16TH EDITION DISASTER RESOURCE
GUIDE

Relationships & the Road to Resilience

CELEBRATING 28 YEARS
OF RELATIONSHIPS
Business Continuity
Crisis Management
Disaster Recovery
Emergency Management
Enterprise Risk Management
Homeland Security

Photo credit Jocelyn Augustino/FEMA

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BE PREPARED TO COMMUNICATE WITH YOUR TEAM ANYTIME, ANYWHERE
Eliminate the Hassle, Risk and Stress of Email Management with Dell

Business Continuity planning and Disaster Recovery preparedness is now an essential part of managing your day to day business. The scenarios you must plan for can range from small localized events to severe business disruptions. In every case, ensuring that you are able to execute effective, efficient communications with your management, staff, and business partners via email and mobile devices is critical to successfully protect your business and resources. CIOs, IT Managers and BC/DR professionals are responsible for making sure you can communicate before, during and after every planned or unexpected disruption.

Transform Inform Connect Protect

We're experiencing an era where monster trends are converging on IT at a scale and pace that is unprecedented. Today, IT leaders must:

- **Transform** the data center and communications by making use of cloud infrastructure
- **Inform** business leaders by providing up to the minute updates and access to historical data so that they can make informed decisions
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- **Protect** your infrastructure, records, communications and data no matter where it resides

To be effective, IT leaders must have a strategy across all of these trends. That's why Dell Software delivers a diverse range of scalable software solutions that combine with industry leading hardware and services to create a truly end-to-end portfolio. This unique com-

bination rapidly empowers any size organization to simplify IT, mitigate risks, and accelerate results.

Dell Software is the solution to execute their strategy by providing cutting edge solutions, including Dell Email Management Services (EMS) and Dell AlertFind Enterprise Notification.

Dell Email Management Services is a suite of individual cloud-based offers that provides Email Continuity, Email Archiving and eDiscovery, Email Security, and Email Encryption.

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By partnering with EMS and AlertFind from Dell Software you minimize complexity and maintenance, relying on one vendor for data recovery, email continuity, archiving, search, storage management and security, and ensure you can communicate with your clients and staff – no matter what.

For more information about these offers call us at 888-318-3201 to speak to your Dell representative or visit our websites at software.dell.com or www.AlertFind.com.

A Centralized, Consistent and Automated Approach to BC/DR Planning

Voice of the Customer:

"We identified a list of required capabilities for our BCM solution and then compared them one-by-one against our existing solution and against RSA Archer; RSA Archer won hands down. RSA offered a number of capabilities – such as inclusion of vendor contact lists, availability of supporting documentation, and plan ownership and approval assignment that our existing platform either poorly supported or did not support at all."

– Daniel Minter,
Global Business Community
Manager, EQUIFAX

OVERVIEW

RSA® Archer® Business Continuity Management (BCM) provides a centralized, consistent, and automated approach to business continuity and disaster recovery planning, allowing you to respond swiftly in crisis situations and protect your ongoing operations. This 3-in-1 web-based solution combines business continuity, disaster recovery, and crisis management into a single management system. You can assess the criticality of your business processes and supporting technologies, and develop detailed business continuity and disaster recovery plans using an automated workflow for plan testing and approval.

The RSA Archer Business Continuity Management and Operations solution enables you to manage plan execution and communication in crisis situations to minimize harm to your employees, customers, reputation, and business operations. You can collect information on each business process related to its criticality and recovery objectives, then share findings among interdependent teams in a simple, consistent format. Furthermore, you can leverage the BCM mobile application to view BC/DR plans, recovery strategies and tasks, calling trees, and recovery requirements according to user role, which decreases your dependency on hard copy plans and enables you to respond more quickly to crisis events.

SOLUTION HIGHLIGHTS

Along with being an industry leader, the RSA Archer Business Continuity Management and Operations solution is highlighted by the following:

- Focus around ISO 22301/22313, DRII, and PS-Prep standards
- User interface that is easy to configure and provides strong graphical support with drag and drop capabilities
- Industry leading BCM mobile app for the iPhone® and iPad®
- Alignment with enterprise and IT GRC management for broader integration of BCM processes into areas such as risk and incident management
- Multi-language support for Chinese, English, French, German, Italian, Japanese, Portuguese, Russian, and Spanish
- Overall RSA Archer service to more than 700 customers in over 40 countries, representing more than 25 industries

Learn more at rsa.im/archerbcm

EMC²

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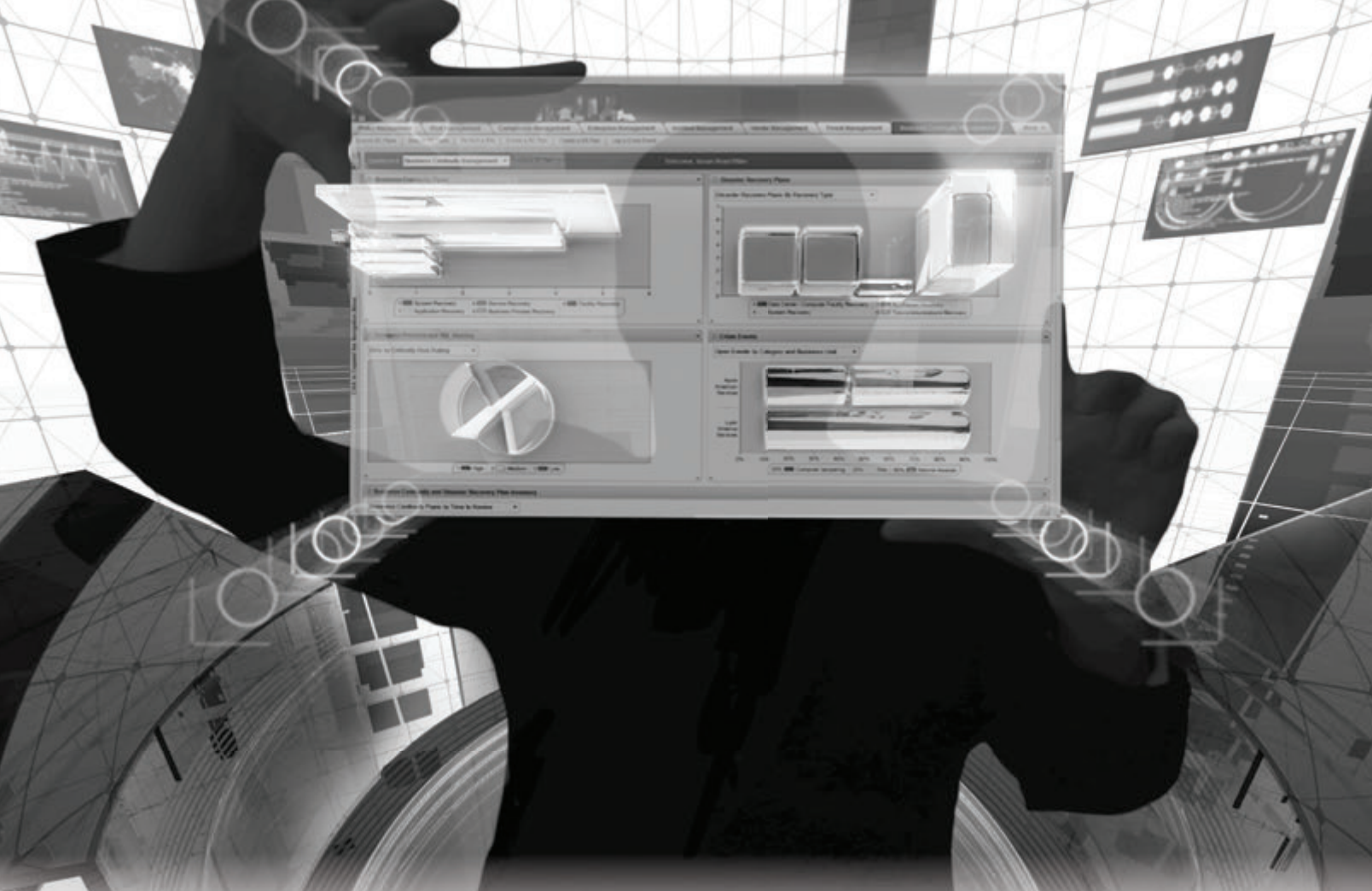
LEAD IN
BUSINESS CONTINUITY MANAGEMENT

The RSA Archer Business Continuity Management & Operations Solution enables implementation of a holistic solution out of the box – reducing services expenses while automating the processes of assessing risks, conducting BIAs, and designing, testing and activating BC, DR and crisis management plans.

Learn why RSA is positioned by Gartner as a Leader in the 2013 Magic Quadrant for Business Continuity Management Platforms ››
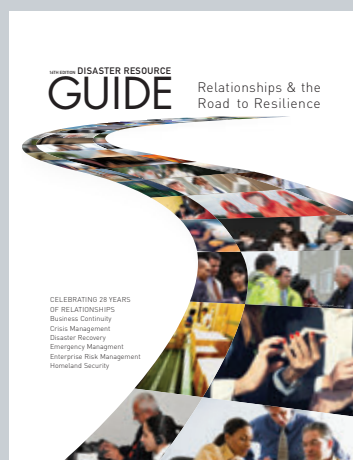
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THE GUIDE ...
Bringing the Whole Industry Together –

Business Continuity • Crisis Management • Disaster Recovery •
Emergency Management • Enterprise Risk Management • Homeland Security

The Disaster Resource GUIDE

Since 1996, the annual GUIDE has brought together the best of the best in one single volume. We go to dozens of conferences where we find products and service solutions for real business needs. All year long, we comb through periodicals, e-newsletters, whitepapers and reports for trends and best practices. We talk to professionals working at the local and national level. And it all comes together each year in the annual GUIDE. By the way, you must sign up every year to get a free copy. Go to www. disaster-resource.com/freeguide

Special Edition DR GUIDEs

The Disaster Resource GUIDE is growing to meet the changing needs of the Business Continuity, Emergency Management and Homeland Security marketplace. The annual GUIDE covers six content categories and includes an extensive directory of organizations, products and services. Special edition, single-focus DR GUIDEs will be published throughout 2014.

The Continuity eGUIDE

On Wednesdays, the Continuity eGUIDE provides a concise snap-shot of the business continuity and emergency management industry from around the world right down to the local level. Based on the philosophy of "working together", the eGUIDE integrates, consolidates and communicates resources from organizations that are leaders in business continuity, risk management, crisis management, emergency response, and disaster recovery. For a free subscription go to www.disaster-resource.com/ freeguide

Planning & Management   Human Concerns   Information Availability & Security   Telecom & Satcom   Facility Issues   Crisis Communications & Response

RELATIONSHIPS & THE ROAD TO RESILIENCE

For 16 years, the GUIDE has stood as a comprehensive collection of individuals and organizations that provide education, products, services and expertise related to business continuity and emergency management. But that has never been our true focus; rather, it has been our intent to create a book about relationships.

The GUIDE is all about connecting. We gather people and organizations, their ideas and resources and we spread the good word to those who will benefit. It has always been our conviction that *People Matter Most*!

In fact, my inspiration for founding the publication was to help individuals, organizations and communities in need. Over the years, it has brought me great satisfaction to see the GUIDE achieve this goal by inviting all the important players in our industry to the table – to discuss, to invent, to solve problems.

Our industry is broad and still evolving. It encompasses business continuity, emergency management, crisis management, enterprise risk management and disaster recovery. Yet we all have one thing in common: we focus on protecting organizations – everything from the small business on Main Street to the multi-national enterprise and from government agencies to entire communities.

We focus on building relationships and through those relationships, we focus on building resilience.

In 2014, we at the Disaster Resource GUIDE seek to draw our industry into an increasingly tight network, in hopes that we can reach farther, prepare better and maintain continuity in the face of any disaster.

Kathy Gannon Rainey

Publisher

The Online GUIDE

At your fingertips, you will find links to all the important places. Looking for a product or service? You can search by vendor or by product category. Want to know the best articles published in the past 12 months? We list articles from a dozen periodicals and include links directly to the articles in many cases. Our industry organizations directory includes more than 300 updated groups. On our homepage you will find new articles and press releases which are updated on a regular basis. Come to the online GUIDE – we'll be sure you stay connected! www.disaster-resource.com

◄ Core Content Areas

DISASTER RESOURCE GUIDE

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Business Continuity * Crisis Communications * Disaster Recovery *
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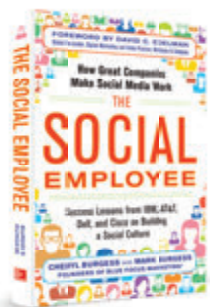
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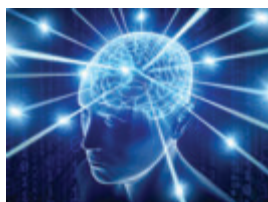
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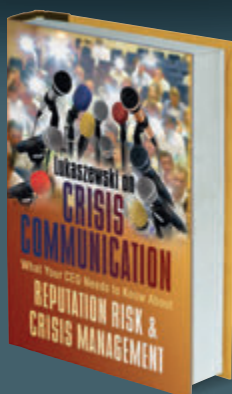
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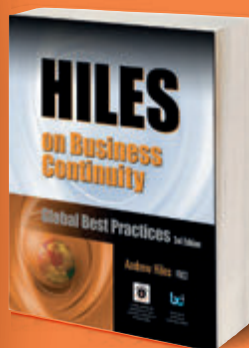
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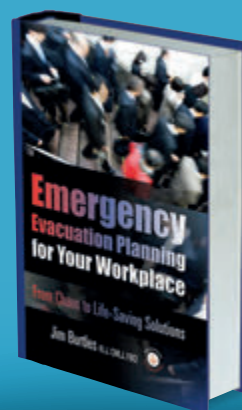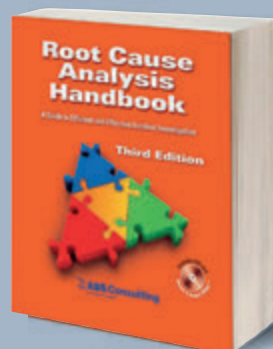
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Blindsided
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Rothstein Publishing is your premier source of books and learning materials in Business Continuity, Disaster Recovery, and Emergency, Risk, and Crisis Management. Our industry-leading authors provide current, actionable knowledge, solutions and toolkits that you can put into practice immediately. Our commitment is to teach your organization how to be ready and able to protect, preserve and recover the most important things; your people, your facilities, your assets and your reputation.

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MEET THE PROS

MEET THE PROS is a photo directory of authors, consultants and speakers. It has been created to link people. Those seeking help can locate individuals with expertise in the specific areas of Crisis/Emergency Management, Homeland Security, Business Continuity, and Disaster Recovery. For more information on these twenty-two individuals and others, visit the Online GUIDE. There you will find photographs, expanded resumes, details of educational credentials and professional experience, topics for speaking, writing and consulting, and much more.

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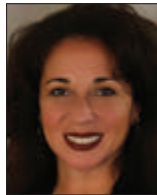
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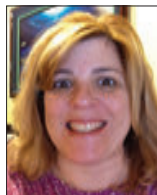
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SERVPRO® READY PLAN
MOBILE APPLICATION KEEPS CRITICAL DISASTER RECOVERY AND RESTORATION INFORMATION AT PROPERTY OWNERS' FINGERTIPS

For a property owner, a worst-case disaster scenario involving fire or water damage can seem unthinkable and then suddenly become a reality. In the aftermath of a disaster, quick response time by a disaster recovery and restoration specialist can help minimize property damage as well as inventory or home contents loss. In fact, 50% of businesses may never reopen following a disaster.

To provide home and business owners with a quick and convenient way to call in the experts when disaster strikes, SERVPRO® has developed the SERVPRO® Ready Plan Mobile Application. The Ready Plan is an emergency preparedness tool for home and business owners, property managers, risk managers and facility management. The App is free and available to download from app stores across three mobile platforms: Android™, iOS® and Blackberry®.

"The one constant in disasters," says Rick Isaacson, Executive Vice President of Servpro Industries, Inc, "is that there isn't any constant. Disasters are unpredictable and frequently strike without warning. That's why SERVPRO®'s Ready Plan mobile app is so valuable. In the confusion and panic that often surround a disaster, a property owner or manager can reach out for expert help right from the scene, using their cell phones."

The application allows both residential and commercial property managers and owners to create an Emergency Ready Profile that contains critical property information that can help speed up response time after fire or water damage occurs. In addition to facility details, the application tracks prior loss history, utility shut off locations, and key contacts. Users also have the ability to store photos of the damage, obtain local weather forecasts and access the address and contact information for the user's preferred SERVPRO® Franchise.

Through the application, the user can quickly call SERVPRO® or submit an electronic "First Notice of Loss" (FNOL) to the SERVPRO® National Call Center setting the wheels of recovery in motion. Rapid response from a disaster cleanup and restoration specialist can help the property owner evaluate options, start the insurance process and take the right steps from the beginning to bring their property back to normal, "Like it never even happened."

SERVPRO® specializes in fire and water cleanup and restoration as well as repair services for both commercial and residential customers. SERVPRO® also offers large loss, national storm response, mold remediation and other property maintenance and restoration services. For more information about SERVPRO®, please visit www.servpro.com/ready.

The Road to Resilience

We all know the importance of being resilient on an individual level and we each have personal strategies for creating that resilience and ensuring our survival. But what strategies do we need to develop for our large-scale operations? How do we prepare our businesses and emergency management organizations to withstand a crisis and guarantee a rapid and complete recovery?

Any crisis, whether personal, business, community or global, can become a defining moment in the lives of both individuals and organizations — and it's up to the leaders to determine whether those moments will be defined by resilience or disaster.

Continuing our 16-year mission, the **Disaster Resource GUIDE** has sourced information from three industry leaders with diverse perspectives: government, academia and business. James Lee Witt is a former Director of the Federal Emergency Management Agency (FEMA); George S. Everly Jr., is a Professor of Psychology and Associate Professor of Psychiatry at Loyola University Maryland and The Johns Hopkins School of Medicine, respectively; and Cheryl Burgess is co-founder and CEO of Blue Focus Marketing. Together, these experts will show us how organizations of every size and purpose will benefit by building a well-defined road to resilience.

Much of life is about building bridges – and keeping them in good repair.
A personal support system connects you to others and builds bridges to
help you survive the inevitable bumps along the way.

Relationships Pave the Road to Resilience

BY JAMES LEE WITT

It's easy to talk about the importance of a personal support system, but building and maintaining one is something else again. Relating to people often includes conflict, especially during times of high stress. In my experience, the difference between success and failure is the difference between reaching out and digging in.

Through trial and error, I've learned that the best way to lead is to reach out to others. Before I got to FEMA, there were walls between the managers and the employees. I'm speaking both figuratively and literally – they built private bathrooms, private elevators, anything to keep from having to mingle with the people who worked for them. On my first morning at FEMA, I stood at the entrance to the building and greeted every single employee as he or she came through the door. Later I instituted an open-door policy. Those small gestures went a long way toward getting those people in my corner in times of crisis.

I learned that once you are able to see your world as a conglomeration of customers, you've made the first step toward placing yourself at the center of a perennial personal support system. In government, people have traditionally taken a backseat to "programs". Agencies are organized to run programs. Every program has an office, and in every office employees come to work in the morning and say to themselves, "What does my program need today?"

At FEMA we began to define our customers as people either preparing for or recovering from disasters. The moment we decided to measure our success based on how those people were served, instead of how our programs were run, we were on the road to beating the crisis. But, we didn't stop there. We broadened the idea of the customer to include everyone, both inside and outside the agency – the people in the next office, the congressmen on Capitol Hill, the FEMA staffers in the field, our counterparts at the state and local levels. If you accept that your job is to serve your customer, then there's no place for the primacy of programs or the foster of fiefdoms.

Strong relationships don't blossom overnight, and they usually can't be planted in the middle of a crisis. In recent years, the term resilience has increasingly been used to describe the goals of business continuity and emergency management. Resilience implies an ability to bounce back from adversity.

Through the years I have become convinced that a resilient network of relationships enables individuals, corporations and communities to survive and even become stronger in the broken places.

Take-away: See everyone as your customer and aim to serve them to the best of your ability.

The above article was adapted from James Lee Witt's book Stronger in the Broken Places.
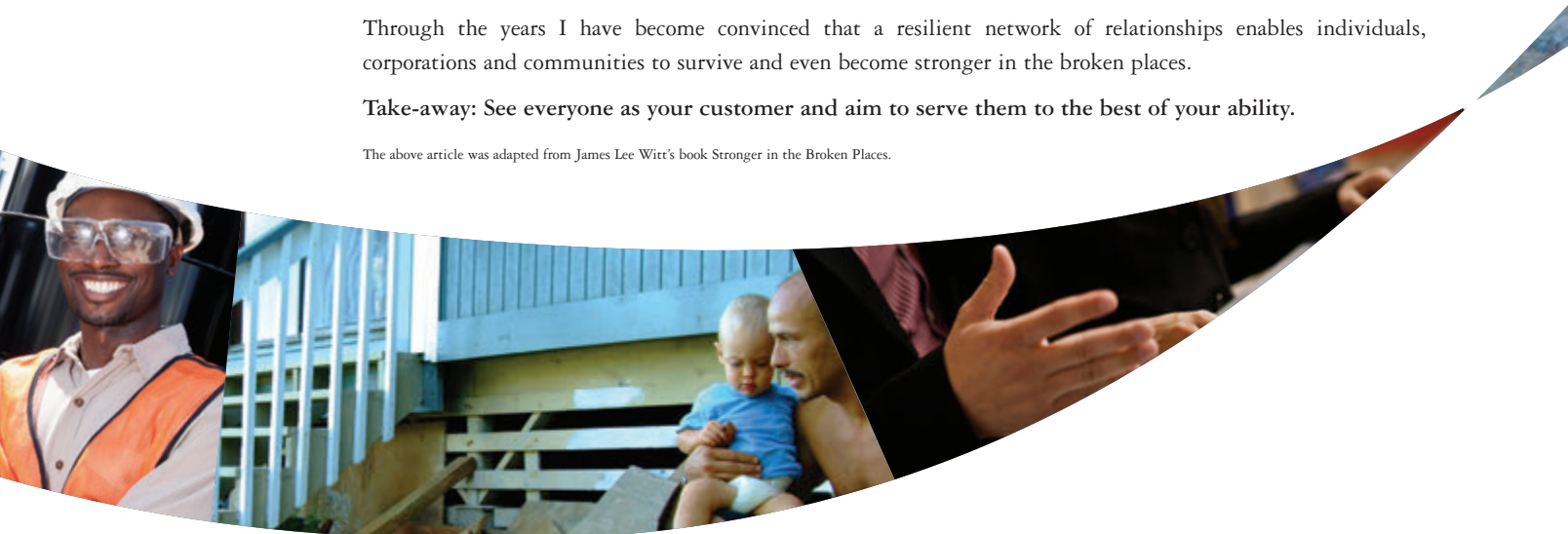
There appears to be a growing consensus that organizations which best weather adversity possess a core culture of resilience – an atmosphere wherein growth is promoted, support is abundant and crisis is viewed as an opportunity. The organizational culture of resilience presents certain characteristics that are also found in resilient families.

Handle the Curves with Resilient Leadership
Create a Culture of Resilience by Building Leadership

BY GEORGE S. EVERLY, JR., PHD, ABPP, FAPA

1. The organization's human resources believe in the importance of organizational (unit) cohesion.
2. They have high organizational identification.
3. They celebrate key events and they create and uphold rituals and routines.
4. They believe in their ability to support, advocate for and protect one another.
5. They are optimistic about their ability to achieve organizational goals.

Build Resilient Leadership

In our book, Secrets of Resilient Leadership...When Failure is Not an Option (Everly, Strouse, Everly, 2010, DiaMedica), we propose that the organizational culture of resilience is achieved through an enhanced form of leadership that we refer to as "resilient leadership."

Resilient leadership inspires others to exhibit resilience and to exceed their own expectations. It not only minimizes the detrimental aspects of a crisis, but uses the situation to foster growth, perhaps even gaining a competitive advantage.

Following are the four components of resilient leadership:

1. OPTIMISM Our research has shown that there are two types of optimism: passive and active. Passive optimists hope things will turn out well. Active optimists make sure that things turn out well. They see the opportunity in adversity.

> "Perpetual optimism is a force multiplier."
> – Gen. Colin Powell, Former U.S. Secretary of State

Bringing the Pieces Together
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2. DECISIVENESS

Writing circa 500BCE, the great military strategist Sun Tzu (Sun Tzu translated by Clavelle, 1983) wrote of a special form of leadership – that which we refer to as resilient leadership. Emphasizing strength and honor, Sun Tzu's tome offers timeless advice for those who seek to lead during times of adversity:

> "In looking for people to hire, you look for three qualities: integrity, intelligence, and energy. And if they don't have the first, the other two will kill you."
> – Warren Buffet, CEO, Berkshire Hathaway

- Be decisive; vacillation saps the strength of any army. If action is necessary, make it swift, act boldly. No one benefits from protracted conflict or ambivalent leadership.
- Follow the law of morality. "Regard your soldiers as your children, and they will follow you into the deepest valleys; look on them as your own beloved child, and they will stand by you even unto death" (p. 54).

Resilient leadership includes the courage to act, the willingness to take responsibility for decisions regardless of outcome, and the ability to engender trust, confidence and fidelity through a consistent pattern of acting with integrity.

3. INTEGRITY

Integrity is the quality of doing that which is right – considering not only what is good for oneself, but what is good for others as well. Integrity isn't just a situation-by-situation process of decision-making; it is a consistent way of living and an essential characteristic of resilient leadership.

4. COMMUNICATION

Effective crisis communications can serve to mitigate anxiety and direct rapid and focused rescue, recovery and rehabilitative operations. Ambiguous and/or deceptive communications, on the other hand, can worsen mental health reactions and delay operational response and recovery.

To be most effective, I believe crisis communications must be formulaic. I recommend using the model shown below to determine what information should be addressed. Cover these points rapidly and repeatedly and most people's needs will be satisfied, fear will decline and compliance will increase.

> "There is no such thing as a communication vacuum. If the leader fails to communicate, someone else will.[1]"
> – G.S. Everly, Jr., Fostering Human Resilience

Resilient Moment Communications Model[1] (Everly, 2013):

- What happened (or what is going to happen).
- What caused the disaster.
  - What the effects were (or what they are anticipated to be).
    - What is being done to respond to, or correct, the situation.
      - What is being done in the future to prevent this from happening again.

Crisis communication imparts information and information builds trust, upon which resilient leadership will ultimately be built. If leadership fails to anticipate questions and provide answers, then an essential role has been abdicated.

Take-away: The only way to instill lasting change in an organization is to change its culture...and that change is best achieved by enhanced, resilient leadership.

Empower Others with Personal Resilience

Resilient leadership practices inspire others to exhibit resilience and to exceed their own expectations. My colleagues and I call this personal resilience "psychological body armor", because it protects us from potentially stifling, and even disabling, adversity. After all, true strength begins in the mind.

There might be as many as seven key characteristics that individuals can learn, enabling them to develop or increase their psychological body armor, but I will review just three of them here:

- Active Optimism
- Tenacity
- Interpersonal Connectedness

"You never know how strong you are until strength of mind is all you have – which is Psychological Body Armor."

1. ACTIVE OPTIMISM

When you first enter Johns Hopkins University you can feel that something is different. Hopkins is a rather unique place. Among its many accolades is that, at the time this is being written, Hopkins houses the nation's top rated school of public health, the nation's top rated department of psychiatry and for 22 of 23 years it housed the top rated hospital in the United States. Hopkins demands unwavering excellence of its faculty and staff. Some would say that working under such conditions would be burdensome, but for most it is not. For most it is motivating, even exhilarating. The key to prospering in such a unique environment I believe is what we call "active optimism." You see it in the faces of the staff. You feel it. It says to those who work there, "We ordinarily perform in an extraordinary manner." It says to those who are served, "It's going to be okay, we have this one!" It is an optimistic view that seems to create its own destiny.

Optimism is the tendency to take the most positive view of matters – to expect the best outcome. Optimistic people are more perseverant and resilient than pessimists. They tend to be more task-oriented and committed to success. They appear to tolerate adversity to a greater extent and tend to be less depressed than pessimistic people.

What is fascinating is that when you ask most people if they are optimists, they say "yes." Closer scrutiny, however, reveals an interesting dichotomy. There may be two types of optimism: passive and active. Passive optimism consists of "hoping" things will turn out well in the future. Passive optimists surrender control of their circumstances to someone or something else. Active optimism, on the other hand, is "acting" in a manner to increase the likelihood that things will indeed turn out well in the future. Active optimists believe they can make a difference and choose to take control over circumstances. They expect success and, thereby, create a self-fulfilling prophecy (as you believe an outcome will accrue, the likelihood of that outcome actually increases). In the eyes of the active optimist, every crisis holds an opportunity and every setback holds a set-up for success.

2. TENACITY

The second element of psychological body armor is tenacity. Perhaps the best predictor of success within any given endeavor, it virtually defines the concept of resilience. It has been said that the only difference between humankinds' greatest successes and its most dismal failures, has been the willingness to try again and again...and again.

The careers of Abraham Lincoln, Henry Ford, Milton S. Hershey, Thomas Edison, Winston Churchill and Harland Sanders are testimonials to the power of tenacity. I often advocate the "Rule of Three." Simply said, don't even consider giving up until you have failed at least three times. Calvin Coolidge is credited with saying…"Press on! Nothing in the world can take the place of perseverance. Talent will not; nothing is more common than unsuccessful men with talent. Genius will not; unrewarded genius is almost a proverb. Education will not; the world is full of educated derelicts. Persistence and determination are omnipotent."

3. INTERPERSONAL CONNECTEDNESS

The third element of psychological body armor is interpersonal connectedness and support. This element may be the single most powerful predictor of human resilience and is a cornerstone of psychological body armor. In the military, the mantra is "unit cohesion, unit cohesion, unit cohesion." In the social and business worlds, sometimes it really is whom you know and the strength of the bond that counts. Perhaps you've heard the term esprit de corps. It refers to a sense of unity, identity, common interests and responsibilities held by a group of individuals.

Supportive groups and networks may be identified by six characteristics.

1. A cohesive, unifying identity. Simply said, people identify with the group.
2. Group competence. The group is successful. Failures are viewed as exceptions to the rule.
3. The willingness and ability to collaborate within the group.
4. An environment wherein interpersonal and sub-group communications are fostered.
5. A cultural context, i.e., a group culture that fosters personal and group success and promotes resilience… no one left behind!
6. Commitment to the mission, or group goal. The power of the group is focused upon the long-term success of the group.

The benefits of these networks and interpersonal support in general have been long known. Charles Darwin, writing in the late 1800s, noted that a tribe whose members were always ready to aid one another and to sacrifice themselves for the common good would be victorious over most other tribes. In our efforts to understand the secrets of the extraordinary resilience of US Navy SEALs, interpersonal support and esprit de corps emerged as imperatives. In other words, a supportive network is the key to building resilience.

Overall, psychological body armor is that personal quality that helps people withstand adversity and make good decisions even under pressure. It motivates them to achieve peak performance and allows them to bounce back quickly and effectively even when they are knocked down. The characteristics of psychological body armor can be learned by employees and stakeholders, but it takes resilient leadership to show the way.

Take-away: Active optimism, tenacity and interpersonal connectedness are the cornerstones of psychological body armor.

1 Everly, GS, Jr. (2013). Fostering Human Resilience, 2nd ed. Ellicott City, MD: Chevron.

Crisis management at Southwest Airlines begins and ends with a strong, empowered social employee culture. Effective communication during times of crisis or disaster must be built into the way a company does business. That way, whenever the next critical challenge arises, employees won't lose time wondering what they should be doing; they will already be ready to respond. By inculcating a culture of preparedness, which is guided by their philosophy of always doing the right thing, Southwest Airlines has emerged as an always-ready brand in the face of crisis.

One Company Drives Home the Value of Resilience
How Southwest Airlines Builds a Culture of Preparedness

BY CHERYL BURGESS

Internal Culture Radiates Outward

Southwest Airlines operates on the philosophy that if the employee is cared for, informed and happy, then the customer will be as well. Long-standing internal initiatives such as the Culture Committee have not only given employees from all departments a voice at Southwest headquarters, but they have often given those employees direct support out in the field as well. If Southwest executives want their employees to operate as paragons of helpfulness and compassion, then they make sure to treat their employees with the same helpfulness and compassion they want to see embodied in those employees.

This spirit affects even the smaller, person-to-person challenges employees may encounter. For instance, when a longtime Southwest customer had a bad experience with his baggage, he wrote an open letter to the company in the form of a pop culture collage (http://dearswa.com/). The company not only worked to respond quickly, but Southwest social employees replied in the same fashion with a pop culture collage of their own (http://dearswa.com/swa-response.html). Even in smaller exchanges such as this, Southwest employees do what they can to add a compassionate, human touch to whatever professional assistance they can offer.

Called to Action

During the attacks of September 11, 2001, this attitude became characteristic of Southwest's overall response to the crisis. As flights across the country were grounded, Southwest planes were forced to land at airports the company didn't service. This meant that, despite the confusion that characterized the myriad events of that day, flight staff did not have access to the normal ground support either for themselves or for their passengers.

But this didn't stop Southwest employees from doing the right thing and providing assistance to their passengers in any way they could. In one instance, a Southwest pilot ordered Amtrak tickets for all the passengers on his flight in order to keep them moving on their way to their respective destinations. In another instance, after personally helping to get all the passengers off the plane, a different pilot used his credit card to buy pizza for everyone, offering them some semblance of normalcy and comfort in the chaos of the day.

Building a Communications Infrastructure

As the largest domestic transporter of passengers in the United States, Southwest has a relationship to catastrophic events that is quite unique. When a disaster strikes, the airline must be prepared to deal with not only the impact the event will have on business operations, but also how it can provide resources and assistance to customers, employees, and often rescue and aid workers as well.

During the events of Sept. 11, Southwest employees found quite often that the most efficient way to convey information was through telephone. By the time Hurricane Sandy hit in late 2012, the company had a much more specialized internal structure designed to handle multiple different scenarios. In the case of Sandy, the Weather Disruption Task Force was called into action, monitoring and coordinating events through a specialized disaster room. Both employees and customers were kept in the loop in real time through the internal-facing SWALife and external-facing southwest.com platforms.

Because Southwest had established a culture of preparedness, the company had the foresight, experience, and resources available to direct activities in multiple states, deftly providing leadership and support to both employees and the public.

Doing the Right Thing

Aside from its responsibilities as an airline, Southwest approaches events like Hurricane Sandy asking what can be done, both by the company and by individuals, in a spirit of mutual aid. In the case of a catastrophic weather event, Southwest Airlines naturally had the resources to provide transportation assistance for a variety of different relief efforts.

In one example, Southwest offered free rides to groups of New Orleans firefighters, who were more than happy to repay the State of New York after that state's firefighters had assisted in Hurricane Katrina relief years earlier. Large numbers of Southwest employees also volunteered their time and other resources to help transport dozens of orphaned dogs, cats and other pets from Long Island after the storm separated them from their owners.

Further, assistance like this wasn't simply given to those affected outside of Southwest's ranks. Although no Southwest employees were hurt or killed during Hurricane Sandy, many had their homes damaged or destroyed. The company has been very active in providing resources and other assistance to those affected by the hurricane.

This is what it means to be a social employee – not using technology or engaging in networks, but making sure that every interaction is authentic and provides value, whatever "value" might mean in the moment. Building a culture of preparedness stems directly from these values. Crisis management happens well in advance of the actual crisis, and it begins by making sure that your employees don't just know what to do in a given situation (especially since this can change at a moment's notice), but that they know why they are doing it.

Take-away: A culture of social employees empowers everyone to respond when the next critical challenge arises.

Large regional disasters that affect multiple neighborhoods, crossing state lines and disrupting multiple industries, are all too common. That's why communities, businesses and governments have a responsibility – personally and collectively – to take actionable steps toward building resilience.

Share the Road to Resilience

BY JAMES LEE WITT

It is important to remember that relationships pave the road to resilience and ultimately, to survival. Communities are most resilient when they prepare together and work together – neighbor helping neighbor. Families should be encouraged to develop household action plans and neighborhoods should do the same. In the broader community, the Community Emergency Response Teams (CERT) program teaches participants disaster preparedness skills that allow them to assist others immediately following an event when professional rescuers may not be available. (For more information, check your State Directory at www.citizencorps.gov/cc/CertIndex.do?submitByState.)

Businesses can also benefit from enhanced relationships. Resilient business leaders know that disasters are personal and seek to find opportunities to partner with their employees. For example:

• Offer employees training on personal preparedness for themselves and their families.
• For anticipated events, such as hurricanes, consider a plan to evacuate employees and their families to a safe alternate facility.
• Consider offering a "Disaster Relief Program" to employees. Program offerings can include concierge services to secure basic needs, financial grants, or low cost loans to meet urgent needs.

Businesses play a vital role within communities, providing the economic growth that enables residents to return to their neighborhoods. Without an economic base, communities cannot return to normalcy. Providing employee services post-disaster not only preserves the business, but also, in many cases, preserves communities.

Public-private partnerships are also vital to increasing community resilience. When businesses and local first responders, community leaders and elected officials develop partnerships, they leverage their strengths, creating a culture of resilience for all.

This edition of the **Disaster Resource GUIDE: Relationships and the Road to Resilience** recognizes that increasing resilience requires participation at all levels: individual, community, business and government and that relationships are critical to successful disaster

preparedness, response and recovery. We must work cooperatively, leveraging our strengths and planning around our collective weaknesses. This resource guide seeks to facilitate a discussion on how communities, businesses and the government can benefit from collaboration – we are strongest when we stand together.

ABOUT THE AUTHORS

Mr. Witt was appointed by President Clinton as Director of the Federal Emergency Management Agency (FEMA) in April 1993. In February 1996, Mr. Witt was elevated to cabinet status, a first for a FEMA Director. Mr. Witt coordinated federal disaster relief activities of 28 federal agencies and oversaw the National Flood Insurance Program, the U.S. Fire Administration, and other proactive mitigation activities. From 1993 to 2000, Mr. Witt directed 2,500 employees and oversaw more than 350 disasters. He was responsible for response and recovery operations for some of the most devastating disasters of all time, including the most costly flood disaster in the nation's history, the most costly earthquake, and a dozen damaging hurricanes. He is credited with turning FEMA from an unsuccessful bureaucratic agency to an internationally lauded all-hazards disaster management agency.

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Cheryl Burgess

Typhoon Haiyan

Lessons Learned from the Philippines Disaster and How You Can Help

BY SARAH MUNN

Statistics

- 6,069 people dead
- 1,779 people still missing
- 27,665 people injured
- 3 million+ families affected
- 4 million+ people displaced
- 1,140,332 houses damaged/ destroyed

Source: Republic of the Philippines National Disaster Risk Reduction and Management Council (NDRRMC) Update Report Dec. 18, 2013

The strongest recorded typhoon to ever make landfall tore through the Philippines earlier this year on Nov. 8. Causing utter devastation and ripping through coastal neighborhoods with no mercy, Typhoon Haiyan is the harsh wakeup call the world wishes it hadn't received.

Although storm preparations and early warnings spared many lives, still more than 6,000 people died and millions were left requiring urgent help. Emergency response teams had a difficult time orchestrating their relief efforts because of the logistical catastrophe created by flooding, debris and road damage.

Lessons Learned

In its comprehensive 18-page report, "Typhoon Haiyan: The Response so Far and Vital Lessons for the Philippines Recovery," global organization Oxfam provided a list of what the Philippines government should do now to improve its relief effort. Though these points were originally meant for this disaster, they are lessons from which people the world over can benefit.

Emergency management leaders can create better strategies in their communities by keeping these points in mind.

- Increase relief operations in disaster zones
- Expand services to protect vulnerable groups (i.e. women and children)
- Create a stronger national disaster risk reduction and management body
- Deliver a pro-poor reconstruction strategy to break the cycles of poverty
- Build on previous investments in DRR (Disaster Risk Reduction) and CCA (Climate Change Adaptation) nationally

Source: Oxfam report "Typhoon Haiyan: The response so far and vital lessons for the Philippines recovery" Dec. 7, 2013

How You Can Help

Cash donations are the most effective way to help in disaster relief situations. A Slate.com article reminds those wanting to help, "Survivors of Typhoon Haiyan need your help. But send money, not your hand-me-downs."

If you would like to donate to the Typhoon Haiyan relief effort, there are a number of reputable charities you can choose from. Charity Navigator is an organization that evaluates charities based on two categories: their financial health and their accountability and transparency. It then provides a rating for each charity to better inform donors. Visit their website to see a vetted list of charities supporting the Typhoon Haiyan recovery.

For more information and statistics, come to the Online Guide. Visit www.TheDRGuide.com/feature for links to all sources of information in this story.

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PRESERVING THE SUPPLY CHAIN

From Risk Management Magazine: Supply Chain Angst

A survey of more than 200 global companies by PwC and the MIT Forum for Supply Chain Innovation revealed that the risk management processes in place for potential supply chain disruptions were "immature". This article explains what that means and why global organizations are becoming more dependent on their supply chains.

From Airmic Technical: Supply Chain Failures – A Study of the Nature, Causes and Complexity of Supply Chain Disruptions

This paper by Dr. Alan Punter examines the nature and increasing importance of supply chain risk. It shows us how a single event on one side of the world can stop production or delivery of a service on the other side of the world with a number of featured case studies.

From KPMG: Global Manufacturers Lack Supply Chain Visibility beyond Tier 1 Suppliers

A 2013 KPMG survey, Global Manufacturing Outlook, reports only nine percent of the 335 global survey respondents says they have complete visibility of their supply chains. It is an even smaller percentage among U.S. executives, seven percent of whom reported complete supplier visibility. This press release covers the rest of the survey results and some industry insight about major companies' next innovative moves.

From ASIS: New White Paper Covers Supply Chain Vulnerability Management

This document takes a look at the factors which impact the supply chain, including environmental, legal, operational and human factors. It considers the multiple stages of the supply chain and contemplates the vulnerabilities in transportation.

From PwC: How the Strongest Supply Chains Protect What Customers Cherish Most

This article tells us that today's supply chains are more critical to an organization's success than ever, but also more vulnerable to disruption. By starting with keeping your customer in mind at all times, you can create supply chain resilience in your own organization.

OPERATIONAL RESILIENCE

From Stanford Online: The Upside of Risk: A Better Way to View Enterprise Risk Management

With the increased implementation of Enterprise Risk Management (ERM) programs, some companies are taking a slightly different approach and embracing the upside of risk. Speakers Carl Spetzler and Hannah Winter who have decades of experience with Value-Driven ERM take on this topic for Stanford Online.

From PwC:
2013 State of Compliance Survey Results

The third annual State of Compliance Survey results are in. The goal of the report is to give leaders of the compliance function a comprehensive look into how their peers structure their organizations and the work they do. For the first time, PwC included UK-based companies in the survey.

SOCIAL MEDIA TIPS AND TOOLS

From MARSH USA: Webcast: Balancing Social Media Risks and Rewards

Experts from Hearsay Social, LinkedIn, Marsh's Employment Practices Liability Practice and Network Security and Privacy Practice discussed the potential business risks of social media and social networking in this webcast. They also covered the risks of not using social media at all and what many companies are doing to ensure their social media usage remains risk-free.

*Viewing the webcast is free but a simple registration and log-in is required first.

RISK ASSESSMENT

From PwC: Risk – Disruption-Proofing

In this article, US CEOS share their perspectives on disruption-proofing. More than half of them said their strategies are influenced by local communities, social media users, industry competitors and peers, governments and regulators and people closer to their operations. This piece includes a number of CEO video interviews as well as detailed risk management data.

From Swiss Re: Mind the Risk: A Global Ranking of Cities under Threat from Natural Disasters

A new report from Swiss Re compares the natural disaster threats in 616 cities around the world. It lists the riskiest cities for business locations and names the greatest natural threats people are facing.

From Protiviti: Executive Perspectives on Top Risks for 2013

To gain various perspectives about potential risks in 2013, Protiviti and North Carolina State University's ERM Initiative surveyed more than 200 business executives. They asked the executives their views about the 2013 risks that may significantly affect profitability and funding objectives for their organizations.

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Lessons Learned From Hurricane Sandy

BY REGINA PHELPS

Credit: Codered_pl/Flickr

Hurricane Sandy (aka "Superstorm Sandy") wasn't destined for the history books as one of the greatest storms ever to hit the Northeast, but that's how it turned out.

It is important to stop for a moment and look at some of the unique aspects of this event – a hurricane filled with superlatives:

- Deadliest and most destructive storm of the 2012 Atlantic hurricane season
- Second costliest hurricane in United States history with preliminary estimates at $75 billion (Katrina, in 2005, $81 billion)
- Largest Atlantic hurricane on record as measured by diameter, with winds spanning 1,100 miles from Florida to Canada
- Affected 24 states: Thousands of homes and businesses destroyed, millions without power
- Killed at least 285 people along the storm path in seven countries, 72 in US
- Caused cancellation of more than 13,000 flights across the U.S. on October 29 and more than 3,500 on October 30
- Public transportation halted throughout the region
- New York Stock Exchange closed for two days

Whew!

"Routine Emergency" versus "Crisis Emergency"

Before digging into the lessons learned, it is important to stop and reflect what set this storm apart from previous storms other than impressive statistics. To understand this, we need to look at the difference between "routine emergencies" and "crisis emergencies." This concept was developed by two Harvard professors, Arnold Howitt and Herman "Dutch" Leonard,[1] and it certainly doesn't mean it's easy to handle.

A "routine emergency" doesn't mean that it isn't challenging, and it certainly doesn't mean it's easy to handle. It is the type of emergency that is in our risk profile; in other words, it is expected, we have plans to accommodate it, and we train and exercise to manage it. Its **familiarity** makes it "routine."

So if hurricanes fit the risk profile of the Northeast, what set this one apart? Sandy was, indeed, the classic definition of a "crisis emergency" – an event defined by significant novelty. This was an emergency not like those previously experienced. Although the forces themselves were not new, it was the combination of forces that were challenging. Parts of it were familiar but occurring at unprecedented speed (flooding). Existing plans were completely inadequate, and training and exercises had not accounted for the magnitude and sheer number of events. Leaders had to improvise new approaches to manage the incident. Sandy was the perfect example of a "crisis emergency."

A crisis emergency requires a different approach. First of all, leaders must diagnose or determine the elements' novelty. What is different about this situation? How does it vary from our current plans and processes? Once clear about the differences of the novelty, leaders must then improvise response measures to cope with the unanticipated aspects of the event. This will often make leaders uncomfortable, as they are deviating from plans and moving into uncharted waters. These actions, however, are born out of necessity, and in some cases, the actions and responses may be quite

Credit: Jocelyn Augustino/FEMA

different than what they have ever done before. For example, the Peer 1 data center in Lower Manhattan kept its data center online after the storm by forming a "bucket brigade" of staff and customers who manually transported diesel fuel up 17 stories from the street to the rooftop generator.[2] That response was creative and the team was extremely adaptable to execute an improvised solution.

