

Los Angeles Edition Including Los Angeles AFB

SMC commander speaks at CSA roundtable

by Diane Betzler
staff writer

Lt. Gen. John T. "Tom" Sheridan, commander of the Space and Missile Systems Center, Air Force Space Command, Los Angeles Air Force Base, El Segundo, Calif., was guest speaker at the California Space Authority's first roundtable luncheon of the year, Feb. 11.

The luncheon took place at the Sheridan Gateway, LAX and was emceed by Andrea Seastrand, CSA executive director and former U.S. Congresswoman.

The CSA is a nonprofit corporation that represents the interests of California's space enterprise community. Seastrand and the organization work closely with the state, industry, education and academia to support the development of space projects.

She said those interested in learning more about the CSA can visit the organization's web site at: www.californiaspaceauthority.org.

The guest speaker was introduced by Mike Gallo, CSA chief financial officer and current president/CEO of Kelly Space & Technology, Inc.

Gallo said the general is responsible for more than 6,000 employees nationwide and for an annual budget in excess of \$10 billion.

"He manages the research, design, development, acquisition and sustainment of space and missile systems, launch, command and control, and operational satellite systems," Gallo said when describing the general's area of responsibilities.

Gallo said one of Sheridan's proudest accomplishments was accepting the prestigious 2009 SpotBeam Award on behalf of the SMC.

The award was a National Security Space Award for the SMC Defense Meteorological Satellite Program and was presented by CSA.

Sheridan started out by thanking CSA for the organization's part in getting the word out across the state about the importance of space work.



Photograph by Diane Betzler

Lt. Gen. John T. "Tom" Sheridan, commander of the Space and Missile Center at Los Angeles Air Force Base, Calif., talked about the past and upcoming space projects at the center.

He said the organization has the ability to connect with those who spend their days doing space business and share that with those who are not familiar with space issues.

"Thanks CSA for partnering with us and for making sure the word gets out to the public about how important space is."

He said CSA has been instrumental in getting educational foundations started and said that's the kind of thing that will help the country to keep moving forward.

"This is not easy stuff, there are so many chances we can make a mistake," Sheridan said, referring to the many space programs currently being worked at the center. He said the bottom line is that no one person or organization can do the space work by themselves, "We have to work as teams, and there is lots of good team work going on," he said.

The general said national security space business focuses on mission success, "Whatever mission we're involved in, we're trying to make that mission successful," he said.

"If you lose sight of the mission success, then you've probably lost the bubble."

Sheridan shared some of last year's successes and said SMC worked pretty darn hard to get Space Launch back on track.

As a result SMC witnessed several successful launches in 2009. The Delta-4 Heavy Rocket launched out of Cape Canaveral. The NROL-26 mission took off in January and was a big success. They launched two Global Positioning Systems, "They were out of Blocks 20 and 21, the last two GPSs of the fleet," the general proudly noted.

The GMSB-18, a weather satellite, also experienced a successful launch.

General Sheridan said the SMC team spent many successful midnight hours on the Space Based Space Surveillance program and said they launched the WGS III in December, "It's up over head right now, getting ready to be operational," he said.

The SBSS Block 10 spacecraft is finished and has been moved to Vandenberg AFB where Air Force officials expect to launch it this spring. The general went on to name several other successful launches and said Space Launch is a really big program that has taken a long time to produce.

"So it's been a pretty successful launch business after we got back on track," the general said.

He touched a bit on future space business and said the SMC and its partners will be working closer together to produce six new space systems.

The Space Based Infrared System, more commonly known as SBIRS (pronounced "sibbers") is the largest space program ever built. The SMC team has replaced about five subsystems and they are looking at a 2011 launch.

He said SMC is moving forward with the space-based surveillance program and said the SBIRS is getting ready to move to the Cape by the end of this year.

