November 11 – 14, 2001
The Phoenician
Scottsdale, Arizona

7X24Change

End-to-End Reliability
The Future

The leading knowledge exchange among those who design, build, use and maintain mission-critical enterprise infrastructures, 7x24 Exchange's goal is to improve end-to-end reliability by promoting dialogue among these groups.

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.

The wave of the future is not the conquest of the world by a single dogmatic creed but the liberation of the diverse energies of free nations and free men.

— John Fitzgerald Kennedy, 1960

These prophetic words reflect recent terrors and the world's response. They also underscore this program's intent — freeing attendee's diverse energies and imaginations by offering new insights, approaches and ideas to cope with existing and future end-to-end reliability challenges.

Max Hopper, former American Airlines CIO and a major force behind the creation of Saber, the first airline reservation system and among THE first truly on-line commercial systems, will provide a perspective of *Business Information Infrastructures: Past, Present, Future* in his Monday Keynote address.

Eric Weihenmayer, the blind climber who scaled Mt. Everest and has been featured on the cover of *Time Magazine*, the Today Show, NBC, CNN, Fox, etc., will open day two with an insightful view of teamwork, leadership and overcoming challenges.

Rob Fixmer, *Editor-in-Chief, Interactive Week* and an important technology thinker, Tuesday's Keynoter, will address end-to-end infrastructure reliability/performance and related issues involved with *Linux* and the open source movement.

Steve Fairfax, Wednesday's Keynoter, will discuss *High Availability: Methods, Myths and Mistakes*. A recognized leader in risk measurement in complex information infrastructures, Steve has delivered several highly-rated sessions at past *7x24 Exchange* conferences.

The Conference also includes panels on Watts/ft^2, Monitoring and Distributed Generation in a Deregulated Environment; tours of three local facilities; an update by **Suhas Patankar** and **Roger Schmidt** on *Predicting and Controlling Data Center Air Flow;* a session by *EPRI's* **Dr. Paul Grant** on *Emerging Power Technologies* — sessions on How to Stay Ahead of the Power Game; Engineering and Legal Due Diligence issues for Critical Facilities; Power — AC vs DC data center distribution, three *Instant Update* sessions on: *Fire Safety; Alternate Cooling approaches and Back-up Generators and Deregulation* — and much more.

As always, the conference will feature a range of opportunities for attendees to network and dialogue during tours, breaks and social events — plus, vendor hospitality suites. And, as a special treat, vendor sponsors will host a Tuesday evening event — *Field of Dreams* dinner and games at Arizona's remarkable Bank One Ballpark (BOB). After taking over the Arizona Diamondback's home field, the group can play games, network, enjoy being on *A Field of Dreams*, an open bar and a sumptuous dinner.

Agenda

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.

Sunday, November 11

12:00 noon
Registration (Ballroom East Foyer)
Those enrolled in one of the three pre-conference tutorial sessions can pick-up badges and conference materials. There will be a 15-minute refreshment break at 2:30 p.m.

1:00 p.m.
Three concurrent, three-hour tutorial sessions will be available.

A. Electricity 101
George Kamburoff, independent consultant
Responding to audience requests for more Power Basics from George Kamburoff, a dynamic and entertaining technology instructor and *7x24 Exchange* regular, this session has been updated and expanded to cover power basics, including: electromagnetism, basic circuits, DC, AC and field effects, then moving through circuits and services, grounding, line load interactions and power system harmonics. It will provide a solid grounding in power essentials for non-EE's and should help anyone involved with 7x24 operations to better understand the basic critical elements of power.

B. Fluid Mechanics 101: Fundamentals of Data Center Airflow (Laptops recommended)
Suhas V. Patankar, Ph.D., professor of Mechanical Engineering, University of Minnesota and president, Innovative Research, Inc.
This session introduces basic concepts of air velocity, pressure, flow resistance, mass conservation and momentum balance, as applied to air-cooled raised-floor data centers. Suhas will show why flow distribution through perforated tiles is usually not uniform and how it is governed by variations in under-floor air velocity and pressure. Calculating this variation allows one to predict the amount of airflow coming out of each perforated tile.