Cognitive Bias

Many businesses that failed to take the threat seriously found themselves playing catch-up in the last hours before the storm hit. Something I heard from several clients and colleagues was, "We got ready for Irene and nothing happened!" and "Our BCPs will be just fine." Those people downplayed the possibility of a direct hit and serious flooding because a storm of this size "had never happened before."

In these cases, a dangerous element was at play: cognitive bias. Cognitive bias is that persistent force that shapes people's thinking and organizational awareness. Some refer to it as "faulty thinking." There are many cognitive biases that appear in crisis situations. Here are just a few to consider:

- Overweighing one's experience. ("Been there, done that.") I have seen this often with clients who have gone through repeated events and think they have seen it all.
- The illusion of experience. A tendency for individuals to think that they have more experience than they actually do. They inflate their self-worth and knowledge.
- Overconfidence, both in one's abilities and in one's ability to predict the future. This results in overconfidence and some belief that one can actually control the future.
- Failure to observe or believe disconfirming evidence. "It's really not happening"...even as the water is rushing into the building.

Hoboken Terminal before and After Hurricane Sandy
Credit: accarrino/Flickr

- Escalation of commitment. Once it has been noticed that the solution is not working, people recommit to that **same** solution, a "doubling down," if you will.
- Migration of objectives. Objectives shift and become personal; they lose focus and meaning.

Storm Approaching

Sandy began her life on October 22 as a tropical wave when the storm first formed. She then began her march through the Caribbean islands: Haiti, Dominican Republic, Cuba, the Bahamas, and Jamaica. By October 25, all eyes were peering south on Sandy and the speculation and hedging began. She was skirting up the Eastern Sea-

Sandy Incident Action Plan
Operational Period To 10/31/12 19:00 From 10/28/12 6:00
Credit: Maryland National Guard/Flickr

board and the question was whether she would turn west and move inland. Initially, European computer forecasting models predicted the storm would strike the Northeast, while most others anticipated the storm would move out to sea. These differences created a bit of confusion and perhaps led some business continuity managers to think they would dodge a bullet. There was widespread disbelief and discounting going on among weather pundits.

Many people were asking if this storm would "be like Irene." (You might recall that Hurricane Irene was forecast to hit the Northeast hard, yet the damage turned out to be more modest in the populated areas.) Several clients and colleagues reiterated they had prepared for Irene and nothing happened. They seemed to believe a certain amount of "crying wolf" was going on.

The Storm and Its Aftermath

In order to fully explore the storm and the aftermath, it is helpful to break the discussion areas into five basic categories: People, Facilities, Technology, Incident Management and Business Continuity Plans, and Communication.

PEOPLE

Widespread power and communication outages, road damage, airline and mass transit closures, lack of gasoline, and lack of supplies (food, emergency supplies, water, and first aid) all had a huge impact on people and their ability to respond. We all know that without our staff, we have no business to recover.

So, where do we begin? Personal, family, and home preparedness is essential. If your employees aren't prepared at home, they will not be able to help you restore your business. In the case of Hurricane Sandy, many simply did not have even the most basic supplies, such as flashlights, batteries, food, and first aid supplies at home. It is in your best interest to promote preparedness to all of your staff. The FEMA Ready. gov website has excellent materials to help educate and promote personal readiness. (See the article in this publication: "Personal/Family Preparedness" by Ted Brown.)

What do you do when employees need assistance? Many East Coast employees lost their homes, had major
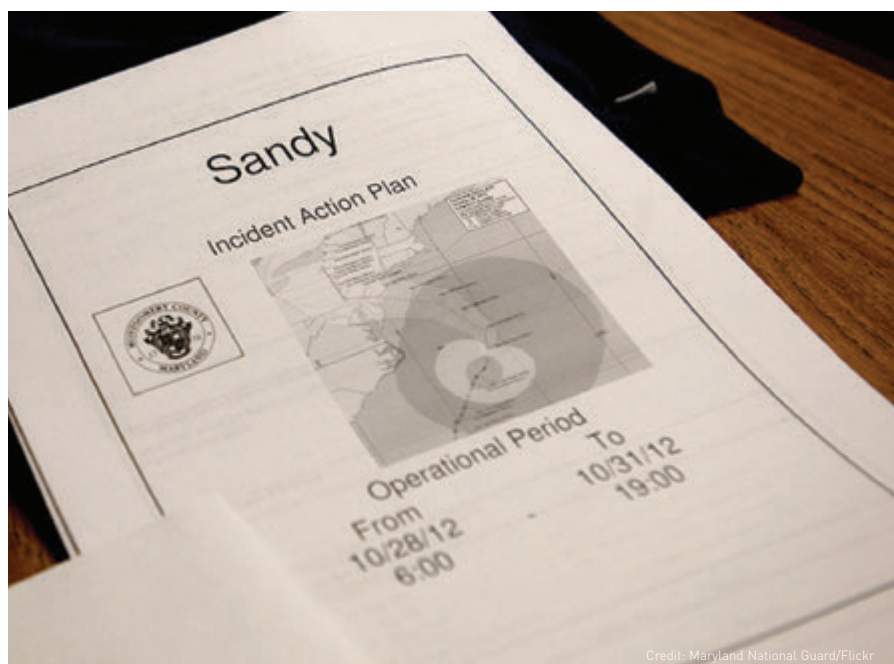
damage to their homes, or had no heat or power and needed a place to stay. Many companies had never considered that when their employees need help at the time of a disaster, they will look to the employer for that assistance. Companies were scrambling to develop policies and procedures on employee support, loans, and other forms of assistance. Some even had staff and families spend numerous nights in their facility because it had heat, water, and electricity. What will you do to help your employees? Don't wait until the next disaster – think about those things now and develop a plan.

FACILITIES

Many companies had more than one facility impacted due to the wide swath covered by the storm. When those companies turned to their business continuity plans, they had some immediate problems.

Work from Home. Those who use work-from-home as their primary work area recovery strategy came up short. The widespread power outages created by a 1,110-mile wide storm were unprecedented. Many of these outages lasted multiple days as well. Due to the reach of the storm, it was difficult for employees to travel even a reasonable distance in order to find power to work. This was due to the major loss of power over a wide geographical area, the difficulty in transportation (mass transit, cancelled flights, road damage, lack of gasoline), and in some cases, damage to employee homes. This slowed recovery.

Damage at Multiple Locations. Many large companies in the East have multiple nearby locations. Upon examination of their BCPs, many found their designated back-up site was too close to their primary site. This left many companies scrambling when both their primary **and** back-up facilities were not available.

Untested Recovery Strategies. One common strategy I hear companies wanting to implement is "employee displacement." Simply put, take a "non-critical" employee and "displace" them, sitting a "critical" employee at their desk. Sounds great, right? Save money

Credit: Matt Hecht/Flick

Credit: Maryland National Guard/Flickr

because the space is already there, and equipment is on the desk? Well, yes and no. What happens to those who are displaced? Do they get sent home on a paid vacation while others are toiling away? Most people during an emergency want to work and be a part of the recovery even if they are not in a "critical" position. And what about the equipment? Does the displaced staff's computer have the appropriate applications and capabilities for the critical employee? Are there special phone needs, such as recording ability or VRU? If you have this strategy in

your plan and have never tested it, beware! You are likely to have many issues when you try to implement it – it may not be the quick-and-easy solution you might think it is.

"Follow the Sun." Many global companies note in their BCPs that they will "transfer the book of business" to another company location at the time of a disaster. A fabulous idea! However, this requires careful planning, along with well-documented processes and exercises to ensure that it will succeed.

Credit: NYCDOT/Flickr

Battery Park Underpass: After and Before

Some companies were caught flat-footed with untested "follow the sun" plans for recovery.

TECHNOLOGY

Issues with technology occurred on two fronts: (1) Broad infrastructure damage in the region to both utility and communication providers, and (2) Companies that suffered technology damage during the storm and the aftermath. I can't help but think of a company that had both – the Verizon building in Lower Manhattan. The images from a security camera in their 140 West Street main lobby at the height of the storm surge went viral on the Web. The building's five-level basement was submerged and the water was over three feet high in the main lobby.[3] There were numerous other data centers in Lower Manhattan that also suffered outages, some due to flooding and others that ran out of diesel fuel.

This is a great opportunity to look at the risks facing your company's technology centers. Do you have adequate plans based on your risk profile? If flooding is a risk, do you have sandbags and pumps onsite? Do you have at least two diesel fuel providers on contract? If you must "abandon ship," what are your recovery strategies? If you are using a third-party vendor (think cloud computing), what is their disaster recovery plan?

Many employees who lost power at home not only lost their ability to power their devices, they also lost their internet connections. Scenes of employees standing in a charging line at coffee shops were common. This also put a monkey wrench in those work-from-home BCPs. Some helpful solutions to get some power are solar chargers for phones and laptops, and electrical converters that can be plugged into your cigarette lighter in your car – both can provide some immediate power and relief. (After living in earthquake country, I always keep a converter in my car and my gas tank is always at least half full.)

If all else fails, do you have your most critical information on real, live paper? Sounds old-fashioned, I suppose, but many people in the East were hard-pressed to contact people after their phones died. Not only was the device no longer useful, but without power, they also lost access to all of the phone numbers. (Thanks to speed-dial, many people no longer memorize phone numbers – they just press "Mary" and the phone dials the number!) Keeping critical phone numbers, account information, and other important data in a paper format is incredibly helpful.

INCIDENT MANAGEMENT AND BUSINESS CONTINUITY PLANS

Incident Management Teams (IMT) and plans got put to the test. For example, many IMT plans are relatively silent on who should be performing an incident assessment, how and where the team will meet, and what criteria are used to "declare." Furthermore, this process is not often exercised. I witnessed companies who had not really worked this out in advance fall to their knees, trying desperately to make it up on the fly.

Another key tool of an IMT plan is the ability to develop an incident action plan (IAP) and then communicate their plans and actions to all key stakeholders. Again, an IAP is one of those actions that require practice to hone the thinking and the skills. For those that had not exercised the process, they ended up going in many directions simultaneously, like a headless chicken (at least initially), and without a great deal of success.

There was one core flaw in many BCPs we reviewed. There was an overwhelming assumption that companies would be out of their facility for only a short period of time and then everyone could go back to work. This was coupled with the major assumption that employees could work from home. A double whammy!

A case of extreme criticality was the four New York City hospitals that were forced to evacuate patients as water poured in and power failed. Those hospitals (NYU Langone Medical Center, Bellevue, and the Manhattan VA hospitals – all next door to one another along the East River – and Coney Island Hospital in Brooklyn) had to relocate more than 1,200 patients. Many of us watched with bated breath as four newborns in the NYU Neonatal ICU on respirators were carried down nine flights of stairs while a nurse manually squeezed a bag to deliver air to the babies' lungs.[4] The great news in those evacuations is that there was no untoward ill effect regarding any of the evacuated patients.

COMMUNICATION

Twitter was the true spokesperson of the day in Hurricane Sandy. If you wanted to know what was really going on, all you had to do was follow Twitter. The social media service provider really shined in Sandy. It provided people on the street the opportunity to post real-time information, pictures, and video of events happening right at that moment. It allowed those in need to post requests for assistance, like help with evacuation, and it allowed emergency responders and government officials a chance to reach out with critical information to those who needed it most.

There were, of course, some great fake tweets and posts to Facebook pages which were quickly called out. One man was arrested for spreading false rumors about the NYSE using social media.[5] There were also some great images, clearly Photoshopped, that provided a bit of necessary humor, like the image of the Statue of Liberty being bombarded by waves which was taken out of the movie "The Day After Tomorrow."

Sandy clearly pointed out that we need multiple ways to reach our key stakeholders. If you have limited options, your communication performance is poor. It was a great reminder to be diversified in your communication approach.

Going Forward

There are many great lessons that can be learned from Hurricane Sandy, regardless of where you are in the country or the world. This is not so much about hurricane readiness as it is about planning and then improvising when the plans don't fit the disaster at hand. We have a great opportunity to learn from these mistakes and key findings, and to do better next time. At times like this it is good to remember the wise words attributed to Albert Einstein when he said, "Insanity is doing the same thing over and over again and expecting different results." I vote for sanity!

ABOUT THE AUTHOR

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FOOTNOTES

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The Shared Value of Preparedness: Building Global Stakeholder Engagement for Disaster Risk Reduction

BY CHLOÉ DEMROVSKY

Globalization has not only led to extraordinary advances, but it has also created a vast network of dependencies in addition to a greater risk profile for all stakeholders. Crises that occur on one side of the world can directly impact an organization on the other side. How are practitioners around the globe addressing incremental and complex interdependencies between organizations – as well as emerging risks? Which risks exist across borders and markets, and how can that knowledge be utilized to gain strategic advantage?

Responsibility for mitigating risks lies between the public and private sectors. After a high-profile event, there is a short window of opportunity in which there is broad public support for change; from international organizations down to communities, building partnerships for preparedness is essential.

Economic Development Derailed?

Last year's edition of *Disaster Resource GUIDE* highlighted specific events of the last decade – from the terrorist attack on the World Trade Center on September 11, 2001, to the Haiti Earthquake on January 12, 2010, to the Great Eastern Earthquake and Tsunami in Japan on March 11, 2011.

This decade looks to be no safer. Last year, Superstorm Sandy wreaked havoc on the United States' economy in its devastating climb up the Eastern seaboard. Reconstruction will be expensive, but there are relatively strong systems in the developed world to facilitate the rebuilding process. It is the developing world, where available resources fall short of daily needs, that is most at risk. These societies have less capital to invest in resilience and are far less prepared for contingencies. This lack of preparedness is a systemic risk that can derail economic development.

Challenges to Emerging Markets

Vulnerability and instability are expected to pose more challenges in emerging markets than in industrialized democracies. Myriad geopolitical challenges must be addressed in order for emerging markets to enjoy sustainable growth.

Urbanization is rapidly increasing throughout the world, and urban crowding leads to mass tragedy when a high-impact weather event occurs. Coastal megacities in emerging markets are particularly at risk, both from rising sea levels and increasingly destructive storms. Vulnerable populations in South Asia and Sub-Saharan Africa live in unsustainable conditions, often in flood-prone areas with inadequate waste management facilities. Flooding in manufacturing hubs such as Guangzhou, China and Bangkok, Thailand has repercussions for interconnected supply chains around the world.

City residents are not the only ones at risk. Rural areas are faced with a different threat from climate change. Global agricultural systems consist of a complex group of actors. On the micro-level, subsistence farmers and smallholder farms are under constant threat because the loss of a single harvest can lead to the demise of their livelihoods, while industrial farms are impacted by a variety of climate-related threats including droughts, floods, cold spells, and disease.

Despite increasing problems, forecasters still presume normal weather conditions in macro-level risk models for the coming decade. This strategy fails to adequately predict the immensity of geopolitical consequences. Disruptions in agricultural systems could lead to global food scarcity and rising prices. This poses a threat to food security, but also feeds political unrest as widespread hunger, particularly when paired with entrenched unemployment, often leads to political instability.

Political Risk and Market Outcomes

Citizens everywhere have increasing access to information that enables them to compare their lot to that of others around the world. Large economies governed by regimes unaccustomed to scrutiny, such as Russia, China, and Iran, are scrambling to block access to incendiary information that could lead

> An organization should aim to be nimble in the face of any contingency, no matter the size.

to greater demands from their people. The Internet, and particularly social media, has made it more difficult for oppressive regimes to control their citizens and tame unrest. It has made it more difficult to deny accountability for disasters like food shortages, building collapses, and weather-related incidents. This trend is good for the long-term objectives of promoting transparency, freedom, and public safety, but poses innumerable risks in the short-term for any organization doing business in or with an affected country.

Political risk has a distinct influence on market outcomes as business is affected by increased instability. Large private sector organizations have always been on the leading edge of preparedness, although they are not always on the leading edge of sustainability.

The development and professionalization of the discipline of business continuity is the private sector's chosen method of risk reduction and could become an important part of the general movement for sustainability. Business continuity helps companies address dramatic large-scale disasters and macro-level risks, but it also aids the critical yet mundane activity of running a lean business. Business continuity helps uncover alternate ways of accomplishing objectives and promotes a strategically flexible culture. An organization should aim to be nimble in the face of any contingency, no matter the size.

A Framework for Resilience

Given the number of recent high-profile incidents, policymakers are attempting to set an international framework for resilience. The United Nations released the latest Global Assessment Report on Disaster Risk Reduction in May of 2013. This is the third inception of the report, but its focus is on private sector engagement and has suitably been titled, "From Shared Risk to Shared Value: The Business Case for Disaster Risk Reduction." The report is an attempt at pursuing the noble cause of reducing disaster vulnerability with the pragmatic strategy of partnering with business. This is sensible and should be supported. However, it is important that the United Nations International Strategy for Disaster Reduction secretariat (UNISDR) seeks to engage and learn from those organizations that have been successfully implementing these strategies for years and incorporates proven models.

To bring visibility to the agenda of disaster risk reduction, the personnel at UNISDR should also aim for inclusion in the next round of the Millennium Development Goals (MDGs) put forth by the United Nations. The MDGs were envisioned in 2000 to end poverty and other obstacles to development and are now nearing their target completion date of 2015. The next slate of goals will be drafted soon, prompting conversations about the optimal path to economic development. Adding resilience as an essential milestone for development is imperative to protecting our global systems.

Partnering with private sector organizations to provide technical assistance and leadership for resilience will provide a framework for success. Writing policy is inevitably a slow business and trails industry execution. It is essential that policymakers not work in a silo, but rather use those individuals and organizations with experience in the field as a resource.

Globalization has led to an era of unprecedented interconnectedness that is filled with opportunity and promise. Economic development is occurring at a rapid pace and bringing millions out of poverty. This progress can neither be claimed as the achievement of the public sector nor that of the private sector. Rather it is the efforts of both sectors working in tandem that creates an environment for individual growth and accomplishment. If the public and private sectors can collaborate to design holistic preparedness, it is possible that the recent progress toward global economic prosperity will not backslide with the next big storm.

ABOUT THE AUTHOR

Chloe Demrovsky (@ChloeDemrovsky), CBCV, is the Managing Director of Global Operations at DRI International. She oversees DRI's global network conducting courses in 50 countries on 6 continents and is responsible for DRI's global education growth, which since 2009 has resulted in a certification increase of 72%. She is a Board Director for the DRI Foundation, Coordinator of DRI's International Glossary for Resiliency, and International Editor for Thrive International Magazine and Thrive Iberoamerica Magazine. She is also an Adjunct Professor at New York University. She holds a Master's in International Business from New York University and a Bachelor's from Bard College at Simon's Rock.

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OPERATIONAL RESILIENCE

From PwC: Resilience – What it is and why it's needed

This piece takes an in-depth look at resilience. It defines national resilience as the capability to adapt to changing contexts, withstand sudden shocks and recover to a desired equilibrium while preserving the continuity of operations. The article goes on to provide five attributes of resilience that can be applied in your own organization.

From PwC: Resilience Practices – One-year follow-up analysis on Global Risks 2012 Cases

The Special Report in the World Economic Forum's Global Risks 2013 report defined resilience in a country or organization as its capability to adapt to changing contexts, withstand shocks and recover to a desired equilibrium while preserving the continuity of its operations. This report serves as a one-year follow-up analysis to the three risk cases presented in the Global Risks 2012 report: The Seeds of Dystopia, How Safe are our Safeguards and The Dark Side of Connectivity.

From Risk Management Magazine: Intellectual Property at Risk

We often think of material assets as our most prized possessions, but do you ever think about intellectual property as being worth even more? In actuality, intellectual property may be the most valuable part of your company's arsenal and is probably your main driver of revenue, too. Find out the risks involved with intellectual property and how to protect yours.

THIRD-PARTY VENDOR MANAGEMENT

From ASA: Managing Third Party Risks

This research paper highlights some key points about third party contracts and explains how to mitigate the potential risks involved with using third party vendors and contractors.

From anniesearle.com: Vendor Risk and Intellectual Property

The *Risk Universe* columnist Annie Searle takes on the operational risk of third-party vendor management in this piece. She believes this is one of the most critical risks businesses face.

EXTREME RISKS REPORT 2013

Towers Watson, a global performance-improving services company, recently published a 20-page report, "Extreme Risks 2013", on their research involving 30 extreme risks. They have analyzed the probability of occurrence for various disastrous events and have narrowed them down to the top 15 risks. The results and the projected likelihood of these events may surprise you.

2014 BUSINESS CONTINUITY AWARDS

Open for entries

Now in its sixteenth year, the Business Continuity Awards are once again open for entries. This year there are 20 categories to recognize business continuity, security, resilience and risk professionals. The awards are free to enter and each person can enter multiple categories.

Learn more at www.TheDRGuide.com/PM

Certification to Membership:
The Professional Footpath for Business Continuity Practitioners

BY HELEN PETRIE, BUSINESS CONTINUITY INSTITUTE (BCI)

As Business Continuity continues its growth as a profession, the idea of certification and the membership of professional bodies are more frequently discussed at all levels of the organization – from those starting out their career in the industry, right up to the Board Room.

As an individual you will be looking at the long term development of your career while those at Board level need to consider the long term growth of the organization. Of course the two of these are not mutually exclusive and many managers will tell you that the best way to grow an organization is to invest in its people.

The first step on the professional ladder is certification. Certification gives you an outward facing verification of your knowledge in that discipline. One such certification in the BC industry is the BCI's CBCI which is a set syllabus based on the Good Practice Guidelines, in itself aligned to the ISO22301 international standard. Attaining this level of qualification will set you apart from those who are not certified, who would only have knowledge of BC in their current environment.

Once you have become certified and embarked on your career in business continuity you need to think about what your next steps will be.

Like with any good BC Plan, you wouldn't just write it and place it on a shelf to gather dust. It is a continual process of planning, learning, assessing and adapting to ensure that the plan is effective and can be relied upon. The professional development of anyone working in the BC industry is no different. You don't take your newly earned certificate and hang it on a wall only to forget all that you have learned. You would, or at least you should, continue to develop yourself as a professional by testing your skills and adapting your skillset to suit the needs of the job.

Becoming a member of a professional body is perhaps the best way of providing this development as it offers a learning opportunity which ensures that you are effective and can be relied upon.

Professional Development

Professional bodies have a range of programmes in place to suit the needs of the BC professional.

Mentoring allows those who are new to the profession to be guided along the early stages of their career and offer great scope for improving their knowledge, understanding and the practical application of good practice.

For those at any stage of their career, Continuous Professional Development provides an opportunity to reflect on their academic and professional experiences to see how they can apply what they have learned to their own work. Where certification tests your base knowledge of a set subject matter, CPD requires a detailed demonstration of this knowledge and evidence of its implementation.

Networking

By becoming part of a professional body like the BCI, you would also be joining a network of thousands of other BC professionals all across the world who are working across a wide range of industry sectors. Within this immense network you can build valuable relationships with your peers around the globe.

Networking enables you to keep up to date with the latest BC trends and developments, share best practice and learn from some of the most highly respected and experienced people in the industry.

Being part of a large professional body means you are part of an influential voice that helps to take the profession forward through research and advocacy.

Career Advancement

Combined with developing your skills through a professional development programme, simply having the international professional recognition of being part of a professional body can give your career a boost.

Increasingly employers are asking for professional membership when employing people to work on their BC programme, as do major companies when issuing tender documents for BC consultancy and services.

Shape the future of BC

As part of a professional body you are able to get involved with research projects that can help shape and set the future direction of the BC discipline.

And if all that isn't a good enough reason to join, how about saving money. By being a member of the BCI you can benefit from significant member discounts for BCI products and services, including the BCM World Conference and Exhibition as well as for third party events where discounts have been negotiated for BCI Members.

The BCI is the world's leading institute for BC. Established in 1994, it has established itself as the leading membership and certifying organization for BC professionals worldwide.

For more information on certification and membership from the BCI, visit www.thebci.org

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The BCI offers world-class, high-quality training, delivered by BCI licensed training partners located around the globe. All our training partners are experienced and respected Business Continuity professionals, bringing a wealth of real-life experience to the classroom.

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BCI Certification is an internationally recognised stand-alone credential leading to the post nominal designation of CBCI – Certificate of the Business Continuity Institute. Certification is gained through taking the Certificate of the BCI Examination which tests the candidate's knowledge of the prescribed Body of Knowledge, the BCI's Good Practice Guidelines – a guide to global good practice in Business Continuity.

Diploma of the Business Continuity Institute (DBCI)

The BCI Diploma is an academic qualification leading to the post nominal designation DBCI – Diploma of the Business Continuity Institute. The Diploma is delivered via distance learning in partnership with Bucks New University.

BCI Certification can be used to apply for Statutory Membership of the Business Continuity Institute ▶▶▶

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Statutory membership of the BCI provides BC professionals worldwide with:
- International recognition and status through accreditation
- Assurance of technical and professional competency in business continuity

BCI members enjoy benefits including:
- Networking opportunities, face to face and online
- A wide range of tools and resources
- Member-only offerings such at the Mentoring Programme, Consultancy Register and CPD system
- Free downloadable GPG and discounts to training and events

Use your CBCI or DBCI to apply. Or did you know that you can apply through our Alternative Route to Membership using the ABCP, CBCP or MBCP credentials. ICOR CORs Exam Pass or approved MSc's from Buckinghamshire New University and Loughborough University? For more information on any route, please contact us.

About BCI Corporate Partnership

The BCI Corporate Partnership enables organizations to work more closely with the BCI to help raise the profile of Business Continuity management as a discipline within their organization and to promote the highest standards of professional competence in BC in organizations working in any sector worldwide.

WWW.THEBCI.ORG

The Increasing Complexity
of Supply Chains and the BC Professional

BY LYNDON BIRD AND LEE GLENDON

This article discusses how supply chain disruptions have become one of the key issues facing business continuity and risk professionals. It considers the need for organizations to establish and maintain resilient and sustainable supply chains and why this has become more complex to manage. The article draws upon research work undertaken by Lee Glendon for the Business Continuity Institute. The article concludes with six practical tips for the BCM professional to use in managing this complex subject.

Increasing Supply Chain Complexity

In the BCI's Horizon Scan 2013, one of the key trends of concern identified by business continuity professionals was increasing supply chain length and complexity. There were three main reasons for this. The first was changing customer demands, the second was changing supply chain management practices, and the third was the way in which business innovation gives less time to adapt to both changes. These problems are not created purely by globalization but they are accentuated by it because geographic separation often leads to reduced visibility (and hence control) of key dependencies and exposures.

Increasing supply chain complexity makes it harder to maintain confidence in either the resilience or ethical nature of supply chains. Resilience is a key requirement to achieve continuity of supply and ethical sourcing is particularly important for brands whose customers place importance on this attribute in their buying decision. Extending supply chains around the world accentuates the problem of developing confidence. It is hard to be confident when you do not fully know who is in your supply chain at lower tier levels.

Perhaps, the most important driver of complexity is the customer and the desire of businesses to develop the right supply chain to meet the needs of the customer. Shorter, more responsive product lifecycles in consumer electronics and the fashion industry are leading the way in terms of developing agile supply chains that can deliver new products every few months or new clothing styles virtually every week.

Likewise meeting the price point of some lower end products sets its own supply chain structure, but it is not just about the price. For example, the supply chain required to be able to sell a branded product sets its own restrictions and creates reputation risks that need to be managed. In another example, public sector bodies may be mandated to buy from smaller businesses, which in itself creates complexity in terms of the number of suppliers and the need to train and develop them to meet the requirements of government contracts.

Tier one supplier concentration has been a widely adopted supply chain management practice to allow companies to focus on a smaller number of suppliers. While this approach simplifies the number of interfaces at tier one, it has created in practice more tiers below the immediate supplier, reducing visibility. It has also increased dependency on those prime suppliers as the ability to switch back becomes harder over time. In BCI surveys, 40% of supply chain disruption originates below the immediate supplier and few organizations work through their entire supply chain to the source. It is not now uncommon for organizations to experience disruption even at tiers five and six.

Various research studies have demonstrated that after severe weather and technology outages, the most likely cause of business disruption is when suppliers fail to meet their delivery or quality obligations. This means that it is very much a business continuity issue, although many BC professionals have difficulty in getting their organizations to see it as such. Supplier and supply chains are primarily the responsibility of procurement specialists, who defend their territory with some vigor. They often feel that they are the experts – so what could a BCM expert possibly bring to bear on this specialist problem?

If we are honest, we must accept that most BCM specialists are not really solution providers, except perhaps in the limited IT service availability arena. Yet, virtually all BCM managers claim to be responsible for response and contingency planning to deal with a pandemic, a terrorist attack, fire or flood, a political demonstration, a large-scale event like the Olympics and even cyber-attacks. I have not met many BCM managers who have any professional qualifications in medicine, terrorist surveillance, policing civil events, crowd management or cyber security. I have never met a BCM manager who is an expert on all of these topics – yet they still feel responsible for protecting their businesses against the negative consequences of these diverse challenges. Why should supply chain disruption be any different? There is a clear and increasing threat from the adoption of longer supply chains in riskier parts of the world; supply chain failure can cause one of the greatest impacts to business reputation and sometimes can prove fatal to a business.

> If we are honest, we must accept that most BCM specialists are not really solution providers.

It is easy to find global examples of supply chain failures causing serious business damage, but less easy to formulate how a BCM professional can help mitigate such problems. Where a BCM professional is strong is concentrating on consequences rather than causes. It does not matter why a specific process is interrupted; the problem is to know if it really is a critical process and, if so, how you can deal with the operational consequences of interruption. An example is the Eyjafjallajokull volcano in Iceland which erupted in 2010 and created an ash cloud that stopped the vast majority of air travel across Central and Northern Europe. The BC planner did not need to be a geologist or an aeronautical engineer to understand that this would interrupt the ability to receive raw materials and ship finished product. He or she did, however, need to have alternate means of handling the logistical challenge, bearing in mind that there were many more likely things that could have caused a similar interruption such as a major terrorist attack or coordinated labor disputes.

Supply chain professionals have long recognized the risks of relying on a single supplier of a critical component or service. Where options exist for establishing diversity of supply,

dual-sourcing is common practice. However, dual-sourcing is only usually implemented at tier one, and research has shown that they might well unknowingly be reliant on single suppliers at a lower level. Using the techniques that BC planners know as Business Impact Analysis (BIA) can often be helpful. It looks at dependencies and why specific disruptions might have a much higher impact than would have been assumed.

Another area in which BC professionals are generally strong is in facilitating decisions through workshops, one to one meetings and cross functional understanding. Procurement people are good at negotiation and do not always see the implications of some of their supplier selections. Being closer to operational problems, BC planners can help identify potential problems and mitigate risks that might occur. Extended global supply chains are not static: staff change, locations change and subcontracting obscures where activities are really being performed. A lack of relationships, communication and understanding of different cultures increase opacity. Some sectors suffer from lack of communication around changes in their extended supply chain. The consequence is that suppliers change the location of production or the people providing a service without informing clients, so organizations are surprised by finding that an event, for example industrial action, in one location affects them, even though their analysis did not reveal any exposure to the event. This type of analysis is usually more in line with the thinking of Business Continuity than Procurement.

Again, outsourcing is often seen as an innovative way to access the expertise of third parties, reduce risk and allow a firm to focus its resources on its core activities. Those organizations that offer outsourcing services have in turn created their own language for service delivery models with terms such as 'off-shore', 'near-shore', 'blended-shore' and 'right-shore'. In essence, these models have different risk/cost trade-offs for

Practical Tips for a BC Planner

- Use your skills as an exercise planner, facilitator and scenario designer. You are good at this, procurement usually isn't. Where possible get key suppliers involved in your exercises and try to be invited to observe their exercises. As trust builds look to schedule full joint exercises, involving managers from both organizations. This focuses minds and reassures both sides that they have a common goal.

- Persuade your senior management to ask key suppliers to allow you to audit their plan and their test schedules. Consider this part of a regular audit program of work, rather than an occasional or ad-hoc activity. Once it becomes scheduled, it becomes official and hence serious. However, use this opportunity to build relationships, not to show off your auditing skills.

- Map your suppliers' incident management protocols against your plan assumptions, including fully understanding the resources they might have available to deal with a crisis. Suppliers might actually be larger and better resourced than you, so take advantage of any support they might be able to offer. Collaborative working is the way forward, so try and get your company to embrace it.

- Really analyze your supplier base by operational importance, not just by amounts spent with them. Procurement should have done the due diligence on the finances so make it clear you are not duplicating that. Prioritize suppliers based upon the degree of impact supply failure would have on continuity of operations, not on how much you spend with them. If you do it as part of a BIA, procurement will never realize what you are doing until you have done it.

- Offer to train all procurement contract officers in the basics of BCM. If this fails then talk to senior management and HR about the need for these people to better understand risks. Sometimes a joint training with risk managers and BC managers talking to their counterparts in procurement is a very effective learning experience for all parties.

- As better understanding of BCM emerges, make sure that every supplier has a "continuity and resilience" score assigned to them and get policy approved at senior levels to authorize extra monitoring. Focus resources on single source suppliers of key services that are consistently scoring poorly.

the client organization. Across four annual BCI supply chain disruption surveys, service failures by outsourcers have featured prominently. In 2012, 35% of reported disruptions – which had 'some' or 'high' impact – were attributed to this cause, **double the level of 2011**. Business Continuity professionals can provide very valuable input when such strategic decisions are being made, but unfortunately they are often only brought into the picture to sort out a plan once the contract is already in place. Joint exercises are an essential means by which outsourcers and their clients can work together, anticipate problems and exercise solutions. There are no better people in an organization to manage and facilitate such an exercise than the BC team.

Hopefully, this article has demonstrated that although business continuity people cannot expect to select suppliers, decide on outsourcing strategy or manage the procurement process, they can still provide a level of support in terms of analyzing impacts, facilitating debate and designing exercises. These all add value and reduce risk to the overall supply chain.

> Significant service failures by outsourcers DOUBLED in 2012.

The main conclusion is that business continuity management can provide an important contribution to identification and mitigation of the impacts of supply chain problems but it can only be fully effective in collaboration with risk management and supply chain professionals. These groups must work together to improve visibility by focusing efforts through identifying key suppliers, working through lower-level tiers, building stronger relationships, looking beyond contracts and service level agreements, while proactively monitoring trends and streamlining control processes.

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Lee Glendon, CBCI, was formally Head of Research and Advocacy at The Business Continuity Institute, with particular specialization in Supply Chain Continuity and Horizon Scanning. He has recently left the Institute to concentrate his research efforts into all aspects of Supply Chain Risk Management for a leading global research organization.

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21st Century Technology for 21st Century Threats

The Value of Business Continuity Management Software

BY MONICA GOLDSTEIN

Business Continuity Management (BCM) has matured quite a bit since being spawned out of Disaster Recovery in the mid 90's. It is no longer what is Business Continuity but how do we make it effective? It is no longer in the back seat, but it is now driven by the c-level/board of directors.

So knowing that you have to do it, how will you do it? Considering that BCM has so many moving interactive parts such as, BIA, Risk Assessment, Testing, etc., numerous frameworks and regulations, touches the entire enterprise, and incorporates large volumes of documents and data, there is no better way to organize, manage and execute such an evolving, complex program than software designed to do just this.

Many try with MSOffice but typically this approach does not help meet the goal of having an effective program. A few reasons are that maintaining MS documents is very labor intensive, security is an issue, accessibility is manual and just as if Sharepoint is used, you are limited to document management instead of program/data management.

We are in 2013, with extreme threats, but we also have access to sophisticated BCM software developed specifically to meet BCM and recovery needs resulting in a more effective continuity program. These products go beyond MSOffice/Sharepoint by providing rich features helpful for effective BCM, such as resource mapping, weather alerting, auto-reminders/alerts, and automatically combining all types and levels of plans. For program creation and maintenance, the efficiency, collaboration, communications, standardization and guidance provided by BCM software makes BCM more effective. Then add in how it assists with recovery and continuity when actually faced with a disaster, and the benefits far surpass what MS products can provide.

Here are some examples of what BCM products can do for you:

- Single source for everything BCM – from data to plans to reporting.
- Eliminating duplicate efforts and easily collecting data and keeping it current though integration.
- Hosting services that take the cost and resources out of managing in-house solutions.
- Automating manual tasks, such as triggering emails, approval processes, scheduling, assignment, follow-up, monitoring, approval processes.
- Being able to manage the program easier, such as being able to see status and effectiveness of the program.
- Easier maintenance by utilizing a relational database.
- Exercise and Test Management. Schedule, execute, assign follow-up and monitor progress.
- Stronger security and more control on confidential documents and data.
- Dynamically and more easily generating reports and viewing information through dashboards.
- Making audits easier by having revision trails and automatically generated documentation.
- Mapping of dependencies and interdependencies of resources, functions, etc.
- Automatic notifications and knowing who to contact and how.
- Automating Recovery Time Objective (RTO) calculations so they are objective instead of the traditional RTO guestimates.

And the benefits go on and on... for more on BCM software benefits, view this video by RecoveryPlanner: www.impactmovie.com/recoveryplanner

ABOUT THE AUTHOR

Monica Goldstein, EVP of RecoveryPlanner, a lawyer and practitioner of BCM since 1995, is a founder of RecoveryPlanner, a global leader of BCM software and consulting services.

Research Report:
Business Continuity Management Planning Software

BY ROBERTA J. WITTY

This information comes from the Gartner Hype Cycle for Business Continuity Management and IT Disaster Recovery Management, 2013.

Definition: Business continuity management planning (BCMP) software tools are the key tools used to manage business continuity management (BCM) programs. They provide risk assessment, business impact analysis, business process, supplier/vendor and IT dependency mapping, plan management functionality, and program management metrics and analysis. Some products also offer plan exercising capability, resource modeling capability, crisis/incident management "lite" support and emergency notification lite support.

Position and Adoption Speed Justification: BCMP products have been in the market for more than 20 years, growing from word processing templates to sophisticated, interactive decision support tools. The increased need for usable recovery plans of all types (including crisis management, damage assessment, emergency response, emergency notification, external communications, insurance support, travel support, procurement/vendor management, customer/partner support, shelter in place, IT disaster recovery, business recovery, business resumption, restoration and stand-down), as well as for a consistent and repeatable plan development process, has resulted in increased sophistication in the products. In addition, they integrate with other BCM tools, such as emergency or mass notification service (EMNS) and crisis/incident management (C/IM), GIS/geospatial, IT asset management, CCMDB and more. More mature BCM programs use BCMP tools for business and program management analysis with a goal of building more resilience into the day-to-day business process.

With more than 30 vendors, the BCMP market has a 2012 revenue estimate of $130 million, a 30% growth since our 2010 estimate of $100 million. Average revenue growth for 2009/2010, 2010/2011 and 2011/2012 is 33.3%, 18.6% and 19%, respectively. Pricing for this market remains very competitive for the simpler implementation;

pricing for large, multinational implementations can be in the high six figures or higher. Large or regulated enterprises, as well as government agencies, typically use the tools, while small and midsize firms are increasingly looking to do so. The financial services market and organizations with complex business operations lead the pack in implementations and vendor marketing efforts. Coordinating, analyzing and managing large amounts of availability information are almost impossible to do without a tool. The biggest competitors to using a BCMP tool are Microsoft Office tools and SharePoint for document management.

The significant growth in adoption of BCMP tools – 23.8% from 2010 to 2011, and 38.5% from 2011 to 2012 (as measured from our annual security and risk management survey) – is an indication that organizations are realizing the importance of the use of these tools to help standardize and manage recovery plan development, as well as manage the BCM program itself. Having current, effective and exercised recovery plans is the key to success during a disaster, and these tools are essential for effective crisis and business recovery. We anticipate adoption to continue to grow in the next five years, given the increased focus from government agencies – federal, state and local – as well as private-sector preparedness initiatives. Some of the future growth will come through the governance, risk and compliance (GRC) market. More GRC vendors are providing BCMP capability as part of the broadening of the operational risk management program. In the 2013 Hype Cycle, we moved the BCMP market position by one spot to post-trough 15% from the 2012 BCM Hype Cycle of post-trough 10%.

User Advice: Consider a BCMP tool when:

- You are starting a new BCM program and want to follow standard practices throughout the organization.
- You are updating your current BCM program and processes.
- You are maturing your BCM program and need more analytics than traditional office management tools can provide.
- You need to integrate plans and partial plans from a number of departments and business units into one consistent, accessible and easily updated plan.
- A merger or acquisition has presented you with the need to create a BCM program reflecting all the elements of your organization.
- You want to conduct the research and planning process in-house, with minimum assistance from outside consultants.

Do not overbuy. Focus on:

- The ease of use in the hands of business users, not IT or BCM program office users only
- The ease of customization – by the customer not the vendor – to your organization's continuity delivery framework and so forth
- The ease of reporting, including modifying report formats provided by the vendor, as well as creating new report formats
- The ease of integration with other important business applications, such as enterprise directories, human resources, GRC, business process management tools (whether internally developed or purchased), CCMDBs, IT asset management, and BCM software that your organization may already have purchased, such as EMNS or C/IM software, as well as news feeds to a BCM program dashboard
- Mobile device (smartphone or tablet) support for recovery plan access and execution at the time of a business disruption

Besides an inaccurate financial statement, such as a 10K or 10Q in the U.S., the recovery plan is the one organizational document most likely to result in lost revenue or a damaged reputation if it is not current or, worse, unavailable or nonexistent. Like all policies and procedures, even the best recovery plan can rapidly become obsolete. Consider the recovery plan a living document, and put in place a continuous improvement process for regular plan reviews (annually, at a minimum or when there are major business or infrastructure changes) and event-triggered plan reviews (such as changes in operational risk profiles, business or IT processes, and applicable regulations, as well as exercise results showing a gap in plan actions versus current recovery needs).

Business Impact: BCMP tools will benefit any organization that needs to perform a comprehensive analysis of its preparedness to cope with business or IT interruptions, and that needs to have in place an up-to-date, accessible plan to facilitate response, recovery and restoration actions.

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Sample Vendors: Avalution Consulting; Bold Planning Solutions; Business Protection Systems International; Continuity Logic; Coop Systems; eBRP Solutions; EverGreen Data Continuity; Factonomy; Fusion Risk Management; ICM; Inoni; KingsBridge; Linus Information Security Solutions; MetricStream; Modulo; Paradigm Solutions International; Quantivate; RecoveryPlanner.com; EMC (RSA); Strategic BCP; SunGard Availability Services; Tamp Systems; Virtual

ABOUT THE AUTHOR

Roberta Witty is a Research Vice President at Gartner, Inc., where she is part of the Risk and Security Management Programs group. Her primary area of focus is business continuity management and disaster recovery.

Which Vendor Knows the Best Way for Your Organization to Do Planning? Answer: None of the above

Having started as a consultancy twenty years ago, we learned that software tools should enable the planning process and not force the organization to adapt to the tool. You already know how best to implement planning within your organization, but you need a tool that enables that process and guarantees a high rate of adoption by your user community. We feel there are three keys to achieving this high adoption rate: make the tool simple, flexible, and adaptive.

Most tools were created by a vendor who felt they had a better way to approach business continuity, disaster recovery, crisis management, risk and emergency management, or other related disciplines. You already know the best way: it's YOUR way. You have already defined an approach that "fits" your organization and is culturally appropriate. Using your terminology, concepts and algorithms, it addresses your regulatory requirements, level of granularity, reporting and metrics. Software should facilitate doing planning your way and start with standards-compliant, best practice templates.

Organizations and resilience programs are not static. As the creators of the Business Continuity Maturity Model®, we realize that each organization's program maturity evolves. Congratulations! Management is more engaged as a result of what you've achieved in your program to date. Now they want more – enhanced granularity, more thoughtful analysis, or perhaps better alignment with regulatory changes. A tool based on a vendor's vision of planning may be appropriate for you today, but will it be appropriate 3 years from now? There is a cycle within which organizations select a tool they think will meet their needs, but in 3 to 5 years that tool is no longer relevant, cannot adapt, and they are looking for another tool.

Do any of the following describe your situation?

- You haven't defined what Business Continuity "your way" looks like yet, but would like to hit the ground running with standards-compliant planning templates.
- You have looked at all the tools and found nothing that meets your needs, so you are using MS Office. You get a headache every time the BIA, plans and reports have to be updated and aggregating data is almost impossible.
- You have invested in a tool, but it no longer meets your needs. There are aspects of your plans you would like to take advantage of using a more user-friendly tool that will meet your needs now and in the future.

> "I have worked with many continuity tools in my career and Sustainable Planner surpasses them all. Reporting, customizability and tech support is far superior to other tools."
>
> – Healthcare system client

> "We provide very little training to the plan editors because usually they can log in with their user ID and password and complete the surveys without assistance. Sustainable Planner ease of use is a real time saver."
>
> – Large insurance client

There is a way to simplify planning, improve reporting and inspire your users to provide their input with little or no training – a tool that is simple and can be used, modified and administered in a way that does not consume every waking moment. It can be easily changed to meet your changing environment and continue to do planning your way. Do yourself and your business a favor. Contact Virtual Corporation for a demonstration of Sustainable Planner® or sign up for a webinar today. www.theintelligentchoice.com

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Research Report:
Risk Assessment for BCM

BY TOM SCHOLTZ

This information comes from the Gartner Hype Cycle for Business Continuity Management and IT Disaster Recovery Management, 2013.

Definition: Risk assessment in the business continuity management (BCM) context is the process of identifying and treating risks to business process availability and the continuity of operations.

It is an essential first step (along with the business impact analysis [BIA]) in the overall BCM process, and is necessary to reduce the frequency and effect of business interruptions, addressing risks related to technology, location, geopolitics, regulations and industry, as well as the business and IT supply chains.

Position and Adoption Speed Justification: BCM planning was historically conducted with a very superficial level of risk assessment, or even with none at all. Although it has been well-understood that risk assessments are a necessary component of BCM planning, business managers sometimes consider them to be time-consuming and too resource-intensive. This opinion has

been justified by the general lack of effective risk assessment methods and tools, and often exacerbated by the inappropriate use of such tools and methods. Furthermore, given that BCM planning is often focused on low-likelihood, high-impact events, the emphasis of the risk assessment is typically on planning for the possibility of a catastrophic event, rather than for the probability of the event happening.

However, expectations of better levels of practice are increasing, encouraged to some extent by standards – such as ITIL; COBIT; and International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 22301, 27001 and 31000. This is reinforced by a growing realization that risk assessment has a valuable role to play in identifying, assessing and preventing events that could result in the unnecessary triggering of recovery plans. That is, risk assessment focuses not only on events over which the enterprise has little control (such as natural disasters and terrorism), but also on those over which it has more control (for example, facility failures, supply chain complexity, poor change management, security control weaknesses and human error).

