DISA
THE GRiD

Highlights from the DISA Customer Partnership Conference

May 5 - 9, 2008

imagine 1 force ... connected

Conference Builds and Reinforces Partnerships to Support the Warfighter

By Miriam Moss, DISA Corporate Communications

I magine 1 Force ... Connected was the theme for the 2008 DISA Customer Partnership Conference, which was held at Disney's Coronado Springs Resort, in Orlando, Fla., from May 5 to May 9. The conference provides a collaborative think-tank environment for the information technology community.

According to Air Force Lt Gen Charles E. Croom Jr., DISA director and commander of the Joint Task Force–Global Network Operations, this year's conference theme emphasized the "promise our collective imaginations and today's technologies offer for providing unprecedented capabilities to our warfighters."

The conference focused on:
- The art of the possible as we learn from industry and government leaders.
- Working together to increase the speed of delivery of capabilities and services.
- Improving the efficiency and cost effectiveness of what DISA delivers.
- Envisioning solutions that facilitate being fully connected to the tactical edge.

As in previous years, the conference facilitates a continuing interface between DoD, federal employees, contractors, industry, and DISA customers to discuss solutions that meet the needs of the warfighter — specifically to discuss current and developing technological capabilities, initiatives, and operational requirements.

"It's all about teamwork," said Croom as he described the collaborative efforts of conference attendees to provide the warfighter with best command and control, communications, and computing capabilities.

Defense Information Systems Agency
Department of Defense

From conference presenters to top executives and mid-level managers, over the course of the five-day conference, the focal point of discussion was enhancing capabilities and how to best respond to the immense demand to deploy solutions to the warfighter.

"[The conference provides] an excellent assembly of minds that come together and to really focus on individual topics that have long-term implications for mission success — not just now, but as we plan things for the next two to five years. The dialogue in itself is beneficial," said Army COL Herb Newman, director of communications and chief information officer at the United States Southern Command in Miami, Fla.

The event-packed conference is comprised of two primary segments: plenary sessions and informational track sessions. Each segment fosters the sharing of ideas and latest in technical developments.

During the plenary sessions, attendees had the opportunity to hear presentations by senior DoD officials and top leaders in the information technology industry.

DoD speakers for this year's plenary sessions included Army LTG Francis H. Kearney III, deputy commander of the U.S. Special Operations Command; Lt Gen Croom; Navy RADM Elizabeth Hight, DISA's vice director; and John Garing, chief information officer and director of strategic planning for DISA.

Industry speakers included Joseph M. Tucci, chairman, president, and chief executive officer of EMC; Safra Catz, president and chief financial officer of Oracle Corp.; Ed Amoroso, senior vice president and chief security officer of AT&T; Robert Wiseman, chief technology officer of Sabre Holdings; and Vinton G. Cerf, vice president and chief Internet evangelist of Google.

In addition, several others shared their knowledge and experience as panelists in the conference's three plenary panel discussions.

"I think the speakers we bring from industry certainly give us wonderful thoughts to take back to federal government, especially DoD. I've found a couple of quick wins that I want to put in place for our strategic resource planning activities," said DISA employee Mary Carlisle, deputy chief of corporate planning and mission integration in the Office of the Chief Information Officer and Strategic Planning.

During informational track sessions, participants attended briefings and discussion groups in which they interacted with presenters by asking questions, stating their concerns, and offering suggestions.

Among the track topics this year were the Defense Message System (DMS), Defense Red Switch Network (DRSN), Net-Centric Enterprise Services (NCES), Defense Information System Network (DISN), information assurance,

During the closing moments of the conference, Croom spoke about the significance of the conference to DISA and the nation as a whole.

and computing services. No doubt the conference inspired participants to think of innovative ways to support the warfighter.

"I've attended this conference as a contractor, as a staff member, as a director, as a presenter, and now as a customer. And from the customer perspective, it [the conference] gives me an opportunity to engage DISA in ways that they can assist us in accomplishing our mission out at the forward edge," said Dr. Claudette Millsap, the Joint Region Marianas chief information officer in Guam.

"What did we learn this week? For one thing, It's all about communicating. And we have tried over the last three years to open up the DISA hallways to improve our communications, so that we can build trust [with all of you]," he said. "It's also about speed. As we heard from Safra Catz, some think moving too fast is risky, but if you don't move fast, it's fatal."

Croom told the audience that we have to give warfighters additional or improved capabilities as quickly as possible even if they are only 70-percent solutions. "[The operator is] brave enough to tell you what's wrong with it, and then you can quickly spiral out and correct it," said Croom.

Lt Gen Charles Croom: "Information is America's greatest weapon … [and] it's in our hands, collectively."
(DISA photo by Robert Flores, DISA Visual Information Services Branch)

Our challenge is to remain tenacious enough to overcome our processes — the ones that often hold us back from accomplishing our mission in a timely fashion, according to Croom.

"Let me end where I began a few days ago. Information is America's greatest weapon. And whose hands is it in? It's in our hands, collectively [government, industry, and the services alike]," said Croom.

The 2009 DISA Customer Partnership Conference will be held in Anaheim, Calif., from April 20 to April 24. ➊

Featured speakers and panelists at the 2008 DISA Customer Partnership Conference

Monday, May 5
- **John Garing,** Chief Information Officer and Director, Strategic Planning, DISA

Tuesday, May 6
- **Air Force Lt Gen Charles E. Croom, Jr.,** Director, DISA and Commander, Joint Task Force - Global Network Operations

- **Army LTG Francis H. Kearney III,** Deputy Commander, U.S. Special Operations Command

Sharing and Protecting Information Panel Discussion
Moderator:
- **John Garing,** CIO and Director, Strategic Planning, DISA
Panelists:
- **Air Vice Marshal Robert Allan,** Director General of the Information Systems and Services (ISS), U.K. Ministry of Defence
- **Mae DeVincentis,** Director of Information Operations and Chief Information Officer, Defense Logistics Agency
- **Richard Hale,** Chief Information Assurance Executive, DISA
- **Royal Australian Navy RADM Peter Jones,** Head of Information Capability Management Division (HICMD), Chief Information Officer Group
- **Robert Osborn,** Deputy Director of Distribution Portfolio Management of the Command, Control, Communications, and Computer Systems, U.S. Transportation Command, Scott Air Force Base, Ill.

- **Joseph Tucci,** Chairman of the Board of Directors, President, and Chief Executive Officer, EMC

Wednesday, May 7
- **Navy RADM Elizabeth Hight,** Vice Director, DISA

- **Safra Catz,** President and Chief Financial Officer, Oracle Corporation

- **Edward G. Amoroso,** Senior Vice President and Chief Security Officer, AT&T

Possibilities Panel Discussion
Moderator:
- **John Garing,** CIO and Director, Strategic Planning and Information, DISA
Panelists:
- **Werner Vogels,** Vice President and Chief Security Officer, Amazon.com
- **Evan G. Burfield,** Chairman and Chief Executive Officer, Synteractive
- **David Mihelcic,** Chief Technology Officer and Principal Director for Global Information Grid Enterprise Services Engineering, DISA
- **Alfred Rivera,** Director, Computing Services, DISA

Thursday, May 8
- **Robert Wiseman,** Chief Technology Officer, Sabre Holdings

- **Vinton G. Cerf,** Vice President and Chief Internet Evangelist, Google

Customer Panel Discussion
Moderator:
- **Yogesh Gupta,** President and Chief Executive Officer, FatWire Software
Panelists:
- **Paige Atkins,** Director, Defense Spectrum Organization
- **Marine Corps LtCol David McMorries,** Assistant Signal Officer (Deputy G6), 2nd Marine Division
- **Army SFC Andrew Baker,** Quality Assurance NCOIC, DISA
- **Chris Raney,** Space and Naval Warfare Systems (SPAWAR) San Diego
- **Richard Williams,** Vice Principal Director, Global Information Grid Enterprise Services Engineering, DISA

DISA photos by Robert Flores, Clarise Cannings, DISA VISB; Miriam Moss, DISA Corporate Communications (SI4)

Creating Value with Speed

By Tracy Sharpe, DISA Corporate Communications

John Garing, DISA's chief information officer and director of strategic planning, focused on the need for information sharing and collaboration throughout the Department of Defense and with industry and coalition partners during the opening plenary session of the conference.