These calculations can be used to study the effect of variables, such as the positions of CRAC units and perforated tiles: the percent open area of the perfs, raised floor height, and any under-floor partitions/blockages. The analysis also allows the simulation of failure scenarios, in which the modified flow distribution resulting from failure of one or more CRAC units can be calculated.
The tutorial will include a hands-on session on laptop computers where participants can set up data center layouts and calculate flow distribution. Participation in the hands-on session requires a laptop computer with Windows 95/98/Me/NT/2000 operating system.

C. Networks 101
Michael A. Weinstein, manager, AT&T NPS Solutions & vice president, 7x24 Exchange
Again, responding to attendee requests for more time, Mike Weinstein will provide an overview of current and emerging networking and communications technologies and how they fit together to support enterprise operations. Topics covered will include network transmission facilities, routing, security, wireless and the convergence of voice, data and video technologies. Attendees will learn how these technologies work and fit together in end-to-end networks that support mission critical applications.

5:00 p.m.
Registration (continued)
Pick up conference materials and badges (Ballroom East Foyer) to help reduce Monday morning congestion.

6:00 p.m.
Reception/Ice-Breaker
Join us for a buffet supper and open bar. This is an excellent opportunity to dialogue with conference presenters, to network, meet new people and renew old acquaintances.

7x24 Exchange Board members Dave Sjogren and Bob Cassiliano will moderate an ice-breaker session designed to welcome first-timers and open dialogue on *7x24 Exchange* and uptime issues and experiences.

Monday, November 12
Starting at 6:30 a.m.

Registration/Continental Breakfast
(Coffee, Danish, fruit)
Pick up conference materials and badges.

8:15 a.m.
Welcome and Opening Remarks
Robert (Bob) Cassiliano, president, Business Information Services, Inc. and 7x24 Exchange chairman
Bob will open the formal agenda, provide a conference overview and review meeting logistics

8:30 a.m.
Keynote Address: Business Information Infrastructures: Past, Present, Future
Max D. Hopper, president, Max D. Hopper Associates
As CIO of American Airlines in the seventies, Max was instrumental in creating the infrastructure for Saber, the pioneering on-line airline reservation system. As one of the first to recognize the mission critical interdependence of technology and business objectives, Max will provide an overview of the evolution of information infrastructures — past, present and what he sees on and over, the horizon, especially globalization's growing impact on business.

9:30 a.m.
Emerging Power Technologies
Dr. Paul Grant, EPRI, Inc.
(visit the 7x24exchange.org web site for details)

10:15 a.m.
Break
Coffee, Danish, juices and soft drinks will be available.

10:45 a.m.
Watts/ft^2: Panel: The Latest Thinking Update
Moderator: William R. Angle, managing director, CS Technologies
Panelists: Stephen Spinazolla, vice president, RTKL; Trent T. Jones, engineering manager, Hoffman Enclosures; Steven Jeffreys, director of internet engineering, EMC^2, David De Lorenzo, thermal engineer, Advanced Systems Lab, Intel and Dan B. Baer, vice president environmental products, Liebert.
Based on feedback from the *Watts/ft^2: The Latest Thinking instant update* session from the *7x24 Exchange* 2001 Spring Conference, the panel will explore *Intel's* projected server heat load trends, *EMC^2* SAN and DASD storage loads and

corporate raised floor electrical profiles; *Hoffman's* standard rack configuration air aspiration and advanced cooling methods; an update by *RTKL's* on its *High Delta*, custom-baffled enclosure; *Liebert's* auxiliary rack cooling methods; and more.

12 noon
Lunch

1:30 p.m.
Staying Ahead of the Power Game
Kimberly Samaha, president, Catalyst Power
This session will provide how to stay ahead of the paradigm shift of depending on large central utilities, to gaining power independence by utilizing distributed generation. Using real life applications and examples, Kimberly will demonstrate how clean, reliable, on-site power can be used to lower energy costs and reduce downtime. Topics covered will include: leveraging energy needs with local tariffs, emission standards, permits/installation, maximizing cost effectiveness of solutions and how to prepare for the energy future.

