



## Cell Phones Transforming the Third World

Dr. James Kasprzak and Dr. Mary Anne Nixon

One of the basic principles of the Information Age is that information can be a source of power, efficiency and cost savings. Certainly the processes of government, business and other institutions can be leveraged through the use of information. Nowhere is this principle more in evidence than in the Third World, where the introduction of mobile telecommunications is transforming society. Because telecommunications access has been terribly limited in the poorest countries, "A cell phone placed in the hands of a Third World inhabitant has far more impact in the developing world than it does in the developed world" (Hollet, 2007, p. 1). It is worth noting that women in the Third World appear to be the group most aided by the new telecommunications technologies, including the cell phone.

Because of the prior lack of telecommunications infrastructure, the cell phone has become the most popular form of communication in the Third World. Developing nations have leapfrogged over land lines to adopt cell phone technology. For example, until relatively recently, it was an eight-year wait to have a land line connected to a home in Egypt. A relatively small investment in cell towers has provided swift access to telecommunications in Egypt and large parts of the developing world. Today, as much as 80 percent of all small businesses in Egypt use cell phones. (Eliason,

2007). According to the International Telecommunication Union (ITU), Africa increased the number of its cell phones from 15.6 million to 135 million in the five years from 2001 to 2005 (Biriwasha, 2007). Cell phones have become an essential part of daily life in the Third World. The inhabitants of remote towns and rural villages obtain great advantage from communications content that the developed world has long taken for granted: weather, news,



Woman using her cell phone on top of the Great Wall of China.

commodity prices and community services.

Considering the poverty found in the majority of the population in developing nations, the use of relatively costly cell telecommunications has been surprising. The poor of the Third World have employed a number of business models in order to access "expensive" cell technology. In countries such as Bangladesh, "village phones" provide communications access to an entire

community. Throughout Africa, resellers of cell phone time sell minutes to passers-by. In Nigeria, market kiosks are used to provide local access to telecommunications. The reselling of cell phone time requires no education and has therefore provided significant numbers of jobs to unskilled and poorly educated entrepreneurs. Cell phones are necessary for many businesses: cab drivers, tourist guides, even farmers and retailers find cell communications to be essential to their livelihoods. To operate their businesses, Third World entrepreneurs can spend a high percentage of their total incomes on telecommunications — in some places as high as nine percent (Glusing, Rao, and Schmundt, 2006).

### Women and Cell Phones in the Third World

Women have very special and severe economic problems in the Third World. As a result of such problems as AIDS, war, climate change and migration, there are many women who are single heads of households. Such families are among the poorest, comprising the bottom one-third of households in developing countries (Huyer, 1997). As a result, the poverty of women is a very significant part of overall economic development problems in developing nations. Information can give women jobs and can assist them in their current life

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problems. This has been termed in international studies as the special problem of “Women’s Information Needs” (Huyer, 1997). There is widespread agreement that there is a special, “vital role information can play in the economic development of women in developing countries” (Olorunda, 2004, p. 1).

There are other specialized problems for women in the Third World. Paternalistic and fundamentalist societies may seek to restrict the use of technology by women. Leaflets attributed to the Al-Qaeda leader Al-Zarqawi, for example, declared that women in Iraq are forbidden from driving cars or using cell phones in public (Iraqi women, 2006). Women in general have high rates of illiteracy in the Third World and this has been a barrier to the use of information technology including the Internet. There is no such barrier to the use of voice communications over phones. Cell technology, therefore, is immediately useable for large numbers of uneducated women (Huyer, 1997).

Finally, we note that many women in the traditional households of the Third World are tied to the home site. While males may labor in the fields or in remote work-places, women are more likely to be home, responsible for care of the household, the children and the elders. In such situations, it has proven natural for many women to serve as the fixed focus for shared local telecommunications. Many have started small businesses in their homes, for example, maintaining a cell phone or Internet access point for use by neighbors and surrounding shopkeepers.