Today, risk assessments are recommended in all BCM frameworks, and risk assessment tools are being included as integrated or stand-alone modules in BCM planning (BCMP) toolsets. In addition, governance, risk and compliance tools increasingly support assessing and reporting on BCM risk. Using these tools still requires specific BCM skills and time, which often are unavailable, but this situation is improving. Increasing emphasis on the importance and value of risk assessment in all spheres of business management is driving increased adoption of the discipline as a key component of BCM. However, unrealistic expectations about risk assessment being a panacea for ensuring business involvement in the BCM process, coupled with the inappropriate use of risk assessment tools (such as using very algorithmic mathematical models with a business

audience that manages risk in a more intuitive manner), will continue to result in some disillusionment and a lack of business unit buy-in.

User Advice: Make formal risk and business impact assessments that identify key control weaknesses and single points of failure as mandatory components of your BCM program. Define the extent to which risk assessments will be performed, based on BCM project scope, resources and time availability. If existing processes are not effective, then change them. Consider replacing complex mathematical tools with more-intuitive assessment methods (for example, scenario planning and Delphic brainstorming), if it will better suit the cultural approach to risk management. Such methods are typically more suited to assessments of multisourced environments, including software as a service (SaaS) and cloud-based services.

Improve efficiency and reduce the time demands on business managers by leveraging risk assessments performed by operational or IT risk teams. Work with those teams to ensure that their data is sufficiently granular to meet BCM needs. As you become more mature at BCM risk assessment, make the transition to a continuous improvement process that accommodates BCM, IT and security risks. This will ensure that BCM team members – business and IT – are included and kept apprised of new or changing threats.

Use standard terminology and processes to ensure consistency in assessment and risk prioritization. Investigate the use of software tools. They will not eliminate the need for an experienced risk assessor, but they can simplify the risk assessment process. Additionally, they provide an important repository for risk information, tracking assessments and treatment activities, as well as documentation for auditors and aid to program improvement. BCMP tools, which often provide integrated risk assessment functionality, are increasingly being used as hosted or SaaS solutions. This potentially allows the business continuity manager to realize value at a lower-price entry point.

Business Impact: Implementing BCM plans can be expensive and disruptive. Risk assessments are essential for pre-emptive action to reduce threat occurrences and constrain the effect of any disaster. Risk assessments ("What are the chances of a disaster happening?") also provide critical information for effective BIAs ("What will the impact be if a disaster becomes reality?"). Increasing adoption of SaaS and cloud-based services adds an additional level of complexity to BCM planning and the ability to perform effective risk assessment.

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Sample Vendors: Business Protector; Coop Systems; Cura Technologies; eBRP Solutions; EverGreen Data Continuity; Fusion Risk Management; Linus Information Security Solutions; MetricStream; Risk Watch International; EMC (RSA); Strategic BCP; SunGard Availability Services

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Tom Scholtz is a Research Vice President in Gartner, where he advises clients on security management strategies and trends, and is an acknowledged authority on information security policy design, security organizational dynamics, and security management processes.

This information comes from the Gartner Hype Cycle for Business Continuity Management and IT Disaster Recovery Management, 2013. This report is part of Gartner's 2013 Hype Cycle Special Report which provides strategists and planners with an assessment of the maturity, business benefit and future direction of more than 2,000 technologies, grouped into 98 areas. The Special Report includes a video, provides more details regarding this year's Hype Cycles, as well as links to all of the Hype Cycle reports. The Special Report can be found at http://www.gartner.com/technology/research/hype-cycles/.

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GOOD RESOURCES FROM FAIRFAX COUNTY, VIRGINIA

Fairfax County, Virginia believes emergency preparedness can be easy if you do little things day by day that add up to being better prepared for any emergency.

ThunderClap Helps Launch a Social Media Emergency Preparedness Campaign

In September 2013, Fairfax County invited their citizens to take a look at list of 30 easy, practical ways they and their family, business or faith community can become better prepared through a campaign called Prepare 30 Ways in 30 Days.

Next, they encouraged their citizens to help spread the word through Twitter or Facebook accounts. The campaign used ThunderClap a crowd-speaking platform that helps people be heard by saying something together. If enough people support a campaign ThunderClap will blast out a timed Facebook post or Tweet from all the supporters, creating a wave of attention.

Fairfax County had a goal of 100 supporters to help reach 85,000 people at the same time.

Want to know what happened? Come to the Online GUIDE and link to the story.

Fairfax County Urges Citizens: Prepare 30 Ways in 30 Days

Come to the Online GUIDE to get good tips and resources in all 30 categories.

Day 1 Pets: Buy an extra bag (or cans) of food for your pet.

Day 2 Cash: Withdraw some extra cash from your bank or ask for cash back at a grocery store.

Day 3 Infant/Young Children: Review your infant and young children supplies.

Day 4 Schools: Review the school preparedness resources so you're familiar with emergency plans.

Day 5 #ffxstorm: Use this hashtag on Twitter during major local storms.

Day 6 Weather Radios: Purchase a NOAA Weather Radio.

Day 7 Power Outages: Save your power company's phone number to report outages.

Day 8 Batteries: Pickup an extra package or two of the most commonly used batteries in your home.

Day 9 Tornado Exercise Review: Review our tornado exercise and answer questions we posed.

Day 10 See Something, Say Something: Note Virginia's terrorism hotline.

Day 11 Wireless Emergency Alerts: New type of alert may be sent to your smartphone.

Day 12 Stay Informed: Ask a friend to sign up for at least one of our emergency information tools.

Day 13 Water, Water, Water: Calculate how much water you need for your household.

Day 14 Multiple Languages: Share emergency preparedness info in multiple languages.

Day 15 Get Involved: Review what emergency volunteer organizations do.

Day 16 Floods: Review list of roads that historically flood in Fairfax County.

Day 17 Special Needs Registry: Notify people about our registry.

Day 18 Make a Plan: Complete a family and/or business preparedness plan.

Day 19 Turning Off Utilities: Familiarize yourself with utilities and learn how to turn them off.

Day 20 Speakers Bureau: Recommend our Office of Emergency Management speak with your group.

Day 21 Calling 9-1-1: Add a new contact to your phones for the public safety non-emergency number.

Day 22 Digital Preparedness: Get yourself and your devices prepped for an emergency.

Day 23 Two Ways Out: Design two ways out of your home/apartment.

Day 24 Importance of Neighborhoods: Talk about emergency plans with your neighbors.

Day 25 Medicines: Purchase extra over-the-counter medicines you frequently use.

Day 26 Older Adults: Ensure older adults in our community are prepared.

Day 27 Take Pictures: Take pictures of all the rooms in your home so you have documentation.

Day 28 Car Preparedness: Place supplies in your car with as many items listed.

Day 29 Get Where You Need to Be: Think about, explore and plan for alternate routes in advance of winter.

Day 30 Pass It On! Keep this list moving through our community. Share these tips with family, friends, neighbors, co-workers

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EMERGENCY MANAGEMENT

Navigating the New Normal

Managing the Human Side of a Disaster

BY VALI HAWKINS MITCHELL AND KRISTEN NOAKES-FRY

A veteran carpenter would tell you that a hammer and a nail never change, but what you build over the decades will be different as creative designs change. Disasters are disasters, emergencies are emergencies, and some of the tools to manage them will be basic, stable, unchangeable "hammer-and-nails" work. However, if you look at the composition of disasters today as compared to 10 years ago, they have changed a lot. The victims have changed. The perpetrators have changed.

The most immediate skills you need in order to manage the human side of disaster require understanding the basic nature of disasters and the range of potential accompanying human emotions. Just as disasters can instantly level buildings, they can just as rapidly change longstanding patterns of power, work, authority, and perceptions among the people in your workplace.

Anticipating Workplace Changes in a Disaster

You've heard post-disaster stories about an ordinary employee who surprised everyone with "surprising compassion and heroism" under terrible circumstances. What is usually left out is that the employee had been trained by good management – and the training kicked in at the right time. After a catastrophic event, it is the leader who is centered, calm, alert, focused, and informed who may well become the valued lighthouse in the darkness, the beacon of sanity in an insane situation. Ongoing training and exercise is essential for that to happen.

Power: Suddenly, everything you know about power in your organization has changed. Immediately, you will see that the force of the disaster now holds the power. Dramatic changes occur in people during disasters. Normally powerful people may be brought to their knees, while usually powerless people can rise to superhuman abilities. Your planning and drills will prepare people for roles to change unexpectedly. Be open to creative ideas from people who usually remain silent, or be ready to find usually strong people that would normally have opinions to be suddenly clueless. It's not a matter of job code, age, or experience. The disaster has created an even playing field.

Work: After a disaster, the rhythm of work has fits and starts as it readjusts to its new flow. You can't force everything back to normal. In most industries, expecting employees to continue normal activities immediately after a disaster is at the least unreasonable and at the worst unethical, inhuman,

and perhaps even be fodder for litigation. If your company executives are determined to continue operations as if nothing happened, advise them that this kind of denial can only worsen the situation and make it take longer for people, processes, and productivity to recover. Use your common sense to allow a reasonable period of time – depending on the nature of the disaster and the level of personal involvement of those in your workplace – between the end of the incident and phasing in the return to normalcy.

Authority: You have observed in your own tests of your BC and evacuation plans that clearly understood lines of command during the on-scene process of a disaster is essential to keep workers on track amid chaos. As a manager, you will need to either be the incident manager during a disaster or delegate one. And be sure to have at least one backup person and a procedure to follow in the event you are out of the office or stuck between floors in an elevator. Create a hierarchy phone tree or contact list of chain of command for the tasks and performance issues that are ranked from immediate to long term planning options if needed. In your disaster drills, arrange to have a key person absent to test the flexibility of the lines of command.

Perceptions: You may have heard from disaster workers – or observed it yourself – that victims, emergency responders, and mental health workers can be expected to be in an "altered state of consciousness." You will never have to ask "if" there is an altered state, only "how altered is it?" Brains will be processing information in a distorted manner because brains under the influence of the incident do not operate like brains not under duress. Both victims and responders are "under the influence" of the disaster and can do some odd, silly, heroic, bizarre, and dangerous things. Most disaster management professionals will tell you to plan for the worst, hope for the best. If you are aware that altered states of behavior are often quite shocking, but

short lived, you can prepare yourself – and other managers in your organization – to be the person who can bring people back to "normal" more quickly.

Manage During a Disaster

◆ Include everybody. Involve people in helping, even if it is a fabricated task like "we need someone to empty the wastebaskets." Busy people become more focused and feel more security. An employee to whom you give "power and control" over the wastebaskets may feel less overwhelmed by the power of the disaster– and may return to competent functioning more quickly. Washing dishes, sweeping, dusting, organizing a phone tree, serving water, and other ordinary tasks may keep people from sliding into an emotional abyss of helplessness.

> Quick check-ins with employees – without getting deeply involved in their emotions – are very helpful.

◆ Express emotions. Human emotions are okay. In fact, they are necessary. Numbness is not healthy. Don't avoid or discourage emotions from employees. If you are uncomfortable talking about emotions, you need to identify someone who is more comfortable and delegate such interactions to that person. Do not block the healthy process of emotional recovery. You and the other managers do not need to be the "bulwark" of non-emotion, but it is also your job to lead through this adversity toward recovery. Quick check-ins with employees – without getting deeply involved in their emotions – are very helpful. This process of "defusing" emotions is a brief respite and release. Seek help if you need support. Admitting your own stress makes you more accessible. However, if you need to go deeper for your own recovery, you

Credit: Andrea Booher/FEMA

need to find a private place to defuse, not with the employees you manage. Let them know you are still feeling it, too, but seeking support, and it will also act as a model for them to reach out for help if they need it.

> Share information, listen, wait, exchange ideas, avoid rumors, seek facts, present facts, and offer patience, peace, procedures, and protocol.

◆ **Communicate openly.** Your employees can handle facts better than innuendo. Share information, listen, wait, exchange ideas, avoid rumors, seek facts, present facts, and offer patience, peace, procedures, and protocol. Be as transparent as possible until things settle back into the new normal. During and after major disasters, the constant theme of survivors is the anxiety of trying to know the latest news, when dozens of people hold bits and pieces of information. It is better to say, "I don't know, but I'll find out as soon as I can," than to say, "I have no clue" and leave people in the dark with no sense of leadership. Expect people to be distracted. If your disaster is receiving ongoing media coverage, you may want to

have a television in the office for a few days for people to watch as they work. Expect random outbreaks of group talking when incidents change. Don't make employees pretend nothing happened.

◆ **Listen and debrief.** Create opportunities for employees to be debriefed by trained employees, volunteers, professionals, or consultants specially trained in mental health disaster practices. Continue to communicate and move forward. Check in with people to see if they are moving forward, or if they are beginning to lose ground and need a different kind of intervention. Although this is a difficult time for everyone, it can be an excellent time to gain more training. Review every step, before, during, and after, with an eye on successes and areas that need improvement. Another disaster may be in the future.

Recognize the Human Side of Preparation

When I arrived in New York City in September of 2001, I knew what my job was, even though my mind and heart were shattered by recent events. I had participated in many disaster drills, and in fact had been involved in a large multi-agency aviation disaster exercise before I was called on to go to New York.

A disaster is a complicated event affecting numerous connections, intersections, links, and systems of people,

places, things, and ideas. Disasters produce changes in human emotions that are both predictable and unpredictable. The regular ways of relating do not work during or immediately following a disaster. Normal cues are missing, images are distorted, and normal emotions and thoughts are temporarily incongruent. Once you know what to expect from yourself and others in such critical circumstances, the better you will be able to manage effectively and compassionately. Key to this management process is practice. The expression "practice makes perfect" is not necessarily correct — practicing something incorrectly over and over will not correct it. The phrase should be "practice something perfectly to maintain perfection." Practice until you discover your errors, get feedback, and make corrections, addressing the physical and emotional needs of your people.

You may remember the toy by Hasbro called "Weebles" — small people-shapes that had a rounded base so that when a child pushed the toy it would wiggle but not tip over. The line in the ad was something like, "Weebles wobble but they don't fall down!" I call real disaster survivors "Weebles" — they are the ones who can maintain some integrity with their own emotional experience and get the job done.

ABOUT THE AUTHORS

Vali Hawkins Mitchell, PhD, LMHC, is a Certified Traumatologist. Details, instructions, plans, and examples for "emotional continuity management" in an organization can be found in her book, The Cost of Emotions in the Workplace: The Bottom Line Value of Emotional Continuity Management (Rothstein Publishing, 2013). She consults and coaches individuals and companies and has also directly supported survivors and first responders during such disasters as 9/11, Hurricane Katrina, the Indonesian tsunami, and most recently with US Military troops returning from active duty in Afghanistan.

Kristen Noakes-Fry, MA, is Executive Editor at Rothstein Publishing, a division of Rothstein Associates Inc. Previously, she was a Research Director, Information Security and Risk Group, Gartner, Inc.; Associate Editor, Datapro; and Associate Professor of English, Atlantic Cape College.

FROM SUNGARD

People must be at the Center of Business Continuity Planning: New Trends and Directions in Workforce Continuity and Resiliency

This white paper focuses on the value of people and how they are at the core of all other processes. When disaster strikes, companies shift into recovery mode to bring back their computer systems, data, networks and applications, but in order to do all of that, they need their people. Many companies are taking a new direction in business continuity and disaster recovery – putting people at the center to ensure resiliency. This white paper analyzes the five trends in this new approach: tiered workforce, strategic communications, blended solutions, workforce resiliency and rigorous exercises.

FROM CONTINUITY CENTRAL

Is It Time to Stop Using Traditional Employee Surveys for Bias?

A new study by Silverman Research, "The Future of Employee Research" found that 53 percent of the human resource professionals believe that the traditional employee survey is dead. A large number of respondents (82 percent) said that mobile technology will become the most common way in which employees voice their opinions in the future. Though the study was aimed at human resource professionals, it has implications for business continuity managers as well, in the way they collect information from their organizations, particularly for the BIA process.

FROM SHRM

Are You Prepared to Evacuate Your Workers With Disabilities?

Employers are not required to have emergency evacuation plans under the Americans with Disabilities Act (ADA). However, if employers covered by ADA choose to have such plans, they must include people with disabilities. The first step in creating an emergency evacuation plan that includes employees with disabilities is plan development. This piece explains how to do this and offers step-by-step advice for creating a successful plan. It includes advice for all parts of the evacuation process, including notification and direction, designated assistance, areas of refuge and visitors with disabilities.
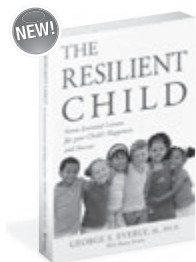
Protecting your Workplace in the Wake of the Navy Yard Shooting

The Washington Navy Yard in Washington, D.C. was always thought to be a secure facility, a place where something like the September shooting could never have taken place. So what went wrong? This article takes a look at that particular case and how we can all protect our own workplaces. It provides an extensive list from ASIS International of things that can be done as part of a physical security risk assessment. It also includes an interesting section about using building design as a tool to prevent violence.

Prepare for the Unexpected

When a disaster strikes, water supplies are often disrupted! The longer a community is without a clean drinking water supply the higher risk of developing disease and other complications. Tanker trucks that supply large amounts of water are often not a viable option. Shipping many truckloads of water into the disaster area may be extremely expensive. Road conditions may make these solutions impractical. Furthermore, the plastic bottle waste would have a negative impact in the devastated area.

Parker Hannifin has been producing potable, clean drinking water on-site for our defense and government customers, nation-building, humanitarian aid and disaster recovery and relief efforts for over 30 years. We design, engineer and manufacture customized fresh water-maker solutions ranging from several hundred gallons per day to over a quarter million gallons per day. Our mobile watermakers are self-contained, compact, lightweight and ready for plug and play operation. They are capable of immediately delivering clean drinking water from the most hazardous and contaminated water sources including nuclear, biological and chemical (NBC) sources.

Parker Hannifin has developed innovative water desalination and disaster relief water purification equipment for some of the most challenging environments. NASA and FEMA relied on Parker to supply a self-contained reverse osmosis plant for its disaster relief programs. When Hurricane Katrina hit New Orleans, the US Army counted on Parker to help provide the Biloxi Regional Medical Center with clean, potable water for surgeries and drinking water. Parker has sent emergency response watermakers to Haiti, Chile, Asia, and, most recently, to the Philippines to assist in the recovery from Super Typhoon Haiyan.

For additional details, please visit www.villagemarine.com

Call today at (770) 640-8484 or (678) 296-7452 to learn how Parker Village Marine can support your Team to prepare for the unexpected.

With annual sales of $13 billion in fiscal year 2013, Parker Hannifin is the world's leading diversified manufacturer of motion and control technologies and systems, providing precision-engineered solutions for a wide variety of mobile, industrial and aerospace markets. The company employs approximately 58,000 people in 49 countries around the world. Parker has increased its annual dividends paid to shareholders for 57 consecutive fiscal years, among the top five longest-running dividend-increase records in the S&P 500 index. For more information, visit the company's web site at www.parker.com., or its investor information web site at www.phstock.com.

Personal/Family Preparedness

BY TED BROWN

Credit: Jennifer Smits/FEMA

It's remarkable that the Disaster Recovery and Business Continuity industry still thinks recovery is about technology. Well, of course the recovery of technology is imperative. But why is it that organizations say their most important assets are people, yet they don't help their employees prepare for disasters? When asked if employees will come to work after a regional disaster, too often the response is "They better, it's their job." Would you really go to work if your family was in jeopardy? No.

So in this author's work with companies across the US, we frequently conduct "lunch and learns" as part of the BCP engagement. What follows are some of the key issues we address to help employees be prepared.

Spouses/Significant Other: If an employee is defined as critical to recovery by the BIA, then the spouse of that employee is critical, too. Even if the employee does come to work while the spouse is in jeopardy, the employee wouldn't have optimal focus because of concerns about the spouse. So include them in the plans. Educating the entire employee base will address not only the BCP critical staff, but everyone.

Children/Parents: In some respects, the children or dependent parents may be more critical to recovery. A single parent is not coming to work if that dependent is not safe. And in virtually every regional disaster, the schools are closed. So any work group recovery center (internal or external) must have provisions for children.

Pets: Every poll that's been taken at every conference proves that a "dog" is a person! Cats are, too. Not too many years ago, Florida hurricane shelters would not allow pets to enter the center. As a result, entire families rode out storms in their car because they wouldn't leave Rocky, the pet dog. The shelter policies have changed. But, families need to plan for this. Some hotels allow pets under normal circumstances. Others will allow them as part of the negotiation for recovery services. Have you asked these questions?

Medicine/First-aid/Glasses: It is illegal to ask an employee if they take meds. However, it is appropriate to educate them on the need for extra medication in their car, or laptop case or "go kit." Prescription numbers, suppliers, etc. should be stored in the smart phone or wallet.

Clothes: After hurricane Katrina, some organizations from New Orleans spent many months recovering

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Key Issues for Employee Home Preparedness

Spouses/ Significant Others	Water	Local and Remote Contacts
Children/Parents	Food	Phone
Pets	Power	AC and DC Charger
Medicine/First-aid/ Glasses	Heat	Tarps, Rope, and Duct Tape
Clothes	Refrigerator/Freezer	"Go Kits"
	Cooking	

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in northern hot sites. Most of the employees did not have winter clothes. Plan for this. Know where the recovery center is. Know where the Goodwill/ Salvation Army stores are to be able to buy emergency clothes quickly and economically.

Water: A family can survive for days without food, but potable water is critical. Almost as important is water to flush toilets, both from a sanitary standpoint and an emotional standpoint. Store drinking water in sealed jugs from the store. Store water for bathing/flushing in those rinsed out, empty jugs from milk, juice, or water.

Food: This is a great project for children. Every time Mom goes to the store, involve the children in buying an extra can of soup or other ready to eat food for family preparedness. (Make sure the soup doesn't require adding water). Have the child date the can so the stock can be rotated. Don't forget pet food. If that runs out, the pets are going to get some of the family's food.

Power: a small generator can save food in the refrigerator and freezer, or provide limited heat, or even entertainment. (The "or" is to point out that the generator can do all these things, but perhaps not concurrently.) A battery operated radio is a good substitute for "entertainment power."

Heat: Do not use gas grills to heat rooms. Our ancestors heated their homes with fireplaces. We can't heat an entire house with one fireplace. But we can heat a room, and cook meals at the same time.

Refrigerator/Freezer: If you don't have a generator, and there's a power outage, your food is at risk but only if you open the door and let the warm air in. Tie the appliances shut. Of course, they can be untied but the rope says "Don't open me" better than a sign would. Duct tape will do that, too.

Cooking: Even in a disaster, we want things to be as normal as possible. Hot meals are normal. Without power, cooking is still possible: in the fireplace, on the gas grill, on the portable gas stove that's used for tailgates, camping, or picnics. (Use outside, only!) This can be a great perk for employees' families. Allow them in the cafeteria. When food is catered for the recovery team, order extra food to be given to the employees to take home.

Local and Remote Contacts: The most important thing in a recovery is communications. The first thing that fails is communications. But, families want to know that everyone is safe. Create an out of area contact plan, now – not at the time of disaster. In

other words, use a family member that lives outside the area as the "switchboard" or central repository when family members are trying to reach each other to make sure that everyone is safe. One of the challenges of implementing an emergency notification system is getting employees to provide personal phone numbers. They're more likely to do this if there's something in it for them. Allowing the use of such a system for families in a regional disaster will get employee "buy in."

Phone: Cell phones, for calling, won't work in regional disasters due to overload. Texting probably will. It certainly has better odds with smart phones. This is a great way to get teenagers involved in personal preparedness. Make them the family Communications Officer.

AC and DC Charger: Every organization should include an AC/DC charger for every critical employee in their BCP budget. This can then be used in the car

to charge laptops and cell phones. Yes, gasoline is required. Remember that gas can for the lawn mower?

Tarps, Rope, and DUCT TAPE: These are must-haves for whatever. To put on glass if we didn't buy plywood. To seal the frig or freezer. To create a make shift shelter. To better insulate the one room that we're going to heat. ETC!

"Go Kits": There are some superb one's for sale. Every organization should consider buying one for each BIA identified critical employee. For the rest of the employees, they can make their own, with food, water, etc. ready to go. This is a great use for those bags that were brought back from the last BCP conference. Also another way to get children involved. One large aerospace company in California, as part of their preparedness roll-out, coordinated personal preparedness purchases, in bulk for better pricing, and then allowed the employees to pay with interest-free payroll deductions over time.

The bottom line is that no business can operate (survive?) without its critical staff. And the staff won't come to work if the families aren't secure. If the organization wants to get buy-in, then educating and preparing the families is the best way. Perks help, too. Well prepared organizations spend thousands, in fact millions, of dollars on consultants (a good thing, hmmm), hot sites, laptops, tests, etc. They should invest a few dollars in employee preparedness – education, AC/DC converters, food, family inclusion in emergency notification and "Go Kits."
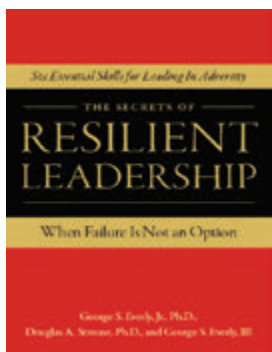
ABOUT THE AUTHOR

Edward B. (Ted) Brown III, CBCP CBCV MBCI, President & CEO of KETCHConsulting, is a member of the Contingency Planning Hall of Fame and a BCI USA Board Member. He is a frequent contributor to the *Disaster Resource GUIDE* and a speaker at major industry conferences. You can reach him at tedbrown@ketchconsulting.com, or (484) 919-2966.

Ready in a Moment's Notice

In 2011, tornadoes ripped through the southeastern United States. In 2012, there were 19 tropical storms and hurricanes, five of them having a direct impact on the U.S. In these two years alone, natural disasters claimed more than 340 lives, caused $80 billion in damages and destroyed hundreds of thousands of homes. But even in times of disaster, some comfort can be found.

In fact, Piccadilly Emergency Services was born in the aftermath of Hurricane Katrina, the organization's sole mission to provide homestyle meals following natural disasters or other emergencies. An offshoot of Piccadilly Restaurants, Piccadilly Emergency Services has utilized its extensive knowledge in the food industry to create a methodology that provides quality meals during and following a disaster. They've introduced the Emergency Kitchen, a unique cooking and heating device that can provide thousands of meals in an extremely short amount of time. Even the staging area alone is an impressive operation, consisting of trucks, generators, tents and their custom-built Emergency Kitchen mobile unit. The entire operation is able to prep, cook and serve 100,000 meals within 24 hours.

"Disasters happen without notice," says Chris Sanchez, Chief Operating Officer for Piccadilly Restaurants, LLC. "We are ready to quickly mobilize our operation to meet the needs of those affected by disasters."

Piccadilly and its team members understand the emotional toll a disaster can have on a community. After Hurricane Katrina, Piccadilly team members' homes were ravaged. However, they put their own lives on hold to help others, and they have done that same thing for the past eight years. They know exactly what natural disaster victims are feeling because they have experienced it.

"We are pleased and humbled to provide a service that makes a difference in the lives of others at a difficult time. Those affected are searching for answers and hope," says Sanchez. "We ensure they at least enjoy a quality hot meal and hopefully regain a sense of normalcy."

Sanchez lived in Miami during Hurricane Andrew. The mission of Piccadilly Emergency Services is personal to him. He and his family rode out the storm at a Piccadilly restaurant and returned to their home two days later to find it destroyed. He sees Piccadilly Emergency Services as an opportunity to give back to those who have lost everything.

With beginnings in the restaurant business, serving people just comes naturally. In 1944, T. H. Hamilton founded the first Piccadilly cafeteria in Baton Rouge, Louisiana. Today, they have over 65 years of experience in the food service industry with over 60 restaurants, 80 food service locations and a growing reputation for excellence in the emergency services field.

And it's that history that makes Piccadilly a unique presence in emergency relief. That, and their Emergency Kitchen. Either way, Piccadilly is always ready for whatever happens next. For more information, please visit www.piccadilly.com/emergency-services.

How Do You Create A Personal Property Inventory When Everything Is Gone?

BY SEAN M. SCOTT

Each year disasters cause multitudes across the U.S. to lose their homes and personal property.

Whether it's a wide scale disaster like a tornado, wildfire, or hurricane, or a smaller event like a house fire or pipe burst, people need to know how to recover. When first responders leave the scene of a disaster, the survivors are typically left to figure out their recovery on their own. For those who have lost their home or been displaced, this can be the beginning of a nightmare. The state of chaos created by a disaster, coupled with the lack of knowledge of what to do in the aftermath, is what often transforms disaster survivors into disaster victims.

What do I do about all my stuff that was lost?

One of the most difficult tasks a disaster survivor may face is creating an inventory of all the personal belongings that were lost. To illustrate this, let's say your home was hit by a tornado and all that's left is a bare concrete slab. Your yard is strewn with debris from your neighbors and you have no idea where your 25 plus years of accumulation went, except for the pair of underwear hanging in the tree across the street. So you call your insurance company thinking they will write you a check for your policy limits and be done. However, the reality is in order for you to receive the full benefits of your insurance coverage, you will need to provide a detailed inventory of everything you owned, including a description of each

Credit: Bob McMillan/FEMA

item, its age, replacement cost, and any photos or receipts. So now what do you do?

Imagine trying to remember everything you had in your entire home when you don't have photos, receipts, or recollection. On one hand you don't want to commit insurance fraud by claiming items that you are not sure you had and on the other hand you have a considerable amount of insurance to cover what was lost. One way to accomplish this task is to try and visualize what you had room-by-room and ask friends or family members if they have photos that were taken in your home during a family get-together or party. Oftentimes photos like these can reveal furnishings, decor, or other items in the background that will help jog your memory. Consider for a moment if you needed to inventory the contents of your kitchen. If you are like most, you might jot down the big ticket items like appliances, silverware, and cookware, and figure the smaller items aren't worth the time to deal with. But what about the food that was in the refrigerator and pantry, the wine, vitamins, supplements, spices, cookbooks,

cleaning supplies, hand utensils, stuff in the junk drawer, pet supplies, and so forth? You paid a considerable amount of money for those things and they add up! The problem is that it takes a lot of time and energy to try and remember what you had and then detailing small ticket items. But wait, if you were walking down the street and saw $10 and $20 bills laying around, wouldn't you take the time to pick them up?

The bottom line is if you want to recover the maximum benefits of your insurance and expedite your recovery, then you have to provide documentation. Now you might be asking yourself, isn't there an easier way? The answer is yes! *The Personal Property Memory Jogger & Home Inventory Tool* is a pre-populated Excel spreadsheet that contains 6,000 of the most commonly found household items broken down into a room-by-room format. Once downloaded, you have the option to delete what may not apply to you and/or add items. This resource is a godsend for disaster survivors and is available free-of-charge at www.theredguidetorecovery.com/recovery-tools/personal-property-memory-jogger/

ABOUT THE AUTHOR

Sean Scott is the Author and Publisher of *The Red Guide to Recovery – Resource Handbook for Disaster Survivors* and CEO of Heritage Publishing & Communications, Ltd. *The Red Guide to Recovery and The Personal Property Memory Jogger & Home Inventory Tool* are both used as post-disaster recovery resources by fire departments, emergency management agencies, and first responders across the U.S. If you would like more information, visit www.TheRedGuideToRecovery.com.

GOOGLE PERSON FINDER HELPS PEOPLE CONNECT IN THE AFTERMATH OF DISASTER

Google Person Finder, a google.org project, is designed to help people find each other after getting separated in a crisis. It is a great tool not only for individuals but for emergency responders who deal with missing people firsthand. Google Person Finder is part of the umbrella project Google Crisis Response. Google is making it easier for responders to efficiently manage their internal operations and reach people quickly during a crisis with a variety of online resources, applications and tools to ensure successful crisis management.

FROM RISK MANAGEMENT MAGAZINE

Lesser-Known Social Media Legislation

From Maine to California, social media privacy legislation has gained momentum and is rushing through state legislatures. Here's a look at some of the lesser-known policies you may not be aware of.

FROM CRISIS CARE NETWORK

A Manager's Guide to Suicide Postvention in the Workplace

This guide offers managers advice for giving their staff support in the aftermath of a workplace suicide. It focuses on postvention, which is defined as psychological first aid, crisis intervention and other support offered after a suicide to affected individuals or the workplace as a whole to alleviate possible negative effects of the event. The guide is provided by the Workplace Postvention Task Force of the American Association of Suicidology and the Workplace Task Force of the National Action Alliance for Suicide Prevention.

Position Leaders to Lead: Management Consultation following Workplace Crisis

This feature article explains the important role critical incident response (CIR) specialists play in dealing with workplace crises. This piece focuses on the value of CIR specialists and puts an emphasis on how they should work with organization leaders to help them help their teams. It offers step-by-step advice and conversation prompts.

FROM MANAGEMENT HELP

Social Engineering – You are the Weakest Link

Contrary to common thought, the most vulnerable point of access to your data isn't a computer, but a human being. Although cyber security is a much-discussed hot topic, many people are leaving out the fact that people are actually the weakest link in the information security chain. The article goes on to review seven social engineering tactics being used on the web today to breach security measures. They include: social networks, a romantic message, a "click this link" message, fake office IT support, phishing lures, fake charity messages and hijacked Twitter hashtags.

Learn more at www.TheDRGuide.com/HC

We built our first emergency kit more than 25 years ago...

I founded Emergency Lifeline Corporation in 1985 after the devastating Mexico City earthquake. After that earthquake, there was one recurring message in the mainstream media: Human suffering would have been much less if people had been prepared.

In the past decade, many disasters have reinforced the lessons learned in Mexico City. Effective response and recovery is tied to preparedness! Therefore, at the grassroots level, we must create a culture of preparedness. Let me ask you a question: Are you prepared?

During our 25+ years of business, we have built and sold well over 1,000,000 kits of all kinds and sizes.

◆ Our kits are designed for medical response, search and rescue, sanitation and personal support.

◆ Our kits are used in companies, government agencies, schools, homes and automobiles.

◆ Our kits have helped prepare people in the US, Canada, Mexico, Japan, and other countries worldwide.

Why are we still here?

In 1985, we were among a handful of companies in the new preparedness industry. In the past twenty-five years, hundreds of companies have come and gone in this marketplace. We have continued because companies, government agencies, and families still look to us for their preparedness needs.

Most of all...

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REPORTS AND WHITE PAPERS

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The focus of this report is on the threat and incident information exchange and sharing practices used among Computer Emergency Response Teams (CERTs) in Europe. The goal of the report is to take stock of current practices among European CERTs, identify any functional gaps and define the basic requirements for improved communications.

IBM Study: Security Officers Gaining a Strategic Voice

A recent IBM study revealed that security leaders are being asked to address board-level security concerns, giving them a more strategic voice within their individual organizations. The study interviewed security leaders from Fortune 100 and medium-sized businesses.

From Verizon: 2013 Data Breach Investigations Report

This year's Data Breach Investigations Report (DBIR) combines the expertise of 19 organizations from around the world. The statistics detailed in the report may surprise you.

Emerging Cyber Threats Report 2014

The Emerging Cyber Threats Report 2014, presented by the Georgia Tech Information Security Center (GTISC) and the Georgia Tech Research Institute (GTRI) is now available. The report focuses on the cyber threats we are facing, how attackers are constantly adapting and what we can do to guard against these threats.

FROM CONTINUITY CENTRAL

10 Things IT should be Doing to Protect Your Data, but Probably Isn't

This article analyzes the current state of data protection and explains the steps that must be taken to adequately protect a business' data. The author, Rob Sobers, is director at Varonis, a data governance specialist company.

Emerging Wireless Risks to Consider

This article describes potential wireless risk areas for hacking, including misconfiguration, man-in-the-middle attack, connection by unauthorized users, rogue access points and more. It also provides some helpful wireless security advice.

New ENISA White Paper: Can We Learn from Industrial Control Systems/SCADA Security Incidents

The European Network and Information Security Agency (ENISA) has released a new white paper. ENISA is the European Union's cyber security agency. This paper provides recommendations regarding prevention and preparedness when responding to cyber security attacks. ENISA also identified four key points for a proactive learning environment which will help organizations ensure a fast response to cyber incidents. Download the report

for free to learn about these four points and much more.

FROM RISK MANAGEMENT MAGAZINE

Hacker to the Rescue

Not all hackers are evil. This article introduces us to the late Barnaby Jack, a "white hat" hacker who became notorious after he remotely hacked an ATM causing it to spew bills at the 2010 Black Hat computer security conference in Las Vega.

Trapping Hackers

Do hackers have the upper hand in the battle for access to data? With reports of the Chinese hackers who spied on the New York Times for four months and other such stories, it seems like they are. This article delves into the reality of hacking and how best to prevent it.

A Cloud of Suspicion

According to a survey by Lieberman Software, 88% of IT professionals believe that some of their data hosted in the cloud is vulnerable. More and more companies are turning to the cloud as an economical data storage alternative, but is the cloud as safe as it's made out to be?

How to Protect Data in the Cloud

Do you use cloud storage? Most of us do now, but how safe is our data? Read on for details about the risks of cloud storage and strategies for data security.

Creating a BYOD Policy

Have you considered establishing a bring-your-own-device policy in your company? Follow these steps to do it successfully.

Technology Isn't Your BYOD Problem, People are

In companies where there is a bring-your-own-device (BYOD) policy, the biggest problem is not the hardware, it's the people using it. This article examines the issues with this policy and how companies can strive to make it work.

Taking Cybersecurity Seriously

Although reported cyberbreaches in the first half of 2013 rose by 27% from the first half of 2012, a significant number of companies don't seem to be taking cybersecurity seriously. The results of a Ponemon Institute study on the topic are detailed in this article.

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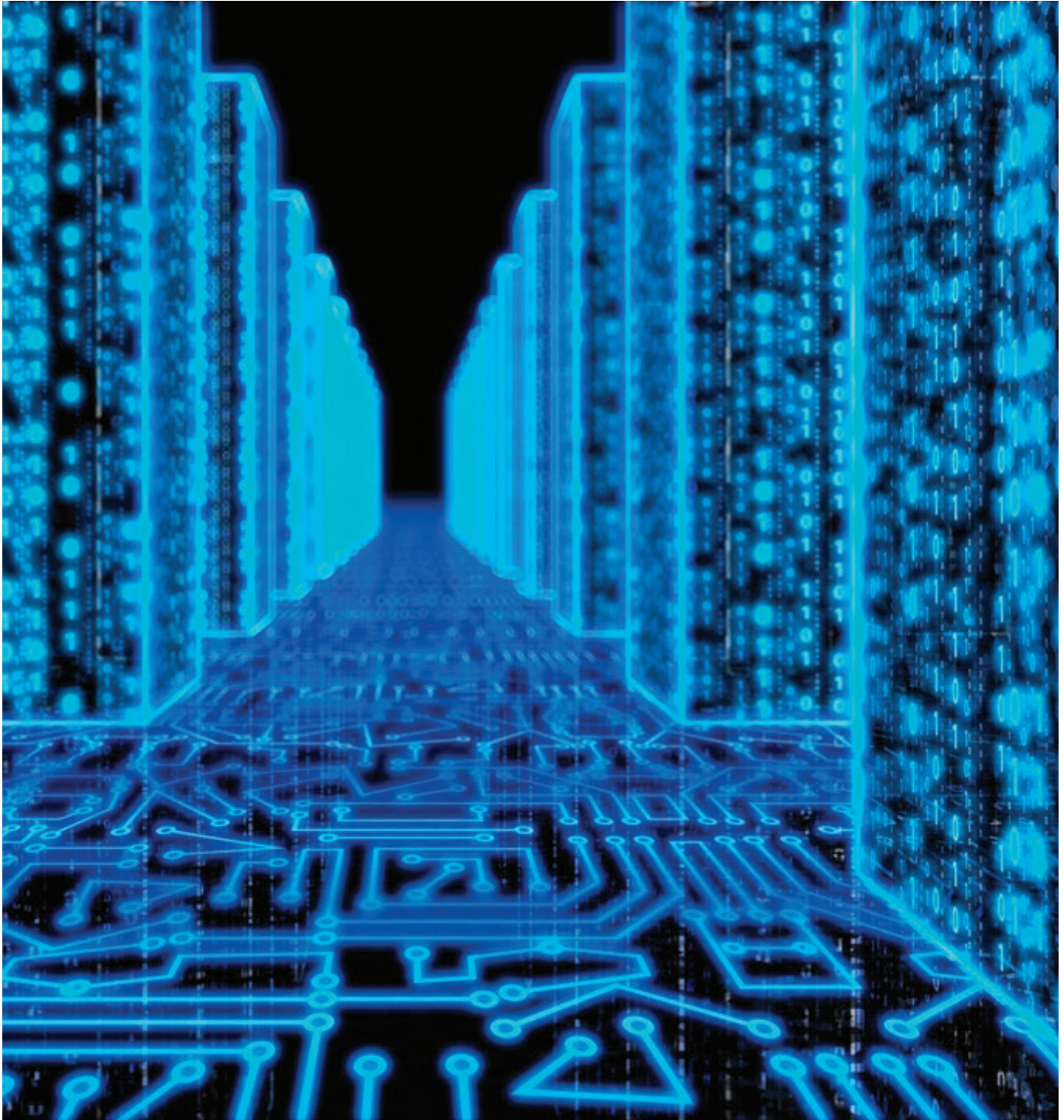
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Challenges for Continuity Planning 2014

BY JON TOIGO

For 2014 and the foreseeable future, trends in business continue to favor increased dependency on information technology. Truth be told, while some of the economic circumstances that accompanied the Great Recession have begun to recede, fewer staff continue to shoulder the workload once managed by a greater number of personnel – with automated systems providing the means to maintain acceptable productivity levels.

This situation translates into vulnerability. Even a comparatively brief interruption in IT services can have a calamitous impact on the business, underscoring the need for well-defined and tested continuity plans. However, at least one 2013 survey[*] of the state of business continuity in US and UK firms suggested that companies aren't doing very much either to prevent avoidable disasters, or to prepare for events they can't avoid.

Holding back planning, according to the survey, are a number of challenges ranging from lack of budget, executive support or time to the perceived inefficacy of planning in the face of fast changing business processes, staff, and technology infrastructure. The only "trend" defined by the survey is that continuity planning itself is undergoing change – converging or merging with other resilience-related functions such as data governance or risk management in some companies, while settling in as a business unit-level responsibility rather than a centralized enterprise planning task in other firms.

This seems to dovetail with the stories we read in information technology trade press publications and in analyst literature. 2013 has seen a shift in terminology, though not necessarily any meaningful improvements in the accompanying technologies, describing future data centers. A few years ago, virtual servers and server hypervisors were all the rage. Then came a change in the rhetoric describing roughly the same technologies, but using the terms "public" and "private clouds" – arguably another airy bit of marketecture, substituting for practical architecture, describing various "infrastructure as a service" cobbles that, themselves, rely heavily on server virtualization. Today, fashionable tech folk speak in terms of "software-defined" networks, storage, data centers, etc.

Getting past the nonsensical nomenclature, all of these terms refer to the same idea: abstracting software functionality and management away from commodity hardware, then recentralizing functionality and management into a proprietary software layer, usually part of a stack of software advanced by a particular hypervisor vendor.

Virtually all of these abstraction strategies promise significant reductions in physical hardware requirements, better utilization efficiency of the commodity hardware that is retained, improvements in availability through a combination of integral clustering-with-failover (aka high availability) capabilities, and OPEX cost savings in the form of fewer software licenses and/or IT staff.

> **It all sounds pretty good: low cost IT services paid for on demand and obtained from third party providers so firms don't need to build, staff and operate their own data centers.**

It all sounds pretty good: low cost IT services paid for on demand and obtained from third party providers so firms don't need to build, staff and operate their own data centers. And it would be, if the claims were true. The problem is that the hype often doesn't stand up to reality.

There are three realities that cannot be ignored as we look at contemporary technology trends and their ramifications for business continuity.

1 The first of these has to do with the core underlying technology for all of these concepts: server virtualization. While touted as the big fix for what ails infrastructure, virtualization doesn't really "fix" anything, especially not at the hardware level, and may in fact hide burgeoning fault conditions from view until they result in an actual failure state.

While abstracting software-based services away from hardware might facilitate the more efficient allocation of those services to workload, improved service management does nothing to resolve the central problem that we all confront: a dearth of physical resource monitoring and management. To prevent disasters, we need management tools and knowledgeable personnel to monitor, groom and maintain the underlying physical plumbing of the infrastructure. Service management alone will not do the job.

2 Secondly, the reality of server virtualization schemes advanced today is that they do violence to storage infrastructure memes that have been in place for the last couple of decades. Companies have been eliminating isolated islands of infrastructure in part by consolidating all storage into Fibre Channel fabrics, sometimes called SANs. Now, virtual server purveyors insist that SANs are too inflexible and encourage a reverse course toward direct attachment of storage to each virtual server platform and the use of data mirroring and "replication" – mirroring over distance – to ensure that every server has a copy of the data required by any guest machine that might make a temporary home on that box. This movement of workload from server to server – so-called template cut and paste – is where the server hypervisor folk get their argument that they deliver high availability to IT application hosting. However, data mirroring and replication, almost always disk to disk, is the Achilles Heel of the arrangement (and also a huge cost accelerator by dramatically increasing storage capacity demand rates).

Conventional array to array mirroring confronts many challenges well known to disaster recovery planners. For one, the complexity of checking and verifying that a mirror or replica is working is such that checks are rarely performed. You need to quiesce the application whose data is being mirrored, flush the caches that hold data that has not yet been written to primary disk targets, replicate the primary disk target to the secondary or copy disk, then shut down the mirror/replication process long enough to check the number and state of files on the primary and replication targets. Once you have verified that the right data is being replicated and that the deltas

(differences) between primary and replica files are within acceptable parameters, you need to cross your fingers and hope that everything re-starts successfully. When it doesn't, you might experience a career limiting day.

Bottom line, mirrors are rarely checked. Moreover, most mirrors entail a lock-in to a particular vendor's hardware kit. Hardware vendors see no advantage in enabling copying between their array and one of their competitor's rigs: their value-add software for replication and mirroring usually commits the user only to the vendor's hardware. That drives up the cost of data protection significantly.

3 The third reality is that high availability clustering of virtual (or physical) servers requires several ingredients to work well. First, you need rock solid logic for failing over or transitioning workload from box A to box B. Under what circumstances will failover occur, which host is the failover target of choice and what happens if that host is unavailable or already maxed out in terms of resources, how will fail back be accomplished if the situation is resolved…the question list can be quite lengthy. Get any of the answers wrong and failovers may not be successful or they may become disruptive, occurring even when interruption conditions are absent – like a security alarm system on your home that sets itself off for no apparent reason.