"Who controls and deploys Web 2.0?" Garing rhetorically asked the audience. His answer: "No one." The rapidly changing Internet usage has changed users' expectations at home and at work. Requests for information require answers that arrive faster than ever before.

Garing highlighted three forces that are converging congruently in the Web 2.0 environment: (1) an unquenchable thirst for collaboration, (2) a highly mobile workforce, and (3) ensuring that the network is always available.

The first force, the thirst for collaboration, is illustrated by recent examples of people using new technology for rapid information sharing, Garing said. He recalled how students at Virginia Tech alerted each other through text-messaging that a gunman was loose on campus.

He noted how democratic protesters in Tibet used cell phone cameras to alert the world about Chinese government's brutal response to the protests. He told of how Los Angeles Fire Department employees used Twitter with their BlackBerries® to communicate during the wildfires in California. Twitter is a free social networking and micro-blogging service.

The second aspect of the changing environment is the highly mobile workforce and a society connected around the clock.
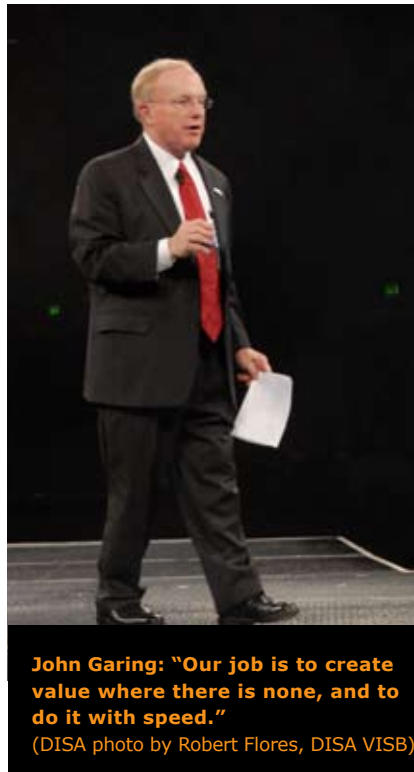
John Garing: "Our job is to create value where there is none, and to do it with speed."
(DISA photo by Robert Flores, DISA VISB)

The third of the convergent congruent forces is making certain the network is available all the time.

Not only should private industry prepare for DISA's future needs, but DISA must determine what the troops require even before they ask for it.

"You can't outsource intuition," said Garing, noting that DISA and its partners need to figure out how to focus the power of Web 2.0 in their everyday work.

"It's a shame that we are so good at deploying in five years information technology systems that are four and a half years out of date," lamented Garing. "We find that every software program is held hostage by its most complex component."

"[If] we want to achieve speed, mobility, agility, availability, and elasticity through innovation and ingenuity," said Garing. "DISA and industry must meet the changing demands of DISA customers with speed."

In his closing, Garing articulated his hopes that the conference would create a dialogue between DISA, its industry partners, and its customers — a dialogue that would enable DISA and industry to better serve DISA's customers. "Our job is to create value where there is none, and to do it with speed," he said. ❶

Understanding Populations is Key to Middle East Success

By Jerome W. Mapp, DISA Corporate Communications

Army LTG Francis H. Kearney III, deputy commander of the U.S. Special Operations Command, is a seasoned special forces leader who knows that it takes more than boots on the ground today to defeat terrorism abroad. During his plenary session presentation, Kearney challenged the audience of military, government, and industry leaders to think beyond yesteryear's battlefield and to instead focus on developing technology that gives coalition forces an edge in the global fight against terrorism.

Prior to assuming his current position, Kearney led special operations forces within the U.S. Central

Command area of responsibility. His firsthand knowledge of Iraq, Afghanistan, and other areas of the Middle East provided a unique perspective into the needs of special operations warriors as they wage an unconventional war against an equally unconventional enemy.

"There clearly is a challenge today with irregular warfare in finding the enemy inside the crowds and in population centers, given the networks in which they operate," Kearney said.

Kearney believes that the evolution of warfare from kinetic conventional warfare designed to propel nation states to do the will of the international community to irregular warfare, which has been defined by the Pentagon as the "fight for relevant populations inside of nations to support their government," has created a different need for information technology for U.S. forces operating abroad.

"That [evolution] creates a completely different information requirement than it did for land warfare, air warfare, and surface warfare, where we were terrain-focused and enemy-focused with the idea of destroying the army, navy, and air force of some nation state and imposing our will upon that government," Kearney said. "Today we find ourselves competing with populations."

"Intelligence-preparation on the battlefield has changed. It's about knowing the population. Human terrain is where we're really focused today," Kearney said.

Kearney said that exposing the population data in a certain region is key to understanding the motives of individuals in that region. Calling it data exposure, a term he credited to Marine Corps Gen James Cartwright, vice chairman of the Joint Chiefs of Staff and former commander of the U.S. Strategic Command. Kearney said believes that data exposure provides U.S. forces in the Middle East with the advantage of understanding the targeted population in a given region.

"One of his [Cartwright's] key messages is how do we get at the data that's out there? What do we want from it? As a special [forces] operator, what I want from it is to be able to predict the behavior of humans as the core of the organizations or the networks that we're fighting out there," Kearney said.

Kearney described how his office in Baghdad was a mass of wires and

variant computer screens needed to converse with U.S. and coalition forces operating in the region and to reveal information on the enemy. He then challenged the industry leaders in the audience to develop the technology that simplifies how he receives information from and sends information to the approximately 8,000 special forces operatives scattered throughout Iraq and Afghanistan.

"We need portable communications for the commanders to move anywhere on the battlefield and [to be able to] sit down and command and control. That's a big challenge," Kearney said. "I believe that many of you in industry believe that we can do that. One of my messages to you is [to] find a way for me to command and control from anywhere."

He stressed the need to develop a more permanent communications infrastructure in the region. We need to think in terms of a permanent, rather than a temporary, infrastructure, because "we wind up staying longer than expected."

Kearney believes that industry can be instrumental in providing the necessary secure communications links that will get information quickly into a region of Iraq or Afghanistan, so that U.S. and coalition forces can better communicate with each other.

In closing, he said, "This is a personal business for me. Since 9-11, I've spent all but 14 months in this business. My son serves in Iraq, and I lost a nephew in Afghanistan. We have walked many, many miles and made great progress, but we have a lot further to go." ❶

Army LTG Francis H. Kearney III: "One of my messages to you is [to] find a way for me to command and control from anywhere."
(DISA photo by Robert Flores, DISA VISB)

The Key Is Information, Not Technology

By Miriam Moss, DISA Corporate Communications

Air Force Lt Gen Charles E. Croom Jr., DISA director and commander of the Joint Task Force–Global Network Operations, during his keynote address, challenged the audience to rethink its current mindset about warfare and internal governmental processes.

"The world is changing so rapidly that if we're not improving ourselves every single day, we're actually falling behind. And as good as we [DISA] are, if we're not doing it differently tomorrow, we're falling behind," said Croom.

Croom said that DISA has to relish and embrace change so as not to fall behind. He believes that in order to obtain, retain, and sustain adaptability in an ever-changing warfighting environment, the focus has to be redirected from technology-centered to information-centered.

"I learned that it really isn't about our technology," said Croom. "You've heard it from the warfighter today [conference plenary speaker Army LTG Francis H. Kearney III, deputy commander of the U.S. Special Operations Command, who led special operations in the Middle East]. He talked about systems and platforms, but what's most important to him is the information," said Croom.

