

New sheriff in town

Cyber Huntsville takes aim at hackers, crackers and attackers

By Kimberly Ballard

The cyber world is a vast unknown land dotted with alluring nuggets of vital information and life-altering capabilities, yet rampant with lawlessness in the form of criminal computer hackers, international security crackers, and dangerous cyberpunks on a vengeful mission to steal that information and disrupt U.S. economic and military progress. Huntsville Mayor Tommy Battle describes it as being a lot like the old Wild West. The retired former chairman of the Joint Chiefs of Staff, Marine Corps Gen. Peter Pace, believes it can be explosive. "I believe that the dawn of cyber attacks and cyber defense is going to have the same impact on relations between nations that the dawn of nuclear weapons had," Pace says. "The threat of a cyber attack is very real... We as a nation are ill prepared for it, as is every other nation."

Battle was moved by a 2009 speech at the Space and Missile Defense Conference on the threats of cyber warfare by the then-vice chairman of the Joint Chiefs of Staff, Gen. James Cartwright. He became certain that Huntsville's engineers and computer systems experts were ready to take on the challenges of cyber security. "It is a perfect fit for our workforce," Battle says. "We are already doing it all here in Huntsville: all types of systems engineering, design, modeling, simulation, research and development, and testing. While people are beginning to stake out their 40 acres, I see it as a long-term economic development issue."

Huntsville can do the work cheaper, says Battle, because the cost of living is significantly lower than competing cities. In addition, Huntsville

has the fourth highest level of security clearances in the country, performs on a daily basis some of the most complex and high-level computer computations used by the U.S. Army, has for over 60 years been a leader in cutting-edge aerospace and missile defense technology, and has a burgeoning biotechnology community. Tech America Foundation's 2010 Cybercities Report says Huntsville's concentration of high-tech workers is second in the nation only to San Jose's Silicon Valley, and the city was named by Area Development as one of the country's Top 10 Most Attractive Metros for Business. With the area bracing for possible NASA and defense cutbacks, Battle sees an opportunity to put Huntsville at the forefront of another unprecedented technological challenge. "Our people are already trained in these highly specialized areas. By leveraging this expertise, in five years we can make a huge difference. In 10 years, 20 years, with our expectations of excellence ... we end up with long-term job growth with an emphasis on cyber."

The mayor backed his belief by establishing Cyber Huntsville, a pioneering effort with a vision of Huntsville as "a community that is recognized nationally and internationally as a leader in cyber research and development, modeling and simulation, engineering and experimentation, and test and evaluation."

But now that Cyber Huntsville's beachhead was established, would anyone join Battle? Initially, it was an interesting question, but Battle was confident. "We have a great team of business leaders who all work together to bring business to Huntsville," he says. "They will carve out their share of the benefits once they are here, but there is a consensus that we have to bring the business to Huntsville first. It is the role of government to educate and build awareness, but business development drives the ideas and gets





Michael Mercier

Huntsville Mayor Tommy Battle talks about Cyber Huntsville.

the work done.”

Almost immediately, Cyber Huntsville gained a spearhead. Dr. Rodney Robertson, former director of the technical center of the U.S. Army Space and Missile Defense Command (SMDC) and executive director of the Huntsville Research Center, leads the local effort and has garnered the support of the SMDC, Auburn University, the University of Alabama in Huntsville (UAH) and major defense contractors like Raytheon Co., The Boeing Co. and Lockheed Martin Corp.

“Cyber attackers have four main purposes,” Robertson says. “They either want to steal information, shut down, or destroy our systems, or disrupt operations.” In any of the scenarios, what would we do? “A cyber attack may be the hardest problem we face,” he says. “Huntsville is ranked No. 2, after Washington D.C., as a likely collateral target because of the amount of defense information we have.” Robertson believes a Huntsville target would probably be bull’s-eyed on stealing information about how our weaponry systems work, how they are designed, and which nations are working with the U.S. to design our weapons.

“The Dept. of Defense recently named cyber as the fifth war fighting domain. We need to realize a cyber attack is not just something for a far-off

battlefield,” says Jay Kurowsky, president and CEO of Aleta Technologies Inc. and volunteer media representative for Cyber Huntsville. “A large-scale cyber attack could make the effects felt after the devastating April tornadoes seem like a blink of an eye,

financial systems. “Such an attack could take down our power grid system, take down our financial systems in this country, take down our government systems, and take down our banking systems,” according to Panetta. “They could virtually paralyze this country.

We have to be prepared to deal with that.”

Cyber Huntsville has three main objectives it aims to accomplish in the first year and a half to three years, Robertson says. “The first is to leverage

Huntsville’s collective intellectual capital, facilities, and capabilities to help solve the critical cyber security challenges our entire nation faces.