2:15 p.m.
Concurrent Sessions

A. Mission Critical Facilities (MFC's) Development: Key Engineering & Due Diligences Issues Regarding Mission Critical Facility Startup and Commissioning
Christopher (Chris) Donovan, attorney, McDermott, Will & Emery and Richard Greco, principal, EYP Mission Critical Facilities
Rich and Chris will provide an integrated legal and engineering overview of key issues involved in startup and commissioning of MCFs. Demonstrating the value of early integration of legal and engineering disciplines, they will discuss key legal and engineering issues to identify first in bid documents, RFQs, RFPs, and specifications. They will review a timeline and checklist of key legal and engineering milestones and some of the threshold filters/screens for successful project implementation. Additionally, there will be a discussion regarding enforcement of non-compliant issues, regarding to installation, components and/or systems. The presentation will conclude with a discussion of the need to incorporate key commissioning and performance acceptance thresholds into project and legal documentation.

B. The Use of Adaptive Autonomous Entities For Multi-faceted Reliability
John G. Voeller, SVP, CKO, CTO, Black & Veatch
John will discuss the implications of the convergence of intelligent IP addressable devices and autonomous adaptive software entities to raising the level and quality of several critical facets of reliability in complex environments. Areas covered will include new methods of networking, programming, interfacing, discovery and fault consideration using advanced technologies.

3:00 p.m.
Break: Make your own Sundae
Coffee, juices, soft drinks, ice cream, toppings and sweets

3:45 p.m.
Concurrent Sessions
A. Delivering Successful Facility Projects: An Update for Non-Construction Industry Professionals
Michael E. Kenig, vice chairman, Holder Construction
This session will update IT/Facilities professionals on some of the latest construction industry trends, including project delivery strategies, discuss some of the confusion surrounding the industry's *alphabet soup* of project delivery acronyms and provide several lessons learned and an outline of techniques to help increase their projects' chances for success.

B. Medium Voltage UPS: Case Study and Tour
Bradford (Brad) Roberts, director of marketing, S&C Electric Co
Power protection for the most critical data center loads, (computers and telcoms) have been served by conventional, parallel, redundant, battery-based UPS systems. Power densities in newer Internet facilities have increased to levels that make more parts of the data center, like process cooling, almost as critical as the computers. An ever-increasing demand for protected power consumes large amounts of valuable floor space and wastes more energy.

This presentation addresses the concept of total building UPS at incoming utility voltage to build a true *enhanced* redundant UPS concept. This approach allows systems as large as 20,000Kva in very small spaces installed outside the core building. The technical details of this concept, along with the economics, will be presented in detail, followed by a tour of a 12,500Kva, medium voltage UPS installation in Phoenix (ST Microelectronics).

5:15 p.m. to 8:30 p.m.
Concurrent Tours
Tours will leave at 4:15 p.m. and return to the hotel by 8:30 p.m. Several vendor organizations will host hospitality suites from 5:00 p.m. – 10:00 p.m. Details will be posted at the conference.

T1. Co-Generation at The Phoenician
(limit 50; a 15-minute overview presentation, followed by a short walk to The Phoenician Power Room). Bill Claypool, director of technical services, The Phoenician.
Back by popular demand, this tour is being presented for the third consecutive meeting and will cover The Phoenician's CoGen/Distributed Generation facility as part of its central plant. Operation began when The Phoenician opened in 1988 and has been in continuous service since. The facility features two 650 kW natural gas engine generators that were upgraded to lean burn in 1995, with switchgear and controls to handle engine start, paralleling and paralleling to the utility.

T2. ST Microelectronics UPS
(visit the 7x24exchange.org web site for details)
This tour is a follow-on to the Medium Voltage UPS Case Study presented earlier.