"The warfighter needs to know where his enemy is, where his supplies are, where his friendly forces are," Croom said.

Answers to these critical questions can save lives. These answers are derived from information. Technology is merely a vehicle that is used to transit and share the information needed, according to Croom. If the information were not needed, then the technology would not have evolved.

Information is at the core; the need to know drives technological advances.

Croom believes that information is America's greatest weapons system. "Do you believe it?" he asked the audience, daring them to re-examine their thoughts about the significance and actual application of information during wartime.

"I believe it. [It's] more powerful than any platform that we have today. Information in the hands of the commander makes us a winning force and keeps our soldiers alive," said Croom.

Another factor that cannot be ignored when speaking of information during times of war is timing, more specifically speed. The speed at which needed information is available to the warfighter can be the determining factor in success or failure and in the number of casualties.

Croom explained to the audience that there are a number of capabilities and technology in existence, whether they reside in the private or public sector, but they have not been "approved" for use on the battlefield where they are most needed.

"Soldiers are in harm's way because we lack speed in getting [needed] capability to the battlefield," said Croom.

The timeline from concept development to the actual development, testing, approval process, and the release of new or enhanced capabilities is lengthy because of the obstacles we ourselves create, according to Croom.

"It's not laws that prevent us from getting speed there [to the warfighter], it's … the processes we develop within our own government," said Croom.

For this reason, for the past three years, DISA has been focusing on improving the speed in both

Lt Gen Charles Croom: "If we're not doing it differently tomorrow, we're falling behind."
(DISA photo by Robert Flores, DISA VISB)

the development and testing of capabilities that enable the warfighter to get vital information at the moment it's needed, in real-time. Croom highlighted DISA's "adopt, buy, create," or ABC, acquisition approach, which has improved the speed in delivering capabilities to the warfighter, while saving the government money.

The approach encourages program mangers to initially look for existing capabilities that have scalability. From there, program managers may buy needed capabilities and services to meet their requirements, and as a last resort, the agency creates a new solution or capability to address the needs of the warfighter.

Croom told the audience that DISA had reviewed more than 130 different programs in a month's time.

"In the end, it's all about speed," he said. "You heard it [from the warfighter], they'll take that 80-percent solution out there on the battlefield if we get it to them fast."

It is better to be able to deliver some capability to the warfighter and decrease the number of unknown variables in a timely manner than to deliver nothing at all to the warfighter who is in need of information.

If we wait to have the 100-percent-capability solution every single time before we deliver the

solution to the warfigther, it will be delivered late — long after the need was identified — and the technology will be outdated.

The speed of delivering the needed information technology capabilities and solutions to the warfighter is a team effort, said Croom.

A RECORD OF SUCCESS

Air Force Lt Gen Charles Croom became DISA director and commander of the Joint Task Force-Global Network Operations in 2005. Under his watch, the agency recorded a number of achievements, some of which Croom discussed in his presentation. They include:

- Deploying Net-Centric Enterprise Services (NCES) capabilities, which are currently being used by operators in the field.
- Improving data transfer from 68 seconds to one second, as it relates to content delivery on the global information grid (GIG).
- Making available the Joint Enterprise Directory Services to locate and communicate with anyone on the Unclassified Sensitive Internet Protocol Router Network (NIPRNet) and Secret Internet Protocol Router Network (SIPRNet).
- Providing the capability to share maritime awareness in places that reach beyond the Department of Defense to other agencies and all of the services.
- Redesigning the NIPRNet and SIPRNET with the focus on improved security, performance, and information sharing.
- Using the Secure Mobile Environment Portable Electronic Device (SME-PED) to improve information transmission to the warfighter.
- Moving from a dedicated channel to an integrated waveform (IW) with improved software that will provide voice clarity by September on a single 25-kHz (kilohertz) IW channel that can support an average of 14 simultaneous 2.4k voice networks.
- Operating under the capacity and storage on demand to pay for the services that are actually being used, which has resulted in a cost savings of 45 percent.
- Moving to air and maritime "pay-as-you-go" with the use of Inmarsat, which is seven times faster than the previous mobile satellite services that were used.
- Transforming computing services to increase customers' satisfaction and reduce cost to customer by 20 percent.
- Moving from the existing Global Command and Control System (GCCS) that is tightly coupled to a loosely coupled software service-oriented architecture environment under the Net-Enabled Command Capability (NECC).

"It's all about teamwork — whether it be with NII [the Office of the Assistant Secretary of Defense for Networks and Information Integration], whether it be with joint staff, the services, industry — we can't do this alone. So, I ask you to continue the strong teamwork," said Croom. ❶

Providing a Secure, Yet Robust Network

By Tracy Sharpe, DISA Corporate Communications

Balancing the Department of Defense's need to share information with the need to secure information remains a challenge for DoD and coalition partners. During the Tuesday morning (May 6) panel discussion, experts from DoD and coalition partners discussed the often conflicting requirements to share information while simultaneously safeguarding the information.

The panel of experts from DISA, other agencies, and coalition partners included Air Vice-Marshal Robert Allan, the director general of the Information Systems and Services (ISS) of the U.K. Ministry of Defence; Royal Australian Navy RADM Peter Jones, head, Information Capability Management Division (HICMD), Chief Information Officer group; Robert Osborn, deputy director of distribution

portfolio management of the command, control, communications, and computer systems of the U.S. Transportation Command at Scott Air Force Base, Ill.; Mae DeVincentis, director of information operations and chief information officer of the Defense Logistics Agency; Richard Hale, DISA's chief information assurance executive; and John Garing, DISA's chief information officer and director of strategic planning, who moderated the panel.

DeVincentis opened the discussion by illustrating how DoD needs to transform itself. "Our culture is one of traditionalism," she said. "We cling to things we are familiar with. We fear the future."

However, leadership at Department of Defense agencies will need to adjust to a new generation of workers with different expectations. DeVincentis noted that the younger generation of workers is "much more willing to share information, less likely to be a slave to the rules, and more likely to question rules and make us rethink how we do things."

She said, "The challenge is that the present

leaders must give more trust to this new generation and to the supplier base and the customer base. Individuals must be freed to do tasks that were previously restricted. Information must also be accepted more readily and need not be overly examined, checked, and viewed as a boundary.

"We must get above that data level and reach an information level," said DeVincentis, adding that changing the approach to information will speed the process of making decisions. Although it is a challenge to share information rapidly and securely, it must be attainable.

"We expect DISA to provide the network that is robust and has great information assurance capabilities," she said.

Robert Osborn approached the topic of keeping a network robust by providing outstanding service-oriented architecture.

"We are transforming our architecture on how we acquire IT (information technology) capabilities and present those to our customers from vertically oriented, systems-centric IT capabilities to horizontally oriented, service-oriented architectures," Osborn said, adding that the DoD's challenge is to get all the partners to engage in the "secure handshake." The worry is that the warfighter has the perception that industry cannot or will not protect information.

Richard Hale remarked on the challenge of information assurance, saying, "It's a balancing act. How do you share as broadly as possible yet still keep a secret occasionally?"

He recognized the needs and benefits of sharing information with allies and industry partners. However, the challenge lies in establishing trust over the Internet. We have to be able to verify and validate with whom we are communicating.

"Cyberspace is anonymous. We've got to drive out inappropriate anonymity everywhere we can," Hale said, adding that we've got to know with whom we are interacting to be able to trust the other person to protect information.

Hale expressed the need for common, cyber identity credentials. He noted that a common public key infrastructure (PKI) was challenging for him and others, but that federating partners by getting data beyond just identity and truly understanding the organization will help get information faster to the warfighters. In turn, that will allow them to make split-second decisions in critical situations.

Hale also remarked on how DoD must decide what is a government function and what is an industry function.

The United Kingdom has made that decision by mandating Air Vice-Marshal Robert Allan to outsource approximately half the staff that he requires to run satellite, radio frequency, and network services for the U.K. Ministry of Defence. This decision to outsource was made because it became increasingly more difficult to recruit subject matter experts.