See CSA, Page 3

Military communications satellite built by Lockheed achieves 10 years in service

The U.S. Air Force's Defense Satellite Communications System B8 satellite, built by Lockheed Martin, has surpassed its 10-year design life of on-orbit service in providing secure and reliable communications capabilities for the war fighter.

Launched from Cape Canaveral Jan. 20, 2000, the B8 satellite is one of 14 DSCS III spacecraft designed and built by Lockheed Martin Space

Systems for the MILSATCOM Systems Wing at the Air Force's Space and Missile Systems Center, Los Angeles Air Force Base, Calif.

The satellite is also the first of four DSCS III satellites to feature Service Life Enhancement Program upgrades that enabled a 200-percent increase in communication capacity over original DSCS III spacecraft with its 50-watt Traveling Wave Tube Amplifiers.

"The high performance and longevity of the DSCS III constellation is direct testimony to a joint U.S. Air Force/Lockheed Martin team dedicated to providing the war fighter with secure and reliable satellite communications," said Kevin Bilger, Lockheed Martin's vice president and general manager of Global Communications Systems.

See SATELLITE, Page 3



March 5, 2010
Volume 3, Issue 9

Serving the aerospace
industry since 1986

AFAF runs through March 19

Lt. Gen. Tom Sheridan, SMC commander, signs a pledge form for this year's Air Force Assistance Fund campaign while John Bohon, the base-wide AFAF coordinator, looks on. Los Angeles AFB personnel can donate by making a payroll deduction, or a one-time cash or check contribution now through March 19. AFAF benefits the Air Force Aid Society, Air Force Village Foundation, Air Force Enlisted Village and the General and Mrs. Curtis LeMay Foundation.



Air Force photograph by Lou Hernandez

\$1,000

One business trip (airfare, car rental and hotel)

\$49

Unlimited online meetings per month

Do the math. With GoToMeeting you could hold a month's worth of online meetings for less than one in-person meeting. Host as many meetings as you want for one flat rate - free VoIP and phone conferencing included. Do more and travel less with GoToMeeting. Try it free for 30 days.

FREE 30-DAY TRIAL

gotomeeting.com | promo code: AF14

GoToMeeting

by citrix



JOSEPH F. DEMPSEY, KENNETH M. ROBERTS, BILLY SMITH, JR.
Lt. Col., USAF (Ret.) Col., USAF (Ret.)

DEMPSEY, ROBERTS & SMITH, LTD. ATTORNEYS AT LAW

Committed To Serving the Military Community

- Personal Injury • Divorce & Family Law
- Contract & Business Law • Criminal law

Free Consultation • Active Duty and Retired Discounts

**520 S. 4th St., #360
Las Vegas,
NV 89101**

**DEMPSEY,
ROBERTS & SMITH, LTD.**
Attorneys at Law
www.drsltd.com/doha.htm
(702) 388-1216

To advertise, please call toll free (877) 247-9288.

Raytheon to develop next-gen GPS control segment

The U.S. Air Force has selected Raytheon for an initial contract of \$886 million to develop a new element of the Global Positioning System to improve the accuracy of information from GPS satellites.

The contract represents the first two development blocks of the advanced control segment, which will have a significant impact on GPS capabilities.

The OCX development contract will be 73 months in duration and with option years for sustainment worth \$1,535,147,916. The contract will include development and installation of hardware and software at GPS control stations at Schriever Air Force Base in Colorado and Vandenberg AFB in California, deployment of advanced monitor stations at remote sites and initial contractor support with sustainment options for five years.

OCX will replace the current GPS Operational Control System, maintaining backwards compatibility with the Block IIR and IIR-M constellation, providing command and control of the new GPS IIF and GPS III families

of satellites, and enabling new modernized signal capabilities.

"OCX is urgently needed not only to enable new war fighter capabilities but also to put the new GPS III space vehicles into mission operations," said Col. Dave Madden, GPS Wing commander "OCX will have a flexible architecture that can rapidly adapt to the changing needs of today's war fighter and will connect to the Global Information Grid so that war fighters around the globe have immediate access to GPS data and constellation status.