Another reality of such an HA cluster strategy is that networks between clustered servers must work very well, both during a pre-disaster period when they are being used to replicate data and to transport each server's "heartbeat" information, and when a disaster occurs and workload must be re-instantiated on the replica system. Complaints with current hypervisors include that their local or "subnetwork" failover capability only works about 40% of the time. WAN-based failover (so-called "geo-clustering") is both extremely expensive (requiring the aforementioned duplicate gear and an on-going WAN connection of sufficient bandwidth and throughput to support data replication) and usually requires the cobbling together of third party remote replication software (think CA Replicator, NeverFail Group Neverfail, DoubleTake Software's Doubletake, etc.) with server hypervisor wares.

High availability architecture doesn't trump disaster recovery, despite the brochure-ware from the hypervisor vendors. HA has always been part of the spectrum of recovery strategies, not appropriate for all applications and data and usually more expensive than all other approaches.

These realities do not eliminate all of the advantages enumerated by the server virtualization crowd, but they must be taken into account when considering the claim that new technology tools are changing the rules of

traditional business continuity. From what we are seeing in the field, the new technology tools aren't changing much of anything from a continuity perspective, but they are making recovery in many cases a more daunting task.
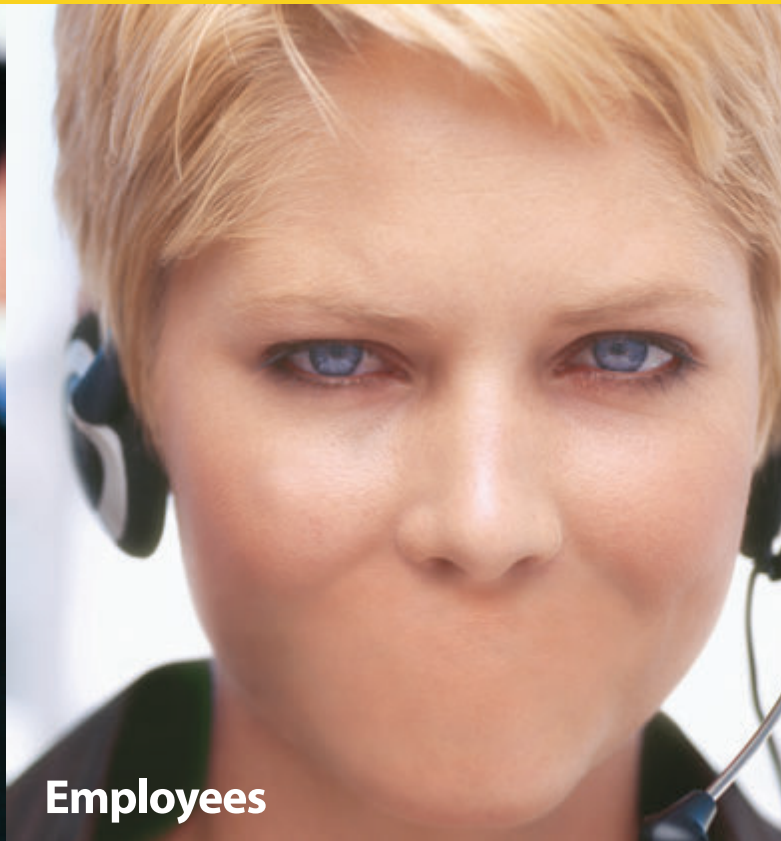
ABOUT THE AUTHOR

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The WAN's the Thing

BY JON TOIGO
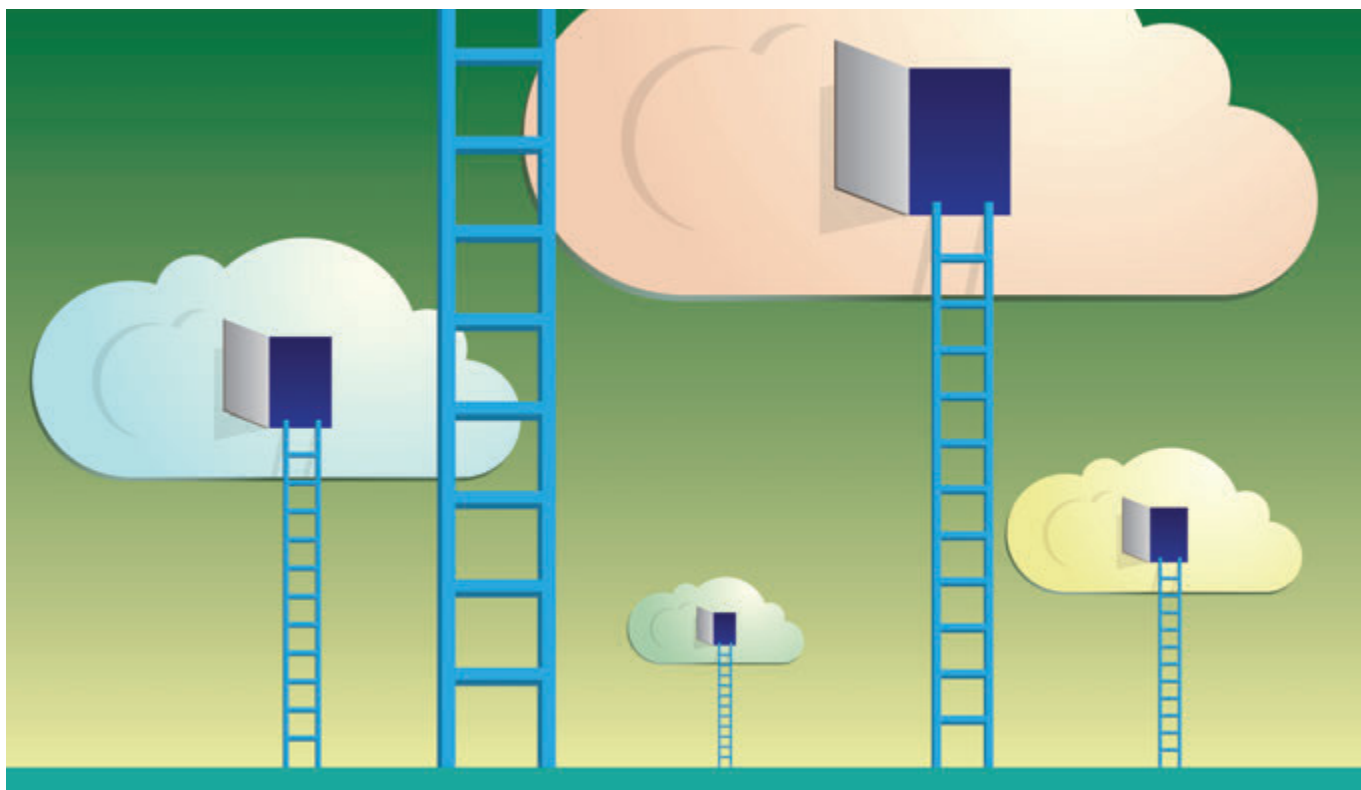
If you want to send chills up the spine of cloud vendors and consumers alike, just say the word Nirvanix. Once declared a comer in the "new" world of infrastructure (storage, backup, archive...) as a service, Nirvanix garnered considerable venture capital ($70 million) and trade press. They were counted among the top three or four providers of on-demand storage capacity, alongside Google and Amazon Web Services offerings — a firm with all the right connections and a bright outlook going forward. Even IBM was said to be eyeing the company for possible acquisition.

Many firms used the service provided by Nirvanix, from NBC Universal and Fox News, to a host of other large and small company clients, until several tens of petabytes of data found their home in the Nirvanix cloud. The storage didn't amass in the Nirvanix infrastructure all at once. It was uploaded over time and over WAN connections ranging from Internet speed links to somewhat bigger pipes. Once received, the data was spread out over many thousands of disk drives arranged in proprietary configurations that represented to Nirvanix its secret sauce for deriving profit from economies of scale.

Even to skeptics, the Nirvanix model looked profitable and practicable. More than any technology, that accounts for

why so much data made its way into the service and why little heed was paid to one niggling concern that should have been foremost for all customers: how would you get the data back from Nirvanix if any of the hundreds of easily imagined disaster scenarios came to pass?

The consensus of onlookers is that Nirvanix' failure proved to be a financial one. IBM bought a different firm, causing investors to rethink the vendor's future. When money dried up, so did the company's ability to continue operations. In an undignified end, the proprietors had to tell their clients that they had about two weeks to retrieve their data – and no way whatsoever to accomplish that task!

For one thing, there is no tape. Like most hard-disk-for-everything ideologues, Nirvanix made no provisions for tape storage in their kit. Most of its rivals share this "tape is dead" view, by the way – a point that must not escape those who are considering parking their data, or even their archives or backups, in the "great disk drive in the sky."

For another, there is simply no public WAN service capable of delivering the speeds and feeds required to move a lot of data over any distance in anything like an acceptable timeframe – most certainly not within a week or two. Some clients had tens of petabytes of data at Nirvanix – that's thousands of terabytes. Moving just 10 terabytes over a T-1 link takes more than one year; doing so over OC-192 takes about four hours, assuming you can get access to an OC-192 and can manage the fees for the "if you have to ask the price you probably can't afford it" WAN service.

Getting data into a cloud doesn't take very much bandwidth for most firms, and that accounts for the appeal to companies large or small. But many fail to think the problems of access, gets, and puts through to their logical conclusion. Here are some WAN basics that need to be closely considered when looking at WAN-centric data storage generally and "cloud-based" data protection or DR as a service offerings in particular.

First, to use WAN-based disk to disk replication as a data protection technique, it is important to ensure that there is adequate physical separation (aka distance) between the primary or production copy of data and the remote or safety copy of same. The separation must be sufficient to ensure that both copies are not compromised by the same disaster that impacts the primary.

Opinions vary regarding what the minimum safe distance should be. Following the tragedy of 9-11, some analysts considered another terrorist scenario – a dirty bomb whose radioactive effluent might contaminate a much broader geographical area and cause much greater damage than hijacked aircraft used as missiles. Their recommendation for the New York financial district was to build redundant data centers to shadow its mostly New Jersey-based IT at least 80 kilometers away. The 80 km distance was thought to be beyond the contamination zone of a low yield dirty bomb (conventional explosives strapped to radioactive material) on a windy day.

Surveys of DR planners around the time of Hurricane Katrina resulted in another rule of thumb: separate data copies by at least 100 kilometers, which was viewed as the diameter of numerous Category 4 and 5 hurricanes in recent years. (Cat 1 hurricane, so-called "Superstorm" Sandy, in 2012 had an impact area of 1000 miles.)

The point is that the safety copy of data needs to be replicated and staged at considerable distance from the original.

So-called SONET ring networks or MPLS WANs, services which now bless most NFL cities with more affordable broadband pipes, simply do not offer the physical separation required to meet this distance requirement. That should set off an alarm bell somewhere in the planner's head.

Second, deploying replication over an adequately dispersed WAN link introduces several technically non-trivial issues. First of these is latency.

According to Einstein, you can't push data along a wire (or through a glass fiber) faster than the speed of light. So, some latency will accrue to data moving over distance. One rule of thumb holds that every 18 km of distance traversed by data is equivalent to one full traverse of a read-write head on a 3.5 inch disk drive platter. That's a fancy way of saying that deltas – differences in the data at the source from the data at the target device – accrue the further that the data must travel. This difference in data states may be inconsequential or it may mean the difference between recovery and failure.

Truth be told, data does not move in a straight line between points A and B. Like roads, WANs are built around natural obstacles and tend to follow other terrain, including building risers, bridges and tunnels, and rail/subway/motorway rights of way. Rarely does signal go "as the crow flies," a point that is demonstrated annually by college kids who participate in "IPoAC" (Internet Protocol over Avian Carrier) contests that pit WAN-based

data transfers over distance against passenger pigeons, used to move the same data over the same distance. Year after year, IPoAC contests in Africa, Europe and North America show the avian carriers to be faster.

In addition to latency, part of the explanation for this outcome is "jitter" – a set of factors that further impair or impede the speedy progress of data transfers over distance. Jitter is the result of a range of factors in a publicly shared WAN facility, from routing delays to queuing and sequencing delays. In most public WANs, protocols similar to "open shortest path first" in local area networks are applied to WAN operations. This means that the path preferred for your data is the one that touches the smallest number of switches rather than the path that represents the shortest physical distance between end points.

> A lot of public shared WANs are oversubscribed and poorly utilized.

Moreover, a lot of public shared WANs are oversubscribed and poorly utilized. Carriers report "buffer bloat" in their switch routers as data packets are queued awaiting their turn on the pipe. Meanwhile, impatient applications interpret delays as lost packets and ask for packet resends, further adding to the problem.

It is also worth mentioning that the shared nature of WAN pipes, among WAN subscribers (customers) AND local independent and competitive exchange carriers (ILECs and CLECs) often add more complexity to the problem. One client of mine, who must replicate about 36 GB nightly over approximately 100 miles – through a WAN link "owned" by NINE different carriers – doesn't know from packet to packet whether the trip will take milliseconds or hours!

Additional bandwidth does not help with latency or jitter in WANs, nor does compression or de-duplication of payload. If you have ever been stuck

in a traffic jam on a city highway, you have probably noticed that the diminutive SMART car is moving no faster than the big 18 wheeler – so it is with WANs. Even using the best technology (think Bridgeworks SANSlide and a few others) to pack the link efficiently with data, you still cannot escape the problem of latency.

This brings us to a third, and very important consideration, regarding WAN-based replication at distance to another site (whether your own or a cloud service provider's). WAN replication is about as difficult to test and validate as local disk mirroring. To determine the size of data deltas, it is necessary to quiesce applications that are generating data for replication, to flush whatever local memory caches that may be holding data while waiting for write to primary disk (e.g., write this data to the disk completely), then replicate the data over distance to the remote site, then shut down the replication process. Finally, you must compare the data at both locations for consistency.

The above is a time consuming and potentially career ending activity (if you can't restart the application, buffering and replication processes), so it is very rarely performed. Moreover, according to evidence provided by 21st Century Software, many companies avoid the test so completely that they find they have been replicating the wrong data – or even blank space – when they attempt to cut over to their remote mirror. (21st Century Software offers some software tools to help detect such issues.)

The good news is that there are some tools to help rectify the problems of test and validation, known as geo-clustering or stretch-clustering suites, including CA Technologies Replicator, Neverfail Group's NeverFail, and DoubleTake Software's DoubleTake. Another approach is to virtualize all of your storage with a storage hypervisor such as DataCore Software's SANsymphony-V, then use the hypervisor's replication facility to copy data across a WAN to a target infrastructure also virtualized with SANsymphony. The bad news is that you will probably need to turn off on-hardware-based replication services

to use these software approaches. And, of course, none of these products address the WAN problems listed above: latency and jitter persist.

All of the above apply not just to site to site WAN-based data replication, but also to data transfers between your site and "clouds." While cloud service providers may take every reasonable step to ensure that they are meeting and even exceeding their own Service Level Agreements, they do not own the wires that connect your site to theirs. That makes it exceedingly difficult for the cloud to promise a predictable service level with a straight face.

In the case of storage clouds, whether they are providing more production storage "elbow room" or off site storage for archival data or backups, the twin problems of distance sufficiency (is the site far enough away to be out of harm's way) and distance latency (is the link between the site introducing unmanageable data deltas) persist. These must be addressed both from the standpoint of business survival in the event of a natural or man-made disaster that impacts the primary site, and from the standpoint of resiliency in the face of a disaster impacting the service provider.

Nirvanix had no way to return customer data back to them. Customers are now realizing that existing networks are insufficient to move petabytes of data back to owners within 10 working days, and there is no tape for mass portable storage with off-line transport. If you want to use a cloud storage service, you might want to consider one that leverages tape as the storage medium, such as the recently introduced d:ternity or its more pedigreed cousin well known in medical imaging circles, Permivault.

Such services do not eliminate the issues of WANs, but they do provide an alternate way to secure the return of your data when and if the cloud service fails.

ABOUT THE AUTHOR

Jon Toigo is CEO of Toigo Partners International and a consultant who has aided over 100 companies in the development of their continuity programs. Feel free to contact him at jtoigo@toigopartners.com.

FROM MARSH USA

Webcasts: The New Reality of Risk

Now in its eleventh year, The New Reality of Risk is the industry's longest running panel discussion series of its kind. Marsh USA presents a series of webcasts covering everything from cyber risk trends and solutions to balancing social media risks and rewards to reining in workers' compensation costs.

FROM PROTIVITI

Third Annual IT Audit Benchmarking Survey

A new survey from global consulting firm Protiviti says that companies are lacking in their IT audit functions. A large portion of organizations are not implementing the IT audit coverage necessary to provide a secure IT environment.

2013 IT Security and Privacy Survey

Protiviti has released its 2013 IT Security and Privacy Survey. Learn more about how and where your confidential data is classified and managed with the results of this intriguing survey.

THOUGHT LEADERSHIP REPORTS FROM THE PONEMON INSTITUTE

The Ponemon Institute is considered the pre-eminent research center dedicated to privacy, data protection and information security policy. Their thought leadership covers trends in corporate and government practices, consumer perceptions and potential cyber and insider threats that will affect the collection, management, and safeguarding of sensitive and confidential information. Their benchmark studies on privacy and data security practices provide guidance on how organizations can become better at building trust with their customers, employees, and business partners.

Managing Cyber Security as a Business Risk: Cyber Insurance in the Digital Age

With the increasing cost and volume of data breaches, cyber security is quickly moving from being considered by business leaders as a purely techni-cal issue to a larger business risk. This shift has spurred increased interest in cyber insurance to mitigate the cost of these issues.

Live Threat Intelligence Impact Report 2013

This study reveals the facts behind the impact that weak intelligence can have on organizations and why the ability to quickly gather, analyze and use action-able intelligence is essential to cyber defense.

The Risk of Regulated Data on Mobile Devices & in the Cloud

If you ever worry about an employee downloading confidential, regulated data on their own personal mobile device, you need to read this report.

The State of Risk Based Security Management

This annual study is conducted to understand the level of maturity of RBSM. This year's study looks at understanding the communication barriers that may be hindering a company's ability to advance to more robust programs.

Security of Cloud Computing Users 2013 Study

This study discusses how organizations are improving – or not – their cloud security practices.

Risk of Insider Fraud: Second Annual Study

The research reveals that the number of employee-related incidents of fraud continues to remain high. This report discusses the challenges organizations face in minimizing the risk of the malicious and negligent insider.

Efficacy of Emerging Network Security Technologies

One of the most recent studies deals with organizations' use and perceptions about emerging network security technologies and their ability to address serious security threats. The emerging technologies examined in this study include next generation firewalls, intrusion prevention systems with reputation feeds and web application firewalls. Some interesting findings include: Securing web traffic is by far the most significant network security concern for the majority of organizations.

Learn more at www.TheDRGuide.com/IAS

Information Security and Public Cloud Computing

BY DR. JIM KENNEDY

If you asked a group of ten or more IT practitioners or business people what cloud computing is, they would probably give ten different answers. Each would have an answer consistent with his own specific perceptions.

Public cloud computing is a term that has been around for only a few years and refers to the use of information technology services, infrastructure, and resources that are provided on a subscription basis. Public cloud computing is a Web-accessed business solution where much or all of the entire computing infrastructure is contained remotely from the actual contracting business site and is managed by a third party.

Many companies rely upon public cloud computing for their business operations, both critical and otherwise. As we look at information security and public cloud computing, we are looking at a relatively new set of risks that need to be addressed to properly protect a business against unforeseen attacks and events.

There seem to be three major threats faced by cloud users which have been well documented in the press: data breaches, data loss, and loss of service. A few recent adverse events include:

- Carbonite lost customers' backups in 2009 that could not be recovered
- Evernote lost about 6000 customers' data in 2010
- Amazon had three major outages where some customer data was unrecoverable
- Honda had a data breach in 2010
- Sony had customer information breached in 2011 from its cloud infrastructure

Before addressing information security concerns, consider the various popular forms of public cloud computing available to businesses. There are three basic types of cloud computing:

- Software as a service (SaaS)
- Platform as a service (PaaS)
- Infrastructure as a service (IaaS)

Software as a service (SaaS) involves renting software from the service provider rather than buying individual software packages for your business. The software is hosted on network servers which are made available to users over the web or internet. This service provides software on demand and is currently the most popular type of public cloud computing because of its flexibility, ability to be scaled, and because maintenance is provided by the service provider as part of the cost. There are many CRM, ERM, and unique applications that are all provided as SaaS services. With web-based services, all employees need to do is register and login to the cloud. The service provider hosts both the application and the data, so the business user is capable of utilizing the service from anywhere on the globe. With SaaS, the service provider is responsible for all issues dealing with capacity, upgrades, security, and service availability.

Platform as a service (PaaS) offers a computing and/or database platform for your business' developers. The business users develop their own code and the service provider uploads that code, then allows access to it on the web. The PaaS provider offers services to develop, test, deploy, host, and maintain applications on their development environment. The service providers also offer various levels of support for the creation of applications. The PaaS provider will manage upgrades, patches, and system maintenance.

Infrastructure as a service (IaaS) is when a provider delivers the computing infrastructure as a fully outsourced service. The user can purchase various components of the infrastructure according to their requirements (on demand). IaaS operates on a "pay as you go" model, ensuring that the users pay for only what they have contracted for – such as network, computing platforms, rack space, and/or environmental (HVAC and power). Virtualization has enabled IaaS vendors to offer high volumes of servers to customers at a very attractive cost. IaaS users purchase access to enterprise grade IT infrastructure and resources, and personnel to keep the infrastructure running. No application or monitoring of databases or data is provided by the hosting vendor above the OS level, unless contracted at an additional cost.

The caveat emptor of "cloud service" offerings

In the cloud, the services are being provided by third-parties and accessed by businesses via the internet. The resources are accessed as a service on a subscription basis. The users of the

> **In the cloud, the services are being provided by third-parties and accessed by businesses via the internet.**

services being offered most often have very little knowledge of the technology being used, the security being deployed, the availability of the service being offered, or the operating best practices (monitoring, patching, maintenance, customer data separation, etc.) utilized by the service provider. The business subscribers also have little or no control over the infrastructure that supports the technology or service they are using.

Taking control

Under the standard of "due care" and charged with the ultimate responsibility for meeting business information technology objectives or mission requirements, senior management must ensure that the services they contract, which include these cloud service solutions, are appropriate to meet all of the business requirements, including such areas as legal, technical, financial, and operational.

This information security due diligence comes only through a thorough vetting of the cloud service provider in several areas. Some of the more important ones are below:

LEGAL AND REGULATORY

- Will the service provider meet any of your data breach notification requirements? (Remember even though they are hosting, you are responsible for the data under your protection i.e. PHI, PII, etc.)
- Will the provider meet data retention requirements of the business?
- Will the provider meet the standards for data encryption and protection you require?
- Are "Safe Harbor" needs met?
- Are data destruction or return on end of contract well defined to meet your business requirements?
- What is their incident management program?
- Are they prepared to react in a timely fashion in case of any eDiscovery needs of data they store for you?

SECURITY

- Do they have a current SSAE 16 Type II audit findings report free of any significant deviations or findings?
- Do they have adequate security policies in effect?
- Do they have a SIEM monitoring activity in place to constantly detect potential intrusions?
- Are there clear notification and escalation procedures in case of a security breach or attack?
- Is your business' data separated from other businesses contracting with the cloud vendor?
- Are the cloud providers, administrators and systems people trained in information security (certified)?
- Are there clear escalation procedures in case of a security breach or attack?

SERVICE AVAILABILITY

- Are the facilities housing the service provider adequately secured (video surveillance, access control, etc.)?
- Are the RPOs and RTOs consistent with the business' requirements?
- How often are backups taken, are they maintained off-site, and have backups and restores been tested to your satisfaction?
- Are standard backup methods and media used just in case the business needs to bring data back in-house?
- Are maintenance and maintenance windows satisfactory according to your operational needs?
- What types of technical security do they employ (i.e., firewalls, virus protection, intrusion detection devices, etc.)
- Are their hours of operation coincident with yours?
- If you are a global company do they provide multilingual support?
- Are there clear escalation procedures in case of an incident?
- Does the vendor provide global diversity so if one site goes down another can be used in its place?

OPERATIONAL

- Have they corrected any areas of concern to your business?
- What capacity planning do they have in place to meet the growing needs of your business?
- What standards of practice do they adhere to (i.e., ISO 27001, BS25999, etc.)?
- Do they have a patch management program in place and what is it? Does it meet your requirements?
- Do their SLAs meet your business and operational requirements?

Summary

I have developed a hosting questionnaire which I require each cloud service vendor to complete to the satisfaction of my client, and I recommend you do the same. Sometimes it takes a few iterations to complete the form to the satisfaction of my client, but when completed, it does provide documentation of due diligence and a clearer picture of what can be expected from the service provider. If the vendor will not complete the questionnaire, then it would be best to move on to another vendor — regardless of cost. If you can't come to terms before a contract or statement of work is signed, it will be ten times more difficult after the signature to come to an agreement. If the cloud provider does not comply with your needs, you may be better off developing your own cloud.

This article has only scratched the surface and provided information on the basic questions that should be asked and answered to protect businesses utilizing cloud service providers. The intent of this article was to inform the reader that there are many types of cloud service offerings and ways to reduce and/or eliminate problems. The primary issue is one of due diligence. We as corporate or government IT security or business continuity experts need to make sure our organizational leaders have the necessary information to make informed choices for the protection of critical and sensitive information, to allow them to decide between implementing adequate controls and safeguards now to protect against risks, or to potentially pay later in reparations and damaged reputation.

ABOUT THE AUTHOR

Dr. Jim Kennedy, MRP, MBCI, CBRM, CEH, CHS-IV, CRISC, has a PhD in Technology and Operations Management and is the Lead and Principal Consultant for Recovery-Solutions. Dr. Kennedy has over 35 years' experience in the information/cyber security, business continuity, and disaster recovery fields, and has been published nationally and internationally on those topics. He is the co-author of three books, "Blackbook of Corporate Security," "Disaster Recovery Planning: An Introduction," and "Security in a Web 2.0+ World – a standards based approach," and author of the e-book, 'Business Continuity & Disaster Recovery – Conquering the Catastrophic'. Dr. Kennedy can be reached at Recovery-Solutions@xcellnt.com.

What Answers Do BC Planners Need From Their Cyber Security Team?

BY RON LAPEDIS

Some experts say there is a thin line between disaster recovery and business continuity planning (BCP). The first is owned by the computer operations or IT department, while the second is usually owned by the line of business. Unfortunately, BCP and cyber security are, more often than not, separated by a gulf larger than the distance between the Atlantic and Pacific oceans. This article is meant to be a Panama Canal of sorts. A link between the two disciplines of BCP and cyber security, or cyber for short.

Business continuity planners have memorized the BC Planning Model promulgated by DRII. That is, project initiation, functional requirements, design and development, implementation, testing and exercising, and maintenance and updating.

Figure 1 has a version of BC Planning Model that I developed for cyber. It starts with rules and regulations, such as HIPAA (Health Insurance Portability and Accountability Act), EUDPD (EU Data Protection Directive, PCI (Payment Card Industry Data Security Standard), etc. The other phases are named differently, but are similar in operation to the DRII phases. Two of the phases have two names. The top names are more familiar to cyber practitioners, while the bottom names are more familiar to BC planners.

In my experience, the cyber planners (who probably don't exist within your organization) do not test and exercise, nor do they perform maintenance and updating based on testing and exercising. Cyber updates tend to be made when patches and software updates are released.
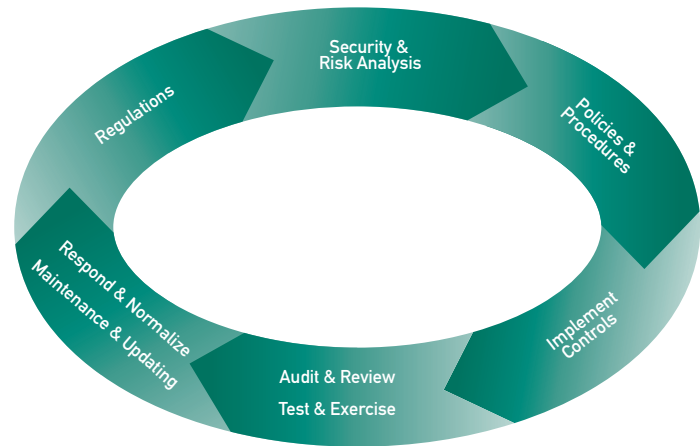

Figure 1. Cyber Planning Process

Risk Analysis and Business Impact Analysis

Just like BC planners, cyber planners should be performing both a BIA and RA. What is your most important information? Is it properly managed? Is it safe from cyber threats? Is everyone aware of the likely targets? What is the impact on your company's reputation, share price, or existence if sensitive internal or customer information were to leak or be destroyed? Have you developed crisis response strategies by line of business, time, and severity of impact?

Types of Cyber Crime

There are 4 basic categories of cybercrime: espionage, war, hacktivism and plain old crime. Do you know which one(s) your company is most likely to face? Does your organization develop products that are interesting to your competitors or to foreign governments? Knowing your attacker, and how powerful they are, need to be part of the risk analysis.

Policies and Procedures

Besides the standard, "we will install and monitor a firewall, spam filter and

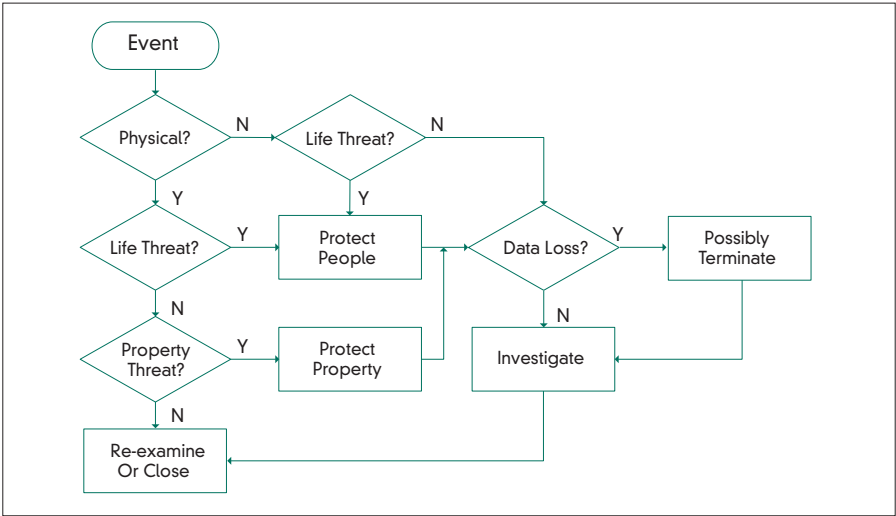Figure 2 – Attack Warning through Social Media

Figure 3. Trigger Flowchart

antivirus software," what other cyber policies have been implemented? Is responsibility for cyber risk assigned to a single person? Is anyone making sure that cyber policies and procedures dovetail with BC policies and procedures? Is there a program to identify hardware and systems with default user names and passwords and ensure that they are changed – and changed again every time someone who knows them leaves the company?

Did you know that a number of process control systems have well-known default passwords that cannot be changed or they stop working? These are systems that should be cyber-secured as tightly as possible and should not be anywhere near the Internet. And speaking of that, do you perform audits to find systems that are on the Internet that are not supposed to be on the Internet? Look up the Shodan tool. You may be surprised at what you find.

What are your organization's policies around background checks before an employee's initial hire and after they return from sick leave, leave of absence or a long vacation? The FBI notes that many attempts are made to recruit key employees by foreign agents while on vacation overseas.

Do you perform social engineering tests on your own employees to learn who is susceptible so that you can offer increased training where required? For example, have someone call the help-desk pretending to be an irate executive who forgot her password. Threaten the helpdesk person with termination if they don't fix the problem n-o-w. Does your helpdesk staff stick to their procedures for authenticating a caller, or do they cave and give away passwords to anyone who threatens to fire them? Or send phishing emails to key personnel trying to get them to click on a link or open an infected document. In real life their PC would be compromised. Your link should take each person who clicks on it to a training site that details how to recognize bogus emails and what to do when they receive one.

Information Sharing

If your organization is based in the United States, do you take advantage of the information sharing opportunities afforded by the FBI InfraGard program? InfraGard can help you gather intelligence on who may be targeting your company. It is also a safe place for your employees to share information with other companies to benchmark, learn from others, and help identify emerging threats.

Declaration

In the BCP world, a crater where your building used to be is a good sign that it is time to activate your plan. In the cyber world, the indications are much more subtle and time needs to be spent on developing "muscle memory" through intensive testing and exercising. There are many ethical hackers (or white hats) who will come in and attack your systems. You can also build your own "red and blue" teams to attack each other.

There is a reason that so much time and money is spent by the military, fire and police on "live fire" practice. You want your employees to have plenty of experience when a real attacker shows up, and this is the only way to ensure it.

But how do you know when you are under attack? It may be a sixth sense, it could also be that your Firewall or Intrusion Detection System (IDS) throws a message, or maybe someone received a threat via a phone call or social media (yes, threats have been made on Twitter – is your social media team tied in with your Cyber and BCP departments? Do you even have a social media team?) What would you do if you saw the tweet in Figure 2, your IDS notified you that an SQL injection attack took place overnight, and your cyber team tells you that it could have been successful? Hint: Figure 3 is a flow chart to help you determine your own "I'm under attack" triggers.

Figure 4. Cyber Incident Response Timeline

Evacuation

How could a cyber attack possibly cause you to evacuate a building? As mentioned above, many process control systems have default passwords that cannot be changed. It is possible for an attacker to release hazardous chemicals, disable building control systems, shut down the power, or create other mayhem that requires a building evacuation. Assuming that you have one in the first place, does your workforce continuity program cover cyberattacks? See Figure 4 for a recommend cyber response timeline.

Summary

For the past 20 years, BC planners have been performing RAs and BIAs, and have been writing, exercising and improving their plans, while at the same time, cyber planners have not. This article suggests why it is so important for cyber and BC planners to join hands so they can build, exercise and improve their plans in concert with each other.

While we normally think of our BC plan being deployed due to natural or man-made disasters, we also need to be thinking about a cyber attack that forces systems offline, sends employees out of the building, or causes severe damage to our organization's reputation.

ABOUT THE AUTHOR

Ron LaPedis is the senior product manager overseeing SunGard AS' workforce continuity business. Ron is a Master Business Continuity Professional (MBCP), a Member of the Business Continuity Institute (MBCI), and a CISSP with ISSAP & ISSMP endorsements. He can be reached at ron.lapedis@sungard.com .

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FROM CONTINUITY CENTRAL

Time to Resolve Cyber-Attacks More than Doubles: Ponemon Institute Survey

HP Enterprise Security Products has published the results of a recent study by Ponemon Institute. The study found that the cost, frequency and time to resolve cyber attacks have continued to rise for the fourth year in a row. Since the study was conducted for the first time four years ago, the average annual cost of cybercrime in US organizations has increased by 78 percent. Come to the online GUIDE for more key findings.

REPORTS AND WHITE PAPERS

From PwC: The Global State of Information Security Survey 2014

The recently released Global State of Information Security Survey 2014 revealed some interesting results. One of its key findings revealed that 85 percent of CEOs say they are confident in their security program. Despite their confidence, the survey also found that detected security incidents have increased, as has the cost of breaches. Moreover, new technologies are often being put in place before they are secured, leaving things to chance.

From Ponemon Institute: 2013 Cost of Data Breach – Global Analysis

The eighth annual benchmark study of the cost of data breach incidents has been released. The study covered companies in nine countries, resulting in varied and interesting data collection. Germany and the US were found to have the most costly data breaches while the least costly breaches occurred in Brazil and India. For more on these fascinating results, come to the online GUIDE.

From Lieberman Software: Results of 2013 State-Sponsored Attack Survey Now Available

A recent survey by Lieberman Software Corporation talked to almost 200 senior IT security professionals at the Black Hat USA 2013 Conference in Las Vegas. The survey found that the majority of IT security professionals

expected a state-sponsored attack in the next six months. In response to that belief, 90 percent had made efforts to protect themselves.

From Lancope: Enterprises in Denial Regarding Network Security

In an interesting turn of events, a Lancope survey revealed that a large number of enterprises have unrealistic confidence about the security of their networks. According to the survey, more than 65 percent of IT/security professionals "did not think or were unsure whether they had experienced any security incidents with the last 12-18 months". Lancope's director of security research, Tom Cross, says this is unlikely.

*The full report is available for free but a simple registration is required first.

From Tufin Technologies: Security Policy Orchestration – Supporting Tomorrow's Networks

A new report from Tufin Technologies takes a look at the security challenges caused by increasing network complexity. The researchers surveyed more than 500 C-level managers and senior IT professionals from companies of 1,000 or more in the US and the UK. Among the key findings was the response from 50 percent of the surveyed group that the cloud will have the most impact on network security in the short term. You can read the full report in the online GUIDE.

Quorum Unveils Findings from Disaster Recovery Survey

Quorum, a leading provider of one-click backup, recovery and continuity for small to mid-sized businesses recently unveiled the results of its first Disaster Recovery survey. The results reveal some interesting insights into the data backup systems of various companies and their disaster recovery methods.

From Bit9: 2013 Server Security Survey Report

In October, Bit9 conducted its third annual server security survey. The survey analyzed the challenges organizations face in detecting and stopping advanced server attacks. The results provide great insight into these issues.

Learn more at www.TheDRGuide.com/IAS

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SOCIAL MEDIA & EMERGENCY MANAGEMENT

This web site is intended to centralize the various initiatives, opportunities and collaborative activities underway in the worlds of social media and emergency services.

Here are some resources you'll find on this practical website:

- #SMEMChat is on Fridays on Twitter from 12:30p-1:30p EST
- Getting started with the basics of social media in the emergency management community
- Hashtags used in the emergency management community
- Numerous initiatives & Wikis you'll find on this website

INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE

2013 Social Media Survey Results

In fall 2013, the IACP conducted its fourth annual survey about law enforcement's use of social media. The survey addressed the current state of practice and the issues agencies are facing in regards to social media. The survey was sent electronically to law enforcement executives across the United States. A total of 500 law enforcement agencies, representing 48 states, participated in the survey.

FROM COMMUNICATIONS SECURITY, RELIABILITY AND INTEROPERABILITY COUNCIL

81-page Next Generation Alerting Final Report

The Communications Security, Reliability and Interoperability Council's (CSRIC) mission is to provide recommendations to the FCC to ensure, among other things, optimal security and reliability of communications systems, including telecommunications, media, and public safety.

The systems at issue include telecommunications, media, and public safety communications systems. The FCC created ten Working Groups to develop information for CSRIC, and each of the groups was given a charter of responsibilities relating to a topic area. Working Group 2 (WG2) was established to examine next generation alerting, to explore many aspects of alerting with a focus on utilization of the Internet and other broadband-based resources, and to develop recommendations for CSRIC's consideration regarding actions the FCC should take to promote deployment of next generation alerting systems.

FROM THE FCC

What You Need to Know About Text-to-911

Text-to-911 is the ability to send a text message to reach 911 emergency call takers from your mobile phone or device. Texting during an emergency could be helpful if you are deaf, hard of hearing, or have a speech disability, or if a voice call to 911 might otherwise be dangerous or impossible. But if you are able to make a voice call to 911, and if it is safe to do so, you should always make a voice call to 911.

In the future, text-to-911 may be widely available in the United States. However, for now, the ability to contact 911 using text is only available on a limited basis in a few markets. For this reason, you should not rely on text to reach 911.

The four largest wireless telephone companies (AT&T, Sprint, T-Mobile, and Verizon) have voluntarily committed to make texting to 911 available by May 15, 2014 in areas where the local 911 center is prepared to receive the texts.

FROM THE NSTAC

90-page Report to the President

Meeting our Nation's critical national security and emergency preparedness (NS/EP) challenges demands attention to many issues. Among these, none could be more important than the availability and reliability of telecommunication services. The President's National Security Telecommunications Advisory Committee (NSTAC) mission is to provide the U.S. Government the best possible industry advice in these areas.

Throughout the NSTAC's 30 year history, five key themes continue to emerge as their major areas of focus:

- Strengthening national security
- Enhancing cybersecurity
- Maintaining the global communications infrastructure
- Assuring communications for disaster response
- Addressing critical infrastructure interdependencies and dependencies

In May 2013, NSTAC issued a report to the President on the national security and emergency preparedness implications of a nationwide public safety broadband network.

FROM TELEIRA

Best Practices for Incoming Call Recovery

This white paper describes in detail three steps for a successful telecommunications recovery after a disaster or other outage: diversion, control and delivery.

Why Do I Need a Satellite Service or Devices?

BY PETER ZAWISTOWSKI

Credit: Michael Rieger/FEMA

Some believe that satellites are too expensive, too technical and not practical for an emergency situation. Disasters can occur anywhere and anytime. It is critical to maintain communications for successful disaster or emergency response, so the use of satellites should be carefully evaluated as one option during a crisis.

Satellites operate on several frequencies or bands; "L-band," "C-band," "Ku-band" and "Ka-band" are some of the more popular ones. "L" is the lowest frequency of this group. It is used by BGAN service (Broadband Global Area Network). Known for being able to get a phone line just about anywhere in the world, the L-band system established its claim to fame working on large ocean going ships. The C-band is next higher frequency unit. It is known for being robust, sometimes expensive and typically uses larger dishes. Their principle use now is the transmission of television and sports programming. Ku band is used in television and news broadcasting. Typically dishes can range in size from 5 meters, or around 16 feet, down to 0.75 meters, or under 3 feet. Ka band is the highest frequency of these

four bands. Ka is very efficient; some satellites or frequencies can be steered towards certain parts of the country, called spot beams. Spot beams make Ka band more efficient by not transmitting to the entire US. Ka also has the greatest bandwidth or space for throughput available by satellite. Both the Ku and Ka bands do suffer from signal loss in heavy rain, also known as rain fade. One potential remedy is an increase in transmitting power. The other corrective measure is using a larger size antenna. Increasing the size of the antenna is similar to increasing the power.

What can you use satellites for? They are extremely flexible and can be configured to do the job that's required. Video, IP networks, downloading of maps and weather reports as well as videoconferencing, telemedicine and telephone traffic all come by satellites. A quick response is critical to success in disaster situations, and establishing an appropriate communications capability will be essential. Another service uses Very Small Aperture Terminals (VSATs). These dishes are everywhere: the gas station, corner store, department & drug stores. They are used for credit card approvals, video training, and in remote locations such as oil wells when wires are not available to provide telephone service, remote control and meter reading.

Many satellite configurations are dual purpose. One major department store uses VSAT to receive videos for employee training. When something causes a disruption to terrestrial or land line service, training is stopped at the store and the satellite signal is converted to multiple phone lines connected to the company's phone system. The change over is configured at the corporate headquarters or by the satellite service provider so the local people just wait for the green light.

What are data rates and how do they compare? A data rate of 64K is typical for a single phone line. Most BGAN units are set up to work with one phone line or one line with additional service such as email or internet. Email, without heavy graphics or images, will not use large amounts of data. Download-

ing a large file or a streaming video is a different creature altogether. This can prevent others from downloading their email until the large file's download is completed. Remember the days when we did not have broadband internet service? Everyone got home from school or work and the internet speed would decrease significantly! You can go to higher speeds on satellite. BGAN is typically 492 kbps rate; some are even slower.

Ku & Ka are readily used for communications during disaster response. The bandwidth can go extremely high, but so does the cost, and additional equipment is needed. Items such as VoIP (Voice over IP) may be required if you are thinking of multi-phone line service. Other items may include ethernet interfaces, USB hubs and wireless terminals such as Bluetooth. And of course, the more bandwidth you have, the more things you can do. The problem is the cost and technical complexity both increase with bandwidth.

Why should satellite be used for communication? Satellite and its related services are probably the most flexible of all communications modes. Satellite can deliver a single phone conversation up to hi-speed internet as well as a mix of services. It can quickly adjust for changes in bandwidth or speed. Most of all, location does not have to be a fixed position on top of some mountain. The satellite terminal can be right next to the command center or a public communication terminal. Terminals can be easily moved and connections remade.

Single phone service, like a cell phone using satellite, can be purchased for under $200.00 and a monthly fee of $29.00. The monthly fee will depend on the amount of time requested and the number of other applications using the service.

Determining your needs is the first step. Do you need phone line(s) and to where? Do you need teleconferencing or video of damaged areas sent to a location? Do you need on the go, transportable equipment? What will you interface to: 2-way radio, servers, laptops or private VPN? Most of all, what is the technical proficiency of the operator? Will you share this satellite equipment and what will the other's needs be? Can you share expense with someone else or another organization? Finally, will a rental or a contractor based service be the answer to your satellite needs? Remember all satellites are not alike and the same with satellite services. Never mind that the equipment needed may appear to be very complex. Much of the automated software makes operation easier than ever. Now is the time to arrange for vendors, staffing, suppliers and locations...not when the hurricane hits!

ABOUT THE AUTHOR

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Three Satellite Options
What Are YOUR Requirements?

What will it cost for your organization to use satellites in emergency situations? The following comments and accompanying chart can be a starting point for your evaluation of satellites. The Publisher sought input from a number of industry experts, and the chart is an attempt to highlight some of the differences in three types of service: BGAN, Fixed VSAT and Mobile VSAT. Another option, High Throughput Satellite, is not included here, but this relatively new type of service is likely to offer much higher bandwidth at even more affordable rates. See the following article on Ka-band satellites in this issue. The *Disaster Resource GUIDE* will be working with a number of experts in the coming months to offer educational webinars to help you objectively evaluate satellite solutions.

The BGAN solution included in the chart has been very popular because of its ease of use and low monthly fixed charges. However, in disaster situations, two factors could make this solution much less practical, and less affordable, than expected. In regional disasters where many users may be using their BGAN equipment simultaneously, recent experiences indicate that BGAN service can slow significantly and reduce bandwidth to intolerable levels, and this could happen when you are most in need of quality service. Secondly, the cost varies with data usage and the overages can add up quickly. One responder working in Haiti after the earthquake made the unfortunate mistake of leaving his laptop on, and automatic Windows updates ran up a $3,000 charge for data! BGAN's excellent value in mobility and ease of use is unlikely the best solution for longer response efforts.