Allan noted that coalition forces share a need to work more closely than ever, given the state of terrorism that exists in the world today. Allan's agency, Information System and Services, is the U.K. equivalent to DISA.

"We're trying to come away from this classic platform-centric 'I own the assets.' It's about sharing," he explained. "We are offering services across Defence and the coalition, bringing the power of industry to the table."

In contrast to the belief that only one or two big partners provide services, Allan noted that innovation tends to come from the smaller companies. But with this new ability to share services across the coalition, he has also had to learn how to share the information.

"We're learning what strategic partnership means," he said. "We're realizing that you have to trust each other. You have to trust to get through the hard times."

However, choosing exactly who to share with and trust can be a challenge in the defense industry. Royal Australian Navy RADM Peter Jones said that, to facilitate trust and sharing, partners must have transparency and similar standards.

Osborn said that the challenge for DoD is to move from a very secure and very suspicious environment to an open and free environment. DoD is in the throes of that transition, which is why industry partnerships are vital to improving communication for defense partners. He implored the audience to bring solutions that will deliver information with speed to the warfighter.

DeVincentis concluded by stressing the need to come to a decision quickly in the face of change.

"The worst feeling in the world is to have one foot on the shore and the other foot in the canoe. You've got to make a decision," said DeVincentis. "Many times we are so cautious and risk-averse that we stay in that position for too long."

She urged the audience to realize that we need to question our beliefs in the role of longstanding traditions.

"The world has changed," DeVincentis said, adding that there is an insatiable appetite for information, and we must adapt. ❶

DISA photos by Robert Flores, DISA VISB

Individuals Power the Information Explosion

By Jerome Mapp, DISA Corporate Communications

Joseph Tucci is chairman of the board of directors, president, and chief executive officer of EMC Corp., a global provider of software and systems for information management and storage. From his headquarters in Hopkinton, Mass., Tucci directs a company of more than 37,000 employees worldwide who are charged with storing and securing information from some of the world's most well-known corporations.

Tucci said that individuals, corporations, and organizations collect, store, and use information in a variety of ways that is beneficial to their individual or organizational needs.

"To put it in context, we all learned this basically in school, that it starts with data — ones and zeroes — from that data you create information, from that information you beget knowledge, and from that knowledge you can reap benefits," Tucci said.

Tucci said that companies such as EMC, for instance, store and use information to benefit

Joseph Tucci: "Information has to be shared to live."
(DISA photo by Robert Flores, DISA VISB)

the company. Noting the audience, he pointed out how the military, government, and industry representatives "in this room" would likely use their information more for mission and program requirements. "As an individual, you would want to get personal information for an individual benefit," he added.

Tucci, referring to a briefing slide shown on the conference hall's jumbo screens, likened what he termed the information "infrastructure way" to a building with a solid infrastructure.

"I'm telling you [that] if you do [information] infrastructure right, it's just like doing the [building] foundation and the plumbing and the electricity right," he said. "If you do it [information

infrastructure] right, it makes the rest of the functions easier."

"Worldwide information growth is relentless," Tucci said. The growth has averaged 60 percent each year for the past 10 years. "So, every year, there was 60 percent more information than the previous year.

"How much information was created in 2007?" he asked. The answer is 281 exabytes, which is equivalent to 4 million times the information in all books ever written.

He said that when one thinks of information creation, there is tendency to think of big departments or agencies as the ones that create information because it is the responsibility of organizations to ensure the security, privacy, reliability, and compliance of information.

"But the facts are most information is created on the edge — is created by individuals," Tucci said. "Seventy percent of all information that is created is created by individuals."

Tucci pointed out that soldiers in the field using laptops or handheld devices and that satellites or aircraft taking mission-critical photos represent what he calls information being created on the edge. "Information has to be shared to live. That's how it lives," he added.

Tucci said that the demand for information increases each time that shared information is passed along. He cited YouTube as one example of a source of shared information that has created a cottage industry of individuals who post their videos on the site to be potentially viewed by millions of people.

"As users begat more information, they create more information," Tucci added, citing lowered costs for the explosion of individual information creation. "Knowledge creates knowledge."

To illustrate his point, Tucci played a clip from YouTube of an amateur comic warbling a nonsensical tune. "I don't get this video," Tucci said to laughter from the audience. "But this video gets millions and millions of downloads."

Tucci said that the "on demand/on command" world has created the need for mega storage of information. There are four essentials of information storage: speed, cost, availability, and environmental friendliness.

You want to have easy and very fast access to information. You want it to be inexpensive. You want the information to be continuously available, and you want to be able to store it compactly.

He cited the flash drive as an example. It has the "input/output per second" (IOPS) capacity of 30 15-K fiber channel (FC) disks, and compared to disks, the flash drive has higher performance (30 times more IOPS), is 10 times faster, uses 98 percent less power, weighs 58 percent less, has greater flexibility because it comes in variable sizes, and is more reliable because it has no moving parts. In addition, the price of flash drives is dropping significantly.

He also discussed the importance of managing information intelligently and of protecting information, including recovery of information, identity and authentication for access control, encryption and key management. Information must be virtualized, managed, and automated.

To move toward information-centric computing, we must transition from information trapped inside devices and applications to the ability to use and manage information across silos, from fragmented views of information to consolidated views of information, and from policies applied haphazardly to common policies and safeguards followed everywhere.

We must constantly be assessing risks and seeking better, more efficient ways to get things done.

"If we don't disrupt ourselves, our competitors will [disrupt us]," he said.

EMC is going to spend $1.8 billion in research and development this year. "If you just defend with no offense, you'll have a short life in IT." ❶

It's All About the Mission

By Jerome Mapp, DISA Corporate Communications

As DISA's vice director, Navy RADM Elizabeth Hight helps lead a global, Department of Defense agency of more than 6,000 employees who are responsible for planning, engineering, acquiring, fielding, and supporting global net-centric solutions to serve the needs of the president, vice president, the secretary of defense, and other DoD components under all conditions of peace and war. During her message to the military, government, and industry leaders, Hight said that DISA's focus is mission first.

"What will tomorrow look like?" Hight asked rhetorically. "It's not just about the hardware, the software, the applications, the services, the data, etc. It's about the mission. What I need for you to do today is to think about how we integrate those capabilities that we're all working on."

Hight compared the integration of capabilities at DISA to an ecosystem, where climate, landscape, animals, and plants are constantly interacting.

"Now, we know what an ecosystem is," Hight said. "It really is a system that is spawned by the interaction of all the piece parts with their external environment. Think about what that means to us. Think about a collaboration tool that can be used by someone you never thought you would be communicating with — an unknown partner who is responding to a situation that is unanticipated."

Referring to the previous day's speaker — Army LTG Francis Kearney III, deputy commander of the U.S. Special Operations Command (USSOCOM) — Hight urged the audience to think about the different phases of war, such as the irregular warfare that USSOCOM is fighting in Iraq and Afghanistan.

RADM Elizabeth Hight

imagine 1 force ... connected

DISA CUSTOMER PARTNERSHIP CONFERENCE 2008

It's All About the Mission, continued

"Think about what it means, as he said yesterday, to work with the population in order to help them understand how to support their [Iraqi and Afghani] government," Hight said. "That's interacting with an external environment in ways that are totally unanticipated, but it's the way we will always fight in the future."

Hight told the audience that delivering capabilities to the customers — the soldiers, sailors, airmen, and Marines serving in harm's way in far-flung places such as Iraq, Afghanistan, and other parts of the world — means delivering them with speed. Referring to Kearney's comments about the need for instant and mobile communications on the battlefield, Hight said, "I don't remember hearing him say that he was willing to wait several years for it."