There are a variety of applications for cell phone technology that have specially addressed the needs of women in the Third World:

- ◇ **Personal Protection:** Women are especially vulnerable to acts of violence and repression. It has long been recognized in the United States that donated cell phones can help protect battered and abused women and many cities have cell phone recycling programs for women’s shelters (Worlstad, J., 2001). In the Third World, there are even stronger needs for such protection. Cell phones provide a measure of safety, not only from sexual and domestic violence, but from crime, political conflicts and officially sanctioned forms of repression. Rather than travel in war-torn countries such as Congo, a woman may use a simple phone call to reach distant relatives. In South Africa, the Women’s Rights Project uses cell phone communications

to help women seek protection, obtain legal advice and maintain their Constitutional rights (Biriwasha, 2007).

- ◇ **Health Care:** Women are commonly the care givers and health care providers within the family. In the Third World, cell phones are increasingly used to obtain health care information, access health professionals and obtain support from other women. Cell phones significantly decrease the problems of time and distance in assuring the well being of women and their families (Olorunda, 2004).
- ◇ **Farming:** Women are often responsible for managing the domestic animals of the household and many are themselves farmers. In Tobago, for example, women operate over twelve percent of all farms. In the Congo, Burkina Faso, Trinidad and Tobago, there are emerging programs by which women can use cell phones to obtain advice, counsel and technical assistance from agricultural specialists. The agricultural assistance provided to them is seen as an important part of the overall economic development of their nations (Shore, 2006).
- ◇ **Commerce:** For home businesses, cell phones can serve as a link to commercial customers, suppliers and support services. In Africa, access codes released through cell phone text messages are being used to transfer small amounts of money or phone credits as a form of “shadow currency.” This allows women to sell, buy and transfer agricultural produce and handmade crafts without bank accounts or physical access to banking facilities. They also do not run the risks of keeping cash in the home (Glusing et al., 2006).

The advantages of telecommunications to the economic development of women in the Third World are so clear that banks are providing “micro loans” for such purchases as cell phones. In 2006, the Grameen Bank won the Nobel Peace Prize for its extraordinary program providing small loans to individuals for economic development (Glusing et al., 2006). Its sister banks in Bangladesh, Uganda, Rwanda and India frequently lend to women for such small purchases (Eliason, 2007).

### The Future of Cell Phones in the Third World

The dramatic success of cell phones in the Third World was somewhat unexpected. Other technologies, such as satellite communications, fiber optic communications and the Internet

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**The cell phone...has been the first technology to provide the communications advantage to a large segment of the population in developing nations.**

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were regarded as more likely to solve connectivity problems in the developing world. Cell phones, however, have proven to be cheaper, easier to use, require less infrastructure and afford more flexibility and portability than competing technologies. The cell phone, therefore, has been the first technology to provide the communications advantage to a large segment of the population in developing nations. Now that cell phone technology is so widespread among the poor of the Third World, international organizations, including CARE, the United Nations and the World Bank are seeking to leverage this technology for further economic development.

Tapan Parikh, a computer scientist in Seattle, Washington, has developed mobile phone software which provides bookkeeping, inventory control and management for small farms and businesses. He signed his first contract with CARE India in October, 2006, to provide such phones to more than 700 cooperatives. Another project allows coffee growers in Guatemala to use cell phones to take pictures and compile information needed to document their organic crops and sell these to international buyers (Hickey, 2007).

As cell phones become more capable and more widely available in the developing nations, we can expect even further extraordinary economic, social and personal benefits for the inhabitants of the Third World. While current developments in cell communications are only giving incremental benefits to wealthy nations, the rapid introduction of cell technology into the Third World has been truly transformational and has done much to help the poorest inhabitants of the poorest nations in the world.

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## **Trends and Developments in Interactive Learning Technologies**

Dr. Les Pang

The 2007 New Learning Technologies Conference, sponsored by the Society for Applied Learning Technology (SALT), offered participants a view of emerging interactive technologies which apply to education, training and job performance improvement. The following are highlights of the conference.