T3. DHL Data Center
(visit the 7x24exchange.org web site for details)

Tuesday, November 13

8:00 a.m.
Continental Breakfast
Coffee, Danish, fruit

8:30 a.m.
Opening Remarks Day 2
Bob Cassiliano will review day one highlights, provide an overview of upcoming events and last-minute changes.

8:45 a.m.
Teamwork at the Edge
Erik Weihenmayer
Featured on the cover of *Time Magazine*, on the Today Show, NBC, CNN, Fox and more, Erik, a blind climber, has scaled all of the world's highest mountains. Teamwork, a critical element in all end-to-end reliability efforts, relies on many factors common to all endeavors. Using his unique insights, Erik will discuss the need for overarching vision-based goals, the need to reach, take risks and to build on strengths and diversity to create an effective team.

9:45 a.m.
Break
Coffee, Danish, juices and soft drinks

10:15 a.m.
Keynote: Linux, Open Source and the Future
Rob Fixmer, editor-in-chief, Interactive Week
Linux and open systems have great momentum and have captured many recent headlines. However, the real issues, from an end-to-end reliability perspective, relate to performance — stability, reliability, security, maintainability and efficiency. Rob will explore some of the critical business systems reliability and computer resource implications of the open source movement.

11:15 a.m.
Panel: Site Monitoring Convergence
Moderator: Ross Ignall, systems applications manager, Dranetz-BM
Panelists: David Saliaris, manager-site products, Liebert; John W. Sawyer, director mission critical facilities services, Johnson Controls; Ed Stogenson, consultant account manager, Siemens Energy & Automation
Facility monitoring is key to *proactive* facility management. Without monitoring, precious time and countless dollars are lost *reacting* to problems as they arise. Monitoring can provide real time and historical information on many aspects of a facility's performance by integrating measurements and transducers from power/electrical, HVAC, security and other systems. This session will cover many aspects of facility monitoring including: differences among systems, in general; across industries; subsystems integration; information reporting and correlation; predictive/preventive maintenance; application technologies and protocols; and more.

12:10 p.m.
Lunch

1:40 p.m.
Concurrent Sessions

A. How to Predict and Control Data Center Cooling Airflow
Drs. Suhas Patankar, president, Innovative Research, Inc. and Roger Schmidt, chief thermal architect, IBM Corporation
Air-cooled, raised-floor data centers are the most common facilities housing 7x24 equipment. Since the air is supplied to the space below the raised floor at a few discrete locations (by the CRAC units) and emerges from many perforated tiles throughout the data center, flow distribution is usually not uniform. Despite designer and operator efforts, maldis-

tributed airflow results in an insufficient air supply to critical equipment. The distribution of airflow through perforated tiles is governed by the variation of *under-floor* pressure. By solving the relevant equations of motion, the flow through each perforated tile can be predicted.

This model is used to analyze existing data-center layouts and predict effects of layout changes. Variables under designer/operator control include: positions of CRAC units and perforated tiles, the percent open area for perfs, raised-floor height and any *under-floor* partitions/blockages. By a systematic variation of these parameters, a desired flow distribution can be achieved. The model also allows for evaluation of failure scenarios, where the modified flow distribution resulting from the failure of one or more CRAC units can be calculated.

The presentation will include a number of case studies, in which the effect of the main parameters is demonstrated and typical failure scenarios are analyzed. Several ideas for improving the flow distribution will be proposed and evaluated.

B. Panel: Distributed Generation in a Deregulated Electrical Environment
Moderator: Leo Soucy, president, Facilities Engineering Associates
Panelists: David Van Holde, director of dedicated energy resources, E-Source and Bob Zavadil, senior consulant, Electrotek Concepts
This session will address issues and opportunities that facilities must evaluate to participate in newly evolving energy markets. From the ubiquitous diesel generators traditionally employed for emergency power to environmentally friendly new technologies, such as microturbines and fuel cells, a myriad of technical, regulatory, infrastructure and economic factors must be considered.