Hight summed up the need to deliver capabilities and services rapidly to the warfighter with a quote by Klaus Schwab of the Davos World Economic Forum. She quoted, "We're moving from a world where the big eat the small to a world where the fast eat the slow."

While advances in technology have made information and the world more accessible, Hight believes those same advances have also given the United States' adversaries the opportunity to expose and exploit the nation's weaknesses.

"They [adversaries] love the fact that we are slow because they don't have to be," Hight said.

"So what do we need for tomorrow?" Hight asked. She said that the agency's needs include increased velocity, increased access, and increased automation in order for DISA to continue its mission of equipping the warfighters.

"We need increased velocity in the way we field systems," Hight said. "We need increased velocity in the way that we meet gaps in our ability to make decisions and [we need increased velocity in] our ability to meet missions. We need velocity in understanding how technology can be integrated." Hight told the industry partners that the option should not be to replace one system with another.

"I need you to define how the capability that you are building and delivering can be integrated into my larger picture," she said. "So when you come into DoD, those of you who are our industry partners, the thing that will help us the most is to understand how the capability that you have developed and can provide fits into this larger picture."

Hight said that DISA needs to understand the trends [in technology] that have led up to today.

"We don't just want to be able to get to a database with a current imagery. We want to be able to understand the trends that have occurred over a period of time," she said.

On the need for increased automation, Hight said, "I'm a huge believer in letting machines do what machines do best and letting people do what people do best."

"We have hundreds of soldiers, sailors, airmen, Marines, [DoD] civilians, and contractors out there every day, doing what they do best." She urged the industry partners to give the nation's military services

RADM Elizabeth Hight: "We're moving from a world where to big eat the small to a world where the fast eat the slow."
(DISA photo by Robert Flores, DISA VISB)

the tools they need to complete their missions.

Hight spoke of the need for partnerships as the military services increasingly operate jointly in foreign environments.

"Each of us has to believe in our partnership. Each of us has to believe in the next big thing. The next big thing might be some sort of weird idea, but don't dismiss it," Hight said.

"It's time to do things differently" — to implement GIG 2.0, to adopt a real-time service strategy, to believe in partnerships, and to optimize for the warfighters' enterprise, Hight said. She added that the nation's military services, DoD agencies, and industry partners have to be joint by birth, offering services that are "on command" and "on demand."

"Everyone in this room has to be a teacher. If you're not a teacher, then you are only promoting technology that feels good to you. Your number one job is to know this technology so well that you can teach it to your grandmother," Hight said.

Returning to her initial theme of mission first, Hight said, "I'm here to tell you that it's all about mission and it's all about our personal commitment, our understanding, and our ability to communicate what this technology will do. It's all about taking risks for a very good reason, and that very good reason is that brother, or sister, or son, or daughter, niece, nephew, or neighbor who have committed their lives to ensuring not only our way of life, but introducing the goodness of our way of life to others." ❶

Success Through Standardization and Simplicity

By Miriam Moss, DISA Corporate Communications

Safra Catz is president and chief financial officer of Oracle Corp., and she is listed by *Forbes* magazine as one of the most powerful women in the world. In her presentation to the conference participants on Wednesday, May 7, she challenged the audience to be logical, to be willing to change, to measure the right things, and to keep "it" simple while unified in order to meet mission requirements.

When Catz began working for Oracle in 1999, she noted something was wrong with the way the company was doing business. Oracle was growing quickly, but there was no standardization or sharing within the company. The various parts of Oracle worldwide were each self-optimized. Catz viewed this way of conducting business as lacking logic and skewed.

"Somehow we had decided that instead of being one powerful force, we were going to be 70, 80, or 90 forces around the world, each one doing things slightly differently," said Catz. "We thought we were huge, global, operating in more than 100 countries, but if you actually looked at us, you would see that we were a hundred little companies"

"We had no idea how many people worked at Oracle in 1999," said Catz. At the time, Oracle had 70 human resources systems. Many people were included in more than one system, and [CEO] Larry Ellison was in all of them.

Company supervisors and subordinates were in different countries from one another and were using different systems, with different processes, and different user-access names for a single person to access the various systems to complete tasks.

Safra Catz

DISA photo by Miriam Moss, DISA SI4

"We'd fragmented our business and our information so broadly that it would be truly secure, because not only could no one from the outside find
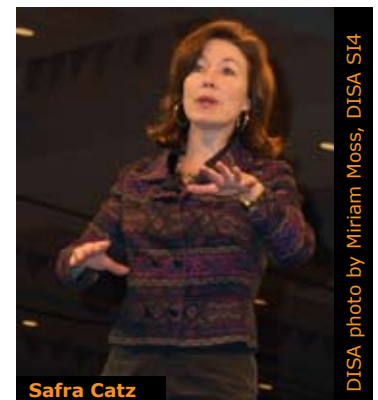
out what was going on, but we ourselves had no idea," said Catz.

Catz compared the way Oracle processed things to Burger King's old tagline, "Have it your way." According to Catz, in 1999 the company was conducting its daily operations in a stovepipe manner, with each part of the organization conducting business its own way. Catz along with other top Oracle management realized that this way of conducting business had to change.

As a result of the transformation, Oracle moved from an operating margin of 22 percent to 43 percent and saved $1.2 billion in the first year.

"[The company] reduced the price of every product in our product line. We reduced the cost of support, and we reduced the cost of running our enterprise dramatically," said Catz.

"Technology was required, like a nervous system in a body, but what really had to change was the process within our company."

"The reality is that this is not an issue of technology. It's an issue of sociology. People as much as they say they love change, they actually hate change," said Catz.

"They hated those processes and yet held on to them," said Catz.

To overcome this resistance, we pulled together a coalition of the willing, she said.

"We took our group, and we said, 'You guys get new stuff, and by the way, you're going to do things in a best practices way. You're going to collaborate among yourselves, and you're going to decide what's the best way,'" said Catz.

"When given the choice to get from point A to point B, we're going to keep it simple. So when given the choice, we're going to do it the easy way. And yes that may mean we do things differently, and we may lose some things we thought were important."

The company had recently learned that it was keeping track of data that was useless to process or product improvement. In some cases, the data that was being collected was not real data, but rather "guesstimations" from customers, according to Catz. The company needed a way to see exactly what was happening within the various parts of the organization.

"We decided we were going to do everything with an enormous amount of sunshine on it," Catz said. "We were going to let everyone know how everyone else was doing. It would be extremely transparent. If you were going to succeed, you were going to succeed in public; if you were going to fail, you were going to fail in public. And we made sure we were measuring everything that needed measuring and not measuring the wrong things. Because when you measure the wrong things, you get the wrong behavior."

For example, when she arrived at Oracle, she discovered that the call center staff was told to limit the number of rings after the initial ring. This sounded good in theory, but not in practice. Call center staff answered the first ring and then put the caller on hold. The company was collecting data on the number of rings prior to a pick-up, but not on whether or not the costumer received the service he or she needed in a timely manner. As a result, the metrics looked good, but the customer service was poor.

"When a customer needs our help, that's our fault," said Catz. "When a customer has to spend a moment calling us

Safra Catz: "When a customer needs our help — that's our fault."
(DISA photo by Robert Flores, DISA VISB)

— if installation is hard, if the document is not clear — that's development's problem too." So, make folks accountable for what they do or influence. But the corollary is: don't hold people accountable for decisions in which they had no part, she said.

Oracle had to rethink its views about customer service and put into place processes that would foster the customer-provider relationship, according to Catz.

"It shouldn't be your job [the customer's job] to finish our job," said Catz.

"The issue we were trying to address early-on … [was the issue] of us sending to all of you [the customers], the lots of little pieces of things and then saying, 'Good luck, try and make this work. Hire system integrators; hire everyone to just sew all of this stuff together; and as you know, we sent no instructions.'"