"OCX will allow Air Force Space Command to effectively and efficiently plan and control full-spectrum precision position, navigation and timing information for all GPS user communities," the colonel said. "OCX will achieve this vision by implementing an incremental development approach that supports the evolving military operational environment, while enabling civil and international users who are employing GPS in innovative applications like transportation."

The OCX system will include anti-jam capabilities and improved security, accuracy and

reliability and will be based on a modern service-oriented architecture to integrate government and industry open-system standards.

"We are excited to partner with the Air Force to provide the best-value GPS control system for the future," said Lynn Dugle, president of Raytheon's Intelligence and Information Systems business. "Raytheon's broad experience in delivering satellite-to-ground command and control systems will ensure that our nation's military and civil GPS users worldwide are provided new capabilities."

The OCX will dramatically affect GPS command, control and mission capabilities and make it easier for the operations team to run the current GPS block II and all future GPS satellites.

"Raytheon is proud to deliver innovative technologies to help the Air Force meet its mission of protecting GPS operational services," said Bob Canty, GPS OCX vice president and program manager for Raytheon. "The advanced control segment is a critical program for our nation's combat forces, coalition partners, as well as domestic and international civil users. By

selecting Raytheon, the Air Force recognizes our experience and commitment to take GPS to the next level."

The GPS, a satellite-based radio navigation system for the military and the public, comprises three major segments: the user segment, the space segment, and the control segment, which includes a master control station and ground antennas.

"The OCX concept was created to separate the control and space segments," Canty said. "Technologies were evolving so rapidly and were so critical to execution that specialized skills were needed. The GPS wing saw the same need for specialized expertise on GPS OCX."

Raytheon brings more than four decades of experience in command and control systems for satellites to the OCX program. Teammates include The Boeing Company, ITT, Braxton Technologies, Infinity Systems Engineering and the Jet Propulsion Laboratory.

The contract was awarded by the Air Force Space and Missile Systems Center at Los Angeles Air Force Base.

Boeing conducts qualification testing of JTRS software

HUNTINGTON BEACH, Calif. — Boeing announced Feb. 25 that it has conducted formal qualification testing of five Joint Tactical Radio System waveforms on Ground Mobile Radios Engineering Development Model hardware.

The waveforms, which are similar to computer software applications, allow soldiers to share text, data and video; to communicate with current-force radios; and to employ high-frequency and satellite communications.

"During formal qualification testing in December, the Wideband Networking Waveform demonstrated its capability to transform how war fighters communicate and share information, and the legacy waveforms demonstrated the ability of GMR to maintain interoperability with current-force communications while simultaneously enabling transformation to mobile, ad hoc networking for joint war fighters," said U.S. Navy Capt. Jeff Hoyle, JTRS Network Enterprise Domain program manager. "Formal qualification testing of these

waveforms on GMR Engineering Development Model hardware is a significant milestone on the path to delivery of JTRS capability, demonstrating the highly advanced technical maturity and performance of JTRS software-defined radio applications."

The new Wideband Networking Waveform and software versions of four legacy waveforms — Single Channel Ground and Airborne Radio System, Enhanced Position Location Reporting System, High Frequency and Ultra High Frequency Satellite Communications — will provide additional capabilities to the JTRS GMR, one of the JTRS radios in development.