Another key consideration in your decision deals with stated bandwidth, CIR (Committed Information Rate), and contention ratios. While a thorough analysis of these issues is beyond the scope of this summary, it is very important to ask questions of your prospective satellite provider! Briefly, you will be paying a monthly rate for a level of bandwidth. However, unless you are getting a guarantee of bandwidth (CIR), your service may be much less than the stated maximum. The satellite companies sell capacity to many customers, and one of the ways to offer less expensive service is to have a higher contention ratio – or more people using the same 'pipe' than the pipe can support. There could be 500 users, each with 2 Mbit/second service, sharing a 20Mbit/second pipe, resulting in a 50:1 contention ratio. It would be unusual for all of the users to be attempting massive data transfer at the same time…but with a higher contention ratio, it's easy to see how this could happen. Naturally, a CIR service will cost you more because the satellite company is essentially leaving that bandwidth available for you, even when you do not use it.

Stay tuned to the Continuity eGUIDE newsletter for announcements about satellite webinars! The Publisher wishes to thank Dave Hartshorn and Steve Birnbaum, of the Global VSAT Forum (GVF), Peter Zawistowski of PeterZ & Co., and Skip Anderson, of Skycasters for their assistance in preparing this summary and chart.

	BGAN (BROADBAND GLOBAL AREA NETWORK)	FIXED VSAT (VERY SMALL APERTURE TERMINAL)	MOBILE VSAT TRAILER
Equipment	Small terminal about the size of a laptop. Runs on L band.	Antennas can range from .96 to 1.8 meters; a typical public safety setup would be 1.2 meters. Also requires a BUC (transmitter), LNB (receiver) and a modem. Runs on Ku band or Ka band if available in area.	A mobile satellite trailer typically uses a 1.8 meter antenna, BUC, LNB and a modem. The trailer also provides a router, wireless access point, GPS, controller, UPS, generator, and fuel tank. Runs on Ku band.
Monthly fee/ equipment cost/ data allowance	BGAN charges average $7 per MB when the unit is used. Service plans start from $69 per month plus usage charges. Equipment starts at around $1,600. The $7/MB fees can get very high, very quick.	Service plans can start as low as $59 per month and up to more than $2,000 per month depending on speed and data needs. A typical 1.2 meter system (antenna, BUC, LNB, and modem) starts around $1,000 with an additional $500-$1,000 for installation.	Like a fixed VSAT system, mobile VSAT service plans can start as low as $59 per month and go over $2,000. A 1.8 meter trailer providing a turnkey solution would cost about $42,000.

	BGAN (BROADBAND GLOBAL AREA NETWORK)	FIXED VSAT (VERY SMALL APERTURE TERMINAL)	MOBILE VSAT TRAILER
Bandwidth/Speed	Speeds up to 448kbps for download and 492kbps upload.	Fixed 1.2 meter VSAT system can provide speeds up to 4.5 Mbps download and 1.02 Mbps upload.	The mobile 1.8 meter satellite trailer can provide speeds up to 7.5 Mbps download and 2.0 Mbps upload.
Compatible applications	Used for a single line phone. With additional hardware, up to 6 VoIP phone lines. Basic e-mail for up to 12 accounts (speed drops as more users come aboard). Low bandwidth browsing, but not suitable for video streaming or large data or image files.	This system supports VPN applications, e-mail, internet access, high QoS (Quality of Service) for: VoIP, video, remote monitor & control, streaming audio, RDP, Citrix, and can run most applications that run on landline internet access.	Again, just like the fixed solution, the mobile VSAT system can support VPN applications, e-mail, internet, high QoS and better throughput for VoIP, video, remote monitor & control streaming audio, RDP, Citrix, and can run most applications that run on landline internet access.
Average number of users	A typical BGAN system supports from 1 to 6 users.	The fixed system can support a small office with about 25 users depending on the service plan and CIR (Committed Information Rate). A primary factor here depends on applications running and usage over the connection.	Mobile systems are set up to handle 1 to 25 (or more) users, again depending on service plan and the CIR selected. Mobile systems are also dependent on applications running and the type of usage.
Weather implications	All satellite services are susceptible to weather factors, but the BGAN systems are less affected due to the large wavelength of the L band on which they operate.	All VSAT systems are susceptible to weather factors. However a larger antenna and the power of your BUC (transmitter) may mitigate these effects. "Rain fade" has become less of a concern due to higher gain available with the antennas.	Even the mobile VSAT systems can be affected by weather patterns. A mobile system acts like a fixed system when deployed, so a larger antenna and higher power of your BUC (transmitter) may mitigate these effects.
Power setup	Low power required, approximately 18 watts while transmitting, 8 watts while idle. Often use rechargeable batteries.	A fixed VSAT system requires external power and requires a 110 volt power supply. The power goes to the modem, and the modem provides power for the transmitter (BUC). They can also be powered by inverters and solar.	The mobile system comes complete with its own generator to provide power. This system can also be powered by shore power. The standard generator has a 48 hour run time and will need refueling. An extended run fuel tank is an option, but still requires someone to monitor the fuel.
Portable/fixed	Completely portable solution, easy to carry, about the size of a laptop.	Fixed solution that is not easily moved. If moved it requires a certified installer to repoint the antenna.	Completely mobile and can be towed to any location. The antenna is deployed with the push of a button and will automatically locate the satellite and lock on the signal.
Ease of use	Very easy, even for non-technical users.	Fixed VSAT terminals are installed by a certified installer. Once installed, the operation is the same as any other internet link. As mentioned previously, an installation averages $1,000 with equipment costs starting at $1,000 and up. Repointing of the dish can range from $250 to $500, depending on location.	Mobile solutions are simple, one-button activation. The antenna will locate the satellite automatically and the internet connection is available within minutes of arriving on site. Perfect for non-technical users. The system is complete with a router and wireless access point that provides a 1,000 foot wi-fi range. A UPS ensures continuity of power if either the generator or shore power is discontinued and allows for time to refuel or fix shore power issues.
Latency issues	Latency will be 550ms and up, depending on congestion. High latency may prevent many applications from working over the connection.	Lower latency averaging between 515-530 ms and allows almost all applications to function normally. Frequency and distance of satellite from the earth have the most affect on latency.	As with fixed solutions, the mobile system has lower latency averaging between 515-530 ms allowing almost all applications to function normally. Typically the same satellites and same frequency as Fixed VSAT.

Research Report:
Ka-Band Satellite Communications

BY JAY E. PULTZ AND BILL MENEZES

This information comes from the Gartner Hype Cycle for Business Continuity Management and IT Disaster Recovery Management, 2013.

Definition: Ka-band satellite communication (satcom) services are designed to augment and replace Ku-band very small aperture terminal (VSAT) services – the enterprise fixed (that is, nonmobile) satcom mainstay since the 1980s. Higher-frequency Ka-band offers much higher data rates than Ku-band.

Position and Adoption Speed Justification: For broadband Internet access, Ka-band satcom services available from satellite service providers, resellers and system integrators primarily fill a large and important special role: to serve geographic regions and locations that aren't being served, and aren't likely to be served, by terrestrial systems, such as wireline or cellular networks. These regions include rural, low-population density areas; remote islands and large swaths of Africa and Asia (such as Siberia); and offshore oil and gas platforms. In addition to enterprise market segments, Ka-band satcom

is targeted at consumers and small or midsize businesses (SMBs) in such underserved areas. All fixed-service Ka-band satcoms are geosynchronous, orbiting about 22,000 miles (36,000 kilometers) above the Earth. The inherent latency significantly constrains their use for voice and videoconferencing applications mostly to when Ka-band is the only service available. Hence, the primary Ka-band services are data and video broadcasts. The O3b Networks Ka-band satcom system will use so-called "medium" orbits (about 8,000 kilometers) to reduce latency below 150 milliseconds and is targeting throughput of up to 1.2 Gbps per beam. O3b began launching its first eight satcoms in 2H13.

Ka-band enables a common networking solution for all sites, such as big-box retail chains. Satcoms, by their nature, have wide applicability in disaster recovery and business continuity. For example, Ipstar helped restore cellular service after the 2011 tsunami in Japan. Gilat Satellite Networks' Spacenet provided mobile VSAT units to enable data connectivity for a number of large northeastern U.S. commercial customers following "Superstorm Sandy" in 2012. However, advanced Long Term Evolution (LTE) cellular networks eventually may emerge as a key competitor of Ka-band in certain remote markets and disaster recovery applications.

As aging Ku-band systems reach their end of life, Ka-band is an attractive, next-generation-system replacement. Ka-band services typically use remote earth terminals with antennas of 1 meter or less in diameter — more than 40% smaller in area than Ku-band. Services are offered in the multimegabit range in remote uplinks (Ku-band has typically been limited to submegabit speeds); on a per-bit basis, Ka-band is typically 50% less expensive than Ku-band.

Ka-band satcom services are becoming available in key markets, such as North America (for example, through ViaSat or Telesat), Western Europe (for example, through Eutelsat) and the Asia/Pacific region (for example, through Ipstar). With ViaSat-1 having begun operations in January 2012, Ka-band capacity has increased dramatically in North America. This single satellite offers a total throughput of 140 Gbps, which equals the capacity of about 100 Ku-band satellites. Hughes' EchoStar XVII, launched in July 2012, added more than 100 Gbps covering North America, thus enabling the company to offer consumer downlink speeds in the 10 Mbps to 15 Mbps range. Inmarsat is scheduled in September 2013 to begin launching a three-satellite constellation intended to provide global Ka-band coverage. Hughes plans to put another 150 Gbps into orbit in mid-2016 via the Jupiter 2/Echostar 19 satellite. In this time frame, we also see Ka-band as moving from adolescent to early mainstream in maturity.

User Advice: First, identify whether terrestrial-based systems such as 3G or 4G/LTE are available to meet the organization's need. View Ka-band satcom as complementary to terrestrial-based systems, and use it for specific applications that satcom can uniquely serve. Consider Ka-band as a replacement for older-generation C-band and Ku-band VSATs. Look for suppliers to offer multiband-capable hybrid networking so that Ka-band can be readily added for new sites on existing enterprise satcom networks. Also watch for future enhancements, such as lower-frequency S or L uplinks, which enable Ka-band satcoms to address some mobile segments. Ka-band satcoms have improved tie-ins to terrestrial wireless systems. Use wide-area optimization technologies to limit the effects of latency in satcom. Watch for these optimization technologies — as well as routing and switching — to be integrated with earth terminal electronics.

Business Impact: Ka-band satcom offers substantially greater data rates, with a smaller, more readily portable earth terminal, at an attractive price point for specific enterprise communication needs — mainly for geographic regions and locations that aren't likely to be served by terrestrial systems (for example, rural America, islands, Africa and deep-sea oil rigs). Energy, utilities, retail, transportation, maritime and government are key vertical industries that will benefit from Ka-band deployments. This technology also can improve disaster recovery capabilities.

Benefit Rating: Moderate

Market Penetration: 1% to 5% of target audience

Maturity: Adolescent

Sample Vendors: Eutelsat; Hughes; Inmarsat; Ipstar; O3b Networks; Russian Satellite Communications Company; SES; ViaSat

ABOUT THE AUTHORS

Jay Pultz is a vice president and distinguished analyst in Gartner Research. His current research focus is data center design (with a particular focus on facilities), infrastructure and operations management as well as cost optimization.

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This information comes from the Gartner Hype Cycle for Business Continuity Management and IT Disaster Recovery Management, 2013. This report is part of Gartner's 2013 Hype Cycle Special Report which provides strategists and planners with an assessment of the maturity, business benefit and future direction of more than 2,000 technologies, grouped into 98 areas. The Special Report includes a video, provides more details regarding this year's Hype Cycles, as well as links to all of the Hype Cycle reports. The Special Report can be found at http://www.gartner.com/technology/research/hype-cycles/.

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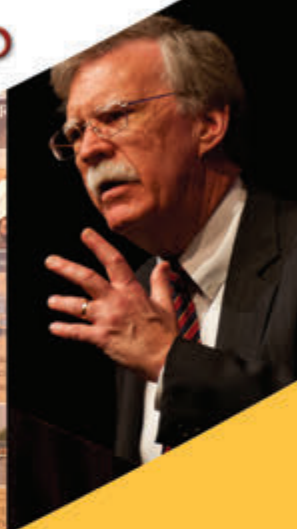
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FROM FACILITIES NET

Emergency Preparedness

This 5-part section from Facilities Net provides excellent insight, news updates and advice for better emergency preparedness.

Part 1: Emergency Preparedness Plans should Address Issues from IT to Staff: It's easy to lose sight of the big picture in a crisis. Don't forget to factor in all aspects including IT and your staff when focusing on getting your business back up and running after disaster.

Part 2: Identify Most Critical Risks as Basis for your Disaster Plan: All departments are critical, but some are more critical than others. Identify your most critical risks to prepare for and ideally avoid a potential domino effect.

Part 3: Testing Emergency Response Plan Offers Challenges: This section takes a look at the limitations when it comes to testing your emergency response plan. Can you ever realistically do a full test?

Part 4: Data Center Redundancy Requires more than just Equipment: Planning out the sources of your data backups or redundant utility feeds is crucial. Use redundancy when it comes to manpower too – identify those team members who could fill other roles if necessary.

Part 5: 7x24 Exchange Helps Guide Data Center Disaster Planning: This section tells you all about the 7x24 Exchange, a non-profit organization that focuses on helping companies learn from each other how best to create, operate and maintain mission critical infrastructures.

FROM MARSH USA

Managing Service Interruption Risks

This article gives great advice to help you manage the service interruption risks your company may face at some point. It provides a list of risk mitigation steps and some information about insurance considerations to guide you through your own risk management.

10 Strategies to Ensure your Business can Manage a Power Outage – and Outshine the Competition

It is likely that your organization will be affected by a power outage at some point, probably more than once. With that in mind, it is crucial that you take the necessary steps to minimize the impact on your operations. This article provides 10 easy-to-follow steps for you to apply to your own organization.

INFORMATION AND LEARNING

Free Webinar: Preparing Your Electrical System for Disaster Recovery

Speaker Chad Kennedy, Manager of Industry Standards for Power Equipment at Schneider Electric brings his expertise to this webinar. He addresses three steps in electrical disaster recovery planning and uses real examples to show where his suggested principles can be applied.

*The webinar is free, but a simple registration is required first.

From FM Link: Cintas survey – Most US Workplaces Need to Improve Emergency Preparedness

According to a recent Cintas Corporation survey, the majority of workplaces need to improve their approach to emergency preparedness. Harris Interactive conducted the survey for Cintas and interviewed 2,019 adults ages 18 and older. They found that only 31 percent of employed US adults believe their workplace is proactive about emergency preparedness.

From Continuity Central: Case Study – How Citypoint Achieved the World's First "Tall Building" ISO 22301 Certification

CityPoint is a 36-floor building in London managed by CBRE, a real estate services company. At CityPoint, they believe it is the first tall building to achieve ISO 22301:2012 certification, meaning it has successfully coordinated seven individual service providers: security, engineering, cleaning waste, IT, telecom and lift (elevator) and building management under one umbrella to provide resilient building management services. Come to the online GUIDE for an interview with CityPoint building manager Lee Murray.

From Urban Green: City Council Passes four more Building Resiliency Proposals

In November, the New York City Council passed four more Task Force proposals, making the total number of proposals 13. The new proposals are:

BRTF 5: Remove Barriers to Sidewalk Flood Protection
BRTF 17: Remove Barriers to Backup & Natural Gas Generators

BRTF 20: Add Hookups for Temporary Generators & Boilers
BRTF 23: Supply Drinking Water Without Power

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Restoring Henryville Schools

BY VERNON DUTY

Before & After – Henryville Schools

Friday, March 2, 2012, is a date that will forever be remembered in the town of Henryville, Indiana. The day started out like any other day, with clear, blue skies; however, the sunshine disguised the lingering tornado warnings from the day prior. It would have been a great start to the weekend, but the West Clark Community Schools learned how quickly things can change as Mother Nature wreaked havoc in Henryville that afternoon.

The West Clark Community School administration and officials had been monitoring the weather systems and tornado warnings from the night before. Around dismissal time, there were no tornado warnings. The administration made the executive decision that they had sufficient time to get all the students home safely. Around 3 p.m., an EF-4 tornado with winds up to 170 mph devastated the town in only 23 seconds.

"We still marvel at the destruction that occurred, and yet not one child was hurt," said Dr. John Reed, Assistant Superintendent of West Clark Community Schools.

Despite severe damage to the building, administrators had an ambitious goal: finish the school year, rebuild and be ready for classes to start

in August. The accelerated timeline to complete the project was one of the biggest challenges.

School board officials, administrators, local authorities, and the insurance company had to work cohesively to develop and implement a plan that would relocate all of the elementary and high school students to temporary locations in an old, unused school building and a building in an industrial park. The buildings had to be gutted, brought up to code and pass inspection. While crews made the necessary changes, other professionals salvaged contents from the tornado-damaged site, which were then cleaned, packed and delivered to the temporary locations. In just two weeks, elementary school students' classes resumed; within three weeks, high school students' classes resumed. With the relocation process underway, controlled demolition began at the tornado site.

Surveillance – More than Security

There were many harrowing images and videos playing in the news coverage following the tornado, but nothing compared to the actual video surveillance footage from the AXIS Communications Fixed Dome Network Camera technology the Henryville Schools had in place.

"Having that video footage of the actual building being destroyed was amazing from the standpoint that we got to see in detail what wind like this, what a weather event like this, actually does to a structure," said Dr. Glenn Riggs, Principal, Henryville Elementary School.

The surveillance system was used for more than security purposes. At Henryville, the restoration teams used the video footage as a reference point. If there were questions about where fixtures should be installed, the teams were able to review the footage to find their answers.

"There were questions that were brought up during the reconstruction; we were able to pull up the videos and see this was here and that was there," said Jerry Smith, Technology Director, West Clark Community Schools.

In addition to the surveillance and record keeping, reviewing the captured video revealed a number of lessons to be learned for the West Clark Community Schools and their team of three safety specialists, professionals who had undergone extensive training for school safety. The school administration has since shared the findings with a number of state agencies, including the State Department of Education and the School Safety Specialist Academy in Indianapolis. Additionally, the information was shared with a variety of public agencies, from transportation to law enforcement.

Budroe's Restaurant – An Unlikely Office Space

Across the street from Henryville High School was a diner called Budroe's Restaurant. Due to the heroic efforts of restaurant owner Sherman Sykes, all nine guests in the restaurant at the time survived. Afterward, a school bus was lying in the center of the restaurant, which became a recurring image in the media coverage of the storm.

The restaurant became a temporary office following the storm, which allowed more space for organizing planning efforts. The access to additional office space located in proximity to Henryville School's campus allowed for even more efficiency.

Since the tornado, Sykes has reopened the restaurant with a new name: Budroe's Bus Stop.[2]

The Rebuilding Continued

Approximately 70 percent of the 220,000-square-foot school was gutted to a shell and rebuilt. The remainder was completely demolished and rebuilt entirely. An average of 300 workers were present daily and worked around the clock. The entire school received a new roof deck, redesigned by an engineer, and an improved HVAC system was installed. The lighting of the school was upgraded to higher LEED standards. All drywall, ceiling and grid tiles, floor coverings, cabinetry, and 75 percent of all windows were removed and replaced.

Key Issues For Your Facility Recovery Plan

- An excellent relationship with an insurance company will be invaluable during a restoration project.

- Periodic review of insurance coverage can prevent surprises in the event of a disaster. Too often, people purchase insurance then do not update the policy to reflect changes in the property and/or equipment.

- The best time to review a facility, with a restoration project in mind, is WELL BEFORE a disaster!

- Prequalify the resources you may need for a restoration project before you need them. This could include contractors, equipment rental and temporary facility providers.

- Meet with those contractors so any special issues – such as electrical or hazmat – can be included in your continuity plan.

- A contract with a restoration company should include the price schedule for the many types of services that might be required.

- Insurance or FEMA reimbursements can sometimes be nightmarishly slow. Your contractors need to have the financial strength to withstand those payment delays.

- Video or photographs can prove extremely useful during a rebuild, indicating to reconstruction crews the location of key features of the facility.

- In addition, surveillance or intentional photo documentation of equipment, facility identifiers and other types of hardware can help expedite replacement.

- Having available space – such as the diner – near the rebuild site is beneficial.

- Be prepared to address improvements to the facility or equipment that you would incorporate into a restoration project.

A team of specialists was brought in to work on the project, including an industrial hygienist who tested surfaces and air for unhealthy levels of mold and other irritants. Due to industry experience and previous relationships, suppliers of alternate power and resources were willing to assist on short notice to help get the job done and get the students back in their schools.

Restoring the Schools

In a matter of seconds, steel, brick, and mortar were pulled from the ground and the Henryville gymnasiums were reduced to twisted beams and piles of debris. The three gymnasiums and music room sustained extensive structural and water damage.

"Any time a disaster occurs, our goal is to produce a better product than the original," said John Prater, President of Praters Flooring, who worked on the rebuild of the gymnasiums. "We wanted to give the community something to rally around.

"The challenge to working on schools that have been so damaged by tornadoes is the enormous scope of work that has to be performed in a relatively short period of time without sacrificing quality," said Prater. "You want the community to be able to get back to some sort of normalcy as quickly as possible."

Restoring Hornet Pride

In just five short months, the school buses resumed service, students lined up outside of the school and the hallways were filled with laughter. As hoped, the West Clark Community Schools opened in time for the next school year in their newly reconstructed facility. Despite the devastating destruction of the tornado, the community came out stronger than before.

"One of the key things that people can learn from this is that damage is unpredictable," said Vernon Duty, National Accounts Manager with BELFOR USA. "With a hurricane, you have three or four days' notice, maybe more. But a tornado, which is a threat in significant portions of the country, could happen unexpectedly. That's something that should prompt folks to plan ahead because you don't have time at the event. It's beneficial to have some kind of plan in place that gives you a framework for what to do."

SOURCES:

1 Axis Communications. "Axis – Henryville Case Study." Video, 2012.

2 Courier Journal. "Budroe's Bus Stop Reopens in Henryville." The Courier-Journal. 2012. (http://www.courier-journal.com/VideoNetwork/1816985940001/Budroe-s-Bus-Stop-reopens-in-Henryville)

FROM FACILITIES NET

Lessons From Hurricane Sandy

This 9-part piece analyzes the lessons various organizations have learned after dealing with Hurricane Sandy. They provide a lot of useful information we can use in our own emergency management plans.

Part 1: Preparations before Hurricane Sandy Helped Cushman & Wakefield Quickly Bring Buildings Back Online: See how the preparations one company made aided their recovery and how we can learn from their example.

Part 2: New York City Public Schools Rethinking Emergency Plans after Sandy-Driven Flooding: Hurricane Sandy is making NYC public schools think about upgrading their emergency plans to better prepare for next time.

Part 3: Even if Code Doesn't Require Generator, HEI Hotels is Exploring Options in Wake of Power Outage: Though disasters like Hurricane Sandy don't happen regularly, HEI Hotels is rethinking their emergency procedures after their Sandy experience.

Part 4: EMD Serono Focuses on Details, Communication after Challenges of Hurricane Sandy: Read about one company's lesson in communication strategies after dealing with Hurricane Sandy.

Part 5: Rockefeller University Finds that Mother Nature Always Wins: Even with the best of plans, does Mother Nature always get her way? Read on for the thoughts of some Rockefeller University staff.

Part 6: Katrina Experiences Helped Shape Marriott's Hurricane Sandy Plans: Every experience prepares us for the next. See how Marriott International's experience with Hurricane Katrina better prepared them for Hurricane Sandy.

Part 7: For Newark Public Schools, Fuel Supply Challenges Complicated Recovery from Hurricane Sandy: A lack of fuel supply is a major problem faced worldwide after disasters. Newark public schools were no exception when Sandy hit.

Part 8: Flooding from Sandy Raises Questions about Location of Electrical Gear: Flood water, particularly salt water, can wreak absolute havoc on electric systems. Should we be relocating all our electrical gear?

Part 9: At Crozer-Keystone, Better Safe than Sorry was Key to Sandy Plans: A phrase you probably heard endlessly as a kid, "better safe than sorry" is just as important in adult life – health care provider Crozer-Keystone Health System proves just that.

WHITE PAPERS

From FacilitiesNet:
White Paper – Physical Security in Mission Critical Facilities

Physical security or controlling personnel access to facilities is critical to achieving data center availability. This white paper delves into the topic and provides some insightful information. Simple registration is required to access this and many other FacilitiesNet white papers for free.

Learn more at www.TheDRGuide.com/FAC

The Challenge of Emergency Evacuation from High-Rise Buildings (and Even Ones That Are Not So High)

BY JIM BURTLES AND KRISTEN NOAKES-FRY

Headlines over the 150-year history of tall buildings provide us with evidence of what can go wrong and the likely costs and consequences of such events. Many of the challenges are the same as those in any multi-story building, but the higher the building, the more complex the problems become, with some super-tall skyscrapers requiring two or three hours to get everyone out. Even if you are not evacuating people from a skyscraper, the considerations that follow will give you useful information for reviewing your plans for evacuating employees and visitors from any multi-story building.

Credit: NIST

Under normal circumstances and with a good evacuation plan, it should only take a few minutes to evacuate one of these basic 5- or 6-story buildings. Thus, when we talk about skyscrapers or high-rise buildings, we mean buildings over 10 stories, their height made possible by the invention of the elevator. The majority of the people will have reached their destination through the use of elevators, which would probably be out of action in an emergency.

The population density, the volumes of traffic, and the vertical distances in a skyscraper demand a more detailed and focused investigation, planning, and delivery cycle for your evacuation plan. Challenges such as the safety of disabled employees and visitors are intensified.

Since it is unlikely that you were involved in the design, engineering, and construction of your building, you will need to work with the alternative escape routes and exit points that are

present. So your challenge is: "What can you do to reduce the risk of an incident developing into a tragedy?"

Seven Critical Areas of Investigation and Concern

1 Structure. Do your homework. Investigate every floor and every aspect of the structure of your building and become familiar with all of the details and their intended purpose in relation to emergency evacuation. Do not rely on floor plans alone. Walk every inch of the building yourself and take notes. It helps if you do this with someone familiar with each section of the building and the activities that take place there. That person can help you identify features and oddities and come up with a list of possible threats.

2 Routes. While you are inspecting and taking notes, check the marked exit routes and exit points. Pay particular attention to the likelihood of escape routes being compromised or obstructed and if this might happen on certain days when, for example, hallways could be used temporarily for shipments of boxes. Think through the whole route, walking in the shoes of an evacuee starting out from each of the locations you visit – and then consider additional challenges if evacuation were being done in near darkness, by someone in a wheelchair, by a child, or by a visitor unfamiliar with the building.

3 Volumes. Estimating the volume of people that will need to escape from any part of the building is a normal part of evacuation planning. However, volume becomes critical in a high-rise environment, since excessive crowding on lower levels will take place as those from upper levels descend, creating "pinch points," which impede evacuation. Gain a clear understanding of the likely volumes of people who might be in various parts of the building on a normal day and what their special needs might be. In addition, look for regularly scheduled events that would increase the number of people in the vicinity. As you visit and inspect each and every area, build up a picture in your mind of the growing volumes as people make their way downwards

and mingle with the rest of the crowd. Ideally, your architecture should allow for escape routes to become wider as they merge to avoid congestion, but, in practice, this is not always the case, especially if you are in an older or reconfigured building. In your evacuation drills you will need to be prepared for "heavy traffic" in the halls.

How long will it take to get everybody out? For example, if people leave the venue at a rate of one person every 2-4 seconds (allowing for delayed response or special populations), and it takes each person an average of 5 minutes to travel to safety (which may be some distance, and exposed to hazards or obstacles along the way), and you have a crowd of 1,000 people, you could estimate a minimum of approximately 55 minutes to completely evacuate the venue.

4 Warning. You should have a system of warnings and alerts in place to cover different emergency situations. For a dangerous occurrence such as a shooter on the premises, the warning might be in the form of text messages to managers and others responsible for emergency actions. People would be instructed where and how to take shelter until local authorities give instructions to go back to work or evacuate the premises. The traditional alarm would mean that emergency evacuation procedures are being officially invoked for an emergency, a planned test, or a planned drill and that everyone should follow the instructions of the marshals to escape the premises. The alarm should never be used for a "surprise test," since its use in anything other than a real evacuation lessens its value. When the alarm is used too frequently, you run the risk that people will stay where they are rather than evacuating – and once they realize that the threat is real, it may be too late for them to get out.

5 Leading. Your growing crowds will need to be led, guided, or marshaled as they make their way through the confusion towards safety. In a high-rise building, you will need more volunteer marshals and a regular training program based upon

floor plans, business groupings, or other common factors which particular groups might share. Marshals will need visible gear and the tools to do their job – clipboards, flashlights, pens, whistles. A common "uniform" to show the person's role is the high-visibility vest. However, one company that prided itself on its informal culture simply outfitted all the marshals with brightly colored baseball caps that said "Marshal."

> Ideally, your architecture should allow for escape routes to become wider as they merge to avoid congestion, but, in practice, this is not always the case.

6 Informing. During the actual evacuation, keep the key players informed about progress and any further developments or special instructions. Walkie-talkies, cellphones, and megaphones are all possible. Ideally, this should be a two-way communication system which will work under difficult circumstances throughout the building and its immediate surroundings – and a communication system commonly used

Seven Critical Areas of Investigation and Concern

1. Structure
2. Routes
3. Volumes
4. Warning
5. Leading
6. Informing
7. Checking

by the people involved, since you do not want people learning a seldom used communication system in an emergency.

7 Checking. A very important aspect of evacuation planning, especially in the high-rise scenario, is that of accounting for every individual who was in the building at the start of the incident. A roll call at the final point of assembly is good, but it is a retrospective process that may take place too late. A simple evacuation area checklist would itemize each room, office, rest room, etc. on each floor of the building. Marshals would check each of the areas and check off that it was empty before leaving that floor of the building. In the event of a fire or local emergency, these lists could then be given to fire or law enforcement officers to show that the building is, indeed, empty. Failure to respond to the alarm or other safety communication is a common problem and should be handled with a severe reprimand from the highest level of the company.

Develop and Practice Effective Emergency Procedures

Once you have created the Emergency Evacuation Plan, it is important to test and drill several times a year, although that doesn't necessarily mean a total evacuation for every test. Some tests may be limited to specific areas, populations, or extent. In between tests, it is important to check all the escape routes and alternate escape routes that are in your plan for each area of the building. Circumstances change

regularly, and the back doors to the parking lot you were planning to use may now be blocked by a dumpster or that little-used hallway may have been made into a closet. Continue to check for unexpected problems such as missing signage, blocked passageways, cluttered stairwells, or locked doors. Finally, for your own safety and the safety of everyone on your team, scan the horizon for any new ideas or technologies which you might employ to improve various aspects of the EEP for your high-rise building.

ABOUT THE AUTHORS

Jim Burtles, KLJ, CMLJ, FBCI, has over 35 years of business continuity consulting experience in 24 countries. He began in-depth research on the subject of emergency evacuation in 2001, after the terrorist attacks on the World Trade Center in New York City. More details and examples for the techniques covered in this article may be found in his book, *Emergency Evacuation Planning for Your Workplace: From Chaos to Life-Saving Solutions* (Rothstein Publishing, 2013).

Kristen Noakes-Fry, MA, is Executive Editor at Rothstein Publishing, a division of Rothstein Associates Inc. Previously, she was a Research Director, Information Security and Risk Group, Gartner, Inc.; Associate Editor, Datapro; and Associate Professor of English, Atlantic Cape College.

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FROM FACILITIES NET

Employing All Available Evacuation Options Leads to Safer High-Rises

Since the attacks on the World Trade Center, the building safety community has put a lot of effort into figuring out ways to make high-rises safer. This article details some of the strategies experts have discovered and explains the results of a recent Fire Protection Foundation study regarding different modes of evacuation.

Critical Facilities: Last Building Standing

This 5-part article takes us into the world of critical facilities – how to plan them, where to put them and how to build them right.

Part 1: Detailed Site Analysis Can Help Select Disaster-Resilient Location for Critical Facilities: This section shows us it's all in the details. Using a real life example, it helps with choosing disaster-resilient locations.

Part 2: Critical Facilities Sites Must Meet Minimum Criteria for Disaster Resilience: This part of the article provides a list of site selection issues for consideration in critical facilities sites.

Part 3: Government Standards Can Help Set Criteria for Critical Facilities Site Location: This piece reviews government standards issued by the General Services Administration, Department of Defense and other organizations to give you a better understanding of the criteria needed for critical facilities site locations.

Part 4: Five Steps to Evaluating Sites for Critical Facilities: Careful site evaluation is crucial in planning critical facilities locations. Take a look at these five easy-to-follow steps for evaluating sites.

Part 5: Hurricane Sandy Showed Importance of Critical Facilities Site Selection: Site selection is a balancing act, but that balance can be achieved. Careful analysis of situation-specific threats, vulnerabilities and all potential disaster scenarios can help achieve successful critical facilities site selection.

THE 2014 UPS HANDBOOK

Uninterruptible Power Supplies Ltd. announced the launch of the fourth edition of The UPS Handbook. The handbook is the company's independent guide to modern UPS and critical power protection solutions. This edition was significantly updated for 2014. It discusses current and future UPS technology and topology and shows us what the power protection industry will look like over the next five years.

WHITE PAPERS

From FacilitiesNet: White Paper – Can your Electrical Infrastructure Weather a Natural Disaster?

We know we can't prevent natural disasters, but we can prepare for them. Having a detailed emergency recovery plan can lessen the financial and personal havoc natural disasters can wreak. This white paper takes a look at some key areas to address when creating a protection and recovery plan for electrical infrastructure.
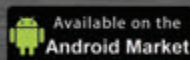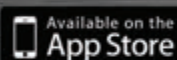
Microgrids and Secure Power Supply

BY ERNIE HAYDEN

Three backup diesel power generators in a public water utility treatment plant.

Loss of electric power to any organization can range from a minor inconvenience to challenges affecting data retention/backup/retrieval to ultimately causing collapse of the services being provided. This is especially problematic during prolonged outages caused by a major storm or natural disaster such as Super Storm Sandy in 2012. One solution to backup power is the "microgrid." This article will define a microgrid, the reasons for their deployment, and some key considerations should you design and install a microgrid at your plant or campus.

What is a Microgrid?

Business Continuity/Disaster Recovery professionals are aware of back-up electric power options including onsite diesel or gasoline-driven generators and batteries/uninterruptible power supplies (UPS), etc. However, a new, larger scale approach to back up power is surfacing called the microgrid.

According to the Microgrid Exchange Group – formed under the auspices of the US Department of Energy – a microgrid is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the main electric grid. A microgrid can connect and disconnect from the grid to enable it to operate in either grid-connected or island-connected mode.

Basically, a microgrid is larger than a single generator providing power to a home or office building. Instead, it includes several electrical loads (e.g., buildings, offices, etc.) powered by traditional power generators as well as batteries, photovoltaics, wind generation, etc.

An elementary view of a microgrid is included in Figure 1.

Types of Microgrids

Microgrids are not a new concept. In fact ever since electricity was introduced to a ship the concept of "microgrid" has been established. Similarly, villages in Alaska and on islands in the ocean or other waterways are essentially microgrids because they are separate grids and act as a single controllable entity.

A ship also has the ability to connect to the electric grid – also known as
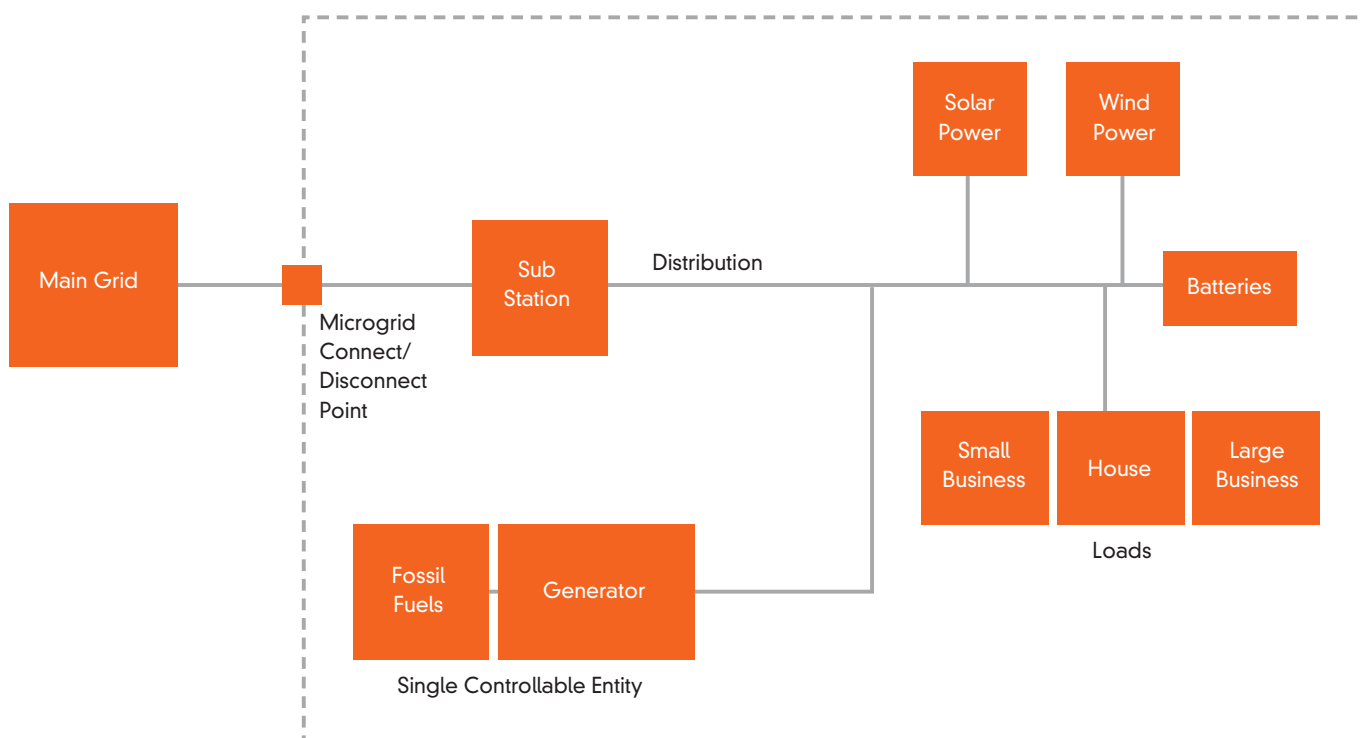
Microgrid Taxonomy

Figure 1: Elementary Microgrid Architecture

shore power – which shows that the shipboard power approach closely models this concept.

There are several distinct types of microgrids. Most of the key microgrids include:

- Institutional or Campus Microgrids – A university or industrial park that can generate its own power and operate separate from the main grid
- Isolated/Distant Microgrids – Operate in "island mode" all the time such as the remote villages in Alaska that rely on their own diesel generators for power
- Military Base Microgrids – Actively deployed by the military to focus on both physical and cyber security to assure reliable power without relying on the main grid – especially under wartime conditions

Business Continuity/Disaster Recovery Drivers for Microgrids

A driver for microgrids is to reduce physical vulnerabilities of the electric grid to terrorist attack and natural disasters. According to the report Ter-

rorism and the Electric Power Delivery System[1], microgrids and expanded use of distributed resources would help limit cascading failures and leave islands of power within a blacked-out region.

The biggest and most recent driver for microgrid deployment comes from the lessons learned following Super Storm Sandy. In many instances the news articles surfacing from this major disaster raise awareness of the increasing usefulness and application of microgrids to essentially "...stop power outages from the get go.[2]"

Following the events of Super Storm Sandy, Hurricane Irene, the Derecho that hit Northern Virginia, etc. several states are now placing emphasis on energy assurance planning – especially by critical service providers such as public safety. As noted by Mr. Rick Wornat in his article "Energy Assurance Planning: The business case for microgrids,[3]" in Smart Grid News, critical facilities such as police and fire stations, city hall and emergency operations centers, hospitals, and large critical facilities are centrally located.

This central campus may offer the potential for serving these facilities on a common microgrid circuit. Hence, this campus could island itself from the main grid and still run with "semi-normal" electrical service which would be especially useful during the post-disaster restoration.

As a follow up to Super Storm Sandy, the Obama administration has announced that it is working with New Jersey to improve the resiliency of the power grid. One approach under discussion is development of a microgrid plan for Hoboken and another plan is expanded deployment of Combined Heat and Power (CHP) plants.

For example, Princeton University – which normally gets its power from Public Service Electric & Gas (PSE&G) – was able to island its CHP facility from the main electric grid for approximately three days thus keeping the University powered and reducing the load on the already challenged grid until it was able to handle the "normal" power needs.

CASE STUDY

Loss Event: Tornado Damage

Ferguson Showroom/Warehouse Raleigh, North Carolina

Damage: Structural Damage and Water Damage

Challenge: Size of Structure, Amount of Inventory, Timeline

Ferguson, a leader in the waterworks industry, is the largest distributor of plumbing supplies, pipe, valve and fittings in the U.S.

It was an overcast, rainy Saturday afternoon in Raleigh, N.C. The day began with only a moderate risk of severe weather, so it was business as usual for the Ferguson sales associates and the dozen or so customers in the 60,000-square-foot Yonkers Road showroom and warehouse.

They had no idea that one of the largest single-system tornado outbreaks in U.S. history was about to violently spawn a tornado – with winds possibly in excess of 165 MPH – that would touch down within a few feet of the front door.

> "To have BELFOR at-the-ready and willing to put us at the top of the priority list is paramount to not only our disaster recovery but also our business continuity."

MARY JO WEIER
Insurance Services Manager
Ferguson Enterprises, Inc.

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With this experience in mind, New Jersey has already set aside up to $100M to help promote CHP plants for microgrid implementation.

On July 24, 2013[4], Governor Daniel P. Malloy of Connecticut announced that $18M in funding has been released for nine microgrid projects in the state. The program is designed to develop innovative ways to keep critical facilities powered during electric grid outages. Malloy has taken a major leadership position on this concept of implementing microgrids to improve the resiliency and reliability of government services and businesses that are critical during extreme weather events. Malloy envisions that the following would be covered by the microgrids: police, fire, emergency response teams, hospitals and health care facilities, state and town emergency response centers, grocery stores and gasoline stations. Malloy has recommended an additional $30M in funding for the state's microgrid program to strengthen more Connecticut communities.

Practical Next Steps to Consider Microgrid Options for Your Organization

As noted above the idea of a "microgrid" is really not that new; however, with the push for the "Smart Grid" and improved grid resiliency following major disasters like Super Storm Sandy or Hurricane Irene the options for microgrid implementation at your company are increasing and evolving. Don't forget that implementing a microgrid requires funding as well as power engineering. It is not a simple matter of just buying a new suitcase generator and circuit breaker. Here are some ideas to consider for your next moves with microgrids:

STUDY THE MICROGRID CONCEPTS AND ASCERTAIN HOW THEY WOULD WORK FOR YOUR ORGANIZATION

- Take some time to work with your electrical and power engineering staff and/or contractor to get a grasp on the benefits and limitations of a microgrid for your organization and local region.

- Take a look at resources from:
  - Galvin Electricity Initiative: http://www.galvinpower.org/resources/microgrid-hub/microgrid-resources
  - Sandia National Laboratories: http://energy.sandia.gov/?page_id=819
  - National Renewable Energy Laboratory: http://www.nrel.gov/tech_deployment/microgrids.html
  - Homer Energy Modeling Software: http://www.homerenergy.com/

TALK TO YOUR LOCAL UTILITY TO BETTER UNDERSTAND HOW YOU CAN ISOLATE YOUR COMPANY/CAMPUS FROM THE MAIN GRID

- Does your utility/electricity provider have any expertise on microgrid deployment and implementation?
- What is the utility's opinion of microgrid deployment by its customers? What are the reasons for being against microgrids? (Note: some utilities view microgrids as competitive and may not be willing to support local deployment.)

WORK WITH YOUR STATE/FEDERAL LEGISLATORS TO OBTAIN FUNDING FOR MICROGRID PILOTS AND FULL-SCALE DEPLOYMENTS

- Use Connecticut as a model with New Jersey as a follow up.
- Talk to your state energy and emergency preparedness offices to ascertain future opportunities for funding, pilots, etc.
- Talk to the Federal energy offices and Federal Emergency Management Agency (FEMA) with similar questions.

UNDERSTAND YOUR DESIGN OPTIONS FOR THE MICROGRID

- What are the electric loads you can expect under normal and emergency conditions inside your microgrid? Don't forget to consider starting currents for large motors and equipment.
- What will be the power resources inside your microgrid? Batteries? Fossil fuel generators? Wind and solar generation? What about mini-hydro?
- How will you control connection and disconnection to the power grid? How is this coordinated with the power grid owner/operator?
- What are the power quality requirements needed by your own microgrid

customers? What are the boundaries for power quality such as frequency and voltage and harmonics? Would filters need to be installed for a self-developed microgrid?

HOW WILL YOU OPERATE THE MICROGRID UNDER EMERGENCY/ EXTREME CONDITIONS?

- How will you refuel the generator? Especially when ground transportation is hindered due to downed trees, flooding, etc.?
- When do you reconnect your microgrid to the main grid? How is this coordinated with the utility?
- How do you assure the microgrid will function during a major disaster or even physical or cyber attack?
- What about cooling water for your generators? Is it adequate or can the failure of the cooling flow shut down your microgrid?

UNDERSTAND HOW YOU'LL SECURE THE MICROGRID[5]

- What are your plans for physical security – especially securing the breakers that isolate the microgrid from the main electric grid?
- Ensure that Cybersecurity is designed into your microgrid control systems. Take advantage of the Sandia Labs Microgrid Cyber Security Reference Architecture[6] for your design.
- Don't forget classic security controls such as access management, instrumentation and control diagram classification, and personnel background checks.

Conclusion

Microgrid deployment may be an optimal solution for your organization to protect it from the next "100-year storm." It is a new way to look at how you can isolate your facilities from the main electric grid and still sustain your operations until the main grid is available to provide service. Remember that the microgrid is not new, advanced technology but instead is a new way of thinking about how to best protect your company or organization in preparation for, and during, a major natural or man-made disaster.

ABOUT THE AUTHOR

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1 Terrorism and the Electric Power Delivery System, by M. Granger Morgan, et al and published by the National Research Council of the National Academies, 2007. Link: http://www.nap.edu/catalog.php?record_id=12050

2 "Microgrids Keep Power Flowing Through Sandy Outages," MIT Technology Review, November 7, 2012. http://www.technologyreview.com/view/507106/microgrids-keep-power-flowing-through-sandy-outages/

3 http://www.smartgridnews.com/artman/publish/Delivery_Microgrids/Energy-assurance-planning-The-business-case-for-microgrids-6025.html#.UkjmSoa9um4

4 http://www.ct.gov/malloy/cwp/view.asp?A=4010&Q=528770

5 http://www.smartgridnews.com/artman/publish/Delivery_Microgrids/Interested-in-microgrids-Don-t-forget-security-5726.html#.Ukjw14a9um5

6 http://prod.sandia.gov/techlib/access-control.cgi/2013/135472.pdf

So You Want A Base Camp?