According to Catz, Oracle had to reassess who it was, what it was doing, and how it was doing things. She emphasized that any organization, whether it is federal or private, needs to assess itself. This is the only way the organization will operate in a logical manner, successfully implement change as needed, measure the right things, and keep processes simple while remaining unified in order to meet mission requirements. ❶

Amoroso Proposes Changes to Secure Computer Systems

By Tracy Sharpe, DISA Corporate Communications

In his plenary presentation, Dr. Edward Amoroso, senior vice president and chief security officer of AT&T, proposed changes for the protection of computing systems to reduce users' vulnerabilities to viruses, worms, and botnets.

"Security systems are fine, but it's all about system and network management," said Amoroso.

Amoroso said in the 1980s, reliability was overlaid on the networks — a process that does not work today. Individual users' computers are vulnerable to attacks because protection is located at the micro level — the computer itself, not the datacenter through which the information travels before it reaches the home computer. According to Amoroso, approximately 10 million personal computers host botnets that can wage a war and shut down important Web sites and data centers.

Edward Amoroso: "You need a big, fundamental change in the way you think."
(DISA photo by Robert Flores, DISA VISB)

"The software is broken," he said. "We will not be able to stop [the attack] if you wait for the attack to coalesce at the end point. You can't stop a tsunami with an umbrella on the beach."

Amoroso advised moving protections upstream to the datacenters by building reliability into the core of the system.

Instead of checking each and every computer for viruses, it is more efficient for system and network management to scan for vulnerabilities from the infrastructure of the server rather than at the endpoints, he said.

However, this change would radically affect the infrastructure of Internet security and significantly affect interpretations of privacy. Amoroso said that the current methods need to be abandoned for a more comprehensive approach to security.

"Little course corrections will give you little changes. You need a big, fundamental change in the way you think," he concluded. ❶

Possibilities Panel: What's Next?

By Jerome W. Mapp, DISA Corporate Communications

John Garing, DISA chief information officer and director of strategic planning, moderated a panel discussion themed "Possibilities," which featured experts from the federal government and the private sector discussing innovations in information technology and what the future holds.

DISA photo by Robert Flores, DISA VISB

The distinguished panelists included Dr. Werner Vogels, vice president and chief security officer, Amazon.com; David Mihelcic, DISA chief technology officer and principal director, Global Information Grid Enterprise Services Engineering; Evan G. Burfield, chairman and chief executive officer, Synteractive; and Alfred Rivera, director, DISA Computing Services.

Garing framed his first question from an article published earlier this year in *The Washington Post*. He read, "Yet, as powerful as information technology is today, we will make another billion-fold increase in capability at the same cost over the next 25 years. That's because information technology builds on itself. We are continually using the latest tools." Garing turned to Vogels and asked, "So the question is, what's next?"

"I think that it's very hard to look ahead 25 years, first of all," Vogels said, although he offered that with the current speed of technology, he would not be surprised to see major advances in information technology in the next five to 10 years. "Most of these changes are already in progress," Vogels added.

"Rather than tell you about what's coming, let's talk about what is here today if we have the courage to reach out and bring it into our infrastructure," said Mihelcic. He praised Amazon's innovations as being the model for programs currently underway at DISA.

"Our NCES program, Net-Centric Enterprise Services, with a service-oriented architecture foundation is predicated on the same notion that Amazon is built on," Mihelcic said. "We can [now] build services that are reusable to integrate and build capability much more rapidly than we could otherwise."

Mihelcic said that DISA is meeting the challenges of getting capabilities quickly into the hands of its customers, citing, for instance, the mobile command-and-control capabilities that allow commanders on the battlefield to communicate with speed and efficiency. Citing the available hardware, software, and collaboration tools, he added, "All of this is available today if only we choose to make use of it."

Burfield said that the capabilities are there today; they are powerful; and they are growing.

"When you look at what is interesting in business today, fundamentally, different modes of organized businesses are starting to emerge," he said. And the insurgents in Iraq and Afghanistan are using innovation to wage war against coalition forces.

"They are highly distributed, highly agile, insurgent organizations that are able to use the power of social networking, connectivity, agility, and pulling bot networks together to coordinate and consolidate their assets. That's what we're dealing with," Burfield said.

Rivera said that on the federal government level, innovation is often slowed by yards of red tape that hinder DISA from reaching out all the way to the technology.

"The technology is here, and the technology is available. But governance is driving our innovation," Rivera said. He said that while the agency has the tools and capabilities at its disposal to embrace

technology, policies and regulations often hinder the development of innovation.

Citing the unrestrictive innovations at companies such as Amazon.com, Rivera said the question becomes how do we [government] loosen the restrictions in implementing those innovations with the technology that is available. "How do we break the mold?" he asked.

In response to Garing's question about the future of company enterprise data centers, Vogels said that as a CIO, you stop thinking about physical infrastructure and data centers as a unit.

"You stop thinking about computing; you stop thinking about computer cycles; you stop thinking about storage units as virtual units," Vogels said. "You have to take the [next] step of virtualizing your infrastructure so you are no longer constrained by these boxes. To build an agile enterprise, you need to be able to get all those resources at your fingertips that you need and seamlessly move through those."

"I need an identity service," said Burfield. "I don't care where that identity service comes from. I need to know who this person is and what they are trusted with. I don't care if it's running on Google's cloud or [Amazon's] cloud, I just need the service to solve my problem."

Vogels said that the old cycle was build, deploy, observe, and think of the next generation. Now, it is that you find the services you need, you connect the services, innovate on part of that with business logic, and reflect on that.

So, today, the cycle is "find, connect, innovate, and reflect," he added. "'Reflect' is no longer

thinking about what the next generation product is. It is knowing which of those service providers are providing the service you need. That feeds back into the cycle."

"You focus on what your functional expertise is," said Rivera. "Now, with that said, I really believe that your customer has an expectation that you have to reach the functionality of your business. What is the impact to your business; why is it [the system] down; and what does it take to get it back up."

Mihelcic said that DISA needs a platform for innovation.

"We don't need IT networks; we don't need computing centers; we don't need operating systems; we don't need command-and-control stats," he said. "We need a platform for innovation to allow the department to do what Amazon has been doing — move to bringing capabilities to the network in small packages that leverage everything that has been built before. We need to streamline testing and development and certification."

"We have to change our way of thinking," said Burfield. "We want to control everything, but it's like people trying to figure out things based on the assumption that the sun revolves around the earth. When it became known that the earth revolves around the sun, then other things made sense."

"We have to move faster," Mihelcic said.

"Stop thinking about this as a possibility. This is reality. This is what our enemies are doing," said Burfield.

"It's all about capabilities and applications, not the infrastructure," Vogels said. ❶

Werner Vogels

David Mihelcic

John Garing

Evan Burfield

Alfred Rivera

How to Create and Maintain the Magic of Technology

By Tracy Sharpe, DISA Corporate Communications

Robert Wiseman, the chief technology officer for Sabre Holdings Inc., spoke to the audience on how to build a successful, service-oriented business.

He began his presentation by relaying how he amazed his mother, an octogenarian, with the camera function of his BlackBerry® and how he could e-mail the photo to the drugstore and have it printed. She reacted as if his BlackBerry® was magic.

"We are creators of that magic; we are currently stewards of taking it to the next level," said Wiseman. "The decisions we make, those of our companies and organizations, will dictate and predict how successful the next generations will be in continuing to make that magic happen as we face a more competitive world."

Wiseman noted that the Internet is equally the most incredible thing and the most frightening thing to happen to civilization.

"It exposes data and content that was never built to be presented that way, and it allows volumes of transactions that we were never ready to accept," said Wiseman.

He elaborated on how his company is challenged by the rapidly changing Internet. Because consumers expect fast performance, Wiseman and his company must ensure that information is provided 100 percent of the time, even though transaction rates are increasing and revenue is decreasing per transaction. As challenging as that scenario is, Wiseman claims it makes a stronger workforce at Sabre by meeting the customers' needs faster and cheaper year after year.