Standard mission critical facilities designs typically have included standby generators, used only in the event of a power failure or other extreme conditions. For the facility owner, these generators represent a high cost and underutilized investment. However, as the electric power industry deregulates, opportunities for those assets to participate in load shedding and energy sales programs are increasing. Further, the regulatory climate is, by necessity, shifting to allow DG devices, especially new technologies, to directly participate in lucrative energy markets. Thus, DG assets can become a revenue source for the facility and not just a sunk cost.

The panel discussion will cover: market trends and drivers; current opportunities for participation in energy markets; newly developing markets and the variables required for participation; creative facility owner and owner/utility collaborations; DG technology options, cost and performance; facility design elements to ensure that facilities provide the operational flexibility to maximize ROI; environmental regulatory and permitting concerns; interconnection standards and safety issues; and more.

2:30 p.m.
Break
Coffee, juices, soft drinks and snacks.

3:00 p.m.
Convergence of AC and DC Electrical Distribution Infrastructures
Douglas Bors, PE, vice president, Technical Consulting and Research, Sparling, Inc.
AC and DC distribution are colliding in mission critical facilities. Many facilities are being built to house IT/data center and telephone/network equipment, traditionally AC and DC respectively. Many data network manufacturers build both types of power supplies. Doug will explore three vital issues *7x24 Exchange* members involved in such a choice must consider:
- Comparative reliabilities of the AC and DC approaches.
- Overall system power efficiency compare between the two approaches.
- Maintaining grounding, since the two systems use different approaches.

In addressing these questions, Doug will review recent findings on AC and DC systems failure probabilities; battery time; redundant modular rectifier components; what is known about DC system component failure rates; systems efficiencies: distribution, equipment utilizations, dimension counts; various grounding issues, and more.

3:45 p.m.
Pass-The-Mike/Professional Roundtable
Moderator: Raymond G. Saleeby, president & CEO, SCG
Panel: A panel of 3-5 will be drawn from presenters, based on audience interests and questions/issues submitted by attendees.
A panel of program speakers and/or a moderated Pass-The-Mike will respond to questions submitted beforehand or which surfaced during conference presentations and dialogue with the audience on 7x24 operations issues of interest. Discussion will include dialogue on September's attacks and their impact infrastructure risk assessment and design criteria.

5:45 p.m.
Vendor Sponsored *Field of Dreams*
(Buses depart at 6:00 p.m. and return to The Phoenician by 10:00 p.m.)
Come and enjoy this spectacular and unforgettable event at Arizona's remarkable Bank One Ballpark (BOB). The group will "take over" BOB, for a once-in-a-lifetime opportunity to "Play Ball on the Arizona Diamondback's home field." Starting with a welcome from the house organist, Ballpark Vendors will greet and escort the group to the field for Cold Beers and Ballpark Snacks — Popcorn, Peanuts, Cotton Candy and CrackerJacks. Dreamers can mingle on the big field, participate in authentic interactive "baseball" games: *Milk Can Knock Down, Ring the Bat, Radar Fast Pitch, Pitch Hitter* and an authentic *Batting Cage*; tour the "Visiting Team's" field-side dugout and clubhouse, or just enjoy being under the big dome. The group will then enjoy an open bar and sumptuous buffet dinner on tables set up around the field.

Wednesday, November 14

7:30 a.m.
Continental Breakfast

8:15 a.m.
Opening Remarks and *7x24 Exchange* Chapter Update
Bob Cassiliano will review highlights from days one and two and provide an update on chapter activities, a brief State of the *7x24 Exchange* message, current *7x24 Exchange* activities and plans.

8:45 a.m.
Keynote: High Availability: Methods, Myths and Mistakes
Stephen A. Fairfax, president, MTechnology
This presentation will outline quantitative methods that can be used to estimate expected improvements when purchasing new or upgrading existing systems. Steve also will review methods that can be used to prepare quantitative cost/benefit analysis for projects, as well as techniques that can be used to develop and maintain operating procedures and learning strategies applicable to testing and preventative maintenance programs. There also will be a discussion of graphical techniques that complement mathematical analysis for presenting management with failure causes and consequences.