If your disaster preparedness or continuity plan includes a base camp, here are some key considerations as you develop your plan. It is far better to think through these issues well in advance than to be scrambling after a disaster trying to determine what, where, how much, etc.

A base camp is also called a "responder support camp," or RSC, by FEMA. In addition to the specifications in the following checklist, your selection of a contractor should address a number of key issues, and your decisions may have a significant effect on price and the availability of contractors who have the capabilities to meet your standards. For instance, how many hours after a purchase order is issued will be acceptable for the contractor to get the camp fully operational? Would you expect the contractor to have some earlier, temporary capabilities deployed? Once the camp has been set up, who do you expect to manage and operate the camp for the duration of the crisis? For the staffing of the camp, do you expect (or require) the contractor use local personnel, who could therefore benefit from temporary employment? Will you expect the base camp contractor to also be responsible for catering operations, or will that be a separate contract negotiated by you directly? What about medical staff or nurses? Will you work with a contractor well before a disaster to negotiate pricing, assess possible locations, and get assistance with your specifications?

Additional considerations for your base camp planning follow:

Location Considerations
❑ Accessibility for 18 wheelers
❑ Proximity to gas and diesel supplies
❑ Cell service quality

Site Infrastructure
❑ Sewer – onsite and functional versus storage
❑ Potable water supply
❑ Shore power or generators
❑ Any on-site buildings available
❑ Any other site assets available

Camp Size
❑ 250 person: 2 acres, plus 1.6 acres parking
❑ 500 person: 2.75 acres, plus 3.2 acres parking
❑ 750 person: 3.5 acres, plus 4.7 acres parking
❑ 1000 person: 4.25 acres, plus 6.3 acres parking

Water and Sewer
❑ 250–500 person: 2" water line
❑ 750–1500 person: 4" water line
❑ Sewer/water usage: 10 gal/day/person
❑ Fire hydrant

Site Conditions
❑ Relatively flat
❑ Ground type – Asphalt, grass, roads, how does the ground handle rain or snow?
❑ Accessibility for service trucks (fuel, gray/blackwater, food)
❑ Drainage or low areas

Diesel Fuel Estimates
❑ 250 person: 500 gal/day
❑ 500 person: 700 gal/day
❑ 750 person: 900 gal/day
❑ 1000 person: 1200 gal/day
❑ 1500 person: 1500 gal/day

Propane Estimates
Usage: Lower summer/higher winter
❑ 250 person: 400/700 gal/wk
❑ 500 person: 475/800 gal/wk
❑ 750 person: 550/900 gal/wk
❑ 1000 person: 650/1,000 gal/wk

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RESEARCH CENTERS

START: What is it?

START is the National Consortium for the Study of Terrorism and Responses to Terrorism, a research center committed to the scientific study of the causes and human consequences of terrorism in the United States and the rest of the world. Headquartered at the University of Maryland, START supports the research efforts of social scientists at more than 50 other academic institutions.

From Poly.edu: NYU-Poly and Stony Brook University Launch the New York State Resilience Institute for Storms and Emergencies

In November, New York State Governor Cuomo announced the launch of the New York State Resilience Institute for Storms and Emergences (NYS RISE) at the Governor's Conference on Emergency Preparedness in Albany. The institute is a joint project by the Polytechnic Institute of New York University and Stony Brook University. NYS RISE will research infrastructure damage, vulnerable communities, storm risks and more.

GOOGLE CRISIS RESPONSE

Google is making it easier for responders to efficiently manage their internal operations and reach people quickly during a crisis with Google Crisis Response, a google.org project. The company offers a variety of online resources, applications and tools to ensure successful crisis management.

Google Public Alerts: This is a tool response organizations can use to quickly get the latest emergency information to the public.

Google Person Finder: This tool can be embedded in your website to help people who have been separated in a crisis find each other again.

Google Crisis Map: This is a crisis-focused version of the familiar Google Maps application. It displays disaster-related geographic data in a map-based viewing frame.

Google Maps Engine Lite: Responders can use this engine to create custom Google maps with marked crisis information such as road closures and medical stations to share with their teams or the public.

Google Docs and Spreadsheets: We may think of Google Docs and Spreadsheets as just a regular office tool, but in times of crisis the ability to access and edit these files online from anywhere and share them with team members can make all the difference.

Google Fusion Tables: This tool allows you to gather, visualize and share data online with your staff and other response organizations.

Google Earth:
Using Google Earth to compare pre- and post-disaster images can help understand the impact on an area and help co-ordinate response efforts.

FROM HS TODAY

First Responders can Share Incident Data Instantly with DHS FiRST App Update

The Department of Homeland Security (DHS) Science and Technology Directorate announced the release of a major information-sharing update for their First Responder Support Tools (FiRST) application. The app, first released in 2011, provides first responders with useful information and response resources on their smart phones, tablets and laptops.

Purdue University Software Toolkit Provides Visual Analytics Aid to First Responders

Homeland Security Center of Excellence researchers have developed a software toolkit that provides real-time data so law enforcement and other first responders can quickly analyze high-volume criminal, traffic, emergency management and disaster preparedness events. This allows them to strategically allocate resources and create a plan of action.

Still Plenty of Dots to Connect in Halting Homeland Security Threats

This article takes a look at the weak points in the country's homeland security measures using real life examples, namely the Boston Marathon bombing. Solutions to the problems focus on intelligence and information sharing.

FROM CONTINUITY CENTRAL

Social Media and Mobile Convergence: New Paradigms for Incident Communication

Social media has become a whole new platform for sharing information. With the ability to reach potentially millions of people via social media, it's only natural that we think about incorporating it into our overall communications strategies. This detailed report shows us some practical ways we can use social media for incident communication. The piece offers guidance and key points for consideration when preparing to adopt social media into a wider incident management strategy.

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Setting Crisis Response Communication Strategies and Priorities

BY JAMES E. LUKASZEWSKI

In a crisis, effective decisions and actions must precede communication. The reality is that once the instant of crisis has occurred, the process of recovery has begun. Recovery can be quite complicated and lengthy. The operational response goal is to put the focus truly on the first 1–3 hours of a crisis to assure that tone, tempo, scope, and intent are established powerfully and constructively. Emergency communication response priorities must address appropriate operational action and match the expectations of all potential audiences who could be affected or afflicted by your actions or by the crisis situation.

Emergencies require nearly simultaneous communication activity in all priority response areas. Effective execution is a primary concern precisely because time is limited. The more promptly actions are taken in response, the more quickly recovery can occur and production of victims can cease.

A five-level strategy makes communication a process that management can understand, relate to, and, most importantly, buy into. Sensible response strategies lead to sensible communication actions. Such a set of priorities:

- Is the most effective way to contain, control, and reduce the visibility impact of emergent situations and much of the resulting reputational damage;
- Tends to reduce the ability of the media to alter the outcomes of crisis situations because those affected hear from you directly, thus avoiding the filtration, inaccuracy, or emotionalism news reporters bring to high-profile situations; and,

Is, most importantly, the way your mothers, employees, neighbors, and the victims expect you to provide assistance, assurance, and critical information.

Speed of communication is essential. Be slow, be inconsistent, be hesitant, be timid, be defensive, hold back and – even if your response is operationally flawless – it will be perceived always as slow, sloppy, inconsistent...you get the picture. The response axiom is: **Speed beats smart**. The reality is that nothing is sillier and more damaging than a bunch of smart people trying to explain why they failed or refused to act promptly.

Priority #1: Stop the Production of Victims

Ending the production of victims is the most powerful way to get control of a crisis. Yes, if it is leaking, foaming, stinking, burning, flaming, or exploding, the very first priority is to get the emergent situation under control, stabilized, or eliminated, but this is precisely because it will stop victim production. Our concern about the media finding out and other related communication activity is clearly of secondary importance in the face of an emergency that is yet to be brought under control or well managed.

Management requires those who give advice in these urgent situations to convey a sense of priority order or sequence of decisions and actions to make or support response recommendations that make sense in view of current circumstances.

Priority #2: Manage the Victim Dimension and Those Most Directly Affected

What we say and what we do for those most directly affected (the victims) – humanely and quickly – are our most important strategic objectives. Effective communication with victims and their families reduces media interest and coverage while building the trust of the community, public and regulatory officials, and those we most care about – our own employees.

The most important steps any organization can take during any emergency or crisis are to:

- Take conclusive action to quickly resolve or stabilize victim issues, problems, or situations being caused by the crisis.
- Act quickly and sensibly to address the needs of victims, survivors and their immediate families, and relatives; to deal with continuing threats to those on-site or nearby; and to begin repairs or remediation of destroyed or damaged physical plant and property as soon as possible.
- Provide emotional support and counseling for victims.
- Communicate and behave with compassion, empathy and sympathy constantly.

Assign responsibility for monitoring the medical and health progress of victims to a top management team or at least a very senior representative of the company. This responsibility will include on-site monitoring at hospitals. In cases of serious injury or death, the families will decide what information is released publicly, if any. Since victims can and often do redefine the careers of senior executives, those executives should have the direct responsibility for managing the victim dimension.

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy and Security Rules (http://www.hhs.gov/ocr/privacy/) establishes patient privacy guidelines that must be followed and in most cases prohibit disclosing patient names and information without patient consent. (General corporate communications are not subject to HIPAA laws.)

> We recommend the 75-word Rule of Communication...providing frequent 75-word bursts of information.

Priority #3: Communicate With Employees

After survivors, employees are the crucial audience for crisis communication. Employees need to know their roles during a crisis, particularly if they have crisis-related duties. If they are to continue doing their regular jobs during a crisis, they need to know what is expected of them and how normal operations will be altered for the duration of the crisis. They will want to know what the organization is doing to return to normal conditions, how it will do that, and what "returning to normal" means.

We recommend the **75-word Rule of Communication**. This rule means providing frequent 75-word bursts (statements) of information. Studies of information retention indicate that information conveyed in writing or orally that is 75-100 words can be retained by individuals and often repeated with great accuracy, even during sensitive or urgent times. Use the format of a statement and attribute it to someone important in the company, and use these brief, quotable-sized statements before employees and other key audiences.

Seventy-five words is approximately 30 seconds speaking time

(in English-speaking cultures). This approach will quickly begin to script your employees and anyone else coming into contact with the information, which will enable you to maintain some control of a story appropriately as events unfold. Remember, employees rarely want to know every detail (or even many of the details); they just want to know that the people leading the organization are on top of the situation and are willing to talk about what is going on. Employees now would actually have reliable, approved information when someone asks them.

Even though employees may not talk directly to the media, they are often sources of information for people outside the company. To employees, it seems natural to give the "inside scoop" to families, friends, neighbors, and others in the community. This type of information frequently becomes public. You want this information to get out from inside.

- Employees see and hear the key themes, messages and examples the company is using. This knowledge helps keep non-media audiences accurately informed.
- When talking with employees, emphasize the necessity of referring all media inquiries to the designated spokesperson. Emphasize that they need to be courteous if called or approached. The best employee response to a media inquiry is: "Let me connect you to a company spokesperson who will have the most up-to-date information."

Priority #4: Communicate With Those Indirectly Affected

Persons affected **indirectly** include survivors, neighbors, government officials and regulators, community leaders, customers, suppliers, shareholders, allies, partners, collaborators, and co-inventers or co-marketers.

Many crisis situations will mandate contact with government officials at various levels. If media coverage of the event is nationwide, the company should be in touch with key elected state and federal officials and regulatory

agencies to ensure that they have accurate and prompt information to be prepared for possible media questions. The type of crisis will dictate the extent of such notifications:

- Corporate Relations will coordinate the regulatory reporting process.
- Government Relations will notify elected officials.
- Locally the Facility/Plant Manager, if available, (otherwise his or her backup) will coordinate with the Community Relations Manager in deciding which local officials to contact.
- The regions will coordinate with the Community Relations Officer in deciding which local officials to contact.
- Establish a priority and process for keeping all indirectly affected audiences, groups, and individuals informed.

Priority #5: Communicate With the Self-Anointed, Self-Appointed Media: New and Old; Citizen Journalists Who Opt In; and Other Communications Organizations

Terrible events will be followed by terrible stories. How you behave and how responsive you can be will determine the tone and quality of media coverage your organization receives and deserves. An empathetic, prompt, professional approach will help to ensure the best possible coverage under the circumstances.

To prepare for and be ready to accommodate the extraordinary demands of many publics when crises occur, it is crucial to establish a crisis communication policy, as the impact of social media and traditional media relations requirements have become very similar. However, some fundamental rules remain crucial and should be applied:

- All crises are local and, therefore, local media, audiences, victims, and those directly affected must take precedence over all other interests, including national media.

- The web is the greatest and most powerful tool for dealing with all media response situations. The impact of the web is powerful, immediate, 24/7, can help manage the messages and calm things down.
- Finding the truth is extremely difficult. The truth itself is about 15% facts and data and 85% emotion and point of reference. The truth is unique for each victim and receiver of information. In crises, facts and data, as well as emotions and point of reference, change very rapidly, therefore truth winds up being a moving target for everyone involved and affected. In the early moments of crisis, even early hours of the crisis, so little is actually known by so many, for so long that finding the truth is extraordinarily difficult.
- What we do know is the response procedure and process that we'll be undertaking. This we can talk about until more reliable information is obtained.

Communicators need to be ready to constantly and continuously update the information they're receiving to accommodate both the search for truth and the interim satisfaction of every stakeholder group, victim, affected bystander, and government official. This is truly why we call it crisis communication.

ABOUT THE AUTHOR

James Lukaszewski, ABC, APR, Fellow PRSA, advises, coaches, and counsels the men and women who run corporations and organizations through extraordinary problems and critical high-profile circumstances. PR Week listed him as one of 22 "crunch-time counselors who should be on the speed dial in a crisis." He is the author of Lukaszewski on Crisis Communication: What Your CEO Needs to Know About Reputation Risk and Crisis Management (Rothstein Publishing, 2013), which has been chosen by Soundview Executive Summaries as one of the 30 Best Business Books of 2013.

FROM CONTINUITY CENTRAL

Report on the Terrorist Threat to Canada Published

The 2013 Public Report on the Terrorist Threat to Canada provides an update on how the terrorist threat has changed in the last year. The report said the leading terrorist threat continues to be global violent extremists, particularly al Qaida and its affiliates.

FROM NATIONAL PUBLIC RADIO

A Chronic Problem in Disaster Zones: No Fuel

Fuel shortages are a major problem faced by the victims of natural disasters. This article takes a look at examples of where this has happened, most recently in the Philippines after Typhoon Haiyan, and shares the story of a small nonprofit making a difference, the Fuel Relief Fund.

FROM GAO

Emergency Alerting: Capabilities have improved, but Additional Guidance and Testing are needed

The US Government Accountability Office (GAO) has produced a 45-page report detailing the results of their study of current emergency alerting capabilities. GAO focused on the Federal Emergency Management Agency (FEMA) and their Integrated Public Alert and Warning System (IPAWS) in this study.

Nuclear Terrorism Response Plans: Major Cities could Benefit from Federal Guidance on Responding to Nuclear and Radiological Attacks

GAO conducted a study to assess the issues related to response preparedness for Radiological Dispersal Device (RDD) and Improvised Nuclear Device (IND) attacks. This 68-page report examines major cities' response plans, response timeframes and the need for federal support in the early response stage.

WHITE PAPER

Strategic Crisis Decision Making

A new white paper from Steelhenge "Strategic Crisis Decision Making" is the latest in their series Crisis Management: Key Themes for Success. This paper takes a look at the pressures crisis management teams face and digs deep to discover the psychological impacts that working in crisis has on decision-making.

FROM STATE OF CONNECTICUT

Sandy Hook Final Report Presents Excellent Case Study

The extensive Connecticut State Police case report, which numbers several thousand pages on this tragic case, is completed. Come to the Online GUIDE to link to a copy of the final Sandy Hook report. It includes critical insights and lessons learned from the disastrous event December 12, 2012.

Learn more at www.TheDRGuide.com/CCR

Research Report:
Crisis/Incident Management Software

BY ROBERTA J. WITTY AND LEIF ERIKSEN

This information comes from the Gartner Hype Cycle for Business Continuity Management and IT Disaster Recovery Management, 2013.

Definition: Crisis/incident management (C/IM) software is used to manage the actions of the workforce and other key stakeholders, in response to a particular crisis or incident, with a consistent and quick approach so as to return to normal as soon as possible. C/IM software functionality should include crisis communications and collaboration, a recovery plan repository, plan training/exercising, action tracking, expense management, workforce scheduling, situational awareness, a geographic information system, and government agency reporting.

Position and Adoption Speed Justification: In recent years, specialized C/IM software tools have been commercialized and designed for governments, utilities and private enterprises. These tools are used for the following purposes:

- Manage relationships with all organization stakeholders (internal and external)
- Manage response, recovery and restoration actions for the crisis, incident or situation
- Communicate information internally and externally
- Provide postmortem reviews of the crisis or incident for regulatory training, reporting and business continuity management (BCM) process improvement efforts

   Solutions may be:
- Specialized to the operations of one industry – for example, government, electric utilities, transportation, or oil and gas.

Credit: Jeannie Mooney/FEMA

- Generalized for the management of any type of crisis or incident normally found in a BCM plan.
- Part of a larger solution, such as an environmental, health and safety (EH&S) application.
- Part of a case management tool. Many of these products are evolving into centralized "systems of record" and general risk management tools.

Government agencies (in the U.S., FEMA has made the use of WebEOC a common practice) and private enterprises in industries such as electric utilities, transportation, and oil and gas have embraced C/IM technologies to protect the public and business operations, improve the efficiency of crisis/incident command and related emergency responses, and continually communicate and assess progress when responding to a disaster that interrupts the delivery of goods and services. The Dallas-Fort Worth Metroplex and the DC Homeland Security and Emergency Management Agency are examples of government efforts in this area. Given the benefit of big data initiatives, Australia is developing a large-scale C/IM platform.

Regional and national-scope disasters increasingly will require enterprise-based C/IM for the critical infrastructure sectors to interact – at least at the level of status reporting and communicating with one another and with government

agencies. As a result, the Federal Emergency Management Agency (FEMA), through the Unified Incident Command and Decision Support (UICDS) Project (a middleware framework to tie together many disparate technologies used for C/IM), will help remove some process barriers in place today, as well as provide meaningful situational-awareness information to public and private organizations. In addition, government and regulatory agency requirements, such as those of the U.S. Occupational Safety and Health Administration, National Incident Management System/Incident Command System (NIMS/ICS) and FEMA, are driving more organizations to move to automation.

In the 2013 Hype Cycle, C/IM software has moved only one position to post-trough 20% because we aren't seeing enough private-sector usage to change the adoption rate. Private enterprises, other than large, multilocation and often multinational organizations, find them rather complicated to use or fit for purpose to only one standard — for example, the NIMS/ICS. More flexible tools are required for market adoption to rise.

User Advice:

- Match the type of C/IM software solution deployed to the most likely and critical types of crises or incidents that pose the greatest operational risk to a company, based on a formal, board-approved risk assessment. A financial services company might opt for a solution that provides functionality aligned with an IT outage, a natural disaster or a pandemic, while a heavy-industry manufacturing entity might choose one with functionality tailored for response to EH&S-related crises or incidents.
- Buyers need to be realistic about the initial benefits and the level of effort required to reach these benefits, and they should expect years of slow but steady improvement in the value they extract from this category of product.
- Ensure that the chosen software solution adheres to public-sector crisis/incident protocols relevant to the

geographic regions in which the solution is deployed. For example, in the U.S., any solution targeted to respond to physical crises or incidents, such as environmental mishaps, safety issues, or natural disasters affecting health and safety, should adhere to the NIMS/ICS process, as mandated by the U.S. Department of Homeland Security. This will ensure interoperability with public-sector response agencies.

- Manufacturers with exposure to EH&S issues as a result of disruptions caused by natural disasters should: (1) adopt solutions that are interoperable with regional public-service protocols to ensure timely and efficient responses to minimize brand damage; and (2) consult with their corporate counsel for jurisdictional issues relating to privacy and rules of evidence.

Business Impact: The goal of C/IM is to contain and minimize the impact of a crisis or incident (such as earthquakes, power outages, transportation delays, product failures, market shifts, adverse management activity, workplace violence, fires, floods, collapsing bridges, severe weather conditions, terrorist attacks, chemical spills and accidental discharges), on individuals, localities, businesses and public agencies. Damage can be done to an organization's reputation, operations and revenue streams, as well as a government's ability to reduce any adverse impact on public safety.

C/IM processes and software solutions help organizations manage the following actions taken in response to a critical event or disaster:

- Improve the organization's ability to protect public safety and to restore business services as quickly as possible.
- Ensure the recovery of expenses incurred during the disaster from business interruption insurance policies.
- Protect the reputation of the organization in the eyes of all stakeholders — employees, customers, citizens, partners and suppliers, auditors, and regulators.

Using a system that imposes a standardized best-practice or leading-practice model extends uniform managerial controls across the organization. It also cuts staff training time and ensures better integration with the broader internal and external community involved in recovering from a disaster.

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Sample Vendors: Coop Systems; Crisis Commander USA; eBRP Solutions; EmerGeo; Enablon; Enviance; ERMS; ESi; Global AlertLink; iJET; IHS; Intelex Technologies; Intergraph; IntraPoint; Ixtrom Group; MissionMode; NC4; Previstar; ReadyPoint Systems; Reality Mobile; RecoveryPlanner.com; RMSS; EMC (RSA); SAI Global (Cintellate); Send Word Now; Strategic BCP; SunGard Availability Services; Swan Island Networks; VirtualAgility; Witt O'Brien's (Pier)

ABOUT THE AUTHOR

Roberta Witty is a Research Vice President at Gartner, Inc., where she is part of the Risk and Security Management Programs group. Her primary area of focus is business continuity management and disaster recovery.

Leif Eriksen is a research director at Gartner and writes about how industrial companies manage the safety, reliability and sustainability of their production/manufacturing operations.

This information comes from the Gartner Hype Cycle for Business Continuity Management and IT Disaster Recovery Management, 2013. This report is part of Gartner's 2013 Hype Cycle Special Report which provides strategists and planners with an assessment of the maturity, business benefit and future direction of more than 2,000 technologies, grouped into 98 areas. The Special Report includes a video, provides more details regarding this year's Hype Cycles, as well as links to all of the Hype Cycle reports. The Special Report can be found at http://www.gartner.com/technology/research/hype-cycles/.

FROM EMERGENCY MANAGEMENT MAGAZINE

Video Game Puts the 'Edge' in First Responder Training

Government agencies don't have the time or money to offer full-scale first responder training exercises as often as they would like, but video games are coming to the rescue. Using the Enhanced Dynamic Geo-Social Environment (EDGE) system, a video game has been created to provide responders with a simulated environment where they can train without endangering civilians or themselves.

Threat of Massive Grid Shutdown Increasing in Face of Disasters

Experts say when it comes to a massive power grid collapse it's not if, it's when. The nation's power grid is aging and vulnerable, meaning it may not survive a major natural disaster or terrorist attack. However, as this article shows, there is a solution.

Continuity of Emergency Response Communications

In times of crisis, communication is key, particularly between different agencies and organizations. This paper shares some ways to develop resilient modes of communication and the importance of having a back-up plan in the event that primary communication channels fail.

WHITE PAPERS AND GUIDES

Cities and Flooding: A Guide to Integrated Urban Flood Risk Management for the 21st Century

The World Bank and the Global Facility for Disaster Reduction and Recovery have published a new guide on flood risk management. The guide provides operational assistance to policy makers and technical specialists, showing them how best to manage flood risk. The guide takes a strategic approach and provides invaluable information.

TECH TOOLS FOR BETTER CRISIS RESPONSE

The Ushahidi Platform

Developed by a non-profit tech company Ushahidi, the Ushahidi Platform is free, open source software used for information collection, visualization and interactive mapping. It is used worldwide by activists, news organizations and every-day people.

SwiftRiver: This is an information-filtering program in the Ushahidi Platform. Its goal is to help people make sense of a lot of information in a short amount of time. With SwiftRiver you can monitor your brand, curate real-time data from the web, discover data trends and use semantic analysis to add context to content.

Crowdmap: This application allows you to set up your own deployment of the Ushahidi Platform without having to install it on your web server. You can use Crowdmap to monitor elections, curate local resources and map crisis information among other things.

From Security Management: The State of Bioterrorism Surveillance

Ever wonder where we stand in guarding against bioterrorism threats? This six-page report covers the history of the federal BioWatch program, how it works and how we are being protected now and in the future.

FREE INFORMATION

From DPJ: Domestic Preparedness Journal Available for Free

Domestic Preparedness is now offering all of its content for free to members who register with their website. The free registration includes access to webinars and audio interviews, unrestricted access to the website domesticpreparedness.com, 50 emailed issues of DPJ Weekly Brief and the DomPrep Journal Monthly pdf.

From LLIS: Lessons Learned Information Sharing

Lessons Learned Information Sharing (LLIS) is a US Department of Homeland Security and Federal Emergency Management Agency (FEMA) program. Established in 2004, it is a resource offering a wealth of information to first responders, emergency managers and homeland security officials. With its library of more than 20,000 documents, LLIS is a one-stop document resource for the most up-to-date emergency management and homeland security-related information.

Research Report:
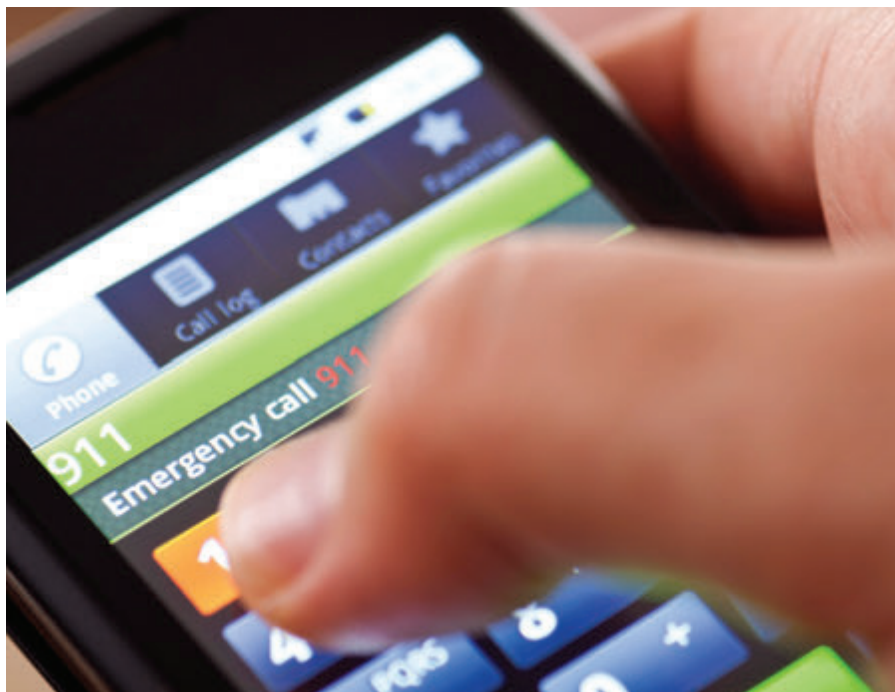## Emergency/Mass Notification Services

BY ROBERTA J. WITTY AND JOHN GIRARD

This information comes from the Gartner Hype Cycle for Business Continuity Management and IT Disaster Recovery Management, 2013.

Definition: Emergency/mass notification services (EMNSs) automate the distribution and management of notification messages to multiple endpoints. Secure message distribution can be done via a Web portal, a mobile device app or browser, or the vendor's call center. Use cases include emergency/crisis events, business operations notifications, business-context-based alerting, IT service alerting, reverse/enhanced public emergency calls, and public safety.

Position and Adoption Speed Justification: Critical incidents today range from localized events, such as a fire or power outage, to regional and catastrophic disasters, such as earthquakes (as in Chile, Haiti and Japan), hurricanes/tsunamis (as in Metro NYC, Indonesia and Japan) and terrorist attacks (as in Mumbai, London and the U.S. on Sept. 11). They don't have to cause major physical damage to have a major business interruption – for example, the 2010 Iceland volcanic ash event, and the 2009 to 2010 H1N1 virus. As a result, organizations are increasingly implementing EMNS, thereby building a stronger crisis management program. The EMNS market is price-competitive at the basic capabilities level. As customer needs and use cases change and expand, so, too, will this market. The majority of implementations are hosted by the vendor (97.6%), and are priced using a per-contact model.

EMNS products have attracted many specialty audiences, resulting in a large field of many small vendors and a few large, multiproduct vendors. Gartner's current vendor list contains more than 60 vendors, and it keeps growing. Consolidation is expected and needed over the next five years. Potential mergers and acquisitions of EMNSs include vendors in the following markets: facilities management; physical security; fire safety; crisis management; environmental, health and safety; disaster event information analytics/situational awareness; and business continuity management (BCM) planning.

No vendor has an offering that supports all use cases. There is some vendor overlap between the EMNS and communications-enabled business process markets (see "Hype Cycle for Enterprise Communication Applications, 2010") through an EMNS product application programming interface (API) for integration to a triggering business application. We are also seeing purpose-built offerings such as customer communications management (see "Hype Cycle for P&C Insurance, 2012") and multi-channel marketing communications (see "Magic Quadrant for CRM Multi-channel Campaign Management"). We expect that organizations will continue to need multiple tools to achieve all use cases.

Many enterprises initially bought an EMNS without doing an in-depth analysis of their needs, within one use case or across all those in the enterprise. Therefore, some have been disappointed with their current vendor, and are looking to switch to one that supports their future needs. Currently, this switch is not terribly difficult because there

is minimal integration with in-house applications – for example, enterprise directories and human resources applications. Therefore, the switching costs are low. However, as enterprises integrate the EMNS tool with more applications in support of additional use cases, take on a stronger crisis/incident management focus within their overall BCM programs, and implement a BCM software suite, the reason, ability and cost to switch to another vendor will become much less attractive.

The position for 2013 remains the same as in 2012 for the following reasons:

- The number of vendors is still expanding.
- The direction of new features is still open to interpretation – a few vendors are moving into the situational awareness market but the adoption of these tools for that purpose has barely been embraced by the customer base.
- The use cases within the organization are expanding. However, if these tools expand, their capabilities to embrace nonemergency messaging are uncertain (see "Magic Quadrant for U.S. Emergency/Mass Notification Services" and "Market Analysis in Depth: EMNS Magic Quadrant").

User Advice:

- Understand all the notification use cases needed by your organization to ensure that you are making the best use of your investment.
- To do a valid pricing comparison, require all vendors on your shortlist to use the same pricing model, or require them to convert theirs to yours.
- Choose a vendor that has experience in your vertical industry to better align their offering to your business operations.
- Choose an EMNS vendor that has customer support services located in the same or adjacent time zones as your firm's, as well as language support for your operating locations, and review operating locations as well as language alignment.
- Choose an EMNS vendor that has data center operations located in different geographic locations from

yours to prevent the same event from impacting you and the EMNS vendor, as well as for privacy protection considerations.

- Select an EMNS vendor that supports your organization's mobile technology and social media integration strategy, and has device-specific applications that align with that strategy.
- Service interruptions can happen to any organization, including EMNS vendors. If you want 24/7 availability of a service, then validate your needs against the EMNS vendor's capability and delivery of that capability via a documented SLA. Know that 100% uptime guarantees typically only mean a reimbursement of fees paid by the customer to the vendor, if the vendor does not maintain that uptime guarantee.
- Carefully plan your enrollment procedure to ensure that all people who need to be contacted are included in the service, and that their contact information is current and complete.
- Carefully plan the type, number and content of notification messages, because:
  - Recipients of notification messages may ignore notices if too many are sent about the same event.
  - Carrier-based character restrictions on text messaging make the formation of a meaningful message challenging.
  - During a regional disaster, don't overload the telecommunications infrastructure with needless messages.

Business Impact: The interest in and need for EMNSs – which are critical for managing and improving an organization's crisis communications capability – continue to grow among governments, public and private enterprises (regulated or not), educational institutions, and operators of critical infrastructures, because crisis communications are becoming a best practice and a requirement for some industries (for example, higher education and part of U.S. fire code NFPA 72). The business benefits of using an EMNS tool include:

- Key personnel can be notified in minutes, and large numbers of nonkey,

but affected, personnel can receive critical information about the event.

- Management can focus on critical decision making and exception handling, instead of message delivery.
- Human error, misinformation, rumors, emotions and distractions – which are so often found during a crisis – can be better managed and corrected.
- A documented notification audit log can be provided for real-time and postevent management.

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Sample Vendors: Amcom Software; AtHoc; Blackboard; Cassidian Communications; Cooper Industries; Emergency Communications Network; Enera; ERMS; Everbridge; Federal Signal; FirstCall; Global AlertLink; MIR3; NY-Alert; Omnilert; Rave Mobile Safety; Send Word Now; SunGard Availability Services; West Communication Services

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Social Media:
Digital Lessons Learned from Super Storm Sandy

BY MARY JO FLYNN AND TODD J. JASPER

Perhaps due to the location of Super Storm Sandy and the incredibly media savvy and connected population in New York and New Jersey, social media quickly became the story as images of flooding and damage were immediately publicized. In Sandy's aftermath, international groups of emergency managers focusing on the use of social media in disasters discussed some of the lessons learned. As Jenny Sokatch of the DHS Lessons Learned Information Sharing System explains, "These chats (as well as the #smem hashtag) helped us identify creative ideas and innovative practices used during Sandy that we may not have originally included in our lessons learned information sharing system, LLIS.gov."

Key Concepts Developing out of Lessons Learned

The following key concepts were refined from the discussions:

Lesson: Residents will use social media to ask for emergency assistance. Nationally, many agencies seem to solely use social media to push information to the public rather than utilizing social media to engage and communicate with the community, especially during emergencies. Agencies often warn citizens not to use social media to report emergencies. During Sandy, the New York City Fire Department tweeted: "Do not tweet emergency calls. Please call 911." Other agencies even go so far as to block two-way communication on social media.

In practice, when people are desperate and faced with a busy signal on 911, they turn to social media for assistance. The question is whether agencies are prepared to handle emergencies

Credit: Marvin Neuman/FEMA

reported by social media. Are agencies listening? Are they redirecting information, providing just-in-time safety information or even lifesaving information? Do they have a process to pass along messages to dispatch or to reevaluate their policies to better handle the issue of emergency information coming through social media?

As we advance toward a text- and video-capable 911 system, these issues are likely to become even more important. Many agencies need to re-evaluate their policies for handling emergency or urgent messages and might consider establishing a plan to listen and route

messages through their EOC or even dispatch systems.

Lesson: Act quickly while cell towers, smartphones and mobile friendly solutions are still available. Agencies that were quick to react on social media were able to send out their most critical messages prior to major cell towers losing power (and thus failing). Agencies must be prepared to deliver messages quickly, which may mean reevaluating an agency's approval process or may require pre-approved messages pre-scripted in advance of a disaster.

Additionally, many agencies attached links to social media messages that directed readers to basic and not mobile-friendly web pages. Mobile device-friendly web pages optimize graphics to make information clearer and easier to read. These pages can be independent mobile websites or use a responsive design so that web pages scale in proportion to a user's screen size. When power and wireless Internet resources are limited, the best solution to ensure speedy delivery of messages may mean sending several messages in a row that communicate the complete message rather than pointing the user to a website. Additionally, when planning recovery operations, ensure proper agreements are in place to quickly mobilize cells on wheels and mobile charging stations.

Lesson: Expect that spontaneous volunteers will show up and organize without you. As citizen groups increase social capital through online networking, agencies must engage the community in a variety of social media platforms and respond to a need they see in the community because they are listening to social media. In order to do so as a field, we may need to be more aware of how to reach and communicate with these networked groups to help everyone achieve the same goal. Independent groups can do phenomenal things and, in a major disaster, coordinating with community stakeholders will always be challenging.

During Sandy, the "Occupy" movement rebranded itself as "Occupy Sandy" and put its social media muscle to work. It was through the movement's knowledge of social media and listening to the needs of the community that they were able to coordinate their response. In fact, newspapers reported their novel use of an Amazon.com wish list to allow purchases for needed items to be shipped and distributed by volunteers.

Agencies that listen intently to the community and engage them in dialogue can motivate volunteer actions. In this way, social media can serve as a force multiplier – not only as a communications tool, but also as a

response and recovery apparatus.

Lesson: Pinterest and Instagram became new communication tools. Communicating the severity of disasters using only words takes a talented wordsmith. However, the old adage that "a picture is worth a thousand words" was quite literal during Sandy. As people sought to emotionally connect with their friends, neighbors and family members, they sent photos via social media. Two social media platforms, Pinterest and Instagram, gained instant notoriety through the sharing of digital images. Both platforms have the ability to search for images tagged by a user, and Instagram uses the same hashtag system as Twitter, which makes images easier to find. Even if your agency is not using these tools to share images, training social media staff on how to conduct searches of images can be useful for situation status updates, the common operating picture, and the general condition as reported by residents of a community and survivors of a disaster.

While most people share photos to tell their story of a disaster, there are other nefarious individuals who used photos to create rumors. Use of photos and verification techniques was mentioned in our last IAEM Bulletin article (February 2013, page 6), although it is useful to note that reverse photo tools are available to identify misleading and patently false photos. Agencies should be prepared to verify photos and have a system in place to communicate the authenticity of a photo – or any rumor for that matter. Agencies should consider practicing the use of reverse look-up photo tools to identify the source of an image. Identify an agency policy or resource on where and how to communicate about false pictures and how you may use authentic pictures as actionable intelligence.

It is worth noting that social media is in fact social, and the majority of users take great offense at intentional dishonesty. As such, they will often come to the aid of an agency calling out erroneous information. Do not fear incorrect information in social media,

but do have a plan to report rumors and communicate accurate information quickly.

Lesson: Use of crisis mapping and crowdsourcing tools is critical. Every disaster includes limited resources and a need to effectively distribute the resources that are available. During Sandy, the fuel supply was limited and it was difficult for survivors to identify gas stations with an adequate supply. Utilizing a variety of crowd-sourced methods, including data from apps, Google mapping and others, workers and volunteers were able to map data of available resources and keep it updated with timely and relevant information.

Agencies should consider working with information technology support and GIS partners to identify mapping solutions for the types of disaster scenarios in your agency's plan. Free mapping tools and crowdsourcing programs, such as Google Crisis Response Mapping, Ushahidi and Creative Commons, are the future of emergency management.

Conclusion

Social media plans and policies should be reviewed frequently to ensure that your agency's intentions for using social media during disasters matches the needs of the community. There is a great deal of information on Sandy available from Lessons Learned Information Sharing (www.llis.dhs.gov), where you will find additional reports on technology used during the storm.

ABOUT THE AUTHORS

This article, written by Mary Jo Flynn, CEM, Emergency Management Assistant Director, Anaheim (Calif.) Fire & Rescue Department, and Todd Jasper, Associate Director, MSA, Inc, Chevy Chase, Md., previously appeared in the March 2013 IAEM Bulletin as a peer-reviewed contribution by the IAEM-USA Emerging Technology Caucus. If you have any questions, please email toddjasper@gmail.com. Learn about the work of the International Association of Emergency Managers at www.iaem.com.

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From "Shots Fired" to "Shooter Down" and Beyond: A Comprehensive Approach to Managing the Active Shooter Risk

BY STEVE CRIMANDO

While extreme gun violence in the workplace remains statistically rare, the number of mass shooting incidents in the U.S. has tripled in the past few years. Since the tragedy in Newtown, Connecticut, in December, 2012, there have been twelve more major mass shooting situations. These incidents cost lives, disrupt operations at businesses and schools, and have significantly impacted the national discourse on issues such as gun control and mental illness.

It may not be possible to stop every act of violence, but it is very likely that a violent actor can be disrupted, distracted, discouraged or deterred at several different points along the pathway to violence. The Comprehensive Active Shooter Incident Management (CASIM) model helps prepare individuals and organizations to detect and deter would-be perpetrators at every possible opportunity.

CASIM is the application of the classic four phases of emergency management in a specific, evidence-informed way to the very unique and serious challenges posed by an Active Shooter scenario.

Active Shooter incidents are occurring at a frequency that suggests they are no longer considered rare "Black Swan" events, but rather, foreseeable risks. As such, leaders and decision-makers must be aware of the standards and recommendations for addressing this risk and begin developing effective

Recovery
- Psych First Aid/
  Trauma Management
- Investigation
- Business Continuity

**Prevention-
Mitigation**
- Executive Buy-in
- Policies, Plans,
  Procedures
- Risk Assessment

Response
- Threat Assessment
- Threat Management
- Notification
- Emergency Actions

Preparedness
- Physical Security
- Training
- Team Development
- Exercises/Drills

countermeasures to increase the safety and security of their environments and those who work and study in them.

By planning for the most serious forms of violence, it may be possible to identify and address problems before they escalate. Most incidents of violence stem from "smoldering" crises, not "sudden" crises. People do not simply snap. There is a recognized pathway to violence and often detectable behavioral indicators along that way.

Mitigation

Mitigation entails efforts to reduce the likelihood or severity of adverse events. Such efforts must begin at the most senior level of management in any organization, but the Active Shooter issue is often so emotionally charged that leaders may be reluctant to even broach the subject. Concerns about alarming or even traumatizing employees by introducing Active Shooter policies, plans and procedures can chill the process of tackling this risk. While they are low probability events, they are also poten-

tially very high consequence events that cannot be ignored.

Active Shooter mitigation steps include, but are not limited to:

- Executive Buy-In. The American National Standards Institute (ANSI) released the first national industrial standard for workplace violence prevention, including addressing the active shooter risk, in September, 2011. The standard has quickly become the plaintiff's attorneys' touchstone in the courtroom in litigation stemming from job-related violence. Senior leaders are often not aware that such a standard exists, that the OSHA sees workplace violence as a foreseeable risk covered under the General Duty Clause, or that OSHA can and does inspect and cite businesses for failure to have adequate measures in place to prevent such events. A review of OSHA's "Enforcement Procedures for Investigating or Inspecting Workplace Violence Incidents" issued in September, 2011, clearly specifies

areas of risk. Ultimately, the most important aspect of executive buy-in is the impact on organizational culture. An atmosphere of respect and a clear organizational position that violence in any form will not be tolerated in the workplace is critical to the success of any violence prevention program.

- Policies, Plans, Procedures. In a survey of U.S. businesses, the Bureau of Labor Statistics found that 70 percent of workplaces do not have a formal program or policy to address workplace violence. The ANSI Standard on violence prevention can serve as a useful template.

- Risk Assessment. Violence is a very specific sort of hazard and the assessment of this risk should be conducted separately but then integrated into the organization's overall hazard vulnerability assessment. There are several assessment tools, and many violence prevention experts can be helpful in identifying factors known to increase the risk of violence. Such an analysis include all five sources of violence:

- **Type I:** Criminal activity such as robbery, theft and trespassing that can escalate into a violent encounter with a perpetrator who has no legitimate relationship with the organization

- **Type II:** Violence committed by customers or clients during the routine delivery of services…an especially high risk in the healthcare and several other sectors

- **Type III:** Co-worker to co-worker violence, including violence directed at supervisors by current or former employees

- **Type IV:** Intimate partner or domestic violence that spills into the workplace

- **Type V:** Ideological violence driven by extreme political, religious or philosophical views in which the perpetrator believes violence is a justified and necessary way of expressing or defending their values

Preparedness

Training and Threat Management Team development and exercises and drills are all important parts of preparedness. Training should be tiered and saturate all levels of employment in the organization. Executive level training should address the legal, regulatory and financial aspects of violence, as well as the potential impact on brand and reputation. Training for senior executives can be brief, but it is essential that the organization's leaders be made aware of this unique risk and thoroughly understand and support the process of dealing with potential violence.

Mid-level managers and supervisors are in a unique position to help identify and intervene with individuals of concern. Training for this group should introduce warning behaviors, the organization's policies and the mechanism for carefully assessing a risk of violence and getting the right sort of help to prevent violent behavior.

The general workforce benefits from a clear understanding of what workplace violence is and isn't, the organization's policies, how to report concerns of potential violence and how to seek help themselves if they are struggling with powerful emotions or stressful situations that can lead to aggression or violence.

Everyone in the organization should be introduced to the basics of the run, hide or fight model of Shooter Response advocated by the U.S. Department of Homeland Security and know what to do in an actual "shots fired" situation. Several of the recommended actions are counter-intuitive and require explanation and rehearsal. Do not assume that people will know what to do or not do in such a high-stress situation.

Multidisciplinary Violence Prevention Teams or Threat Assessment Teams are a common and effective way to address concerns of violence within an organization. Training for the members of such a team should be much more detailed and focused on skill development so that initial screening of at-risk individuals can happen quickly in-house.

Response

In response to a real or perceived threat of violence, several action steps may need to occur quickly, and at times, simultaneously. These include:

- **Threat Assessment.** Rapidly convene the Violence Prevention or Threat Assessment Team to initiate inquiries or investigations when the behavior or communication of a Person of Concern suggest the possibility of violence.
- **Threat Management.** Based upon concerns about a violent outcome, the measures initiated to prevent or contain potential violence may include notifying police, hardening on-site security, warning potential targets and others.
- **Notification.** Communicating risk may be important before an actual act of violence but critical during a violent event. Like communication during all types of disasters and emergencies, there are several options, but roles and responsibilities, as well as the means of communications should all be established and tested long before a violent situation.
- **Emergency Actions.** Lockdown, shelter-in-place and evacuation, as well as possible bystander intervention, such as attacking a shooter, require careful thought, preparation and practice. Such emergency actions should be detailed and introduced to all employees.

Recovery

An Active Shooter incident is likely to be highly chaotic and traumatic. Once the shooter has been neutralized, it is important to consider the immediate needs of survivors and victims, the interface with the on scene incident command system, establishing a Family Reunification Center, and assisting those involved, as well as their loved ones, with rapid emotional support.

The immediate environment may remain an active crime scene for days. Consideration of alternate work sites and other continuity measures should be anticipated and built into response and recovery plans. Media management and crisis communications will be essential.

Employee Assistance Programs (EAP's) and other sources of psychological support will be very important in the days, weeks and sometimes months and years after a violent event, but research increasingly highlights the importance of rapid emotional support. Psychological First Aid is considered the intervention of choice in the 0-48 hours of such a crisis and is an every person skill-set that can be introduced to the organization in order to create an initial cadre of peer supporters to help out in the wake of a tragic or traumatic event.