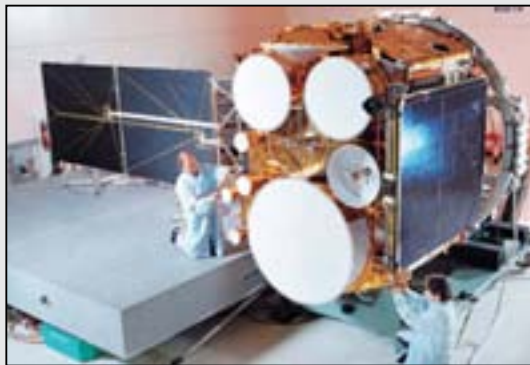
The WNW, developed by Boeing under the JTRS program, is a revolutionary new application that provides Internet-like connectivity for soldiers on the move in areas without communications infrastructure. The WNW software provides its own mobile network infrastructure to link to and expand the military communications network, sending more information to soldiers on the battlefield. In a June 2009

demonstration, the waveform was used to share information among 30 vehicles and sensor locations, proving the network can operate in tactically significant urban environments. SINGGARS, EPLRS, HF and SATCOM will allow forces using legacy radios to connect and share information with soldiers on JTRS radios.

"The Wideband Networking Waveform running on JTRS GMR will link soldiers and commanders for secure communications in critical battlefield situations," said Ralph Moslener, Boeing JTRS program director. "Boeing is delivering WNW and the four legacy waveforms to support development and rapid fielding of JTRS radios, including the Ground Mobile Radios."

Boeing will continue to test the waveforms as part of ongoing system verification testing that will lead to security verification testing later this year. The latest versions of the waveforms are available for integration through the Joint Program Executive Office JTRS Information Repository.

SATELLITE, from 1



"The DSCS III constellation has provided the Department of Defense with its core communications capability for over two decades and will continue to make a significant contribution to our national security well into the future."

The system provides uninterrupted secure voice and high-data rate communications to Department of Defense users; essential tools in monitoring events and deploying and sustaining forces anywhere in the world. In 2009, the overall DSCS III constellation surpassed 200 years of on-orbit operations, the longest total operational experience of any

U.S. military communications satellite constellation.

Lockheed Martin is also progressing on the Department of Defense's highly secure communications satellite system, the Advanced Extremely High Frequency program. As the successor to Milstar, AEHF will increase data rates by a factor of five, permitting transmission of more tactical military communications, such as real-time video, battlefield maps and targeting data. The first AEHF spacecraft has completed final testing and is planned for delivery to the Air Force in second quarter 2010.

CSA, from 1

He said SMC needs to deliver the ground system for the Global Positioning System and said with the advent of the Architecture Evolution Plan 5.5 on the GPS they will be able to implement the Sazman security capabilities to the GPS for America's fighting forces.

The general said SMC is getting ready to deliver the standard space trainer and they want to complete the Minitar recovery plane. He said there's going to be a lot to read about as far as the whole space-based weather and said announcements will be made about that later.

"We're going to field GPS III and OCS to support it," the general said.

He said the SMC is getting back to basics and going to unify how they do future business. The first step, he said, is going back to military specifications and standards. "We got away from that the past 10 years because we didn't have time, but that wasn't a good thing," he said.

As new programs and projects roll out, SMC will be signing up to a series of mill specs and standards.

Last year SMC awarded \$183 million for space and space-related prime contracts to small busi-

ness and an estimated \$250 million to first tier prime contractors. General Sheridan pointed out that it all helps the economy.

"The SMC budget goes a long way when you take that much money and put it in the right businesses that can really help us get ahead," he said.

The general believes it's important to look closely at contract structures and business plans and said people must be willing to be open and share information for successful business partnerships to succeed.

He talked about LISK, which is a set of three

Launch and Test Range System Integration and Support Contracts that are fully supportive of the space range and work together to keep the range alive and prosperous. SMC is looking to consolidate those contracts into one as a way of saving money and is currently researching the strategy and plan it will take to accomplish that.

Sheridan said there are 140,000 men and women in Afghanistan and said the SMC can provide them with unbelievable capabilities.

"We're doing this together, it's a team effort," he said.

Town hall meeting

A town hall meeting has been scheduled for 9-11 a.m., March 10 in the Tierra Vista Communities Community Center at Fort MacArthur.

For more information, call Marc Felt at (310) 241-6184.

Car needed

The Los Angeles AFB Spouses' Club is looking for a 1950s-era collector quality vehicle to use in a photo shoot for their Rock 'n' Roll Auction for Education fundraiser.