A number of trends were noted among the conference sessions:

- ◇ Learning technologies are supporting the concept of "constructionist learning" in which students build their own learning objects using technical tools with no or minimal instructor involvement. For example, it has been observed that students appear uninterested in lecture-based (non-interactive) podcasts unless they miss class. They prefer building their own podcasts based on the course material and sharing their learning with their fellow students. *(See the photos on the next page)*
- ◇ The military is very interested in the use of gaming and simulation for training purposes. One illustrative example is the online multiplayer "America's Army" game (<http://www.americasarmy.com/>). One statistic cited during one conference session was that 60 percent of Marines play video games.
- ◇ Cutting edge learning technologies are being directed toward supporting Homeland Security applications such as anti-terrorist training. For example, simulation games are being applied for responding to bioterrorism attacks, natural attacks (e.g., pandemic flu), and mass casualty event scenarios.
- ◇ Work hours are becoming as contemporary as the student's free time. On-the-job training will evolve to reflect the students' activities during their personal time.
- ◇ There is a need for searchable learning objects. Students (and instructors) seem to have a difficult time locating what they need when it is embedded in a wiki, blog or podcast.

- ◇ Cell phones and personal digital assistants are being used to support the learning process. Mobile devices have been used to administer engineering quizzes by one college and for leadership lesson feedback by the Singapore Armed Forces.

- ◇ The 21<sup>st</sup> century learning tools include blogs, wikis, podcasts and RSS feeds.

One pertinent research project that was presented at the conference involved the learning styles of graduate students. The following findings could be used to influence the way technologies are used for learning:

- ◇ Most students are comfortable with sequential, structured assignments with clearly defined expectations.
- ◇ Students desire meaning and concepts behind their assignments.
- ◇ A large percentage of the students want and need to learn things visually.
- ◇ Students prefer choices on how to access learning materials and engage in learning activities.

Other observations at this conference include the following:

- ◇ Instructors should design a core set of coursework which would be used for multiple delivery methods (face-to face, blended, online, podcasting, etc.) throughout its life cycle. Therefore, it is important to maintain a single repository of coursework. Reuse is also an important consideration in building a repository of coursework.
- ◇ Simulations and other learning tools do not sell themselves.

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- ◇ Colleges need to be aware of the Family Educational Rights and Privacy Act (FERPA) particularly when it comes to online grades. FERPA is a federal law aimed at protecting the privacy of students' education records. For example, students must provide written consent before any grades are released to anyone other than the student. Without this consent, grades should not be released to any third party.

Here are the predictions for the "next big thing" when it comes to learning technologies:

- ◇ Software agents (Note: Dr. Steve Knode, a former IRMC professor, was mentioned several times at the conference. Among other things, he is the chief technical officer of BotKnowledge - <http://www.botknowledge.com/>)

Learning objects (One example is Merlot, a web-site that provides peer-reviewed learning material - <http://www.merlot.org/merlot/index.htm>)

- ◇ Online peer reviews and student self-grading
- ◇ Simulation and gaming
- ◇ Open source learning management systems (such as the Sakai Project for online community-based learning and collaboration - <http://www.sakaiproject.org> and the Moodle Service Network, a free e-learning platform—<http://www.moodle.com>)

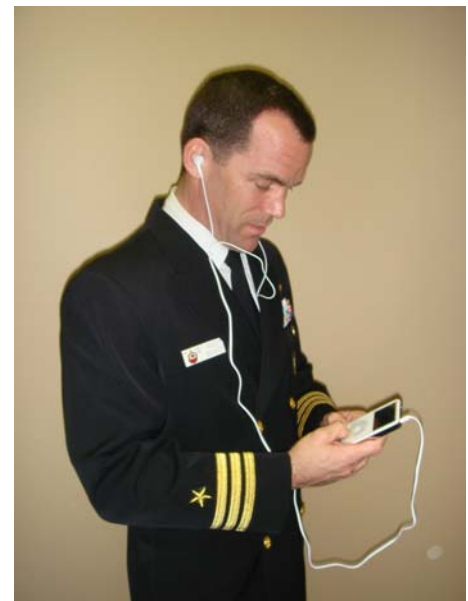
In conclusion, the knowledge gained from this conference illustrates the need to continually scan the environment to identify new interactive learning technologies that can be used to deliver course material more effectively and efficiently as well as fulfill the student's learning requirements.



