activities to Improve Energy Efficiency of Data Centers

ASHRAE (American Society of Heating, Refrigeration and Air Conditioning Engineers) is an organization with 55,000 members located in 133 countries. Its sole objective is to advance the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve the evolving needs of the public through research, standards writing, publishing and continuing education. ASHRAE has 130 standard and guideline project committees that establish recommended design and operation practice. It is one of only five standards-developing organizations in the U.S. that can self-certify that its standards have followed the American National Standards Institute (ANSI) standards development procedures. ASHRAE developed the first energy conservation standard in the U.S. at the request of the federal government during the 1970s energy crisis.

In conjunction with ASHRAE's stated goal of reducing energy usage and increasing energy efficiency, a technical committee was formed in 2002 entitled "Mission Critical Facilities, Technology Spaces & Electronic Equipment." This committee is now the largest of the 100+ committees in ASHRAE and one of its most productive. Since its inception it has published 7 datacom books, and has 6 more in the planning stages. This year, a one day workshop is being given at five locations in New York State to show data center operators, designers, architects and CIOs how to improve energy efficiency of their data centers. The workshops will focus on three of the TC9.9 datacom series books that highlight energy efficiency.

This presentation will show the various ASHRAE TC9.9 activities related to energy efficiency of mission critical facilities. This will include an overview of the TC9.9 datacom books series and highlights drawn from the workshops being given in New York State this year. In addition, future activities planned by the committee will be addressed, including a roadmap of future datacom books and future datacom courses.

Roger Schmidt
Distinguished Engineer
IBM

6:30 P.M. – 10:30 P.M.

Hospitality Suites

You and your guest are invited to visit the hosting companies that support *7x24 Exchange*. Food, fun and games in a vibrant high-energy environment will be the emphasis.

7:00 A.M.

Breakfast

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 ADDRESS:

Emerson — The Dynamic Data Center Mastering Constant, Unpredictable Change

Data centers today are facing extreme challenges. You're gaining higher compute performance per watt, but an increasing reliance on IT technology carries a rapidly rising price tag. You're looking to virtualization for increased efficiencies. And, issues like heat density and demands for 7x24 availability, flexibility and scalability are omnipresent, and extending to other critical spaces throughout your organization. Amazing changes are coming to your data center as it evolves from day to day. Mr. Bauer will discuss strategies and tactics to help you create an IT infrastructure that is ready for change. Join us as we delve into these changes, explore what's most important, and look at how to apply technologies and services to help you manage under these conditions. Discover proven best practices that are supporting some of the world's most critical networks and driving data center innovation.

Robert P. Bauer
Group Vice President, Emerson, and
President, Liebert

10:00 A.M.

Refreshment Break

10:30 A.M.

Citadel — The Path to Virtualization

This presentation will walk participants through the computer room evolution process experienced by Citadel Investments on its 3 year trek to virtualization. This interactive session will underline key objectives and experiences that Citadel has learned along the journey. The presentation will cover the positive effects which virtualization has on the environmentals of the computer room, as well as the traps and pitfalls users must avoid to build a truly world class virtualized computing environment.

Michael Baker
Managing Director of Infrastructure
Citadel Investments L.L.C.

11:30 A.M.

EMC — Achieving Data Center Efficiencies, Eco-Responsibility and Business Objectives

Information technology has fueled great economic and social benefits as well as significant energy consumption. In this session, Dick Sullivan examines practical ways to balance IT needs with global progress toward environmental goals.

Dick Sullivan
Director Enterprise Solutions & Marketing
EMC

12:30 P.M.

Lunch and Networking

1:45 P.M.

Dell — Blueprint for Managing Thermals in a Data Center

As data centers become denser and as more power is consumed, managing thermals is becoming a critical issue. But it's more than just a server issue – all elements in the data center environment need to be considered. Data center design, blades, power delivery, modular cooling and thermal management are all important issues that must be addressed. In this presentation, David Moss will discuss key lessons for managing power and thermals in the data center. He will outline best practices and strategies that attendees can take back to their own organizations, and will answer the questions of what data center managers can do today to make their environment ready for what are likely to be huge increases in power consumption in the future.

David L. Moss
Engineering Strategist
Data Center Thermals
Enterprise Mechanical Architecture
Dell, Inc.

2:45.M.

Refreshment Break

Digital Realty Trust — The Keys to Developing an Energy Efficient Data Center

The rising demand for computing capacity coupled with increasing energy costs are requiring data center professionals to reevaluate their views on energy efficiency. For years, energy costs constituted less than 10% of IT budgets, but these costs are now projected to reach over 50% due to inefficient implementations and performance evaluations. This presentation will focus on the elements that have contributed to the rise in the importance of data center efficiency, the emerging standards for measuring efficiency and the methods that should be used within every data center to enhance their efficient operation.