Unfortunately, we have seen too many Active Shooter incidents devastate otherwise peaceful and productive workplaces. Fortunately, we can learn critical lessons from each of these events that can help us more effectively recognize, respond and recover. Although even the discussion of extreme violence on the job can be uncomfortable and unpleasant, applying a simple and straightforward structure, such as the 4-phase Comprehensive Active Shooter Incident Management model can help us get a handle on what otherwise can seem like an unimaginable and overwhelming risk.

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Steve Crimando, MA, CTS, CHS-V, is the Principal of Behavioral Science Applications. He provides consulting and training on corporate, campus and community violence prevention, and is the author of the Active Shooter Action Plan (ASAP) smartphone app. He can be reached at steve@bsaonline.net .

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www.sungardas.com
SunGard Recovery Services provide experienced world-class recovery services; based on your business's RTO/RPOs, allowing you to offload operations for your traditional and cloud based recovery environments. We partner with you and provide recovery expertise resulting in minimizing business disruptions, mitigating risk, and optimizing your IT spend, giving you time and availability to focus on growing your business.

COMPUTER & DATA CENTER, Equipment & Services – Availability, High/Continuous

Symantec Corporation
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Tel: (877) 294-5255
www.symantec.com/businesscontinuity
Symantec Business Continuity solutions can help your organization deploy a comprehensive, yet cost-effective, business continuity plan to ensure your business services and information will be available with minimal disruption in the event of a disaster, while minimizing the impact to your business – and more importantly, your customers.
See Ads, pages 9, 12, 79 & 81.

COMPUTER & DATA CENTER, Equipment & Services – Data Backup Systems

Unitrends, Inc.
7 Technology Circle, #100
Columbia, SC 29203
Tel: (866) 359-5411 Fax: (803) 454-0308
info@unitrends.com
www.unitrends.com
Unitrends provides the leading all-in-one data protection solution that offers backup, archiving, and disaster recovery for protecting physical, virtual, cloud environments, or any combination thereof.

COMPUTER SOFTWARE, General

Avalution Consulting
Tel: (866) 533-0575
www.theplanningportal.com
The Planning Portal is an enterprise level business continuity software solution built on the simplicity of Microsoft SharePoint. It provides highly customizable tools and processes to assist in executing the full life-cycle of business continuity and IT disaster recovery programs. Solutions address business impact analysis, risk assessment, planning, awareness generation, exercise planning, emergency notification, and live crisis management. Demonstrations are available upon request.
See Ad, page 35.

Avalution Consulting
Tel: (866) 533-0575
www.bccatalyst.com
Catalyst is web-based business continuity software that combines a simple user interface and on-screen guides with Avalution's consulting methodology to make continuity planning easy and repeatable for every organization, regardless of size. Features include policy and procedure development, business impact analysis, risk assessment, recovery strategy definition, plan development, exercising, live incident management, and emergency notification. A 30-day free trial is available via the website. *See Ad, page 35.*

RSA, The Security Division of EMC
174 Middlesex Turnpike
Bedford, MA 01730
Tel: (800) 495-1095
www.emc.com/rsa
RSA's Business Continuity Management solution automates the processes of assessing risks, conducting BIAs, and designing, testing and activating BC, DR and crisis management plans. *See Ads, pages 4 & 5.*

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COMPUTER SOFTWARE – Backup & Recovery

21st Century Software
940 West Valley Rd., Suite 1604
Wayne, PA 19087-1823
Tel: (800) 555-6845 or (610) 971-9946
Fax: (610) 964-9072
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http://www.21stCenturySoftware.com

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The experience of the 21st Century Software development staff runs deep, with senior developers bringing decades of practical experience in the development of business applications and operating system utilities. When it comes to world-class data stewardship, organizations turn to – and trust – 21st Century Software.

See Ads, pages 15 & 89 .

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See Ads, pages 9, 12, 79 & 81.

COMPUTER SOFTWARE – Business Impact Analysis & Risk Assessment

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PSI's OpsPlanner software solutions and Certified BCP consultants help our clients to prepare for, manage, and recover from, any type of business disruption. The full OpsPlanner™ suite delivers web-based BC/COOP/DR Planning, BIA/RA, Incident Management, and automated Emergency Notification, while OpsPlanner Xpress™ cost effectively addresses the Planning and BIA/RA components of an organization's BCM program.

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info@recoveryplanner.com
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Our award-winning RPX software is a global leader utilized by organizations of all sizes & industries. RPX simplifies Planning, Risk, BIA, Compliance, Incidents, Reporting and Notifications. See us in Gartner's MQ on BCMP.

See Ads, pages 35, 54 & 132.

COMPUTER SOFTWARE – Business Recovery & Continuity

CPO, INC.
Tel: (803) 712-6105
Tim.Lord@CPOtracker.com
http://www.CPOtracker.com

CPOtracker™ is a very user-friendly web based preparedness management software tool supporting DR, BC, COOP, Emergency Management and more. CPO provides a hosting service or the client can purchase a perpetual license to host themselves. CPOtracker is structured to support the smallest organization as well as organizations with hundreds of locations on a global basis. Pricing supports the purchase of only what you need and allows you to expand as your implementation progresses or needs demand. Some key features are: automatic email reminders, import of contact information, accepts existing plans and documents in most any application, automatic plan generation and re-generation, call trees, interfaces with third-party incident management and notification systems. All system purchases come with training and ongoing access to CPO's Help Desk. CPO provides plan development and consulting support at whatever level desired.

See Ad, page 53.

DELL
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Dell EMS Email Continuity creates resiliency and high availability for your email infrastructure by giving you a fully hosted backup email system that can be activated for a single user, a single server, or your entire email environment in 60 seconds. Even if your email system or data center is completely down, EMS Email Continuity retains historical mail, calendars, contacts and distribution lists and allows your employees to continue business uninterrupted; using Outlook, our hosted full featured web portal or mobile devices.

Dell AlertFind Enterprise Notification allows you to communicate with anyone, anywhere, at the right time. Robust communication capabilities connect 2-way via email, personal or business phone, SMS text notifications, and faxes or pagers. AlertFind provides easy to use, efficient mass communication. Compose a message in an easy to use email editor, or choose a predefined incident template to guarantee message consistency and accuracy during a crisis. *See Ads, pages 2 & 3.*

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RPMs™ (Recovery Planning and Management System), offers an integrated platform that addresses all facets of the Business Continuity Planning process. From Business Impact Analysis, to Risk Assessment, to Planning and Incident Management, the RPMs™ solution provides the necessary functionality to ensure your company develops a complete business recovery plan. RPMs™ is an innovative web-based solution built on proven methodology by experienced Business Continuity professionals and was designed to address the specific needs of financial institutions. *See Ads, pages 35 & 79.*

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Business continuity software from SunGard Availability Services delivers the best practices to help you build plans, gain proactive insight and deliver resilient operations. Our new paradigm: Engagement with the business drives real outcomes. Our proven expertise along with modern and intuitive software provides organizations with actionable business continuity and real confidence that your business can prevail over any disruptions.

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Sustainable Planner® is a web based BIA and BC/DR planning software that empowers end users to maintain their own plans. Flexible, adaptive, powerful yet easy to use. Request a Demo. *See Ads, pages 12, 15, 35 & 57.*

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CONSULTING & PLANNING, General

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Avalution Consulting
Tel: (866) 533-0575
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Avalution is a leading provider of business continuity and IT disaster recovery consulting, outsourcing, and software solutions for organizations of all sizes in nearly every industry. Our proven approach drives success because we understand that each organization is unique and requires a custom set of solutions that align to management objectives and critical products/services. Let's connect today and explore the unique challenges currently facing your organization. *See Ad, page 35.*

BluTinuity LLC

Scott Owens, Managing Director
New Berlin, WI 53151
info@blutinuity.com
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A premier management consulting firm specializing in personalized business continuity and disaster recovery solutions, risk management, and facilitated disaster simulations. We are passionate about assisting organizations plan and prepare for the unexpected.

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CPOtracker™ is a very user-friendly web based preparedness management software tool supporting DR, BC, COOP, Emergency Management and more. CPO provides a hosting service or the client can purchase a perpetual license to host themselves. CPOtracker is structured to support the smallest organization as well as organizations with hundreds of locations on a global basis. Pricing supports the purchase of only what you need and allows you to expand as your implementation progresses or needs demand. Some key features are: automatic email reminders, import of contact information, accepts existing plans and documents in most any application, automatic plan generation and re-generation, call trees, interfaces with third-party incident management and notification systems. All system purchases come with training and ongoing access to CPO's Help Desk. CPO provides plan development and consulting support at whatever level desired.

See Ad, page 53.

CSC

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CSC provides global enterprise-class cybersecurity services that have evolved from over 35 years experience in some of the world's most sophisticated, disparate and challenging environments. CSC offers innovative information security programs for Managed Security Services, Compliance management, Incident Response, Identity and Access Management, Security Consulting, Application Protection, Business Continuity and Disaster Recovery.

See Ad, page 79.

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EMS Solutions

Regina Phelps
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Regina@ems-solutionsinc.com
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Emergency Management & Safety Solutions (EMS Solutions) is a globally recognized firm in the field of business continuity & incident management development, exercise design, & enterprise continuity planning & assessment. Established in 1982, EMSS has provided consultation, training & educational speaking services on four continents to some of the world's largest corporations, government agencies & nonprofit organizations.

See Ads, pages 15, 125 & 152.

The LSH Group, LLC

Tel: (239) 466-1170
hanwacker@TheLSHGroup.com
www.TheLSHGroup.com

See Ad, page 15.

MARSH RISK CONSULTING

Marsh Risk Consulting

1166 Avenue of the Americas
New York, NY 10036
Tel: (866) 928-7475 or (212) 345-9589
at.risk@marsh.com
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Marsh Risk Consulting provides customized, innovative solutions that help preserve, protect, and defend critical assets, ensure regulatory compliance, and meet corporate governance expectations. Our experts support organizations' business objectives through: property risk and natural hazards consulting, enterprise risk management, business continuity/interruption strategies, disaster preparation and recovery, crisis management planning and real-time execution, claims and disputes management, and tailored training programs.

Montague Inc.

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kathleenalucey@gmail.com
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Montague has delivered innovative BCM solutions since 1996. We excel in building multidisciplinary project teams with a wide variety of advanced skills, adding specialized industry expertise to match client needs. Montague has also developed a specialized practice to detect and slay Black Swans in BCM programs. What is a BCM Black Swan? An unidentified or untreated single point of failure capable of unexpectedly derailing a continuity response. Visit us online for more details.

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www.rentsysrecovery.com

Rentsys provides comprehensive disaster recovery solutions for businesses ranging from community banks and credit unions to enterprise organizations. Our professional planning services include risk and preparedness assessment, business impact analysis, incident and disaster management and employee training.

ServiceMaster Restore

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www.servicemasterrestore.com

ServiceMaster Restore is a full service restoration provider to residential and commercial customers. We offer a comprehensive range of services from water, fire and smoke damage restoration and reconstruction, to catastrophic disaster restoration and recovery.

See Ads, pages 107 & 123.

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25+ years experience. NextGen™ methodology extends traditional DRP/BCP and includes all-risk incident management. Innovative solutions ensure you can respond to any incident any time...not just data center and site "disasters".

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www.carmarecovery.com

The Continuity And Recovery Management Associates, a consultancy dedicated to business continuity, disaster recovery, and people preparedness. 20+ years certified experience in global planning, communication, testing, awareness training, crisis and recovery management. With emphasis on human resiliency, we focus on preparing your employees at home, so they are able to focus on recovering your business during a crisis.

See Ads, pages 14 & 61.

Consortium of Business Continuity Professionals, Inc.

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Tel: (877) 621-CBCP(2227)
http://www.cbcpinc.com

Customized to client needs, CBCPi nationally certified consultants provide Risk Assessment, Business Impact/GAP Analysis, IT Security, and Audit services based on industry standards. Enterprise-wide Business Continuity and IT Disaster Recovery Plans, realistic drills/exercises, and program management are services often requested by our domestic and international clients. *See Ad, page 14.*

DSP Network (DSPN)

Tel: (800) 601-4899
staff@dspnetwork.com
http://www.dspnetwork.com

DSPN's "best practices" methodology helps you develop comprehensive, enterprise-wide business continuity plans, based on the planning components you currently have in place. Clients include Toyota, Macy's, Bloomingdales, Yamaha, and many more businesses, plus numerous public agencies. *See Ads, pages 61, 79, 97, 107 & 125.*

FDI Consulting, Inc.

Tel: (402) 850-9321
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http://www.fdiconsultinginc.com

FDI Consulting, Inc. provides any size organization with efficient, economical solutions in development and management of effective Continuity Management Programs. Our experienced staff of certified subject area experts, utilizing our proprietary BCM toolset and proven planning methodology, have prepared clients coast to coast for any potential business disruption. Intellectuals solve problems, geniuses prevent them.

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RPMs™ (Recovery Planning and Management System), offers an integrated platform that addresses all facets of the Business Continuity Planning process. From Business Impact Analysis, to Risk Assessment, to Planning and Incident Management, the RPMs™ solution provides the necessary functionality to ensure your company develops a complete business recovery plan. RPMs™ is an innovative web-based solution built on proven methodology by experienced Business Continuity professionals and was designed to address the specific needs of financial institutions. *See Ads, pages 35 & 79.*

TAMP Systems

Tel: (800) 252-4080 Fax: (516) 223-2128
info@tampsystems.com
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TAMP Systems provides BCM web-based software & consulting. TAMP's products include the Disaster Recovery System (DRS) software providing BCM automation, and the DRS Smartphone App. TAMP is a Certified BC Vendor (CBCV). *See Ads, pages 14 & 47.*

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xMatters enables any business process or application to trigger two-way communications (text, voice, email, SMS, etc.) throughout the extended enterprise. The company's cloud-based solution allows for enterprise-grade scaling and delivery during time-sensitive events.

More than 1,000 leading global firms use xMatters to ensure business operations run smoothly and effectively during incidents such as IT failures, product recalls, natural disasters, dynamic staffing, service outages, medical emergencies and supply-chain disruption.

CRITICAL INCIDENT RESPONSE, General

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ERMS Corporation is the provider of Advantage – an award-winning, comprehensive, and enterprise-class emergency mass notification system.

Advantage is made up of 7 tightly-integrated modules (Messenger, Roll Call, Crisis Manager, Mapper, HotLine, myAdvantage, and Library). Advantage provides the industry's highest level of adaptability, most inclusive API, reliability and advanced functionality. It allows organizations to use the system the way that best suits them.

Advantage is sold as a complete solution (the opposite of add-ons) that empowers business continuity, crisis communication, and disaster recovery professionals to, quickly and reliably, prepare, execute, and report on the notification portion of their continuity plans.
See Ad, page 124.

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www.omnilert.com

When seconds count, reach your people instantly. Every day, 16,000+ organizations and millions of people rely on Omnilert, Amerilert and e2Campus to prepare for, respond to, and mitigate disasters more effectively. From one intuitive interface, Omnilert unites an award-winning 2-way notification system, scenario manager, mobile tipping system, info hotline, and instant collaboration tool. FEMA-approved EAS. Clients include U.S. Army, Bayer, Mazda, DuPont, Philips, American Red Cross and first responders across USA.

EDUCATION, General

BELLEVUE UNIVERSITY

Bellevue University
1000 Galvin Road South
Bellevue, NE 68005
Tel: (800) 756-7920 or (402) 293-2000
OneStop@Bellevue.edu
http://www.bellevue.edu/EMGT

Bellevue University's new bachelor's degree in Emergency Management will prepare you to play a key role in keeping your community safe. Bellevue University serves more than 16,000 students annually at a total of nine locations in three states -- and everywhere online. *See Ad, page 43.*

GRAND CANYON UNIVERSITY

GRAND CANYON UNIV
Tel: (855) 428-2657
www.gcu.edu/emergencymanagement
Since 1949, Grand Canyon University has been helping students find their purpose and achieve their potential. We offer bachelor's and master's degree programs for individuals who work or desire to pursue careers in the fields of public safety administration, emergency management, disaster preparedness, and fire leadership. Our online programs allow you to study at your convenience, but unlike exclusively online universities, our programs are supported with the integrity and prestige of a traditional campus.

EDUCATION – Books

ROTHSTEIN PUBLISHING

Rothstein Associates Inc.
4 Arapaho Rd.
Brookfield, CT 06804-3104
Tel: (203) 740-7400 or (888) 768-4783
Fax: (203) 740-7401
info@rothstein.com
www.RothsteinPublishing.com

Rothstein Publishing is the premier source of books in Business Continuity, Disaster Recovery, and Emergency, Risk, Crisis and Reputation Management. Industry-leading authors provide current knowledge and best practices with toolkits you can use immediately. *See Ads, pages 13, 15, 148 & 153.*

EDUCATION – Certificate Programs

theICOR
The International Consortium For Organizational Resilience

The International Consortium for Organizational Resilience
Tel: (866) 765-8321 or (630) 705-0910
Education@theICOR.org
www.theICOR.org
The focus of ICOR's international education and credentialing programs is in the 10 disciplines that support a resilient organization and designed specifically for developing senior leadership. Get out of the cubicle and into the corner office! *See Ad, page 15.*

EDUCATION – Certification Programs

bci Business Continuity Institute

The Business Continuity Institute
1964 Gallows Road, Suite 310
Vienna, VA 22182
Tel: (703) 637-4407
bci@thebci.org
www.thebci.org
The Business Continuity Institute (BCI) is the leading membership and certifying organization for Business Continuity (BC) professionals worldwide. The BCI offers a wide range of resources, training, certification and membership for BC professionals.
See Ads, pages 14, 48 & 49.

DRI International

DRI International
1115 Broadway, 12th Floor
New York, NY 10010
Tel: (866) 542-3744
rwooldridge@drii.org
http://www.drii.org
DRI International is an independent, not-for-profit founded in 1988 to establish a base of common knowledge and professional practices in business continuity (BC) planning, to certify people in this field, and to promote the credibility of certified professionals. DRI International offers education and certification in BC, with specialized programs for healthcare, public sector, auditors, vendors, and master level BC certification.
See Ad, page 34.

Institute for Business Continuity Training
www.IBCT.com

Online, onsite and in-person workshops / Earn the Certified Continuity Manager designation / Comprehensive training covers full BCM lifecycle / Early Bird rates and Group Discounts available. *See Ad, page 154.*

EDUCATION – Degree Programs

UNLV

The University of Nevada Las Vegas
Tel: (702) 895-4835 Fax: (702) 895-4436
christine.springer@unlv.edu
http://sepa.unlv.edu/programs/ecem.html

Executive Masters of Science in Crisis and Emergency Management (ECEM) an online/oncampus 2-year degree created in 2003 for working homeland security and emergency management professionals.

EDUCATION – Seminars & Workshops

CPM Conferences (Contingency Planning & Management)
8609 Westwood Center Drive
Vienna, VA 22182
United States
Tel: (703) 876-5119 Fax: (703) 876-5059
www.CPM-West.com

CPM Events provide you with proven strategies and cost effective technology to master the entire disaster management cycle... from enabling you and your organization to remain resilient through preparing and planning for emergencies and disruptions of operations to response and recovery training. Check out CPM-West.com or CPM-East.com for more information! *See Ad, page 96.*

EMERGENCY EQUIPMENT & SUPPLIES, General

EMERGENCY LIFELINE
Consumer & Corporate Emergency Products

Emergency Lifeline Corp.
PO Box 15243
Santa Ana, CA 92735
Tel: (800) 826-2201 Fax: (714) 558-8901
sales@emergencylifeline.com
http://www.emergencylifeline.com

Manufacturer of a complete line of supplies and emergency kits for search & rescue, medical response, sanitation, personal and group support for home, office, auto & school. Food & water. Call for catalog.
See Ads, pages 76–78, 161–166 & 177.

Essex Industries
St. Louis, MO 63123
Tel: (314) 832-4500
www.essexindustries.com

EMERGENCY EQUIPMENT & SUPPLIES – Food and Water

EMERGENCY LIFELINE
Consumer & Corporate Emergency Products

Emergency Lifeline Corp.
PO Box 15243
Santa Ana, CA 92735
Tel: (800) 826-2201 Fax: (714) 558-8901
sales@emergencylifeline.com
http://www.emergencylifeline.com

Manufacturer of a complete line of supplies and emergency kits for search & rescue, medical response, sanitation, personal and group support for home, office, auto & school. Food & water. Call for catalog.
See Ads, pages 76–78, 161–166 & 177.

Instant NEWtrition

Instant NEWtrition®
11400 W. Olympic Blvd., Suite 200
Los Angeles, CA 90064-1557
Tel: (800) 522-7536 Fax: (310) 397-6777
info@InstantNEWtrition.com
http://www.InstantNEWtrition.com

Feed Millions In Minutes: Mix Instant NEWtrition® instant soup with water – and you've prepared a complete meal with 1/3 the Daily Value of all the nutrients one needs to thrive! *See Ads, pages 12, 61 & 125.*

Long Life Food Depot

Long Life Food Depot
Tel: (800) 601-2833 or (765) 939-0110
sales@longlifefood.com
http://www.longlifefood.com

MRE's (Meals Ready to Eat) and other long shelf life emergency food including 72 hour kits. Our full moisture, ready to eat pouches require no re-hydration and are perfect for emergency preparedness! We are a GSA Contractor, have a retail website, and specialize in corporation, institutional and special orders.

WANT HELP? LOOKING FOR RESOURCES?

Visit the online guide at
www.disaster-resource.com

Parker — Water Purification

Parker Hannifin Corporation
2630 E. El Presidio Street
Carson, CA 90810
Tel: (770) 640-8484
steve.aprill@parker.com
www.parker.com/watermakers

Racor VMT is a designer and manufacturer of self-contained reverse osmosis desalination systems offering customized and innovative solutions for converting seawater or brackish water to potable drinking water at up to 200,000 gallons per day. VMT is a part of Parker, the global leader in motion and control technologies. *See Ads, pages 68 & 69.*

EMERGENCY EQUIPMENT & SUPPLIES – Food and/or Lodging

PICCADILLY
EMERGENCY SERVICES

Piccadilly Emergency Services
Tel: (800) 742-2304
Piccadilly.com/emergency-services

Piccadilly Emergency Services is dedicated to providing hot, wholesome meals during times of crisis, often in post-disaster conditions. Through the years, we've partnered with numerous state and local governments and organizations like the American Red Cross to provide for those in need. Our flexibility, knowledge and experience in the food service industry help us to respond rapidly to provide mass feedings. *See Ads, pages 61, 73 & 125.*

EMERGENCY EQUIPMENT & SUPPLIES – Search & Rescue

EMERGENCY LIFELINE
Consumer & Corporate Emergency Products

Emergency Lifeline Corp.
PO Box 15243
Santa Ana, CA 92735
Tel: (800) 826-2201 Fax: (714) 558-8901
sales@emergencylifeline.com
http://www.emergencylifeline.com

Manufacturer of a complete line of supplies and emergency kits for search & rescue, medical response, sanitation, personal and group support for home, office, auto & school. Food & water. Call for catalog.
See Ads, pages 76–78, 161–166 & 177.

EMERGENCY EQUIPMENT & SUPPLIES – Shelter

FSI North America®
311 Abbe Rd.
Sheffield Lk, OH 44054
Tel: (440) 949-2400 Fax: (440) 949-2900
sales@fsinorth.com
http://www.fsinorth.com

HDT Global
30500 Aurora Rd. Suite 100
Solon, OH 44139
Tel: (800) 969-8527 Fax: (440) 248-1691
sales@hdtglobal.com
www.hdtglobal.com
HDT provides shelters, heaters, ECUs, air conditioners, generators, and chemical & biological air filtration systems

EMERGENCY RESPONSE, General

Water Purification

Parker Hannifin Corporation
2630 E. El Presidio Street
Carson, CA 90810
Tel: (770) 640-8484
steve.aprill@parker.com
www.parker.com/watermakers
Racor VMT is a designer and manufacturer of self-contained reverse osmosis desalination systems offering customized and innovative solutions for converting seawater or brackish water to potable drinking water at up to 200,000 gallons per day. VMT is a part of Parker, the global leader in motion and control technologies.
See Ads, pages 68 & 69.

ENVIRONMENTAL CONCERNS – Indoor Air Quality

HDT Global
30500 Aurora Rd. Suite 100
Solon, OH 44139
Tel: (800) 969-8527 Fax: (440) 248-1691
sales@hdtglobal.com
www.hdtglobal.com
HDT provides shelters, heaters, ECUs, air conditioners, generators, and chemical & biological air filtration systems

FACILITY RESOURCES, General

BELFOR USA
185 Oakland Avenue, Suite 300
Birmingham, MI 48009
Tel: (800) 856-3333 Fax: (248) 594-1133
http://www.belfor.com
BELFOR provides full-service disaster recovery services that include total reconstruction, electronics & contents restoration, & vital records recovery. *See Ads, pages 14, 15, 107, 109, 116, 120, 156 & 160.*

ServiceMaster Restore
3839 Forest Hill Irene Road
Memphis, TN 38125
Tel: (800) 737-7663
www.servicemasterrestore.com
ServiceMaster Restore is a full service restoration provider to residential and commercial customers. We offer a comprehensive range of services from water, fire and smoke damage restoration and reconstruction, to catastrophic disaster restoration and recovery.
See Ads, pages 107 & 123.

FACILITY RESOURCES – Buildings & Structures-Mobile & Modular

Deployed Resources
Tel: (315) 281-0039 Fax: (315) 281-0041
http://www.deployedresources.com
Base camps, logistical staging areas, mobile showers, laundries, kitchens, containerized housing, temporary power, water and site design. Dedicated equipment, strategic asset staging areas and ICS/NIMS trained staff. ISO 9001/14001 certified. GSA schedule vendor.
See Ads, pages 113, 117 & 131.

FIRE SAFETY, General

Powering Business Worldwide

Eaton's Cooper Notification Business
Tel: (800) 631-2148 Fax: (732) 962-7858
CNMarketing@cooperindustries.com
http://www.coopernotification.com
Cooper Notification is now Eaton. When it comes to protecting life and property, there's no room for compromise. The leading solutions for life safety and mass notification from

Cooper Notification now enhance Eaton's portfolio of technologies designed to save lives. In the most demanding industrial, residential and commercial environments, Eaton delivers top performance with the expertise, reliability and scalability that your business requires. From Wheelock technologically advanced life safety products to mass notification solutions for indoor, outdoor and distributed recipient managed by the interoperability platform, ALERiTY, Eaton now offers a whole new level of protection to keep your personnel safe and your business running strong. More protection. More solutions. Expect more. *See Ad, page 127.*

INFORMATION SECURITY, General

RSA, The Security Division of EMC
174 Middlesex Turnpike
Bedford, MA 01730
Tel: (800) 495-1095
www.emc.com/rsa
RSA provides intelligence-driven security, risk and compliance management solutions, helping organizations manage risk, safeguard mobile access, prove compliance, and secure virtual and cloud environments.
See Ads, pages 4 & 5.

INSURANCE & RISK MANAGEMENT, General

Fire & Water - Cleanup & Restoration™

SERVPRO®
Tel: (800) SERVPRO or (615) 451-0200
dturner@servpronet.com
http://www.servpro.com
The SERVPRO® Franchise System is a national leader and provider of fire, water, mold and other specialty cleanup and restoration services, responding to property damage emergencies of any size from coast to coast.
See Ads, pages 16, 17 & 107.

MOBILE FACILITY, On-Site, General

Deployed Resources
Tel: (315) 281-0039 Fax: (315) 281-0041
http://www.deployedresources.com
Base camps, logistical staging areas, mobile showers, laundries, kitchens, containerized housing, temporary power, water and site design. Dedicated equipment, strategic asset

staging areas and ICS/NIMS trained staff. ISO 9001/14001 certified. GSA schedule vendor. *See Ads, pages 113, 117 & 131.*

NATURAL DISASTER MITIGATION, General

 Water Purification

Parker Hannifin Corporation
2630 E. El Presidio Street
Carson, CA 90810
Tel: (770) 640-8484
steve.aprill@parker.com
www.parker.com/watermakers
Racor VMT is a designer and manufacturer of self-contained reverse osmosis desalination systems offering customized and innovative solutions for converting seawater or brackish water to potable drinking water at up to 200,000 gallons per day. VMT is a part of Parker, the global leader in motion and control technologies. *See Ads, pages 68 & 69.*

POWER SOURCES – Generators

Indeck Power Equipment Company
1111 Willis
Wheeling, IL 60090
Tel: (847) 541-8300 or (800) 446-3325
rrabago@indeck-power.com
www.indeck.com
Indeck Power Equipment Company offers rental power plant equipment for emergencies, scheduled outages, or increased capacity requirements. Indeck has a large inventory of boilers for sale, lease, or rental with sizes ranging to over 250,000 pounds per hour of steam. Indeck also rents mobile steam systems, trailer designed watertube boilers, 125-2200 KW trailer-mounted commercial generators and industrial gensets, air and water cooled chillers and deaerators. For emergencies 24/7 contact Indeck at 800-446-3325.

Ring Power Corporation
500 World Commerce Parkway
St. Augustine, FL 32092
Tel: (904) 737-7730 Fax: (904) 281-0831
info@ringpower-systems.com
ringpower-systems.com
Ring Power Corp.'s Power Systems Division rents EPA/CARB-certified generator sets (20-2000 kW), transformers, automatic transfer switches, load banks, distribution panels, cable and accessories; trailer mount includes integrated fuel tank base or module. Turnkey services also available include installation, fueling, maintenance, engineering and contingency planning assistance. Just one call for

no-hassle service and complete 24-hour support. *See Ad, page 121.*

Trane Rental Services
Tel: (800) 755-5115 Fax: (704) 398-4681
http://www.trane.com/rentalservices
Whether it's natural disaster or equipment failure that takes your system down, a Trane rental system can get you back in business-fast! Equipment includes Chillers, Air-handlers, Heating & Cooling Units, Pumps, Cooling Towers & Power Generators.
See Ad, page 125.

PRINTING & MAILING SERVICES, General

A Division of IWCO Direct

Mail-Gard
Christine Durfee
65 Steamboat Drive
Warminster, PA 18974
Tel: (267) 960-3119 or (800) 220-2066
Fax: (215) 957-2466
christine.durfee@iwco.com
www.mailgard.com
Continuity and recovery services for all your critical communication requirements.
See Ad, page 37.

RENTAL EQUIPMENT – Boilers

Indeck Power Equipment Company
1111 Willis
Wheeling, IL 60090
Tel: (847) 541-8300 or (800) 446-3325
rrabago@indeck-power.com
www.indeck.com
Indeck Power Equipment Company offers rental power plant equipment for emergencies, scheduled outages, or increased capacity requirements. Indeck has a large inventory of boilers for sale, lease, or rental with sizes ranging to over 250,000 pounds per hour of steam. Indeck also rents mobile steam systems, trailer designed watertube boilers, 125-2200 KW trailer-mounted commercial generators and industrial gensets, air and water cooled chillers and deaerators. For emergencies 24/7 contact Indeck at 800-446-3325.

WANT HELP? LOOKING FOR RESOURCES?

Visit the online guide at
www.disaster-resource.com

RENTAL EQUIPMENT –
Climate Control

Ring Power Corporation
500 World Commerce Parkway
St. Augustine, FL 32092
Tel: (904) 737-7730 Fax: (904) 281-0831
info@ringpower-systems.com
ringpower-systems.com
Ring Power rents portable and industrial cooling systems, air-cooled liquid chillers (50-500 tons), brine chillers, cooling towers, air handlers, heaters (150,000 – 4-million BTUs) and air conditioners (5-90 tons); plus pumps, hoses, fittings, valves, cable and accessories. Our inventory will see you through power failures, disaster cleanup, seasonal heat waves, maintenance shutdowns, and other emergencies. A member of the Cat dealer network.
See Ad, page 121.

Trane Rental Services
Tel: (800) 755-5115 Fax: (704) 398-4681
http://www.trane.com/rentalservices
Whether it's natural disaster or equipment failure that takes your system down, a Trane rental system can get you back in business-fast! Equipment includes Chillers, Air-handlers, Heating & Cooling Units, Pumps, Cooling Towers & Power Generators.
See Ad, page 125.

RENTAL EQUIPMENT –
Power Sources

Trane Rental Services
Tel: (800) 755-5115 Fax: (704) 398-4681
http://www.trane.com/rentalservices
Whether it's natural disaster or equipment failure that takes your system down, a Trane rental system can get you back in business-fast! Equipment includes Chillers, Air-handlers, Heating & Cooling Units, Pumps, Cooling Towers & Power Generators.
See Ad, page 125.

WANT HELP? LOOKING FOR RESOURCES?
Visit the online guide at
www.disaster-resource.com

RENTAL EQUIPMENT –
Temporary Structures & Trailers

Deployed Resources
Tel: (315) 281-0039 Fax: (315) 281-0041
http://www.deployedresources.com
Base camps, logistical staging areas, mobile showers, laundries, kitchens, containerized housing, temporary power, water and site design. Dedicated equipment, strategic asset staging areas and ICS/NIMS trained staff. ISO 9001/14001 certified. GSA schedule vendor.
See Ads, pages 113, 117 & 131.

RESOURCES, General

Chevron Publishing Corporation
8796 Tamar Drive
Columbia, MD 21045
Tel: (410) 884-5444
office@chevronpublishing.com
Three terrific publications, by renowned expert George Everly, PhD, designed to help individuals and organizations address resilience! "The Resilient Child", "Critical Incident Stress Management" and "Fostering Human Resilience" will all give you a better understanding of how you (personally) and your organization can develop resilience.
See Ad, page 67.

RESOURCES –
Conferences & Expositions

Continuity Insights Management Conference
Tel: (973) 920-7789
alyssa.adair@advantagemedia.com
www.continuityinsights.com
Held on April 28-30, 2014 at the Sheraton New Orleans in New Orleans, LA, the Continuity Insights Management Conference is the premiere event for strategic business continuity discussion, offering unmatched opportunities to learn from and network with those responsible for the integrity, availability, resilience and security of their organizations.
See Ad, page 27.

CPM Conferences (Contingency Planning & Management)
8609 Westwood Center Drive
Vienna, VA 22182
Tel: (703) 876-5119 Fax: (703) 876-5059
www.CPM-West.com
CPM Events provide you with proven strategies and cost effective technology to master the entire disaster management cycle... from enabling you and your organization to remain resilient through preparing and planning for emergencies and disruptions of operations to response and recovery training. Check out CPM-West.com or CPM-East.com for more information! *See Ad, page 96.*

DISASTER RECOVERY JOURNAL
Tel: (636) 282-5800 Fax: (636) 282-5802
drj@drj.com
http://www.drj.com
Every issue, DRJ delivers how-to, in depth knowledge into BC planning more than any other business publication. DRJ also hosts the two largest BC conferences and exhibitions. Upcoming shows: Spring World 2014 - Orlando, Mar. 31-Apr. 2, 2014 Fall World 2014 - San Diego, Sep. 7-10, 2014
See Ads, pages 11 & 159.

International Disaster Conference & Exhibition
Tel: (504) 582-3072
info@idcexpo.net
www.idcexpo.net
January 7 - 10, 2014 and January 13 - 16, 2015. New Orleans, LA. IDCE delivers an unprecedented list of the most distinguished and accomplished leaders in our field. Network with industry peers from all disciplines of the disaster cycle and have your voice heard. *See Ad, page 106.*

World Conference on Disaster Management (WCDM)
Toronto, Ontario, Canada
Tel: (289) 789-2202
Tel: (888) 443-6786 x2202
Fax: (905) 479-1364
http://www.wcdm.org
1000+ peers. 7 dynamic Keynote presentations. 65 educational sessions. Global Networking. There is no other conference quite like the WCDM. This is a unique venue for Disaster Management professionals from 35 countries around the world to present, network and learn. Join us at this world-class event June 15 – 18, 2014. *See Ad, page 60.*

RESOURCES –
Organizations & Associations

The Business Continuity Institute
1964 Gallows Road, Suite 310
Vienna, VA 22182
Tel: (703) 637-4407
bci@thebci.org
www.thebci.org
The Business Continuity Institute (BCI) is the leading membership and certifying organization for Business Continuity (BC) professionals worldwide. The BCI offers a wide range of

resources, training, certification and membership for BC professionals.
See Ads, pages 14, 48 & 49.

International Association of Emergency Managers

201 Park Washington Court
Falls Church, VA 22046-4527
Tel: (703) 538-1795 Fax: (703) 241-5603
info@iaem.com
http://www.iaem.com

IAEM is the world's largest EM professional association. It provides access to the largest network of EM experts who can yield advice and assistance; the Certified Emergency Manager program; annual scholarships; a comprehensive newsletter; and more. The 2014 Conference & Exhibit is on Nov. 14 – 19 in San Antonio, TX. It features significant suppliers of EM and homeland security products and services. *See Ad, page 63.*

RESOURCES – Publications

DISASTER RECOVERY JOURNAL

Tel: (636) 282-5800 Fax: (636) 282-5802
drj@drj.com
http://www.drj.com

Every issue, DRJ delivers how-to, in depth knowledge into BC planning more than any other business publication. DRJ also hosts the two largest BC conferences and exhibitions. Upcoming shows: Spring World 2014 – Orlando, Mar. 31-Apr. 2, 2014 Fall World 2014 – San Diego, Sep. 7-10, 2014
See Ads, pages 11 & this page.

RESOURCES – Reference Materials

ROTHSTEIN PUBLISHING

Rothstein Associates Inc.

4 Arapaho Rd.
Brookfield, CT 06804-3104
Tel: (203) 740-7400 or (888) 768-4783
Fax: (203) 740-7401
info@rothstein.com
www.RothsteinPublishing.com

Rothstein Publishing is the premier source of books in Business Continuity, Disaster Recovery, and Emergency, Risk, Crisis and Reputation Management. Industry-leading authors provide current knowledge and best practices with toolkits you can use immediately.
See Ads, pages 13 & 15.

WANT HELP? LOOKING FOR RESOURCES?

Visit the online guide at
www.disaster-resource.com

RESTORATION SERVICES, General

BELFOR (O) PROPERTY RESTORATION

BELFOR USA

185 Oakland Avenue, Suite 300
Birmingham, MI 48009
Tel: (800) 856-3333 Fax: (248) 594-1133
http://www.belfor.com

BELFOR provides full-service disaster recovery services that include total reconstruction, electronics & contents restoration, & vital records recovery. *See Ads, pages 14, 15, 107, 109, 116, 120, 156 & 160.*

ServiceMASTER Restore

ServiceMaster Restore

3839 Forest Hill Irene Road
Memphis, TN 38125
Tel: (800) 737-7663
www.servicemasterrestore.com

ServiceMaster Restore is a full service restoration provider to residential and commercial customers. We offer a comprehensive range of services from water, fire and smoke damage restoration and reconstruction, to catastrophic disaster restoration and recovery.
See Ads, pages 107 & 123.

CASE STUDY
LOSS EVENT: SMOKE AND FIRE DAMAGE

The Royal Mint
Llantrisant, South Wales

The Royal Mint's 35-acre facility operates round-the-clock, 52 weeks a year and can produce up to 90 million coins a week – almost five billion coins a year.

THE RESTORATION

Due to the height of the roof (approximately 50 feet) and the need for continued production underneath, the decontamination process was challenging.

BELFOR used its innovative and unique Soot Removal Film (SRF) product for the decontamination process. Because SRF is "wash-free," odorless, and environmentally friendly with no need for the use of chemicals, production work in the plant was able to continue.

The Royal Mint is a high security facility, the responsibility of which falls to the Ministry of Defence Police. All workers were required to meet rigid security checks.

"When we had a fire incident in our plating section and were confronted by the daunting process of recovery from excessive smoke damage, from day one, BELFOR provided us with the confidence to achieve this utilizing their wealth of experience and a range of professional techniques. As a result of the efforts of the cleaning teams, we achieved the desired recovery in good time and on budget. If we were to be in a similar position again, we would have no hesitation in using BELFOR."

BELFOR USA • www.belfor.com

SERVPRO®

SERVPRO®
Tel: (800) SERVPRO or (615) 451-0200
dturner@servpronet.com
http://www.servpro.com
The SERVPRO® Franchise System is a national leader and provider of fire, water, mold and other specialty cleanup and restoration services, responding to property damage emergencies of any size from coast to coast.
See Ads, pages 16, 17 & 107.

RESTORATION SERVICES – Document Restoration

BELFOR USA
185 Oakland Avenue, Suite 300
Birmingham, MI 48009
Tel: (800) 856-3333 Fax: (248) 594-1133
http://www.belfor.com
BELFOR provides full-service disaster recovery services that include total reconstruction, electronics & contents restoration, & vital records recovery. *See Ads, pages 14, 15, 107, 109, 116, 120, 156 & this page.*

RESTORATION SERVICES – Fire, Smoke, Water

Zodiac Equipment Restoration
1864 S. Elmhurst Road
Mount Prospect, IL 60056
Tel: (888) 982-6738 or (847) 229-1155
jseter@zodiacrestoration.com
www.zodiacrestoration.com
Restoration of machinery and electronics that have been exposed to fire, smoke, water, and other contaminants.

TERRORISM PREVENTION & COUNTERMEASURES – Chemical

HDT Global
30500 Aurora Rd. Suite 100
Solon, OH 44139
Tel: (800) 969-8527 Fax: (440) 248-1691
sales@hdtglobal.com
www.hdtglobal.com
HDT provides shelters, heaters, ECUs, air conditioners, generators, and chemical & biological air filtration systems

TRAINING, General

MARSH RISK CONSULTING

Marsh Risk Consulting
1166 Avenue of the Americas
New York, NY 10036
Tel: (866) 928-7475 or (212) 345-9589
at.risk@marsh.com
www.marshriskconsulting.com
Marsh Risk Consulting provides customized, innovative solutions that help preserve, protect, and defend critical assets, ensure regulatory compliance, and meet corporate governance expectations. Our experts support organizations' business objectives through: property risk and natural hazards consulting, enterprise risk management, business continuity/interruption strategies, disaster preparation and recovery, crisis management planning and real-time execution, claims and disputes management, and tailored training programs.

Resiliency Science Institutes
George Everly, PhD
Tel: (410) 336-5614
geverly@jhsph.edu
http://www.umbc.edu/trainctr/rsi/
Resilient leadership training, developed by George S. Everly, Jr, PhD, is designed for leaders in private industry, government, law enforcement, disaster response, fire suppression, emergency medicine, nursing, and education. Participants will be prepared to build both a professional and personal "culture of resilience." *See Ads, pages 14 & 72.*

TRAINING – Business Recovery & Continuity

THE RED GUIDE TO RECOVERY
Tel: (858) 453-6767
info@TheRedGuideToRecovery.com
www.TheRedGuideToRecovery.com
When first responders leave the scene of a disaster, the survivors are left to figure out their own recovery. The Red Guide to Recovery is a road-map that walks survivors through the days that follow a disaster event. *See Ad, page 75.*

WANT HELP? LOOKING FOR RESOURCES?
Visit the online guide at
www.disaster-resource.com

Create a Culture of Preparedness

EMERGENCY LIFELINE

For more than 25 years, we have been helping business & industry, government agencies, schools & institutions, individuals, families & communities.

72-HOUR SURVIVAL KITS
C.E.R.T. KITS
SEARCH & RESCUE
MEDICAL RESPONSE
EVACUATION
FOOD & WATER
SANITATION
LIGHT & WARMTH

800.826.2201 • sales@emergencylifeline.com • www.emergencylifeline.com

PROTECT YOUR ORGANIZATION

Search & Rescue

BASIC SEARCH AND RESCUE

The essentials in one economical kit; packed in a sturdy, stackable and lockable container. Supplies are designed for a 4-person team.

K1160 Basic Search & Rescue

LIGHT & COMMUNICATION
4 Anglehead Flashlights
8 D-cell Alkaline Batteries
8 Lightsticks (12-hour)
4 Whistles

PERSONAL SAFETY GEAR
4 Hard Hats
4 Pair Leather Palm Gloves
12 Dust Masks
4 Safety Goggles
4 Disposable Orange Vests

TOOLS
1 Barrier Tape (3"x100')
1 Trucker's Rope (3/8"x50')
1 Folding Shovel
1 Lock Grip Pliers
1 Hammer (3 lb)

1 Hatchet
1 Crescent Wrench
1 Phillips Screwdriver
1 Flat Screwdriver
1 Wrecking Bar (24")
1 Duct Tape (2"x50yds)
1 Utility Knife

SANITATION
4 Infectious Waste Bags

MISCELLANEOUS
10 Marker Tags
4 Lumber Crayons
4 Marker Pens
2 Writing Tablets
2 First Aid Guides
1 Storage Crate
7 Tamper Evident Closures

Employee Support

CORPORATE EMERGENCY KIT – 10 Persons, 3 Days

A great kit to meet basic needs for your company. Choose 10-person or 5-person kit, with or without water. Packed in high quality cordura carrying case with liner.

K1220 and K1230 Corporate Kit - 10

MEDICAL RESPONSE KIT
FOOD & WATER
10 Foodbars (3600 Cal ea)
60 Water Pouches (4.22 oz ea)

LIGHT, WARMTH & COMMUNICATION
4 Lightsticks (12-hour)
1 Anglehead Flashlight
2 D-cell Alkaline Batteries
1 AM/FM Radio with Batteries
1 Whistle
10 Mylar-type Blankets

SANITATION
3 Waste Collection Bags
30 Infectious Waste Bags
2 Toilet Deoderant (2 oz)
10 Tissue Packs
120 Pre-moistened Towelettes
10 Toothbrush & Paste Sets

MISCELLANEOUS
1 Disaster Guide
5 Tamper Evident Closures
1 Splint (18")

PREPARE FOR 72 HOURS

DELUXE CORPORATE EMERGENCY KIT – 10 Persons, 3 Days

Includes the same contents as K1230 (above) with the addition of the search and rescue tools listed below.

K1240 Deluxe Corporate Kit

TOOLS
1 Wrecking Bar (24")
1 Trucker's Rope (3/8"x50')
1 Lock Grip Pliers

1 Phillips Screwdriver
1 Flat Screwdriver
1 Roll Duct Tape (2"x50yds)

PERSONAL SAFETY GEAR
2 Hard Hats
2 Pair Leather Palm Gloves
6 Dust Masks

2 Pair Safety Goggles
2 Disposable Orange Vests
1 Additional Whistle (2 total)

PROTECT YOUR EMPLOYEES

Insuring that your facility is self sufficient for 72 hours!
Medical…Search and Rescue…Water…Food…Light…Warmth…Communication…Sanitation

Quality
Our kits have top quality products, in quantities recommended by experts. Excellent value!

Experience
We have helped major banks, law firms, and other organizations get ready since 1985. We have sold over a MILLION kits. We export to Japan, Mexico, Canada and worldwide.