*Multimedia elective student Maria Thorpe working on a video podcast.*



*Dave Hanko, Jeff Lieb and Tracy Smith collaborating on an audio podcast.*



*William "Andy" Docherty can use his iPod for accessing downloaded audio and video podcasts.*

# Insight from DoD and Industry Thought Leaders

## Dr. Russ Mattern

The Information Processing Interagency Conference (IPIC) has a reputation of perennially attracting top-notch speakers within government and industry — the 2007 conference was no exception. What follows are some of the highlights.

### Dick Burk

The first keynote speaker was Mr. Dick Burk, Enterprise Architect for the Office of Management and Budget (OMB). His first comment was, “Enterprise architecture is a management tool for improving organizational performance.” He immediately pointed out that information technology (IT) is no where to be found in the definition. Emphasis needs to be focused on the business and its processes -- IT enables the business.

According to Mr. Burk, there are several distinct challenges government will be facing in the next 10 years:

- Larger portions of the U.S. budget will be needed to fund Social Security, Medicare, and other entitlement programs. This in turn will result in proportionally smaller discretionary budgets thus creating fiscal monetary problems. Government will be forced to become more effective as well as efficient.

### Dick Burk’s Seven Rules for Moving Forward

1. *Be proactive.*
2. *Reuse what is in place that works.*
3. *Demonstrate the courage to transform.*
4. *Operate collaboratively.*
5. *Use business speak.*
6. *Mission drives architecture.*
7. *Look for assistance beyond one’s organization.*

- Security issues will multiply significantly.
- Government response capability to national disasters needs to be improved.
- Global interdependence is growing — government must be prepared for the changes it will bring.

Better processes will be needed to coordinate between Federal and state agencies. Organizations will be facing the challenge of increasing complexities while at the same time having to develop solutions more quickly. He is firmly convinced that it is important to think across agency and government boundaries and noted the 24 Quicksilver projects as great examples of cross agency collaboration. His discussion centered on making his case for a total transformation of government.

Government needs to move away from an agency or program focus to a citizen-centric focus. Enterprise architecture helps provide a disciplined process to achieve this goal.

He argued for standardized business processes across government. To make this point, he used the example that no less than nine different agencies provide mortgage insurance to the citizenry. To the extent it can be done, stable processes that work across agencies need to be digitized to free up the smaller future government workforce so it could concentrate on solutions to more complex services demanded by citizens.

His statement that there is an 11<sup>th</sup> century funding process supporting a 21<sup>st</sup> century government brought applause.

He concluded with his seven rules for moving forward:

1. Be proactive. Change agents in every organization must be totally engaged.
2. Reuse what is in place that works—do not start building new solutions without looking for what is already working out there.
3. Demonstrate the courage to transform.
4. Operate collaboratively—engage stakeholders and visit them. This goes for IT leaders, CIOs as well as enterprise architects!
5. When talking to other CXOs, use business speak and not IT speak--talk in terms of mission accomplishment and customer satisfaction. There are no IT projects, only business projects.
6. Mission drives architecture.

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7. Look for assistance beyond one's organization. Architects and CIOs should not be trying to go it alone—there are many pioneers out there who are willing to offer assistance.

### John Grimes

John Grimes, the DoD CIO, gave a presentation was entitled, "An IT Enterprise-level Perspective." He noted that efforts to transform government got a boost during the Clinton White House years. Specifically, Al Gore's Reinventing Government initiative resulted in the Government Results and Performance Act. Mr. Grimes had served on the Clinton's White House staff earlier in his career.

He cited several DoD statistics. The DoD IT budget is \$31.4 billion not including IT embedded within weapon systems and other dollars that the Services spend out on other, non-IT accounts. The \$31.4 billion amounts to half of the Federal IT budget. DoD operates in 146 countries, owns 30 million acres of land and 600,000 buildings—it is a large enterprise. DoD uses 5 million PCs and 2 million laptops. Ten million Common Access Cards (CAC) have been issued. DoD operates three global networks: NIPRNet, SIPRNet, and JWICS.

The future of IT investment lies in the following:

- Dollars will be saved by shutting down legacy systems
- DoD will strive to make IT investments transparent
- DoD IT budget growth will be 2.8% in FY08

Two key goals of DoD IT are:

1. Ensuring information sharing and interoperability particularly in support of net centric warfare
2. Protecting information (this costs about \$2.5 billion annually)

Goals for data are to make it visible, accessible, and understandable. A sound data strategy is key to successful information sharing. Service-Oriented Architectures (SOA) are needed to separate data from the application layer in order to make it visible. Data must be accessible—an example of this was the Maritime Community of Interest, a Navy and Coast Guard collaboration.