However, in the midst of keeping ahead of the competition, the underlying technology must be maintained and, more importantly, improved.

"I've tried to simplify technology because it is over-complicated — it's unnecessarily complicated," said Wiseman. "The more we, as companies of this world, continue to support and propagate unnecessary complexity, the less chance we have to divert resources that are figuring out the complexity and work on the evolution of this technology."

He advised DoD and industry partners to focus

on their differentiators and then figure out how to share so that they can benefit from collaboration.

"Why do we propagate the complexity within our divisions? Why don't we share more?"

With sharing comes a focus on improving the technology. Wiseman strongly advised commoditizing technology.

"Commoditization of technology forces vendors to compete on things that matter to us, which are service and price," he said.

He also suggested pursuing open source software. "It allows you visibility into the code," he said, adding that the ability to work with the code frees the user to repair any bugs left in the software and not have to wait for the vendor to help.

And although no one gets fired for having too much capacity, said Wiseman, he advised careful acquisition of capacity. He explained that it is more cost-efficient to keep a majority of servers at 85-percent or 89-percent capacity. When a server reaches 90-percent capacity, another server is provisioned automatically.

In addition to maintaining maximum capacity on the servers, Wiseman also strongly advocated standardizing technology. He told the audience to

Robert Wiseman: "Everyting we build and deploy will fail ... what are we going to do when it fails?" (DISA photo by Robert Flores, DISA VISB)

rapidly select the IT solution and move on, not to dwell on choosing from several different technologies. But users must realize that whatever technology they purchase won't be the right technology in 10 years.

"We have to abstract ourselves from technology and resist temptations to take advantage of some of the proprietary capabilities of application server underlying technology, knowing that this technology will be gone in a few years. We need to make it as easy as possible to move from it."

Corporations and agencies should actively pursue the latest developments and prepare to easily escape from outdated technology by practicing vendor agnosticism.

"Remain as vendor agnostic as possible," said Wiseman, advising the audience to not remain too attached to any supplier but to remain flexible and available for change.

"The way to force vender competition is to prove that you have an executable exit strategy. If they can't give you the right technology at the right price, you can move."

Another important aspect of designing and acquiring systems is to design for failure, Wiseman advised.

"Everything we build and deploy will fail; it's not a case of if it fails, it's when it fails. What are we going to do when it fails?" he said. If a company plans for what to do when something fails, it allows them to limp along but not completely fail.

Wiseman concluded his presentation by reiterating the need to standardize to be able to provide customers with fast, comprehensive service.

"As leaders of this industry … we have to make these changes. We have to get all of our systems on standard commodity sharable hardware across everywhere that we work and everywhere that we visit because otherwise we are going to lose and we are going to pay that price." ❶

Security and the Internet

By Miriam Moss, DISA Corporate Communications

Vinton G. Cerf, vice president and chief Internet evangelist of Google, is responsible for identifying new technologies to support both Google's Internet products and services. Cerf, considered to be one of the "fathers of the Internet" because he developed the Internet's governing protocols, spoke to the conference audience about the security pitfalls of the Internet and a need to develop and identify solutions.
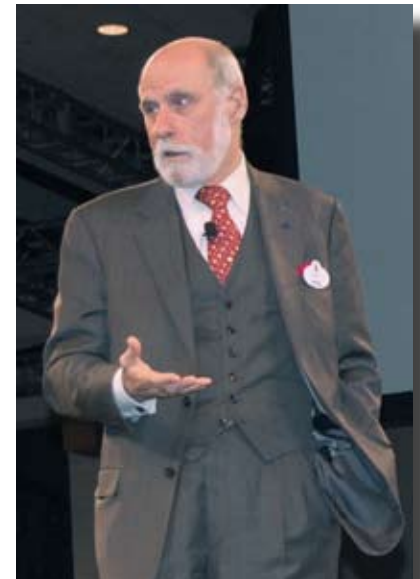
The reliability of the Internet is undermined by the both poor security and poor software design and is particularly so in the case with Internet browsers and operating systems, according to Cerf.

"The [Internet] browsers are probably the most open sore in the security universe, where you can just ingest software just driving by a Web site. The browsers have sole access to the resources of the operating system," said Cerf.

Vinton Cerf: "The [Internet] browsers are probably the most open sore in the security universe."
(DISA photo by Miriam Moss, DISA SI4)

The problem is that because users have so much direct access to the functionality of the operating system itself, it makes it quite easy for the operating system to be exposed to viruses and malicious programs, according to Cerf.

"In the past, attacks were made directly against the operating systems. Now browsers serve as the access point for attacks, as it is easier," said Cerf.

On the battlefield, getting authentic information to the warfighter is essential to the warfighter's well-being. Work in this area is still needed according to Cerf. Solutions in this area will not be easy to identify. Cerf believes that currently, it takes too long to set up some of the security systems needed to transmit information to the warfighter, especially on the battlefield.

One area that engineers and researchers have examined or considered in an effort to resolve the security issues is transmission control protocol (TCP), which Cerf and Bob Kahn invented in 1973 under the auspice of the Department of Defense (DoD). TCP is a core protocol of the Internet that manages the size of communications between Web servers and Web clients and makes those communications possible.

"[TCP] does not solve all of your [security] problems, and in particular it does not solve problems in the tactical environment. … TCP is fragile in a field environment. … It gets a lot of interference," said Cerf. "TCP just doesn't work. We have to do something about that. We can't just sit back and hope for the best. We have to deal with that problem."

Cerf believes that the issue of securely delivering information and capabilities to the warfighter in a tactical environment is further complicated by the timeliness of delivery. This is one of the main issues with TCP; there is a delay in delivering timely information that is secure, especially in the tactical environment. TCP attempts to optimize the accuracy of the information that is delivered and not the timeliness of the delivery. Delivery time cannot be ignored or extended on the battlefield as lives are often at stake.

"I'm a keen believer in systems engineering. I'm a believer in trying things out, finding what doesn't work and changing it until it does. I'm a complete believer in having an overall architecture that you can work with, that fits together," said Cerf. He challenged the audience to rethink the procurement process to include testing until we get it right, but we have to understand the importance of timing. For instance, how long will it take to deploy the solutions we identify in a secure fashion to the warfighter.

DoD's acquisition process is broken, and there is an over dependence on requirements specification according to Cerf.

"The way we live now, it takes so darn long to get things implemented that by the time they roll out, it's too late," said Cerf. We are working on technology today that will not be available for deployment

Vinton Cerf

to the warfighter, who is currently in harm's way, until 2018. By 2018, the technology of the day will be dramatically different than what we see today, and there will be new threats that will need to be addressed that we have not yet even conceived of in our minds today, according to Cerf.

The technology we are designing today for 2018 will probably be so outdated when it is deployed, that its usefulness will be minimal if useful at all.

Cerf believes that whatever we are designing today is more than likely yesterday's technology as far as the warfighter is concerned. He challenged the audience to think about extending adaptability to address this issue.

"It's not just the [frequency wavelength agile] radio that has to be adaptable, it's the whole system. The protocols that run the system have to be able to adapt as well," said Cerf. "We need systems that can self-configure."

"It's okay to look at ideas and technology that didn't work before because the rules of the game have changed," said Cerf. In other words, another look needs to be given to previous technology as it can provide a foundation for future solutions.

The networks need to have assurance and integrity built-in from the start, while taking into account rapid motion of data between various access points on the network.

Developers have to get to a place where they are developing systems that have resilient architecture, strong authentication capabilities, and further exploitation and exploration of delay and disruption tolerant networking (DTN) Phase II, said Cerf.