9:45 a.m.
Break
Coffee, juices, soft drinks and fruit.

10:15 a.m.
Instant Updates
Based on high audience evaluations and positive comments about the 2001 Spring Conference *Instant Update* sessions, three current issues important to *7x24 Exchange* members will be *Updated*:

Maximizing the value of "back-up" generation in a deregulated market.
R. Scott Helm, president, American PowerNet
Historically, back-up power was installed to run when primary power was interrupted. Now, deregulated wholesale and retail markets are placing significant value on this underutilized energy source — the back-up power system. When combined with e-procurement, a purchase/produce strategy creates unparalleled flexibility and opportunity in this evolving energy market. Value also can be extracted from this asset through contractual arrangements that recognize the value and capacity of the energy. Scott will review the different components and provide examples of additional value that can be extracted based on the historical real-time prices from ISOs (Independent System Operators) around the country.

Fire Safety for Mission Critical Facilities Using New Data Cabling Technologies
Frank Peri, President, Communication Design Corporation
This presentation will allow attendees to make better decisions on infrastructure data cabling by providing information on new cabling technologies now appearing in cabling codes and standards and new design strategies.

Alternative Cooling Solutions for Internet Data Centers
David A. Barr, PE, project manager and mechanical engineer, Black & Veatch Telecommunications, Inc.
This session will address some of the challenges that arise when designing data center cooling systems for high equipment power load densities (over 150 watts per square foot). The benefits and limitations of traditional CRAC units distributing air below raised floors will be discussed and alternate cooling methods will be suggested. David will also review alternate approaches to grounding, power distribution and telecommunications cabling that would eliminate the need for raised floors when implemented with some of the alternate cooling methods.

11:15± a.m.
Adjournment
Box lunches will be provided.

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 non-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

7X24 Change

7x24 Exchange
83 Calvert Street
Harrison, NY 10528

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Programs
Fall 2001
Howard Levison
914 835-5740

Spring 2002
Joseph Paladino

Newsletter
Joseph Paladino

The registration fee covers all sessions and activities, handout materials, Sunday's reception, breakfasts, lunches on Monday, Tuesday and Wednesday and field trip transportation. Participants are responsible for all other expenses, including transportation and hotel accommodations.

The dress code is business casual.

Cancellations received by November 2, 2001 will be refunded, less a $75 handling fee. There will be no refunds after November 2. However, substitutions of company participants may be made at any time.

Continued from page 5

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.

Vendor/Consultant Participation
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. Overt selling at *7x24 Exchange* meetings and the use of *7x24 Exchange* membership lists for direct selling are prohibited.

Special Interest Groups (SIGs) and Chapters
To better serve users and provide a means for ongoing technical interchange between semi-annual conferences, *7x24 Exchange* encourages and supports the formation of local *7x24 Exchange* Chapters and Special Interest Groups (SIGs). Monthly or bi-monthly chapter meetings help assure continued dialogue

between members in a given geographic area. SIG's provide an opportunity for members to explore specific 7x24 issues/problems in depth.

7x24 Exchange's Board of Directors will authorize Chapters and SIGs based on availability of a president/chairperson, a clear program plan and, if needed, a budget. Chairpersons responsible for gathering a working group and achieving approved plan objectives.

Any member interested in forming a Chapter or SIG should contact a board member.

7x24 Exchange 2001 Fall Conference

Registration includes two steps:

1. Conference Registration

Complete a **Conference Registration Form** for each participant, on-line or a copy of the following form and mail or fax to:

7x24 Exchange
83 Calvert Street
Harrison, NY 10528

Phone: 914 835-5740
Fax: 914 835-5762

www.7x24exchange.org

To assure space availability, registrations must be received by November 2, 2001. Attendance will be limited to 400.

