THREE EXERCISES

Strong Angel III: Learning to Work Together

By **CATHERINE MACRAE HOCKMUTH**

VOLUNTEERS REPRESENTING THE MILITARY, LOCAL GOVERNMENT, HUMANITARIAN GROUPS AND THE TECHNOLOGY INDUSTRY JOINED FORCES AT THE CITY OF SAN DIEGO'S FIRE AND RESCUE TRAINING CENTER, THE CAMPUS OF SAN DIEGO STATE UNIVERSITY AND ON THE CITY'S STREETS TO TEST A SEEMINGLY SIMPLE HOMELAND SECURITY THESIS: GETTING PEOPLE TO WORK TOGETHER IS VITAL TO STEMMING CHAOS AND LOSS OF LIFE IN A DISASTER.

The exercise, conducted from Aug. 21 to 26, was called Strong Angel III and it was the third in a series that saw exercises in 2000 and 2004.

"This is not a trade show or a technology fair, with vendor booths, demos and product literature," warned the official website (www.strongangel3.net). "Nor is it an exercise in the usual sense, with teams of first responders and a highly scripted scenario. Instead, SA-III will focus on simulating those aspects of post-disaster conditions that specifically impact communication, information sharing and coordination."

The idea was to bring together vendors, relief workers, first responders, the military and community leaders to build relationships that will be carried forward to the next disaster.

The official military name for people spontaneously working together is "hastily formed ad hoc social networks" and, unfortunately, they're no easier to form than to pronounce. Distrust, misunderstanding and competition often complicate the response. Strong Angel III organizers said in past disasters, such as Hurricane Katrina, private technology vendors competed with each other rather than collaborate. And humanitarian aid workers distrusted military personnel, while the military dismissed relief workers as ineffective "do-gooders."

Social networks have become a major focus area for military and civilian exercises on disaster response. Strong Angel III participants said the emphasis has been heightened by the Nov. 28, 2005, Pentagon directive 3000.05, which said funding and planning for so-called "stability operations" must be on par with planning for combat.

"We stress over and over and over again—it is not about the technology," said Navy Cmdr. Eric Rasmussen, a medical doctor, expert in humanitarian informatics and Strong Angel director.

DAVE WARNER

Strong Angel III participants gather to organize themselves for the exercise.

EXECUTION

During a morning briefing on day three of Strong Angel, Rasmussen barked orders at the crowd of volunteers packed into a series of bleachers. "You will be forced into a degree of cooperation not required of you before," he said.

In the scenario, a pandemic swept over the globe, prompting opportunistic terrorists to start systematic cyber attacks designed to disable the American communications infrastructure. As a result, the city was left with little power and the emergency operations center was completely isolated while the medical situation in the rest of the community was unclear.

Rasmussen had been appointed by the president to serve as the region's head medical observer and epidemiologist. He needed information and turned to the technology vendors and humanitarian aide groups, demanding a report on the state of the population by 3 p.m.

Strong Angel organizers attempted to replicate a real disaster by selecting a site with no power source and all the inconveniences of an open-air facility: wind, heat, sun and sweat. But instead of allowing individual companies to just jockey for key positions and start plugging their technology in willy-nilly, as is often the case in real disasters, experts here said, Rasmussen

and his team experimented with getting the vendors to put together a coordinated response.

"Anyone with tracking technology—Sprint phones or GPS?" Rasmussen asked the crowd, indicating that he wanted to know exactly where all relief workers are at all times. The list of needs—language translation technology, data collection and video conferencing—mounted as volunteers waved their arms hoping to be assigned to a series of corresponding teams.

FUNDING AND SOCIAL DYNAMICS

Strong Angel III was funded through a combination of public and private contributions with a hearty endorsement from the Pentagon. More than 1,000 volunteers were involved in the exercise, including more than 800 on site and a spattering in high-tech nodules overseas, such as the Chinese Academy of Sciences and the Indonesian Institute for Technology.

Of course, good hardware and software were important, too, and Strong Angel III served as a laboratory for an estimated $50 million to $60 million worth of the latest in wireless technology, video conferencing, language translation and civil-military information-sharing tools like US Joint Forces Command's new HARMONIEweb, which is a clearinghouse for disaster response information. The command is also testing a prototype that would allow users to selectively transfer information from classified networks to the Internet.

But when the technology failed, as it would under these conditions and did on days one and two—the entire system was shut down and rebuilt from the ground up. People were forced to look at the person standing next to them and figure out a solution, said Navy Cmdr. Pete Griffiths, director of intelligence, surveillance and reconnaissance programs in the office of the assistant secretary of defense for networks and information integration.

"The whole thing was like a massive icebreaker," said Eric Frost, a San Diego State University professor and regional coordinator for Strong Angel. "The result is that dozens of people are working together now who weren't before."

Many of the companies that volunteered hardware and services to the exercise are the same companies likely to show up in response to the next tsunami, hurricane or terrorist attack. Rasmussen and his leadership team hope their experience at Strong Angel III will foster long-term partnerships.

Frost said the experiment offered a promising glimpse of what's possible when arch rivals like Microsoft and Google joined forces with mapping competitors like ESRI and Intergraph to develop a way to combine their data and mapping services into a cohesive tool.

"People really got into the social dynamic when the technology wasn't working," Frost said. "In all disasters, one of the things that is talked about over and over again is that the technology is not the point of it. What you're really trying to do is figure out how to do social networks and how does human creativity make things work that aren't working." HST

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Strong Angel III participating organizations

- Adesso
- Akamai
- Alcorn - Golden Halo
- Aqua Genesis
- Audience Central
- Autonomechs
- Bell Canada
- Bit9
- Blueforce Development Corp.
- Boeing Phantom Works
- C4I Strategies
- Care International
- Carmanah
- Center for Citizen Media
- CH2M Hill
- Cisco Systems
- Command and Control Research Program
- Corporation for National Research Initiatives
- CyberCity 3D
- DRASTIC
- Ekahau
- ESRI
- FirstWatch
- Future Technologies
- GE Energy
- GE Security
- General Atomics
- General Motors
- Genesys
- GeoFusion
- Georgia Tech Radio Club
- Ghani-Lockhart Framework
- Google
- Grainger
- Harvard University - JFK School of Leadership
- Hexayurt Refugee Shelters
- HPWREN
- IBM
- IMC Science & Technology
- Impact Instrumentation
- Information Patterns
- Intel
- Intergraph Corporation
- Internews
- Kingston Technologies
- Linden Lab
- MAXIM Systems
- MedWeb
- Mercy Corps
- Microsoft
- MindTel
- MITRE
- National Institute for Urban Search & Rescue
- Naval Health Research Center
- Naval Postgraduate School
- NextNet Consulting
- OSI Network
- Planetwalk
- PXYIS
- QUALCOMM
- Roaming Messenger
- Sahana, Lanka Software Foundation
- San Diego State University
- Save the Children
- SeaBotix
- Segway
- Solectek
- Sony Electronics
- Spatial Data Analytics Corp (SPADAC)
- SpeechGear
- Sprint Nextel
- SRA International
- Stat!Ref
- Sun Energy Solar
- Sun Microsystems
- Survive-All Industries
- Tandberg
- The Magicians
- University of South Florida Safety Security Rescue Research Center
- US Joint Forces Command
- Virage
- Virtual Agility
- Visual Awareness Technologies & Consulting
- Visual Eyes
- VSee
- Xceedium