The event is at 5:30 p.m., March 13 at Fort MacArthur.

For more information, contact wasy.and.means@laafsc.com.

SMC wings rise to Guardian Challenge

by Hien Q. Vu
Los Angeles AFB, Calif.

For the first time, all seven wings from the Space and Missile Systems Center will send teams to compete in Air Force Space Command's biannual Guardian Challenge this year.

Game Day for the acquisition teams is scheduled for April 28 at Los Angeles Air Force Base, Calif., while security forces team will compete May 16 to 19 at Peterson Air Force Base, Colo. Closing events will be held May 20 and 21.

"The goals of Guardian Challenge 2010 are to identify areas for standardization to enhance readiness and efficiency," said Capt. Eric Ball, SMC's Guardian Challenge Project Officer. "It'll help us improve our readiness and combat capabilities, enhance esprit de corps and strengthen teamwork across all the wings at SMC, as well as show our mission readiness."

Competing teams this year from SMC include the 61st Air Base Wing, Military Satellite Communications Systems Wing, Global Positioning Systems Wing, Space-Based Infrared Systems Wing, Launch and Range Systems Wing, Space Superiority Systems Wing and Space Development and Test Wing.

The acquisition teams will compete locally. They will be given a scenario on Game Day to develop and brief an acquisition strategy to accomplish the scenario objectives. Each team will have approximately three hours to complete the task and out-brief to SMC evaluators.

"It is recommended each team is comprised of four or five members, including a coach, a program manager, an engineer, a contracting and a finance officer," said Ball. "Team

members must be lieutenant colonels or GS-14 or below."

The 61st ABW team will include five primary and alternate members from the 61st Security Forces Squadron and Department of Defense police. Its competition will focus on physical fitness, firing, obstacle courses and land navigation, said Lt. Alea Nadeem, 61st ABW team leader.

"Each team participating in the challenge will have 30 days to train prior to competition," said Nadeem. "Our team will begin training April 5 at March Air Reserve Base."

"We have this rare peacetime opportunity to show SMC is able and willing to overcome any challenge to accomplish our mission to fight and win in space," said Ball. "And we will do it not as a singular wing or center, but as a team within the larger Air Force team."

However, "SMC's identity is without a doubt distinct in the space community, as embodied by our mascot, the Eagle," said Ball. "To that end, we need a lot of support not only from our leadership but also from our base personnel to help the SMC team stand out."

To encourage support, "we will hold several events to rally SMC, raising awareness and excitement around here," said Ball. "We plan to raise funds to provide the SMC team with the required team uniform and banner to represent the Center at Peterson AFB in May."

"Furthermore, senior leaders (colonels or civilian equivalents and above) in the acquisition career fields are needed to serve as local panel judges," said Ball.

Interested volunteers may contact their respective wing's Guardian Challenge team leader for more information.



Air Force photograph

The 61st Security Forces Squadron team.

NEW! LOS ANGELES AFB SPECIFIC www.laafbnews.com

- Local Los Angeles AFB News & Features
- Air Force News
- Searchable Website!
- Updated Daily
- Also contains complete print edition of **Aerotech LA**, base paper of LA AFB
- View Archived editions of **Aerotech LA**
- Local, regional and national news
- Local, regional and national advertising

www.laafbnews.com



For advertising opportunities
online and in **Aerotech LA**
Call 877.247.9288 Today

News from over a dozen southwest
U.S. military bases online at
www.aerotechnews.com

Air Force officials seek to balance current, future needs

by Donna Miles
American Forces Press Service

The Air Force's budget request for fiscal 2011 provides the right balance between supporting the war efforts and other current-day commitments while posturing for future challenges, the top Air Force civilian and military leaders told Congress Feb. 23.

The \$119.6 billion request is designed to ensure the Air Force has what it needs to support four strategic priorities outlined in the 2010 Quadrennial Defense Review, Air Force Secretary Michael Donley told the House Armed Services Committee.