Cyber threats are occurring 24 by 7. He noted that the National Defense University network was attacked and taken down. Aggressors are increasingly immune, adaptive, and enduring. And, we know who they are. Their target is our information. The National Security Agency is trying to keep up.

Solutions to DoD issues include:

1. Accelerating Network Defense Initiatives
2. Cross domain solutions, i.e., involving Intelligence and DoD communities
3. Certification and Accreditation
4. Global Information Grid (GIG) information assurance
5. Protection of data at rest

Changes needed in IT acquisition include:

- Reducing the number of custom solutions
- Using more Requests for Information (RFIs) and draft Requests for Proposals (RFPs).
- Reducing the use of proprietary software
- Being innovative to maximize IT investments
- Deploying Commercial-Off-The-Shelf (COTS) products based on standard, and not custom configuration.

The way ahead for DoD involves:

- Adopt before buy, buy before create (the "ABCs")
- Place emphasis on secure enterprise level capabilities that are IP based and web enabled
- DoD must remain customer focused on the warfighter.

Major threats include:

- Foreign ownership and production of IT products such as Lenovo laptops
- Code written overseas

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## **John Grimes' on The Way Ahead for DoD:**

*Adopt before buy; buy before create*

*Place emphasis on secure enterprise level capabilities that are IP based and web enabled*

*DoD must remain customer focused on the warfighter.*

## Insight (cont.)

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He addressed a question from the audience concerning DoD reduced usage of General Services Administration (GSA) contract vehicles and schedules. It turns out that many DoD organizations had parked end-of-year, about-to-expire, dollars out on GSA contract vehicles. When GSA decided to bring FTS contracting operations back in under their control, they discovered this “parked” money and returned over a billion of it to the U.S. Treasury. This was very disturbing to the DoD leadership. Mr. Grimes pointed out that DoD has been using more in-house contracting vehicles and contracting personnel and fewer GSA contract vehicles.

### Ross Perot

Mr. Perot provided a stirring presentation on leadership, calling for more of it within government. As part of his introduction, the master of ceremonies pointed out that he started, built, and sold two very successful companies. Perhaps even more interesting, he also purchased a copy of the Magna Carta from England and brought it to the U.S. and gave it to the U.S. government. Finally it was noted that he had run for the Office of President of the United States and garnered a significant portion of the vote.

His major premise was that all organizations need more leaders -- not managers.

The first rule was to treat everyone in the organization with dignity and respect.

His precepts of leadership were:

- Always be ready
- Defend the poor
- Do no harm
- Never break your word

He noted that the pioneers were ready to act, were generous by nature, and readily shared what they had. This without any assistance from the government! Likewise the Pilgrims had no government assistance programs available to them; they had to make it on their own, without any guarantees. Many have forgotten the high price paid by our founding fathers. One signer of the Declaration of Independence returned after the revolution to find his wife and 13 children had vanished, never to be seen again.

He discussed the leadership skills of Attila the Hun:

- Actions speak louder than words
- You cannot say one thing and do another

He added his own thoughts:

- Have no tolerance for the uncommitted
- You must have people who love to win
- Employees must continually improve themselves
- People will learn to love and embrace change
- Leaders must provide direction
- Never shed the cloak of morality
- There must be mutual trust
- There can be no penalties for mistakes
  - Here he related the story of Edison and one of his fabricators finally getting a light bulb to work after thousands of trials. Edison invited him out to lunch to celebrate. As he was putting the bulb away, the fabricator had the misfortune to drop and break it. Edison calmly replied without anger, “I guess this changes our plans for lunch.” Later that day, they succeeded in making another bulb and Edison trusted the gentleman to put it up safely, which he did. They then went out and celebrated over dinner.
- As for opportunities for women in the workforce he put it this way, “build a company you’d be proud to have your daughter work in.”
- United teams win, divided teams fail

When Perot sold EDS to General Motors, he spent a lot of time at their headquarters and in their factories. He noted that the GM executives seemed to hate the factory workers which he found odd since the company was depending upon them to build good automobiles. He described a study that showed higher quality cars were built in factories where the manager spent more time on the shop floor interacting with the workers. Less floor time translated to poorer quality.