Contents
Not all kits are created equal! For example, most of our kits include 3600 calorie USCG approved foodbars. This is 50% MORE THAN what some companies consider adequate! Our kits include more water per person than most other kits. Do you want to cut corners on your preparedness?

Pictures
The kit pictures are for artistic purposes only. Refer to contents lists for components. Prices subject to change.

MEDICAL RESPONSE

Photo is for artistic purposes. Refer to contents list.

How to Evaluate Medical Kits for First Response
An industrial first aid kit is not a disaster medical response kit. Industrial kits address daily workplace injuries with the assumption that "911" would be called in for major problems. After some disasters, (major earthquake), calling 911 will do little good. During the first 72 hours, you may need to be self-sufficient. Most emergency management agencies recommend that you plan for 20-30% injuries in an office environment. If you have 100 people working in an office setting, you should expect around 25-30 injuries of various kinds and should purchase a medical kit for 25-30 injuries.

BE READY FOR **72** HOURS

	K1100	K1110	K1120	K1130
INJURIES	5-8	15	25	50
CLEANSING & FLUSHING				
Antiseptic Wipes, BZK	20	40	100	200
Isotonic Solution (4 oz)	1	1	2	3
REDUCING INFECTION				
Antibiotic Ointment (½ g)	9	15	-	-
Antibiotic Ointment (½ oz)	-	-	1	2
DRESSINGS				
ABD Sterile Pads (5"x9")	10	8	12	24
ABD Sterile Pads (7½"x8")	-	6	12	24
Multi-trauma Sterile Pad (10"x30")	1	1	2	4
Sterile Gauze Sponges (4"x4")	10	14	26	50
Gauze Sponges (4" x 4")	200	200	200	400
Sterile Wet Dressings	2	-	4	6
Sterile Burn Sheets (60"x96")	-	1	1	2
BANDAGING				
Sterile Adhesive Bandages (3")	10	30	50	100
Sterile Gauze Roll (3")	6	-	-	-
Non-sterile Gauze Roll (4")	-	12	12	24
Triangular Bandages	2	4	6	15
Tape (1"x10yds)	1	2	3	5
Butterfly Bandages	5	5	10	10
Splints (12")	2	1	2	4
Splints (18")	-	2	3	6
Finger Splints	2	3	5	10
SANITATION				
Pre-moistened Towelettes	10	20	50	100
Infectious Waste Bags with Ties	1	2	3	5
Single Latex Exam Gloves	10	30	50	100
Paper Towels	25	75	150	300
MISCELLANEOUS				
Mylar-type Blankets	2	4	6	12
Cold Packs	2	3	8	15
E.M.T. Shears (7¼")	1	1	1	2
Tweezers	1	1	1	2
First Aid Guide	1	1	1	1
CPR Mask	1	1	2	3
Tamper Evident Closures	5	5	5	5
Writing Tablet with Pen	1	1	1	1
Triage Tags	-	15	25	50
Marker Tags	5	-	-	-

PREPARE AT HOME

PREMIUM Family Emergency Kit – 4 persons, 3 days

K1410 and K1420 Premium Family Kit

All components are packed in a sturdy carrying case with plastic liner. Water is now packed in pouches. Extra space allows the addition of clothing and other personal items. Is your family prepared?

FOOD & WATER
- 4 Foodbars (3600 Cal ea)
- 1 Collapsible Water Container (5 gal)
- 1 Bottle of Water Purification Tablets (50ct)
- 54 Water Pouches (4.22 oz ea)

LIGHT, WARMTH & COMMUNICATION
- 4 Mylar-type Blankets
- 10 Candles
- 1 Box Waterproof Matches (20ct)
- 1 Anglehead Flashlight
- 2 D-cell Alkaline Batteries
- 2 Lightsticks (12-hour)
- 1 AM/FM Radio with Batteries

FIRST AID KIT (K1440)

SANITATION
- 1 Tube of Soap
- 4 Tissue Packs
- 1 Toilet Deodorant
- 148 Pre-moistened Towelettes
- 3 Waste Collection Bags
- 12 Infectious Waste Bags
- 4 Toothbrush & Paste Sets

MISCELLANEOUS
- 1 Manual 3-in-1 Can Opener
- 1 Polypropylene Rope (¼"x50')
- 1 Pocket Knife
- 1 Whistle
- 2 Dust Masks
- 1 Tarp (8'x10')

PREPARE FOR 72 HOURS

Pictures are for artistic purposes. See contents list.

Deluxe First Aid Kit

K1440 Deluxe First Aid Kit

Packed in nylon roll bag with clear plastic dividers, which allow easy access to medical supplies.

CLEANSING MINOR WOUNDS
- 12 Antiseptic Wipes

REDUCING INFECTION
- 6 Antibiotic Ointments (½ g)

DRESSINGS
- 8 Sterile Gauze Sponges (2"x2")
- 4 Sterile Gauze Sponges (4"x4")
- 4 Sterile ABD Pads (5"x9")

BANDAGING
- 4 Gauze Bandages (3"x4.1yds)
- 10 Adhesive Bandages (3")
- 1 Triangular Bandage
- 5 Butterfly Bandages
- 1 Tape (½"x10yds)
- 2 Finger Splints

MISCELLANEOUS
- 1 Mylar-type Blanket
- 1 Cold Pack
- 1 Scissors
- 1 Tweezers
- 2 Single Latex Exam Gloves
- 1 First Aid Guide

Deluxe Family Kit –4 Persons, 3 Days

K1400 Deluxe Family Kit for 4
K1402 Deluxe Family Kit for 2

Packed in a compact carrying case. A great gift for people you love!

FOOD & WATER
- 4 Foodbars (3600 Calories ea)
- 48 Water Pouches (4.22 oz ea)
- 1 Bottle of Water Purification Tablets (50ct)

LIGHT, WARMTH & COMMUNICATION
- 1 Standard Flashlight
- 2 D-cell Alkaline Batteries
- 1 AM/FM Radio with Batteries
- 4 Mylar-type Blankets
- 2 Lightsticks (12-hour)
- 10 Candles
- 1 Box of Waterproof Matches (20ct)
- 1 Whistle

SANITATION
- 48 Pre-moistened Towelettes
- 12 Infectious Waste Bags
- 3 Waste Collection Bags
- 4 Tissue Packs
- 1 Tube of Soap
- 4 Toothbrush & Paste Sets
- 1 Toilet Deodorant (2 oz)

FIRST AID KIT

MISCELLANEOUS
- 1 Pocket Knife
- 1 Manual 3-in-one Can Opener
- 2 Dust Masks

The K1402 has 2 foodbars, 2 blankets, 2 personal sanitation kits and 24 water pouches, 4.22 oz ea, other items same as K1400.

PREPARE FOR THE ROAD
Every Automobile Needs a Survival Kit!

An emergency/survival kit is a practical item that no car should be without.

The kit can provide the essentials of life – food, water, medical, sanitation – at a time when needed most. Our kits are compact and durable. The food and water have 5-year shelf life. A Survival Kit is a terrific way to show you care.

Include your company logo and you'll have a new marketing tool.

Survival Kit I –1 Person, 3 Days
Every automobile needs one of these! Packed in a high quality backpack. Water now packed in pouches.

K1300 Survival Kit I for 1 Person
K1302 Survival Kit I for 2 Persons

Pictures are for artistic purposes. See contents list.

FOOD & WATER
1 Foodbar (3600 Cal ea)
24 Water Pouches (4.22 oz ea)

SANITATION
3 Infectious Waste Bags
1 Tissue Pack
12 Pre-moistened Towelettes
1 Toothbrush & Paste Set

FIRST AID KIT

LIGHT, WARMTH & COMMUNICATION
1 Mylar-type Blanket
2 Lightsticks (12-hour)
1 Standard Flashlight
2 D-cell Alkaline Batteries
1 AM/FM Radio with Batteries
1 Whistle

MISCELLANEOUS
1 Pair Leather Palm Gloves
1 Dust Mask

The K1302 kit has 2 foodbars, 2 blankets, 2 dust masks and 2 personal sanitation kits. All other quantities the same as K1300.

Survival Kit II – 1 Person, 3 Days
Another great kit for the automobile. Packed in a sturdy waist-pack for hands-free portability.

K1310 Survival Kit II

FOOD & WATER
1 Foodbar (3600 Cal ea)
12 Water Pouches (4.22 oz ea)

SANITATION
3 Infectious Waste Bags
1 Tissue Pack
12 Pre-moistened Towelettes
1 Toothbrush & Paste Set
1 Dust Mask

LIGHT, WARMTH & COMMUNICATION
1 AM/FM Radio with Batteries
1 Lightstick (12-hour)
1 Standard Flashlight
2 D-cell Alkaline Batteries
1 Whistle
1 Mylar-type Blanket

FIRST AID KIT

Survival Kit III – 1 Person, 3 Days
This kit can be easily stored in the desk, school locker, automobile or R.V. Use your company logo and colors for a unique corporate gift or award!

K1316 Survival Kit III

FOOD & WATER
1 Foodbar (3600 Cal ea)
12 Water Pouches (4.22 oz ea)

LIGHT, WARMTH & COMMUNICATION
1 Mylar-type Blanket
1 Standard Flashlight
2 D-cell Alkaline Batteries
1 Whistle

SANITATION
3 Infectious Waste Bags
1 Tissue Pack
12 Pre-moistened Towelettes
1 Toothbrush & Paste Set
1 Dust Mask

FIRST AID KIT

C.E.R.T. KITS

Community Emergency Response Teams
Build Your Own C.E.R.T. Kits!

BAG TYPES AVAILABLE

- ◆ Back Pack
- ◆ Fanny Pack
- ◆ Duffle Bag
- ◆ Custom Logo

SOME OF OUR AVAILABLE ITEMS

- ◆ Adjustable Wrench, 10"
- ◆ Vise Grip Pliers
- ◆ Screwdrivers
- ◆ Flashlight
- ◆ Batteries, Alkaline D-cell
- ◆ Safety Goggles
- ◆ Swiss Army Knife

- ◆ Duct Tape
- ◆ Caution Tape
- ◆ Lightsticks
- ◆ Leather-palm Work Gloves
- ◆ Marking Crayon
- ◆ Hard Hat
- ◆ Whistle
- ◆ Emergency Blanket

- ◆ First Aid Kit
- ◆ Gloves, Latex
- ◆ Gloves, Nitrile
- ◆ N95 Masks
- ◆ Dust Masks
- ◆ Notebook and Pen
- ◆ Vests, Mesh
- ◆ Vests, Cloth with plastic ID insert

- ◆ Water pouches, 4.22 oz, 6 pack
- ◆ Foodbar, 2400 calories
- ◆ Foodbar, 3600 calories
- ◆ Other items available

Emergency Lifeline Corporation is a woman-owned business founded in 1985. It is one of a handful of companies doing business in the beginnings of the emergency preparedness industry. Customers include companies and government agencies located throughout the United States and worldwide. The company is also the publisher of the Disaster Resource GUIDE, the authoritative source for business continuity, disaster preparedness and continuity of operations, now in its 16TH annual edition.

FAX, EMAIL OR CALL US FOR A QUOTE TODAY.

Emergency Lifeline Corporation
www.emergencylifeline.com
T: 800.826.2201
F: 714.558.8901
E: sales@emergencylifeline.com

ORGANIZATIONS

Information for the various organizations is grouped according to headquarters location.

The directory is updated annually for the printed GUIDE and periodically for the Online GUIDE. If you have difficulty reaching an organization, please let us know. We will help you find the organization and take the opportunity to update the information in the Online GUIDE.

Visit the Online GUIDE for more organizations, expanded information and hot links. www.disaster-resource.com/organizations

CANADA

Organizations With Headquarters
Located in Canada

Business Continuity Institute (BCI)
• Canada Chapter, screighton@sgi.sk.ca
  www.thebci.org

Canada, Government of The Northwest Territories (GNWT) Emergency Measures Organization
www.maca.gov.nt.ca/

Canada, Province of Alberta Emergency Mgt Agency
http://aema.alberta.ca

Canada, Province of British Columbia Provincial Emergency Program (PEP)
www.pep.bc.ca

Canada, Province of Manitoba Emergency Measures Organization
www.gov.mb.ca/emo

Canada, Province of New Brunswick Emergency Measures Organization
www2.gnb.ca/content/gnb/en/departments/public_safety/emo.html

Canada, Province of Newfoundland & Labrador Emergency Measures Organization
www.gov.nl.ca/fes/

Canada, Province of Nova Scotia Emergency Measures Organization
www.gov.ns.ca/emo/

Canada, Province of Nunavut
http://cgs.gov.nu.ca/en/commEmergency.aspx

Canada, Province of Ontario Emergency Mgt Ontario
www.emergencymanagementontario.ca/english/home.html

Canada, Province of Prince Edward Island Emergency Measures Organization
www.gov.pe.ca

Canada, Province of Quebec Public Security
www.securitepublique.gouv.qc.ca/en/accueil.html

Canada, Province of Saskatchewan
www.cpsp.gov.sk.ca/SaskEMO

Canada, Province of Yukon Emergency Measures Organization
www.community.gov.yk.ca/emo

Canadian Centre for Occupational Health & Safety (CCOHS)
www.ccohs.ca

Canadian Red Cross
www.redcross.ca

Canadian Risk & Hazards Network
www.crhnet.ca

Disaster Recovery Information Exchange (DRIE)
www.drie.org
• DRIE Atlantic
  www.drie-atlantic.org
• DRIE Central (serving Manitoba, Saskatchewan, & NW Ontario)
  www.driecentral.org
• DRIE Ottawa
  www.drieottawa.org
• DRIE South-Western Ontario
  www.drie-swo.org
• DRIE Toronto
  http://toronto.drie.org
• DRIE West
  www.drie-west.org

Disaster Recovery Institute Canada (DRI)
www.dri.ca

Emergency Preparedness for Industry & Commerce Council (EPICC)
www.epicc.org

IAEM Canada
www.iaem.com/canada

Industrial Accident Prevention Assoc (IAPA)
www.iapa.ca

Institute for Catastrophic Loss Reduction
www.iclr.org

Public Safety Canada
www.publicsafety.gc.ca

BIG NEWS
For Organizations, Educational Institutions and Conferences.

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resources@disaster-resource.com

UNITED STATES, NATIONAL & REGIONAL

INTERNATIONAL

Organizations With Headquarters Located Outside of North America

Business Continuity Institute (BCI)
www.thebci.org

Business Continuity Planning (BCP) Asia
www.bcpasia.com

Center for Disaster Mgt & Humanitarian Assistance (CDMHA)
www.cdmha.org

Continuity Forum
www.continuityforum.org

Crisis Navigator – Institute for Crisis Research
www.crisisnavigator.org

Institute of Geological & Nuclear Sciences
www.gns.cri.nz/

Intl Air Transport Assoc (IATA)
www.iata.org

Intl Aviation Fire Protection Assoc (IAFPA)
www.iafpa.org.uk

Intl Emergency Mgt Society (TIEMS)
www.tiems.org

Pan American Health Organization (PAHO)
www.paho.org

Royal United Services Institute (RUSI)
www.rusi.org

World Health Organization (WHO)
www.who.int

UNITED STATES

National, Regional & International Organizations Wirh Headquarters Located in the United States

AFCOM
www.afcom.com

American Academy of Medical Administrators (AAMA)
www.aameda.org

American Hospital Assoc (AHA)
www.aha.org

American Industrial Hygiene Assoc
www.aiha.org

American Institute of Chemical Engineers (AICHE)
www.aiche.org

American Lifelines Alliance (ALA)
www.americanlifelinesalliance.com

American Psychological Assoc (APA)
www.apa.org

American Public Works Assoc
www.apwa.net

American Radio Relay League (ARRL)
www.arrl.org

American Red Cross
www.redcross.org

American Society for Industrial Security (ASIS)
www.asisonline.org

American Society of Civil Engineers (ASCE)
www.asce.org

American Society of Safety Engineers (ASSE)
www.asse.org

APCO Intl
www.apco911.org

ARMA Intl
www.arma.org

Assoc for Enterprise Information (AFEI)
www.afei.org

Assoc for Facilities Engineering (AFE)
www.afe.org

Assoc of Contingency Planners (ACP)
www.acp-international.com

Assoc of Energy Engineers
www.AEEcenter.org

Assoc of Environmental & Engineering Geologists (AEG)
www.aegweb.org

Assoc of State Dam Safety Officials (ASDSO)
www.damsafety.org

Assoc of State Floodplain Managers (ASFPM)
www.floods.org

Assoc of Traumatic Stress Specialists (ATSS)
www.atss.info

Building Owners & Managers Assoc Intl (BOMA)
www.boma.org

Building Seismic Safety Council
www.bssconline.org

Business Continuity Institute
• U.S. Chapter,
douglas.weldon@thomsonreuters.com
www.thebci.org

Business Network of Emergency Resources (BNET)
www.bnetinc.org

Center for Earthquake Research & Information (CERI)
www.ceri.memphis.edu

Center for Internet Security
www.cisecurity.org

Center for Excellence In Disaster Mgt & Humanitarian Assistance
www.coe-dmha.org

Centers for Disease Control & Prevention (CDC)
www.cdc.gov

Central U.S. Earthquake Consortium (CUSEC)
www.cusec.org

CERT® Coordination Center
www.cert.org

Chartered Property Casualty Underwriters Society (CPCU)
www.cpcusociety.org

COMMON
www.common.org

Conference Board
www.conference-board.org

Contingency Planning Exchange (CPE)
www.cpeworld.org

Dart Center for Journalism & Trauma
www.dartcenter.org

Disaster Preparedness & Emergency Response Assoc (DERA)
www.disasters.org

Disaster Research Center
www.udel.edu/DRC

Disaster Recovery Institute Intl (DRI)
www.drii.org

Earthquake Engineering Research Institute (EERI)
www.eeri.org

Emergency Mgt Accreditation Program (EMAP)
www.emaponline.org

Emergency Mgt Forum
www.emforum.org

Emergency Medicine Learning & Resource Center
www.emlrc.org

Employee Assistance Professionals Assoc (EAP)
www.eapassn.org

FEMA Regions
www.fema.gov
• **CT, MA, ME, NH, RI, VT**
www.fema.gov/region-i-ct-me-ma-nh-ri-vt
• **NY, NJ, Puerto Rico, Virgin Islands**
www.fema.gov/region-ii
• **DC, DE, MD, PA, VA, WV**
www.fema.gov/region-iii-dc-de-md-pa-va-wv
• **AL, FL, GA, KY, MS, NC, SC, TN**
www.fema.gov/region-iv-al-fl-ga-ky-ms-nc-sc-tn
• **IL, IN, MI, MN, OH, WI**
www.fema.gov/region-v-il-mi-mn-oh-wi
• **AR, LA, NM, OK, TX**
www.fema.gov/region-vi/region-6-contact-us
• **IA, KS, MO, NE**
www.fema.gov/region-vii-ia-ks-mo-ne-0
• **CO, MT, ND, SD, UT, WY**
www.fema.gov/region-viii-co-mt-nd-sd-ut-wy
• **AZ, CA, HI, NV, Pacific Islands**
www.fema.gov/fema-region-ix-arizona-california-hawaii-nevada-pacific-islands
• **AK, ID, OR, WA**
www.fema.gov/region-x-ak-id-or-wa

Feeding America
http://feedingamerica.org

Healthcare Information & Mgt Systems Society (HIMSS)
www.himss.org

High Technology Crime Investigation Assoc (HTCIA)
www.htcia.org

Humane Society of The United States
www.humanesociety.org/disaster

Information Systems Audit & Control Assoc (ISACA)
www.isaca.org

Information Systems Security Assoc (ISSA)
www.issa.org

Infragard
http://chicagoinfragard.org/

Infrastructure Security Partnership (TISP)
www.tisp.org

Insurance Institute for Business & Home Safety (IBHS)
www.ibhs.org

Institute of Internal Auditors (IIA)
www.theiia.org

Insurance Information Institute
www.iii.org

Intl Assoc of Arson Investigators (IAAI)
www.firearson.com

Intl Assoc of Dive Rescue Specialists
www.iadrs.org

Intl Assoc of Emergency Managers (IAEM)
www.iaem.com

Intl Assoc of Fire Chiefs (IAFC)
www.iafc.org

Intl Assoc of Privacy Professionals (IAPP)
www.privacyassociation.org

Intl City/County Mgt Assoc (ICMA)
www.icma.org

Intl Code Council (ICC)
www.iccsafe.org

Intl Critical Incident Stress Foundation (ICISF)
www.icisf.org

Intl Facility Mgt Assoc (IFMA)
www.ifma.org

Intl Society for Traumatic Stress Studies (ISTSS)
www.istss.org

Intl Window Film Assoc (IWFA)
www.iwfa.com

Internet Security Alliance
www.isalliance.org

IT Governance Institute
www.itgi.org

Joint Commission
www.jointcommission.org

Visit the Online GUIDE for more expanded information. www.disaster-resource.com

UNITED STATES, STATE AND LOCAL ORGANIZATIONS

Mennonite Disaster Service
www.mds.mennonite.net

Mercy Corps
www.mercycorps.org

Multidisciplinary Center for Earthquake Engineering Research (MCEER)
http://mceer.buffalo.edu

Multihazard Mitigation Council
www.nibs.org/?page=mmc

Natl Academies of Emergency Dispatch (NAED)
www.emergencydispatch.org

Natl Assoc for Search & Rescue (NASAR)
www.nasar.org

Natl Assoc of Catastrophe Adjusters (NACA)
www.nacatadj.org

Natl Assoc of EMS Physicians
www.naemsp.org

Natl Assoc of Emergency Medical Technicians (NAEMT)
www.naemt.org

Natl Center for Post-Traumatic Stress Disorder
www.ptsd.va.gov/

Natl Defense Industrial Assoc (NDIA)
www.ndia.org

Natl Emergency Communications Institute (NECI)
www.neci911.com

Natl Emergency Mgt Assoc (NEMA)
www.nemaweb.org

Natl Emergency Number Assoc
www.nena.org

Natl Environmental Health Assoc
www.neha.org

Natl Fire Protection Assoc (NFPA)
www.nfpa.org

Natl Hydrological Warning Council
http://hydrologicwarning.org/

Natl Institute for Urban Search & Rescue (NIUSR)
www.niusr.org

Natl Organization for Victim Assistance (NOVA)
www.trynova.org

Natl Safety Council (NSC)
www.nsc.org

Natl Sheriff's Assoc
www.sheriffs.org

Natl Voluntary Organizations Active in Disaster
www.nvoad.org

Natl Watershed Coalition
www.watershedcoalition.org

Natural Hazards Center
www.colorado.edu/hazards/

Next of Kin Registry (NOKR)
www.nokr.org

Northeast States Emergency Consortium (NESEC)
www.nesec.org

Operation USA
www.opusa.org

PRISM Intl
www.prismintl.org

Private & Public Businesses, Inc.
www.ppbi.org

Property Loss Research Bureau
www.plrb.org

Public Agency Risk Managers Assoc (PARMA)
www.parma.com

Public Entity Risk Institute
www.riskinstitute.org

Public Risk Mgt Assoc (PRIMA)
www.primacentral.org

Public Utilities Risk Mgt Assoc
www.purma.org

Restoration Industry Association
www.restorationindustry.org

Risk & Insurance Management Society (RIMS)
www.rims.org

Salvation Army
www.salvationarmyusa.org

SANS Institute
www.sans.org

Securities Industry And Financial Markets Association (SIFMA)
www.sifma.org

Security Industry Association (SIA)
www.siaonline.org

Seismological Society Of America
www.seismosoc.org

SHARE
www.share.org

Society For Human Resource Management (SHRM)
www.shrm.org

Society For Risk Analysis
www.sra.org

Southern California Earthquake Center (SCEC)
www.scec.org

Storage Networking Industry Association (SNIA)
www.snia.org

Wall Street Technology Association
www.wsta.org

Weather Research Center
www.wxresearch.com

Western States Seismic Policy Council
www.wsspc.org

ALABAMA

Alabama Assoc of Emergency Managers
www.aaem.us

State of Alabama, EMA
www.ema.alabama.gov

State of Alabama, Homeland Security
www.homelandsecurity.alabama.gov

ALASKA

State of Alaska, Division of Homeland Security & Emergency Mgt
www.ak-prepared.com

ARIZONA

Arizona Emergency Services Assoc
www.azaesa.org

Assoc of Contingency Planners
• Central Arizona Chapter
www.azacp.org/

State of Arizona, DEM
www.dem.state.az.us

State of Arizona, Homeland Security
www.homelandsecurity.az.gov

ARKANSAS

Assoc Contingency Planners
• Arkansas Chapter
http://arkansas.acp-international.com/

State of Arkansas, DEM
www.adem.arkansas.gov

Arkansas Emergency Mgt Assoc (AEMA)
www.adem.arkansas.gov/adem/aema/index.aspx

CALIFORNIA

American Red Cross, OC Chapter
www.redcross.org/ca/orange-county

Assoc of Contingency Planners (ACP)
• Los Angeles Chapter
http://la.acp-international.com/
• Orange County Chapter
www.acpoc.org/
• Sacramento Chapter
http://sac.acp-international.com/
• San Diego Chapter
http://sandiego.acp-international.com/
• San Francisco Bay Area Chapter
http://sfba.acp-international.com/

Assoc of Sacramento Area Planners (ASAP)
www.asapsite.org

Business & Industry Council for Emergency Planning & Preparedness (BICEPP)
www.bicepp.org

Business Recovery Managers Assoc (BRMA)
• Northern California
www.brma.com

California Emergency Services Assoc (CESA)
• Coastal Chapter
www.cesa.net/meet-the-chapters/coastal-chapter.aspx
• Inland Chapter
www.cesa.net/meet-the-chapters/inland-chapter.aspx
• Southern Chapter
www.cesa.net/meet-the-chapters/southern-chapter.aspx

Collaborating Agencies Responding to Disasters (CARD)
www.firstvictims.org

Consortium of Universities for Research in Earthquake Engineering (CUREE)
www.curee.org

Hospital Assoc of Southern California
www.hasc.org

San Francisco Fire Department NERT Training
www.sfgov.org/sffdnert

State of California, Emergency Mgt Agency
www.oes.ca.gov

COLORADO

Assoc of Contingency Planners
• Colorado Rocky Mountain Chapter
www.crmc-acp.org/

State of Colorado, Dept. of Public Safety
http://cdpsweb.state.co.us/

State of Colorado, DEM
www.coemergency.com/

CONNECTICUT

Assoc of Contingency Planners
• Hartford Chapter
http://ct.acp-international.com/

Connecticut Emergency Mgt Assoc
www.cemaonline.org

State of Connecticut, Dept. of Emergency Services & Public Protection
www.ct.gov/demhs

DELAWARE

Assoc of Contingency Planners
• First State – Wilmington Chapter
http://firststate.acp-international.com/

State of Delaware, EMA
http://dema.delaware.gov

State of Delaware, Safety & Homeland Security
http://dshs.delaware.gov/

DISTRICT OF COLUMBIA

Assoc of Contingency Planners
• Washington DC Chapter
www.acpdc.org/

UNITED STATES, STATE AND LOCAL ORGANIZATIONS

District of Columbia, Homeland
Security & Emergency Mgt Agency
http://hsema.dc.gov

FLORIDA

Assoc of Contingency Planners
• Florida Capital Region Chapter –
  Tallahassee
  http://floridacapitalregion.
  acp-international.com
• Greater Tampa Bay Chapter
  www.gtbacp.com/
• Northeast Florida –
  Jacksonville Chapter
  www.northeastfloridaacp.org
• Southeast Florida Chapter
  http://sefl.acp-international.com/

Florida Citizen Corps Program
www.FloridaDisaster.org/CitizenCorps

Emergency Medicine Learning
& Resource Center
www.femf.org

Florida Emergency Preparedness Assoc
www.fepa.org

State of Florida, Division
of Emergency Mgt
www.floridadisaster.org

State of Florida, Homeland Security
www.fdle.state.fl.us

GEORGIA

Assoc of Contingency Planners
• Atlanta Chapter
  http://atlanta.acp-international.com

Georgia Emergency Mgt Assoc
www.emagonline.com

State of Georgia, Emergency Mgt
Agency & Homeland Security
www.gema.state.ga.us

GUAM

Guam, Homeland Security/
office of Civil Defense
www.guamhs.org/

HAWAII

Contingency Planners of the Pacific
www.contingencyplannersofthepacific.org

State of Hawaii, Civil Defense
www.scd.hawaii.gov

IDAHO

State of Idaho, Bureau
of Homeland Security
www.bhs.idaho.gov

ILLINOIS

Business Resumption Planners
Assoc (BRPA)
www.brpa-chicago.org/

Illinois Emergency Services Mgt
Assoc (IESMA)
www.iesma.org

State of Illinois, Emergency Mgt
Agency & Homeland Security
www.state.il.us/iema

INDIANA

Emergency Mgt Alliance of Indiana
www.in.gov/dhs/3792.htm

Midwest Contingency Planners
www.midwestcontingencyplanners.org

State of Indiana, Emergency Mgt
& Homeland Security
www.in.gov/dhs

IOWA

Iowa Contingency Planners
www.icp-web.net/

Iowa Emergency Mgt Assoc
www.iowaaema.com/

State of Iowa, Homeland Security
& Emergency Mgt
www.iowahomelandsecurity.org

KANSAS

Kansas Emergency Mgt Assoc (KEMA)
www.kema.org

Partnership for Emergency Planning
www.pepkc.org

State of Kansas, Division
of Emergency Mgt
www.ksready.gov/

KENTUCKY

Assoc of Contingency Planners
• Kentuckiana Chapter
  http://kentuckiana.acp-international.com/

Kentucky Emergency Mgt Assoc
www.kyema.org

State of Kentucky, DEM
http://kyem.ky.gov

State of Kentucky, Homeland Security
http://homelandsecurity.ky.gov

LOUISIANA

Assoc of Contingency Planners
• SE Louisiana (New Orleans) Chapter
  http://sela.acp-international.com

Louisiana Emergency Preparedness
Assoc (LEPA)
www.lepa.org

South East Louisiana Search
& Rescue (SELSAR)
www.selsar.com

State of Louisiana, Homeland Security
& Emergency Preparedness
http://gohsep.la.gov/

MAINE

State of Maine, Emergency Mgt Agency
www.maine.gov/mema

MARYLAND

Assoc of Contingency Planners
• Central Maryland (Baltimore) Chapter
  http://centralmd.acp-international.com/

Maryland Emergency Mgt Assoc
www.mdema.org/

Mid Atlantic Disaster Recovery
Assoc (MADRA)
www.madra.org

State of Maryland, EMA
www.mema.state.md.us

State of Maryland, Homeland Security
www.governor.maryland.gov/gohs

MASSACHUSETTS

Assoc of Contingency Planners
• Greater Boston Chapter
  http://greaterboston.acp-international.com/

Northeast States Emergency
Consortium (NESEC)
www.nesec.org

NorthEast Disaster Recovery
Information Exchange (NEDRIX)
www.nedrix.com

State of Massachusetts, EMA
www.mass.gov/mema

MICHIGAN

Assoc of Contingency Planners
• Michigan Chapter
  http://michigan.acp-international.com/

Great Lakes Business Recovery Group
http://glbrg.org/

Michigan Emergency Mgt Assoc
Visit on Facebook, www.facebook.com

State of Michigan, Emergency Mgt
& Homeland Security Division
www.michigan.gov/emhsd

MINNESOTA

Assoc of Minnesota Emergency
Managers (AMEM)
www.amemminnesota.org

Business Continuity Planners Assoc
www.bcpa.org

State of Minnesota, Homeland Security
& Emergency Mgt
www.ready.gov/minnesota

MISSISSIPPI

Mississippi Civil Defense /
Emergency Assoc
www.mcdema.org

State of Mississippi, EMA
www.msema.org

State of Mississippi, Homeland Security
www.homelandsecurity.ms.gov

MISSOURI

Missouri Emergency
Preparedness Assoc
www.momepa.org/

Partnership for Emergency Planning
www.pepkc.org

State of Missouri,
Emergency Mgt Agency
http://sema.dps.mo.gov

State of Missouri,
Office of Homeland Security
www.dps.mo.gov/dir/programs/ohs/

MONTANA

State of Montana,
Disaster & Emergency Services
http://montanadma.org/
disaster-and-emergency-services

NEBRASKA

Nebraska Assoc of Emergency Mgt
www.naem.us

State of Nebraska, EMA
www.nema.ne.gov

NEVADA

State of Nevada,
Division of Emergency Mgt
http://dem.state.nv.us/

NEW HAMPSHIRE

State of New Hampshire, Homeland
Security & Emergency Mgt
www.nhoem.state.nh.us

NEW JERSEY

Assoc of Contingency Planners
• Garden State Chapter
  http://gardenstate.acp-international.com

American Red Cross
of Central New Jersey
www.njredcross.org

New Jersey County
Emergency Mgt Coordinators Assoc
www.state.nj.us/njoem/association.html

New Jersey Emergency Mgt Assoc
www.njema.org

State of New Jersey, Homeland
Security & Preparedness
www.njhomelandsecurity.gov

State of New Jersey, OEM
www.state.nj.us/njoem

Visit the Online GUIDE for more expanded information. www.disaster-resource.com

NEW MEXICO

New Mexico Emergency Mgt Assoc
www.nmema.org/

State of New Mexico, Homeland Security & Emergency Mgt
www.nmdhsem.org

NEW YORK

Assoc of Contingency Planners
• Eastern Great Lakes Chapter
http://easterngreatlakes.acp-international.com/
• Long Island Chapter
www.acp-li.org/
• New York City Metro Chapter
http://nycmetro.acp-international.com/
• NY Capital Region (Albany) Chapter
http://nycapitalregion.acp-international.com/

Contingency Planning Exchange
www.cpeworld.org

New York State Emergency Managers Assoc
www.nysema.org/

State of New York, EMA
www.semo.state.ny.us

State of New York, Homeland Security
www.security.state.ny.us

NORTH CAROLINA

Contingency Planning Assoc of the Carolinas (CPAC)
www.cpaccarolinas.org

State of North Carolina, EMD
www.ncem.org

NORTH DAKOTA

State of North Dakota, Department of Emergency Services
www.state.nd.us/des

NORTHERN MARIANA ISLANDS

Northern Mariana Islands Emergency Mgt & Homeland Security
www.cnmiemo.gov.mp

OHIO

American Red Cross Business Emergency Planning Assoc (BEPA)
www.redcross-cleveland.org/bepa/

Contingency Planners of Ohio
www.cpohio.org

Ohio Emergency Mgt Assoc
www.emaohio.org

State of Ohio, Dept. of Public Safety
www.publicsafety.ohio.gov

State of Ohio, Emergency Mgt Agency
www.ema.ohio.gov

OKLAHOMA

Assoc of Contingency Planners
• Oklahoma Chapter
http://oklahoma.acp-international.com/

Oklahoma Emergency Mgt Assoc
www.oema.us

State of Oklahoma, Dept. of Emergency Mgt
www.oem.ok.gov

State of Oklahoma, Homeland Security
www.homelandsecurity.ok.gov

OREGON

Oregon Emergency Mgt Assoc
www.oregonemergency.com

State of Oregon, Emergency Mgt
www.oregon.gov/OMD/OEM

State of Oregon, Homeland Security
www.oregon.gov/OSP/CTS

PENNSYLVANIA

Assoc of Contingency Planners
• Liberty Valley (Philadelphia) Chapter
http://libertyvalley.acp-international.com/
• Mid Pennsylvania Chapter
http://midpenn.acp-international.com/

Keystone Emergency Mgt Assoc
www.kema-pa.org/

State of Pennsylvania, Emergency Mgt Agency
www.pema.state.pa.us

Three Rivers Contingency Planning Assoc
www.trcpa.org

RHODE ISLAND

State of Rhode Island, EMA
www.riema.ri.gov

SOUTH CAROLINA

South Carolina Law EOA
www.scleoa.org

State of South Carolina, EMD
www.scemd.org

State of South Carolina, Dept. of Public Safety
www.scdps.gov

SOUTH DAKOTA

Assoc of Contingency Planners
• Sioux Empire Chapter
http://sioux.acp-international.com/

South Dakota Emergency Mgt Assoc
www.sdema.org/

State of South Dakota, Dept of Public Safety
www.oem.sd.gov

TENNESSEE

Assoc of Contingency Planners
• Mid-South ACP – Memphis
www.msacp.org/
• Middle Tennessee Chapter
http://midtenn.acp-international.com/

Tennessee Emergency Mgt Assoc
www.emat.org

State of Tennessee, EMA
www.tnema.org

State of Tennessee, Homeland Security
www.state.tn.us/homelandsecurity

TEXAS

Assoc of Contingency Planners
• Alamo Chapter – (San Antonio)
http://alamo.acp-international.com/
• Capital of Texas (Austin) Chapter
http://capitaloftexas.acp-international.com/
• North Texas (Dallas) Chapter
http://northtx.acp-international.com/
• South Texas (Houston) Chapter
http://southtx.acp-international.com/
• Texas Panhandle (Amarillo) Chapter
http://txpanhandle.acp-international.com

Emergency Mgt Assoc of Texas
www.emat-tx.org

State of Texas, DEM
www.txdps.state.tx.us/dem/

UTAH

Assoc of Contingency Planners
• Utah Chapter
http://utah.acp-international.com/

State of Utah, DEM
www.des.utah.gov

Utah Emergency Mgt Assoc
http://uemaonline.com/

VERMONT

State of Vermont, EMA
http://vem.vermont.gov/

VIRGINIA

Assoc of Contingency Planners
• Hampton Roads Chapter
http://hamptonroads.acp-international.com/

• Old Dominion (Richmond) Chapter
http://olddominion.acp-international.com/

Mid Atlantic Disaster Recovery Assoc (MADRA)
www.madra.org

State of Virginia, DEM
www.vaemergency.com

State of Virginia, office of Commonwealth Preparedness
www.commonwealthpreparedness.virginia.gov

Virginia Emergency Mgt Assoc
www.vemaweb.org

WASHINGTON

Assoc of Contingency Planners
• Washington State Chapter
www.acp-wa-state.org/

State of Washington, Emergency Mgt Division
www.emd.wa.gov

Washington State Emergency Mgt Assoc (WASEMA)
www.wsema.com

WEST VIRGINIA

State of West Virgina, Division of Homeland Security & Emergency Mgt
www.dhsem.wv.gov/

WISCONSIN

Business Recovery Planners Assoc of South Eastern Wisconsin (BRPASW)
http://brpasw.com/

State of Wisconsin, Emergency Mgt
http://emergencymanagement.wi.gov

Wisconsin Emergency Mgt Assoc
www.wema.us

WYOMING

State of Wyoming, Homeland Security
http://wyohomelandsecurity.state.wy.us

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2014

JANUARY

January 7 – 10
International Disaster Conference & Expo
New Orleans, LA
www.idcexpo.net

January 12 – 18
2014 NACA Annual Convention
Panama City, FL
www.nacatadj.info

FEBRUARY

February 23 – 27
2014 HIMSS Annual Conference
Orlando, FL
www.himssconference.org

MARCH

March 4 – 6
2014 National Facilities Management & Technology Conference & Expo
Baltimore, MD
www.nfmt.com

March 16 – 19
Claims Conference
Indianapolis, IN
www.claimsconf.org

March 18 – 19
IFMA Facility Fusion 2014 Ottawa
Ottawa, Canada
http://facilityfusion.ifma.org/ottawa

March 30 – April 2
Disaster Recovery Journal Spring World
Orlando, FL
www.drj.com

March 31 – April 4
Interop Las Vegas
Las Vegas, NV
www.interop.com

APRIL

April 1 – 4
ISC West 2014
Las Vegas, NV
www.iscwest.com

April 7 – 10
2014 National Radiological Emergency Preparedness Conference
Salt Lake City, UT
www.nationalrep.org

April 9 – 10
GLOBALCON 2014
Atlantic City, NJ
www.aeecenter.org/globalcon

April 14 – 17
2014 National Hurricane Conference
Orlando, FL
http://hurricanemeeting.com/

April 15 – 17
IFMA Facility Fusion 2014
Washington, DC
http://facilityfusion.ifma.org/dc

April 22 – 24
Data Storage Innovation Conference
Santa Clara, CA
www.dsicon.org

April 27 – 30
RIMS Annual Conference & Exhibition
Denver, CO
www.rims.org

April 28 – 30
Continuity Insights Management Conference
New Orleans, LA
http://www.continuityinsights.com/

April 28 – May 2
Data Center World
Las Vegas, NV
www.datacenterworld.com

MAY

May 13 – 14
GOVSEC & CPM East
Washington, DC
www.contingencyplanning.com

May 13 – 15
FOSE Conference and Exhibition
Washington, DC
www.fose.com

May 18 – 21
DRI International 2014 Conference
Atlanta, GA
www.drii.org

May 20 - 22
Gartner Supply Chain Executive Conference
Phoenix, AZ
www.gartner.com

JUNE

June 2 – 4
Gartner PPM & IT Governance Summit
National Harbor, MD
www.gartner.com

June 4 – 5
Gartner CIO & IT Executive Summit
Berlin, Germany
www.gartner.com

June 9 – 12
NFPA Conference & Expo
Las Vegas, NV
www.nfpa.org/training

June 15 – 18
World Conference on Disaster Management
Toronto, Canada
www.wcdm.org

June 22 – 24
Every Building Conference & Expo
BOMA International
Orlando, FL
www.bomaconvention.org

June 23 – 26
Gartner Security & Risk Management Summit
National Harbor, MD (Washington, D.C. area)
www.gartner.com

JULY

July 17 - 20
ClinCon Conference
Emergency Medicine Learning & Resource Center, EMLRC
Orlando, FL
www.emlrc.org/clincon.html

AUGUST

August 2 – 7
Black Hat USA
Las Vegas, NV
www.blackhat.com/

August 3 – 6
APCO Annual Conference & Expo
New Orleans, LA
www.apco2014.org

August 25 – 26
Gartner Security & Risk Management Summit
Sydney, Australia
www.gartner.com

SEPTEMBER

September 7 – 10
Disaster Recovery Journal Fall World
San Diego, CA
www.drj.com

September 9 - 10
Gartner Security & Risk Management Summit
London, UK
www.gartner.com

September 13 - 19
National Safety Council Congress
San Diego, CA
www.congress.nsc.org

September 15-18
Storage Developer Conference
Santa Clara, CA
www.storagedeveloper.org

September 17 – 19
IFMA World Workplace Conference & Expo
International Facility Management Association (IFMA)
New Orleans, LA
www.ifma.org

September 29 – October 2
ASIS International 60th Annual Conference
Atlanta, GA
www.asisonline.org

September 29 – October 3
Interop New York
New York, NY
www.interop.com

Making the World Prepared

DRI International's mission is to make the world prepared, and that mandate is taken seriously.

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DRI supports global sustainability efforts by training individuals, communities, and organizations about best practices in resilience. DRI's 10,000+ active certified professionals worldwide lead programs to protect organizations from the outcomes of natural and manmade disasters of all kinds. The premier global education and certification body in business continuity and disaster recovery planning, DRI is a resource and a standard for those individuals who build programs to protect the critical infrastructure of the global economy. Resilience is about responding to the effects of disasters rather than focusing on the multitude of potential causes. This flexible mindset enables organizations to recover from disruptions and even disasters with minimum impact and ensures all stakeholders that their trust is well-founded.

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The *KOOL Kit* ™

By Emergency Lifeline

The *KOOL Kit* has key benefits for families, friends and colleagues – and you!

**72-hour* Support
for 1 person:**

Long-Shelf Life – most items have 5-year or unlimited shelf life

Economical – costs less than you could assemble on your own AND saves time.

And…the *KOOL Kit* is packed in a bag that can be used to keep things *KOOL*!

Here's What You'll Find in a *KOOL Kit* …

1	Emergency Foodbar, 3600 Calories
6	Emergency Water Pouches, 4.22 ounces each
1	Mylar-Type Emergency Blanket
3	Adhesive Bandages, 1″ x 3″, sterile
2	Gauze Sponges, 4″x 4″, sterile, (1 twin-pack)
4	Benzalkonium Chloride Antiseptic Wipes
2	Antibiotic Ointment, 0.5 g packets
1	Tenderskin Tape, 1/2″ x 10 yards
1	12-Hour Green Lightstick
1	Whistle
3	Infectious Waste Bags with Ties
1	Personal Tissue Pack
12	Premoistened Towelettes
1	Toothbrush & Paste Set

*PREPAREDNESS TIP: Water Storage

The KOOL Kit includes minimum water amounts for passive and resting conditions. We suggest you supplement your preparedness with additional water storage. HOW MUCH? Ready.gov recommends that you store at least one gallon of water per person per day. Visit www.ready.gov/water to learn more about water storage.

Contact Emergency Lifeline for numerous ways you can economically store water in bulk storage for up to 5 years.

Get Your *KOOL Kit* Today! VISIT EMERGENCYLIFELINE.COM

To order in bulk at a discount, contact Emergency Lifeline at 800-826-2201 x801, sales@emergencylifeline.com

Emergency Lifeline Corporation, founded in 1985, is the publisher of the acclaimed Disaster Resource GUIDE, the One-stop Resource for Emergency Preparedness and Business Continuity.

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www.disaster-resource.com

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www.belfor.com

Bellevue University
Page 43
www.bellevue.edu/EMGT

The Business Continuity Institute
Pages 14, 48, 49
www.thebci.org

CSC
Page 79
Csc.com/cybersecurity

Dell Software
Pages 2, 3
www.alertfind.com

Deployed Resources
Pages 113, 117, 131
deployedresources.com

DRI International
Page 34
www.drii.org

Eagle Rock Alliance, Ltd.
Pages 14, 15, 35
www.eaglerockalliance.com

Emergency Lifeline Corporation
Pages 61, 76–78, 97, 107, 125, 161–166, 177
www.emergencylifeline.com

ERMS Corporation
Page 124
www.ermscorp.com

KETCHConsulting, Inc.
Pages 14, 15, 35, 61, 97, 107
www.ketchconsulting.com

Mail-Gard
Page 37
www.mailgard.com

Parker Hannifin Corporation
Pages 68, 69
www.parker.com/watermakers

**Piccadilly
Emergency Services**
Pages 61, 73, 125
Piccadilly.com/
emergency-services

RecoveryPlanner
Pages 35, 54, 132
www.RecoveryPlanner.com

Ring Power Corporation
Page 121
ringpower-systems.com

**RSA, The Security
Division of EMC**
Pages 4, 5
www.emc.com/rsa

ServiceMaster Restore
Pages 107, 123
www.servicemasterrestore.com

SERVPRO®
Pages 16, 17, 107
www.servpro.com

Symantec Corporation
Pages 9, 12, 79, 81
www.symantec.com

Virtual Corporation
Pages 12, 15, 35, 57
www.theintelligentchoice.com