"First, we must prevail in today's wars," Donley told the panel. "Your Air Force understands the gravity of the situation in Afghanistan, and as we continue to responsibly draw down the forces in Iraq, we are committed to rapidly fielding needed capabilities for the joint team."

This, Donley said, includes surging intelligence, surveillance and reconnaissance assets into the theater and maximizing air mobility to accelerate the flow of forces into Afghanistan.

Air Force Chief of Staff Gen. Norton Schwartz noted that in addition to providing critical air and space power for the joint and coalition team, Airmen are providing battlefield medical support and evacuation, ordnance disposal, convoy security and other missions.

"The reality is, the country's at war," he said. "And if there is a demand, if there is a need for us to serve a wartime function, we will do so."

Preventing and deterring conflicts across the spectrum of warfare is another priority in the budget request, Donley told committee members.

Continuing to strengthen the nuclear enterprise is a top Air Force priority, Schwartz said.

"The rigor of our nuclear surety inspections demonstrates a new commitment to the highest levels of performance," he said. "But we must and we will do even more to ensure 100 percent precision and reliability in our nuclear operations and logistics 100 percent of the time."

Secretary Donley pointed to the standup last year of Air Force Global Strike Command and the realignment of the Air Force intercontinental ballistic missile and bomber wings under a single commander. In addition, the Air Force stood up a

nuclear weapons center to consolidate management of all nuclear weapons sustainment activities.

Meanwhile, the Air Force is increasing its engagement around the world, building partner capability in Afghanistan and Iraq while developing a training framework that emphasizes light attack and mobility capabilities that can benefit other nations as well, Donley said.

Another priority driving the budget request is the need to be prepared to defeat adversaries and succeed in a wide range of contingencies.




Air Force photograph by Scott M. Ash

Secretary of the Air Force Michael Donley testifies before the House Armed Services Committee along with Air Force Chief of Staff Gen. Norton Schwartz Feb. 23, 2010, in the Rayburn House Office Building on Capitol Hill. The committee met to receive testimony on the fiscal 2011 Air Force budget request.



With the EITC you could get up to \$5,600 extra back from the IRS. Single or married, with or without children, see how much you may qualify for if you:

- Worked part or all of 2009
- File a 2009 federal tax return
- Make less than \$48,000

Life's a little easier with 
earned income tax credit
1.800.829.1040 ■ irs.gov/eitc

Tanker solicitation seeks fair competition, best value

by Donna Miles
American Forces Press Service

The final request for proposals to solicit bids for a new aerial tanker was designed to promote fair, open competition that provides the best war fighting capability for the best value, Deputy Defense Secretary William J. Lynn III said here Feb. 24.

Meanwhile, the process will serve as a model for the Defense Department's acquisition reform effort, Lynn said, eliminating requirements added after the contract award that drive up costs and delay delivery.

Lynn joined Air Force Secretary Michael B. Donley and Ashton Carter, undersecretary of defense for acquisition, technology and logistics, in unveiling details of the solicitation for a new KC-X aerial tanker. The new tanker will replace the Air Force's aging KC-135 Stratotanker fleet that refuels other aircraft in flight to extend their reach and warfighting capability.

The highly detailed request for proposals released today — which includes 372 mandatory requirements and incorporates 230 mostly technical changes in response to comments on a draft document issued in September — stays true to three guiding principles, Lynn told reporters.

"This is going to be an objective completion. It is going to be fair, it is going to be open," he said, recognizing

the high stakes in the determination in terms of jobs as well as revenues and "buffeting" from both primary competitors, Boeing and Northrop Grumman.

"We are resisting that buffeting, and we are going to play this straight down the middle," Lynn said.

The Defense Department has rejected going for a low-bid contract in favor of a "best-value competition" that considers other factors as well, the war fighting contribution and lifecycle costs among them.