Our solutions need to change as quickly, if not more quickly, than the changing battlefield. Cerf suggests that resurrecting the Federal Research Internet Coordinating Committee (FRICC) would be a step in the right direction. Still, the need goes beyond the FRICC. If and when select entities, agencies, and departments that possess the budgetary authority to create and deploy adaptable solutions come together for brainstorming sessions, the groundwork will be laid for the development and deployment of needed solutions to the warfighter, said Cerf. ❶

Meeting the Customers' Requirements

By Tracy Sharpe, DISA Corporate Communications

Yogesh Gupta, president and chief executive officer of FatWire software, moderated a discussion about how adoption of new communication technology has changed the needs and desires of the customers.

Gupta's panelists included Paige Atkins, director of the Defense Spectrum Organization; Marine Corps LtCol David McMorries, assistant signal officer (deputy G6) with the 2nd Marine Division; Chris Raney of the Space and Naval Warfare Systems (SPAWAR) Center in San Diego; Army SFC Andrew Baker, non-commissioned officer in charge of quality assurance for DISA; and Rich Williams, vice principal director of DISA's Global Information Grid Enterprise Services Engineering Directorate.

"If you think back five years ago, Facebook didn't exist; MySpace didn't exist; YouTube didn't exist," said Gupta. These new capabilities and services have changed how people access information and exchange information.

These new capabilities consume more bandwidth than ever before, and with increasing requirements for bandwidth, spectrum needs have grown rapidly over the last few years. Spectrum must be managed carefully to provide for the customers' need for information, but it must also ensure safety for all who use it.

Paige Atkins illustrated the need to manage the electromagnetic spectrum for the warfighter. Communications, radar, navigation systems, and logistics depend on spectrum access.

Atkins said that managing spectrum is challenging and critical to mission success. She listed examples, such as when U.S. Army helicopters crashed in the Middle East because of spectrum interference. A jet pilot was unexpectedly ejected from his plane and died of injuries received because of spectrum incompatibility between systems on his jet and the aircraft carrier that he was approaching for landing.

She also noted the difficulty in keeping warfighters safe in Iraq and Afghanistan because of radio signals triggering improvised explosive devices (IEDs). To prevent the IEDs from exploding,

the allies jam the frequencies; but an unintended consequence of jamming those frequencies is that coalition communications ability is disrupted.

"We're forcing men and women in the field to make decisions on whether they protect themselves from an IED or have critical communications capabilities — life or death decisions in the field," Atkins said.

She explained that DSO's role is to work closely with the Office of the Secretary of Defense, the Joint Staff, the military services, the combatant commands, and other DoD agencies to make sure that service members don't have to make those decisions in the future because of spectrum. Atkins wants to ensure that DoD has full spectrum access to support U.S. and coalition partners engaged in combat with a virulent enemy — because "that's what we are all about."

LtCol David McMorries told the audience how instant messaging chat is a critical requirement for the infantry battalion today.

"All battle space disciplines — air, command and control, battle space mobility, fire support coordination — were conducted in chat rooms," said McMorries.

The challenges that McMorries said he faces stem from the latest technologies to reach the warfighter. The latest capabilities for the warfighter have been demonstrated in Iraq and Afghanistan, he said.

"They are the prototype requirements for the future," said McMorries, "But they don't support things that are coming out."

Chris Raney spoke about how Net-Centric Enterprise Services (NCES) products have helped his organization. As the co-lead of the Maritime Domain Awareness Data Sharing Community of Interest Pilot

Yogesh Gupta

Paige Atkins

LtCol David McMorries

Chris Raney

SFC Andrew Baker

Richard Williams

Technical Group, Raney proudly stated that SPAWAR is the first to share data across federal agencies as well as with international partners in a net-centric manner.

"We've been leveraging NCES to show the art of the possible, to see that the data we're publishing to the other services is actually subscribed to at the other end," Raney said.

However, after Raney touted NCES, SFC Andrew Baker shared with the audience his frustrations pertaining to information sharing.

"Interoperability is one of the key frustrations that we have," said Baker. "Being able to cross service boundaries is probably one of the key things we have issues with, and we look to DISA to help us out with that."

Baker reported having problems using different products with different military services. For example, products developed for one military service could not be used with programs developed for another military service. Baker requested that vendors try to test all their products with all the military services so that they can communicate effectively.

He also asked for consolidated tools from the vendors which would simplify systems for the users.

"You can do more if you consolidate your tools with other vendors," said Baker. "Develop them to be interoperable with other tools," he asked, noting that

if there are eight or nine monitoring tools, it does nothing but congest the work.

Baker remarked that pre-positioned services enable flexibility for the warfighter. He relayed a story in which a legacy system did not fulfill the needs of a commander; however, with the benefit of pre-positioned services, he was able to solve the problem within 15 minutes.

Rich Williams spoke of the challenges to bringing services to the edge.

"We educate our workforce … to make it simple, to make it effective, to make it not unlike what they do in their civilian life," said Williams.

He gave an example of a new product with a Web-based capability to ensure the availability of network access. When customers need to travel to a location that does not have network access, this product allows customers to schedule network availability for communication services before they reach their new location. This service would allow for flexibility by providing more access when requested.

This reliable access to the network perpetuates the desires and needs of the customer to remain connected at all times. The true challenge is to be able to have information assurance at every point.

At the end of the panel discussion, the panel members briefly reiterated their needs from the industry partners.

"How do we write the policy to share info with our coalition partners?" Raney asked rhetorically, concluding that DoD agencies need to reach out to coalition partners and share with them, rather than treat them as an afterthought.

"There is going to be a fundamental need for culture changes, which is always one of the most difficult things to take on across all elements," concluded Atkins. ❶

Word-of-Mouth Keeps Increasing Conference Attendance

By Jerome W. Mapp, Corporate Communications

I really think we were hugely successful with the conference this year because of great content and great contacts, " said Roberta Stempfley, DISA's deputy chief information officer and vice director of strategic planning.

"We ran 192 track sessions, and everyday there would be a [message] saying, 'This session is full; we're working on scheduling another,'" Stempfley said. "Just the ability to bring the people together to talk about the issues that happen is why the conference has grown year after year."

Stempfley said word-of-mouth has done more to spread news about the conference than an advertising campaign.

"It's not like we've got this great advertising campaign," she added. "We have people [conference participants] talking about the value of the conference to their friends, to their co-workers. The plenary speakers were just amazing."

"Today, it's more of a joined discussion versus an us-and-them discussion. So, the whole tenor has changed as we continue to listen to each other," she added.

Stempfley said that the conference theme, "Imagine 1 Force … Connected," resonated throughout the conference.

"One of the things we heard from the plenary speakers and others was about our theme. It really is a partnership, and it's all about how to be commonly focused around a goal. So, I was really surprised to hear such consistency from everyone as they went forward [at the conference]."

She said that another reason for the conference's continual success is because participants know that the tracks sessions, the plenary sessions, and the networking are aimed toward enabling all participants to more effectively support our warfighters at home and abroad.

"It's still all about getting the right information into the hands of the soldiers, sailors, airmen, and Marines. This is what we heard from everybody, including our coalition partners who joined us on stage."

Like any organization, DISA faces both short-term and long-term challenges. According to Stempfley, among those challenges are the ability to combine DISA innovations with industry innovations and to rapidly deliver capabilities and services to the military services at home and abroad.

"There are great innovations happening all over the place," Stempfley said, citing the Maritime Domain Awareness group as one example. The MDA initiative is an agreement between the U.S. Coast Guard and the Department of Homeland Security to establish a command-and-control system for monitoring all ports, coasts, and navigable waterways within the United States.

Stempfley believes that having coalition partners on stage reinforced the theme of "Imagine 1 Force … Connected."

"So, what I loved about this year's conference was the fact that our coalition partners joined us on stage," Stempfley said. "We don't fight wars alone, and we don't do humanitarian assistance alone. They [coalition partners] are as much our customers as they are a part of us."

The 2008 DISA Customer Partnership Conference was a huge success, but DISA is not resting on its laurels. Work is already under way to make the next Customer Partnership Conference, in Anaheim, Calif., April 20 to 24, 2009, bigger and better. ❶

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