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### **Ross Perot’s Precepts of Leadership:**

*Always be ready*

*Defend the poor*

*Do no harm*

*Never break your word*



He made the case for leaders becoming better listeners. An example of this was Henry Ford. Ford had Edison come observe his auto factory. Inside, groups of workers would walk from car to car adding parts to assemble each one. Upon leaving his plant, Edison asked Ford, “Wouldn’t it be more efficient to have the car move and the workers stay still?” Perot claims he confirmed this conversation with members of the Ford family. Therefore, listen to your team and stay connected to your customers.

He wants his employees to have fun doing what they do. He wants them to stay motivated to try “out of the box” things even if they fail because they are learning. And finally, he wants them to do the right thing even when management is not around.

A case in point he mentioned was Hurricane Katrina. It hit when the third shift was on duty in the company computer processing facility. The personnel knew they had employees in the New Orleans area. Perot got an early morning call and came in at 5 am. His employees had already taken the initiative to contact all the employees and ensure they were fine. They heard a hospital had lost power and patients were in danger so they shipped a spare generator they owned to them. They also arranged to send a 5,000 gallon tanker truck south to fill up cars that had run out of gas heading north. Perot said all he did was get filled in by the third shift on the actions they had taken without getting directions from higher headquarters. They even stayed on the job to ensure everything that could be done was done. Needless to say, Perot was quite proud that they had “done the right thing” without asking upper management “Mother, may I?”

Perot was very emphatic on allowing groups of motivated employees to take on new and difficult tasks and not punishing failure. Perot Systems was in a heavy competition with IBM for a services contract. There were seven major criteria that had to be met to win. Perot’s employees wanted to do it with two leaders for each of the seven criteria with one extra to keep them all on the same page—15 in total with a small number of support staff. Perot what asked what they needed. They said clear out a classroom for their work area and bring in the bunk beds so they could sleep there. Perot agreed. The result was they won the contract against an IBM team of 325 people and a huge data center staff.

### Other Conference Sessions

A panel discussion identified four things that help make Program Managers (PMs) successful:

- Line of sight accountability
- New skill sets
- Organizational alignment and support
- Congressional and Executive branch cooperation

Emory Miller of Robbins-Gioia offered seven characteristics of a successful program manager:

1. Value and embrace networks — become the “Collaborative Project Manager”
2. Understand the big picture and context of the project
3. Understand how to lead from the side, not just from the top
4. Learn to sell, Learn to sell, Learn to sell — be able to make the compelling case for your project
5. Practice inclusiveness — bring all players inside the group
6. Mitigate the stove pipes — rise above the stovepipes and create a results-based environment
7. Value the independence of the PM — be fiercely independent

Many people are not aspiring to occupy top level PM positions. Some feel a lack of executive support and work under unstable budgets. One suggestion was to use Defense Acquisition University to train other agency personnel. Another comment was that users need a deeper understanding of the acquisition process and must stay engaged during the development process to help ensure success.

In another panel discussion that included Karen Evans from OMB, there was support for government employees getting into 90-120 day details with industry counterparts. They would get an inside look at how contractors operate and better understand their constraints. Both government and industry leaders on the panel thought this was a great idea.

Numerous awards were given out at this conference for a variety of programs. One of the more memorable was one presented to Ms. Diane O’Connor, Deputy Program Manager for the Logistics Modernization Program in the “Support for the Warfighter” category. Her Program Office implemented an ERP system to supply end-to-end supply chain management. Most of those familiar with ERP implementations know the failure rate is extremely high due to a host of reasons. Faced with failing legacy systems over 30 years old and knowing that more than 70% of the logistics workforce will soon retire, the Army felt compelled to embark on this development. This development required writing interfaces to over 70 logistics systems. They currently have 4,000 users, with the goal being 17,000.

The IPIC conference is organized by the Government Information Technology Executive Council (GITEC). The speakers are top notch and the interactions between government and industry are of high quality, primarily because the decision makers and thought leaders for each group were present.