"Price is very important," Lynn emphasized, but will be weighed along with other variables during the selection process. "The reason you can be sure this is not a price shootout is it is actually possible to have a higher price and to win this competition," he said.

Lynn expressed hope that the tanker selection process will serve as a flagship for the department's broad acquisition reform agenda.

It's highly detailed — with 10 times the mandatory requirements that were in the last bid proposal that was withdrawn almost immediately after being issued. Laying out all the requirements up front rather than tacking them on midstream, Lynn

said, will guard against cost overruns and program delays.

The Air Force's solid understanding of its requirements, along with the maturity of the technology involved and the contractors' well-established industrial bases set the stage for what Lynn called another major acquisition reform initiative: fixed-price contracts.

"We can't do fixed-price development in every case," Lynn said, but he called the tanker solicitation the perfect opportunity to do so.

Incorporating technical changes in response to 350 comments on the draft request for proposals, the final solicitation maintains the focus on providing critical military capability, Lynn said.

"Where we haven't changed things is in the basic requirements of the airplane," he said. "The war fighter has set out what they need. We think the 372 requirements that we've laid out will bring the Air Force the plane it needs to bring to the war fight on Day One."

Ultimately, "this is about what the Air Mobility Command needs to meet the war fighting needs of the nation," Lynn said. "We think that the structure in this RFP is going to get us that, and we're going to proceed in that direction."

The contractors vying for the contract, worth an estimated \$35 billion, will have 75 days to submit their bids. The Defense Department will evaluate the proposals for 120 days, then the Air Force will award a contract in the mid-September timeframe, Lynn said.

He expressed hope for a "robust competition" that delivers "the best value for the taxpayer and the best airplane for the war fighter."

Donley echoed that sentiment, expressing hope that both Boeing and Northrop Grumman will bid on what he called "a very strong RFP."

"We believe that both offerors are in a position to win this competition," Donley said. "We think both offerors can meet the mandatory requirements that we have laid out. And we hope and expect to have a good competition."

Regardless of which contractor wins the contract, Carter said, the "clarity and precision" used in the solicitation will leave no one wondering how the decision was made.

"The source selection strategy is crystal clear," he said. "Everybody will know, when a winner is picked, exactly why they won. And up front,

both offerors know exactly what they need to do to win."

Officials are hopeful this will eliminate the challenges and acrimony that have plagued the aerial tanker process to date.

The Air Force initially awarded the contract to build up to 179 new KC-45A tankers over the next decade to a consortium of Northrop Grumman and European Aeronautic Defense and Space Co., the parent company of Airbus.

The award drew a protest from rival Boeing. General Accounting Office auditors upheld the protest, identifying irregularities in the awarding of the contract.

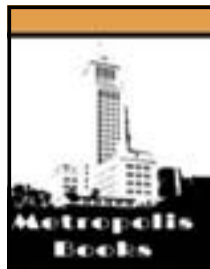
The Air Force reopened the bidding process for the tanker contract in July 2008, but Gates announced two months later that he had decided to cancel it for fear it could not be awarded before he planned to leave his post along with the Bush administration.

"It has now become clear that the solicitation and award process cannot be accomplished by January [2009]," he said in testimony before the House Armed Services Committee. "Thus, I believe that rather than handing the next administration an incomplete and possibly contested process, we should cleanly defer this procurement to the next team."

Still serving as defense secretary as part of the Obama administration, Gates is leading the team that will oversee the new tanker acquisition.

"The war fighter has set out what they need. We think the 372 requirements that we've laid out will bring the Air Force the plane it needs to bring to the war fight on Day One."