Chris J. Crosby
Senior Vice President
Digital Realty Trust

CONCURRENT BREAKOUT SESSIONS

BREAKOUT A:
Tishman — Are Financial Institutions' Critical Operations Safe Enough Today?

Mission-critical information infrastructures and data centers have never been in as much peril as they are today. Erratic and extreme weather, from torrential downpours and ice storms, to summer heat waves that strain electrical resources to capacity; aging urban infrastructures of electrical, water, and steam utilities; and the ongoing threat of terrorism all compromise the reliability of mission-critical systems. How do you protect your business and your clients against insurmountable data loss?

Mr. Bowman is a 20-year veteran of the commercial real estate industry, and an expert in the location analysis and selection, design, engineering, construction, and operations of mission-critical business operations and data centers. He will speak on the topics of disaster-preparedness and the "future-proofing" of buildings to protect against business interruption and loss of critical data.

Ronald H. Bowman, Jr.
Executive Vice President
Tishman Technologies Corporation

BREAKOUT B:
IDC Architects — Economize the Data Center? Programming & Airflow Modeling

According to 2006 projections, an energy budget of 100 billion kWh will cost approximately 8 billion dollars and will generate approximately 40 million metric tons of carbon dioxide (CO_2). Data center HVAC and power systems account for 40-50% of typical energy consumption. Airside economizers are an effective solution to decrease consumption; however, they must address the potential of re-entrainment of waste heat, possible entrainment of cooling tower air, and the entrainment of generator exhaust back into the data center. Problems with re-entrainment can be minimized or eliminated through the application of computational fluid dynamic (CFD) modeling outside the data center facility.

David Seger, P.E.
Principal Mechanical Engineer
IDC Architects

Andy Solberg, P.E.
Mechanical Engineer
IDC Architects

BREAKOUT C:
Eaton — Breaker Switching Induced Transformer Failures

Over the last few years, there have been many unexplained transformer failures during the commissioning of a project, and/or when circuit breakers have been simply switched on or off. IEEE and others have formed working groups to study why this happens. Breaker manufacturers have known for about 25 years that switching certain types of loads, and system conditions could result in switching transient voltages in excess of equipment ratings but were not able to fine-tune the limitations or conditions due to lack of sophisticated software tools to evaluate the problem. The narrow range of system conditions leading to these types of failures were not prevalent until the last few years, notably striking the high-density data centers. And while our presentation will focus mainly on a specific data center, this phenomenon is not exclusive to this application. We will describe what happen as it occurred; how it manifested itself; what the system conditions were that lead to the failures of these transformers during commissioning; and how with the use of modern switching transient computer studies have allowed us to model and predict the phenomenon; and finally what the solutions are.

David Shipp, P.E.
Principal Engineer
Eaton Electrical Systems & Services Division

Richard McFadden
Associate Partner
Jaros Baum & Bolles, Consulting Engineers

6:30 P.M. – 10:00 P.M.

Ahoy Landlubbers!... 7x24 Exchange Presents "Surf & Turf"

Well not in the traditional sense… but thanks to the partners listed below, *7x24 Exchange* has been able to re-create the ever popular and fun Intra Coastal boat cruise with a twist…

Guests will be treated to dinner on land followed by a fun filled dessert and cocktail cruise down the beautiful Florida Intra Coastal waterway.

So all aboard the *Catalina* and *Caprice* two of Florida's most luxurious ships for a great evening of networking and entertainment.

Special thanks to the following partners for their support of this event.

ABB, AKF Group, APC-MGE, ASCO,Com Rent, Cummins, Data Aire, Eaton, Emerson Network Power, KlingStubbins, Kohler, Mitsubishi Electric, MTU Detroit Diesel, PDI, Russelectric, SIEMENS, Starline, Structure Tone.

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 ADDRESS:
AMEX — Creating an Effective Training Process

This presentation will take you through the activities used to develop and implement a robust and cost effective training process within the American Express Data Centers. It will cover financial and operational benefits as well as its overall impact to availability through effective initial certification, on-going training and annual re-certification for all Operations personnel. Through this presentation we hope to provide you with clear and specific details as to why we feel this process is an essential component of data center operations.

Samuel J. Brick
Vice President
American Express Technologies
Data Center Infrastructure

9:45 A.M.

Refreshment Break

10:15 A.M.

Turner — Dataville Developing Cost Efficient Data Centers

A presentation that will provide insights to developing data center facilities that align with current trends in the industry to promote energy efficiency and reduction in cost for development and operations. In this case study we will examine a unique solution that not only answers the efficiency challenges that are facing the data center industry but also economic, technical and energy criteria imposed by existing data center design processes.

Scott Good
Manager of Technologies
Turner Logistics

Scott Harmolin
Chief Executive Officer
Bastionhost Ltd

11:15 A.M.