2. Hotel Reservations

If you wish to stay at The Phoenician Resort and Spa and take advantage of *7x24 Exchange's* special rates, complete the **Resort Registration Form** and FAX or mail a copy to:

The Phoenician
6000 East Camelback Road
Scottsdale, AZ 85251

Phone: 480 941-8200
Fax: 480 947-4311

To assure space availability, registrations must be received by October 24, 2001. Attendance will be limited to 400. After October 24, rooms are subject to space availability.

7x24 Exchange 2001 Fall Conference

Resort Registration Form

Each attendee is responsible for his/her own hotel. To take advantage of *7x24 Exchange's* special rates, attendees must register with The Phoenician by October 24. Rooms are subject to space availability after October 24.

To reserve a room, complete and fax or mail a copy of this Resort registration form to:

The Phoenician Resort & Spa
6000 East Camelback Road
Scottsdale, AZ 85251

Phone: 480 941-8200
Fax: 480 947-4311

Please type or print clearly

Full name

Company

Address

City   State   Zip

( )   ( )
Phone   Fax

Payment Method
Charge (check one): ❏ *Amex,* ❏ *Diners,* ❏ *Discover,* ❏ *MasterCard,* ❏ *Visa,*

Card Number   Expiration Date

X
Signature

Arrival date: _____

Departure date: _____

❏ *Smoking*   ❏ *Non-Smoking*

7x24 Exchange Room Rate is $241/night, plus room tax.

The above rates are available to 7x24 Exchange attendees from November 8 – 16, 2001.

Things to remember
- Check-in time is 3:00 p.m.
- Reservations are held until 4:00 p.m. unless guaranteed late arrival. A no-show will be charged as a one-night stay.
- Checkout time is 12 noon.

Conference Registration Form

Return this form to *7x24 Exchange*. Fax: 914 835-5762

Please type or print clearly

Full name
_____

(Informal name/nickname for badges)
_____

Position/Title
_____

Company
_____

Address
_____

City _____ ( ) State ____ ( ) Zip _____

Phone _____ Fax _____

E-mail
_____

Fees	Through Nov. 2	After Nov. 2
Member	$1,200	$1,500
Non-member	$1,500	$1,800

Payment Method
❑ *Bill me* ❑ *Check enclosed*
Charge (check one):
❑ *American Express,* ❑ *Discover,* ❑ *MasterCard,* ❑ *Visa*

_____ _____
Card Number   *Expiration Date*

Company problem/issue/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 this information?
❑ *Yes* ❑ *No*

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

Other comments, suggestions:

_____
_____
_____
_____

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

Do you plan to attend?

Sunday's Buffet Reception?
❑ *Yes* ❑ *No*

Do you plan to bring a guest?
❑ Yes ❑ No
If yes, name:_____

Sunday's Tutorial Session 1:00 p.m.
Note: The $50 advance for this tutorial will be refunded upon registration at the session.
❑ **A. Electricity 101**
❑ **B. Fluid Mechanics 101**
❑ **C. Networks 101**
❑ **None**

Breakout sessions
Monday 2:15 p.m.
❑ **A. Key Engineering Due Diligence Issues...**
❑ **B. The Use of Adaptive Autonomous Entities...**
❑ **Undecided**
❑ **None**

Monday 3:45 p.m.
❑ **A. Delivering Successful Facility Projects...**
❑ **B. Medium Voltage UPS...**
❑ **Undecided**
❑ **None**

Tuesday 1:40 p.m.
❑ **A. How to Predict and Control Data Center Cooling...**
❑ **B. Distributed Generation in a Deregulated...**
❑ **Undecided**
❑ **None**

Tours
Monday 5:15 p.m.
❑ **T1. Co-Generation at the Phoenician**
❑ **T2. ST Microelectronics UPS**
❑ **T3. DHL Data Center**
❑ **Undecided**
❑ **None**

Tuesday Evening's Vendor Sponsored Social Event?
❑ Yes ❑ No

Do you plan to bring a guest?
❑ Yes ❑ No
If yes, name:_____