“The second objective is to build cyber resiliency throughout the city of Huntsville and on Redstone Arsenal, plus protect the systems and projects



CYBER HUNTSVILLE
A TENNESSEE VALLEY INITIATIVE

with potentially horrific effect for the entire nation to feel in a very personal way.”

In June, CIA Director Leon Panetta told the Senate Armed Services Committee that the next Pearl Harbor could very well be a cyber-attack that cripples government, security and fi-

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Eric Schultz

Jay Kurowsky, president and CEO of Aleta Technologies Inc., and Rodney Robertson, former director of the Technical Center of the U.S. Army Space and Missile Defense Command, in the lab at Raytheon.

managed in the Huntsville area.” Resiliency is a key because even under the best circumstances in a cyber attack, the area would lose some capability. Robertson predicts that even with a well-designed plan an attack will inevitably hurt, but by perfecting redundancy systems for emergency backup and developing a preparedness plan, an attack does not have to lead to permanent paralysis.

“The third objective is to educate the Tennessee Valley community, and the national and international communities, about Huntsville’s cyber security capabilities and expertise,” Robertson says.

Cyber Huntsville’s all-volunteer board of directors, advisory panel, working groups and committees are

made up of representatives from government, academia, banking, utilities, the medical industry, biotechnology and small business. A planned early spring tabletop session to test some issues was scuttled when the devastating tornadoes struck Alabama. Yet the tragedy provided its own tabletop symposium on what happens when the power and communications are knocked out for several days. Without power, people couldn’t pump gas. Business couldn’t function without generators; people couldn’t use credit cards for food; restaurants had no refrigeration to salvage perishables. In a cyber attack, the computers that operate these systems won’t work, and that would include most automobiles and cell phones.

“We set some milestones along the way,” says Battle. “Raising awareness among private industry is very important because everyone from the business owner with a dress shop to a grocery store or gas station would be affected by a cyber attack.”

There is also a national cyber effort underway, but Cyber Huntsville differs from it. “The national cyber security initiative is aggressive, but each sector acts like its own stovepipe,” Robertson says. “The financial industry nationwide, for instance, has its own set of cyber security initiatives. The healthcare sector has its own plans for operations in the event of a cyber attack. Even the utilities have their own plan of attack, but here in Hunts-

ville, we want to build a multi-sector community perspective. We hope to develop a model of protection that involves the private sector and small business, RSA, and public works, all working together to find common solutions and alternative resources."

The apprehension inherent in this unified approach is that where solutions are shared, so are vulnerabilities. Nowhere is that more prominent than in the banking sector. "Cyber security throughout the financial industry offers its own set of challenges," says Jonathan Kirby, assistant vice president of risk management at Redstone Federal Credit Union. Kirby has given a number of speeches on cyber security within his industry. "Our security is highly specialized and the credit union has a complete department dedicated to cyber security with its own plans for failure, annual testing to try our systems in the event of disaster, not just a cyber attack, but natural disasters and national security concerns. Cyber security is an integrated, all-inclusive issue and part of our normal daily operations."

Utilities are another essential piece of the cyber puzzle. "Our commitment to the community as a whole will not be that different in a cyber attack than it is during a natural disaster," says Huntsville Utilities Chief Operating Officer Jay Stowe, "We must provide a reliable service to all businesses, as well as to all residents, all the time. In terms of cyber security, we have the infrastructure to maintain three tiers of security against intrusion on customer data; but obviously, our systems were built over a long period of time, long before 'cyber' was a word." Consistently upgraded, the system is relatively advanced, but the contradiction lies in that progressive technology. "We are working on new automations and newer-style meters, but those upgrades will actually require putting more cyber security in place," says Stowe. "Every industry strives to be better and faster, but with computerization comes a higher need for security."

"Huntsville is certainly a national treasure, and it is proper that our effort to protect the Huntsville area is commensurate with its value to the nation," says Kurowsky. "Cyber Huntsville seeks to protect the Huntsville

area and make it more resilient, but we are also furthering capabilities to become an important part of the nation's cyber solution set."

It is a cat and mouse game, says Robertson. "This will be an evolving and continuous fight that may never really end, but we have to deal with the problems of the future. We have to make sure we have this figured out and that we are prepared. That is how we will get through it. Hopefully, our

model will be a pilot program for other communities, as well as a guide the Dept. of Homeland Security can follow."

For his part, Battle is focused on building the links in his cyber-bridge to the future. "Because of the high level of expertise we have in Huntsville, we already have several intelligent platforms off which we can work," he says. "Now we have to make them talk to each other." ■





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