## ***Finding the Right Alternate Site Isn't Always Easy***

CDR James Churbuck, U.S. Navy

One of the most difficult things to get right in Continuity of Operations (COOP) planning is alternate site selection. Good site selection is helped by thoughtful decisions regarding the intent, scale and scope of the operations to be conducted. Bad site selection can unduly restrict operations, or can be too costly, or both. Of course, a COOP planner can just pick a site and hope for good luck, but a simplistic, one-size-fits-all option seems unlikely to be the best solution to address the range of circumstances that may invoke a COOP plan. COOP planners should then strive to provide a range of alternate site options, and not rely on a single alternate site location that tries, with limited resources, to mirror every function in the organization.

Clearly some organizations perform services that are deemed essential around the clock and therefore they need to ensure continuous operations. But only some organizations could have real demands for immediate output from every element of organization. For example, few organizations hire their personnel between, say, 1AM and 4 AM. How many organizations would be likely to fail if many human resources functions were deferred for a week or perhaps a month? The point here is not to denigrate any specific organizational function, but rather to illustrate that each important function does not, by necessity, operate at the same level of urgency. In a crisis, which seems by definition urgent, some less time-sensitive functions seem ripe for deferment. And functions that can be deferred should be factored into site selection criteria. Perhaps the entire organization need not be housed in one location, after all—at least for the short term.

No discussion of alternate site planning would

be complete without considering the element of time. Obviously the most time critical functions need to be relocated immediately to assure continued operations, but the longer a crisis endures, the more likely that some of the deferred routine important functions, like administrative support, will achieve urgency. Alternate site needs can be seen to spiral up over time, as a separate disaster recovery plan tends to the longer-term needs of the organization. So an optimal alternate site may be one that is scalable over time, such that it can economically support a small COOP footprint while providing sufficient flexibility for longer-term disaster recovery, should that step be necessary.

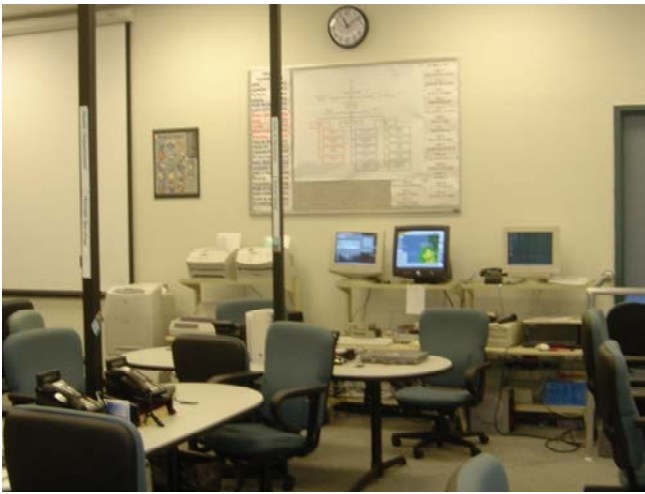
***A one-size solution is unlikely  
to fit all ....  
getting a range of alternate  
site locations appropriate to  
varying circumstances is a  
great way to mitigate the  
risks of operational failure.***

Large-scale and long-distance relocations may not be necessary for COOP purposes, so a COOP plan must be sufficiently flexible to accommodate these circumstances, as well. Here, an honest self-assessment would be useful. If the power goes out on a Friday afternoon, is it really sensible to start relocating to an alternate site? But if the problem is, or is compounded by, imminent flooding, the answer seems certain to be “move out.”

These examples highlight how time and circumstance affect alternate site needs, showing that the right answer sometimes is “no site needed” and other times it is “full-service site needed immediately.” These examples also underline differences in the expected frequency of COOP inducing events, where minor issues are likely to outpace serious problems.

One reason why COOP plans may omit alternate sites is that the underpinning risk assessment criteria is based on the assumption that the most likely

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**This is a Florida government relocation site just a few hours before Hurricane Katrina hit. (Courtesy of James Kasprzak)**

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COOP scenarios will be short lived and without sufficient long-term impact to justify a move. If the most frequent issues are likely to be short lived and relatively inconsequential, management may demand to know why, exactly, is it necessary to stake out an alternate site and absorb the associated costs. A good COOP planner should not flinch from responding, because this represents an opportunity to persuade management to take COOP and disaster recovery more seriously.