Case Study: An Isolated Parallel UPS System for DuPont Fabros

DuPont Fabros engaged CCG Facilities Integration to design a large data center that would accommodate several tenants of varying critical power loads. In their design CCG provided for each tenant to have a dedicated UPS system for their computer room with fault isolation from those systems serving other computer rooms, yet critical power is shared among all UPS systems to produce equalized loading on the systems.

Piller was contracted to supply the data center's central electrical system which consists of 32 Diesel/Flywheel UPS Systems each rated at 1300 kW critical output plus 900 kW essential output arranged in two Iso-Parallel configurations of 16 systems each. One of Piller's tasks was to computer model the Iso-Parallel systems to predict load sharing and stability characteristics.

This presentation will go through the process CCG, DuPont Fabros and Piller executed to program, design, model, test and build a 70 MW electrical system for a flexible yet secure multi-tenant data center.

Tate Cantrell
Director of Critical Infrastructure
DuPont Fabros

Robert Baldwin
Project Engineering Manager
Piller

Mike Mosman
Vice President & Chief Technology Officer
CCG Facilities Integration, Inc.

12:15 P.M.

Conference Adjourns

What Members Are Saying

"The networking opportunity combined with great keynotes and educational sessions is what makes 7x24 the best."

"One of, if not the best conference in the industry."

"Excellent collection of real information with significant take away value."

"I enjoy the mix of attendees at 7x24 conferences."

TWO QUICK STEPS TO REGISTRATION:

1. Conference Registration

Complete a Conference Registration Form for each participant online 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 May 2, 2008.

2. Hotel Reservations

To take advantage of *7x24 Exchange*'s special rates at the Boca Raton Resort & Club please call Reservations 800-327-0101 and ask for the *7x24 Exchange* Conference room rate of $210/night.

Room rates are not inclusive of 11.5% tax and an $18.00 — taxable at 11.5% — daily Resort fee. The Resort fee covers daily fitness center access, 2 bottles of Mizner water daily, in room high speed internet access, 800 and credit card access, local calls, internal Resort transportation, daily turndown service, newspaper delivery and bellmen for arrival and departure.

Please Note: Room reservations are available on a first-come, space-available basis. Space permitting, this block will be available until May 2, 2008. 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 sell out *7x24 Exchange* will recommend nearby accommodations.

Boca Raton Resort & Club
501 East Camino Real
Boca Raton, FL 33432
561- 447-3000

Vendor/Consultant Policies & Procedures

INFORMATION TABLES AND POP-UP DISPLAYS

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.

Conference sponsors at the Key level or higher will be permitted to occupy one full six foot table for literature and/or a pop up display at no cost. Non sponsoring companies can set up pop up displays for a fee.

If you wish to coordinate a display please contact Brandon Dolci at 646-486-3818. All displays MUST be registered with *7x24 Exchange* by May 12th and accompanied by one full conference registration by a representative of the company.

HOSPITALITY SUITES

Hospitality suites/demo rooms are permitted on Monday, June 2, 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, June 2, 2008, please contact Brandon Dolci at 646-486-3818 x 108 before May 12th.

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 May 2nd	After May 2nd
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 P.M. – 2:30 P.M. • Tutorial Session A: Commissioning ❑ Yes ❑ No

3:00 P.M. – 5:00 P.M. • Tutorial Session B: Fluid Mechanics ❑ Yes ❑ No

3:00 P.M. – 5:00 P.M. • Tutorial Session C: Fire Protection ❑ 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 P.M. – 4:00 P.M. • Breakout A: 10G & Beyond ❑ Yes ❑ No

3:00 P.M. – 4:00 P.M. • Breakout B: Breaking the Mold ❑ Yes ❑ No

3:00 P.M. – 4:00 P.M. • Breakout C: Success through Partnership ❑ Yes ❑ No

4:10 P.M. – 5:10 P.M. • Breakout A: Economizers… ❑ Yes ❑ No

4:10 P.M. – 5:10 P.M. • Breakout B: Hurricane Mitigation/Risk Assessment ❑ Yes ❑ No

4:10 P.M. – 5:10 P.M. • Breakout C: ASHRAE Activities ❑ Yes ❑ No

Tuesday

4:15 P.M. – 5:00 P.M. • Breakout A: Financial Institution Operations… ❑ Yes ❑ No

4:15 P.M. – 5:00 P.M. • Breakout B: Economize the Data Center ❑ Yes ❑ No

4:15 P.M. – 5:00 P.M. • Breakout C: Breaker Switching ❑ 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 May 12th will be refunded, less a $125 handling fee. There will be no refunds after May 12th. 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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REGISTER ONLINE TODAY @ WWW.7X24EXCHANGE.ORG
Questions? Call 646-486-3818 x100 or e-mail info@7x24exchange.org

Register before May 2nd for a chance to win a Toshiba TheaterWide 40" LCD 1080i HDTV

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