The planner's answer will likely address many factors, but the central question is ultimately tied to the level of acceptable risk. Here, expected frequency is but one factor for a thoughtful risk analysis. Potential impact is another important element. For example, damage from specific extremes of weather (flooding, fire, hurricane, tornado, lightning, earthquake, etc.) or acts of man (sabotage, terrorism, riot, arson, etc.) may not be expected to occur frequently, but the potential for overwhelming devastation from any one of these imperils an organization that has no plan to address recovery from such a catastrophe. Failing to plan for such circumstances is also a decision to assume risk.

If a catastrophe does happen, decision-makers should expect to be held accountable for their choices regarding acceptability of risk. Events like 911, Katrina, tsunamis, wildfires, and earthquakes aren't just news items; they represent categories of risks that threaten organizational survival. Due diligence (and, for government organizations, law and policy) demands that COOP plans account for such extreme, but infrequent, situations—ones that will require relocation to an alternate

site. Failure to identify a suitable alternate site, or even a range of sites, seems difficult to defend against a standard of due diligence.

A diligent COOP planning team should look to identify a range of relocation possibilities for their organization in order to address the many factors that could initiate a COOP situation. COOP planners should address a full range of circumstances, from minor events to major catastrophes, short-term through extended durations, and partial to total relocations—as well as the potential need to shelter in place. These variations of impact and extent should be matched by sites tailored to the circumstances. The COOP planning team needs to have a range of options at the ready to enable a suitable response.

Exhaustive discussion of precise relocation possibilities exceeds the scope of this article, but it does not obviate the need for COOP planners to deliberate extensively about the range of choices and the associated consequences. For example, a short duration, high impact event may speak to the need to shelter in place, which has different implications than moving out. A short duration, low impact event may only require relocation of a few key personnel into a proximate, small footprint location while the others are sent home, perhaps to telework. (For those personnel whose functions can be executed remotely, telework may be feasible for extended periods.) However effective the short-term fixes are, COOP planners should anticipate that site needs are likely to get more complicated as time passes. Important functions, many of which demand some face-to-face contact, cannot be perpetually deferred—this fact likely increases the size

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## Finding the Right Alternate Site (Cont.)

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of the physical plant required for extended COOP operations and perhaps limits relocation options.

The location of the COOP site can also be impacted by the severity of the triggering event. The COOP alternate site must be remote from the hazard, but it should be assumed that the more organizations affected by the hazard, the more likely there will be competition for nearby facilities. In some circumstances there will be more demand than supply for suitable office space. Though evidence of the practice is tough to come by, overbooking of COOP facilities also seems plausible. Here advance planning is key, and suitable facilities must be bound to provide the service exclusively to the contracting organization.

Distance is another important planning factor for COOP. While distance is often useful in providing isolation from hazards, it can present a real personnel challenge. Management should expect personnel turbulence when relocating long distances, as employees may find it difficult or simply not worthwhile to make the move. In “lean” organizations with many potential single points of failure, long distance relocations could be debilitating unless there is considerable effort put into accommodating personnel needs. Leadership should expect that personnel problems will be a cost of distant relocation and should take steps to assess and mitigate those risks.

Alternate site selection is an important part of risk mitigation. An alternate site must be sufficient for its intended purpose, but even that detail is not as simple as it seems because the organization’s mission in a COOP-inducing event may vary with time and circumstance. It’s worth thinking about precisely which operations need to be continued based on these variables because they affect what an organization should do, which, in turn defines its alternate site needs. Leadership should task COOP planners to evaluate many scenarios in order to develop a range of options tailored to different impact levels and durations, so that the organization can respond appropriately.

A one-size solution is unlikely to fit all needs. If leadership doesn’t prepare the organization to degrade gracefully in circumstances that deny access to their normal facilities, they are planning to fail. Getting a range of alternate site locations appropriate to varying circumstances is a great way to mitigate the risks of operational failure. Failing to plan is not.

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