Don't accept defeat. Fight right at home. www.metropolisbooksLA.com



Former Top Gun Pilot Mark "Chuck" Marchione will sign and discuss his book 'West of the Rock' at Metropolis Books on **March 20th at 4:00 pm**

Metropolis Books is located at 440 S. Main St., Los Angeles, CA
For more information call **213-612-0174** or visit www.metropolisbooksLA.com

Saving Children, Healing Families™

1-800-217-3700 | www.boys-town.org

BOYS TOWN



MISSION: HEALTHY BABY®

A special pregnancy information program for military families. Created by the March of Dimes, the VFW and the Ladies Auxiliary VFW.

marchofdimes.com/vfw



a CFC participant Provided as a public service

Leading the way and enhancing the lives of wounded military heroes through the use of specially-trained service dogs

619-223-8874
info@freedomdogs.org

You're Invited To The
**Los Angeles Air Force Spouses' Club
14th Annual Auction for Education**

Saturday, March 13, 2010

6 - 10:30 p.m.
Buffet of 50s Diner Favorites
Live & Silent Auction
Dancing

Fort MacArthur Community Center
2400 Pacific Ave, Bldg. 403, San Pedro, CA 90731

\$15/person
RSVP to reservations@laafsc.com by March 1

This is a private organization. It is not a part of the DOD or any of its components and it has no governmental status. AFI34-223/10.1

Air Force Uniform Office staff wants your opinions

by Brad Jessmer
Wright-Patterson AFB, Ohio

The Air Force Uniform Office staff conducted field solicitations for airmen suggestions and concerns about Air Force uniforms to incorporate into a uniform strategic plan for future developments. These forums took place Jan. 25 and 26 and Feb. 17 and 18.

AFUO officials are considering several other bases for future visits in order to get a decent sample from airmen in different climate zones.

"Air Force leaders want to know the uniform needs of our Airmen," said Maj. Eric Habersberger, the AFUO deputy chief. "This is the best way to find out. We go out to our airmen performing the mission to learn about their needs and what we can do to help."

The AFUO staff conducted seven different sessions at Hill AFB, four with enlisted and three with officers, and seven at Maxwell-Gunter, five with enlisted and two with officers, to hear what Airmen had to say about their uniforms. Each uniform item was discussed, from the airman battle uniform to the service dress, with several Airmen

bringing in uniform items to better illustrate their concerns.

"Overall, I would say this was a huge success for us," said MSgt. James Lynn, an AFUO subject matter expert. "The folks who came in to speak with us came prepared, and all feedback was highly constructive."

Each group met for approximately one hour and discussed all aspects of uniforms in an open forum setting. Members of the AFUO listened to all feedback, taking note of each Airman's comments. AFUO officials will compile all suggestions from the solicitations and submit them to the Air Force Uniform Board for consideration in the requirements generation process.

"It's important to enable and enhance the abilities of our airmen to perform their missions," said Maj. Darien Hammett, the 648th Aeronautical Systems Squadron commander. "We have to listen to the unique individual needs of every career field, and consider those needs as we create uniforms that are designed for all airmen."

Once the AFUO staff selects the installation for this forum, announcements are made in advance at that location and airmen from all career fields are welcome to sign up.

Video competition at MyAirForceLife.com

What does MyAirForceLife.com have in common with YouTube, the world's most popular online video community? Like YouTube, MyAirForceLife.com accepts video clips, allowing the global community to watch, share, and vote on videos online.

What's different is visitors to MyAirForceLife.com have an opportunity to participate in exciting competitions where they can win great prizes. Eligible participants have a shot at winning a digital video equipment package valued at \$2,000 for receiving the most online votes on the MyAirForceLife.com site.

Now through Apr. 4, Air Force Services Agency officials will accept video competition entries on www.myairforcelifelife.com as part of the Year of the Air Force Family. Enter your submission early to have more time to rack up votes.

Airmen and eligible patrons of Air Force MWR programs can upload a 30 to 60-second video telling a story that the Air Force is a great place to live, work and play. Once uploaded, visitors to the site can view and vote for their favorite videos. Entries with the highest number of votes will become finalists.

Online voting will select one winner in each category (youth and adult) to win an Apple MacBook and a Panasonic digital video camera. The winner in the adult category will have their video featured

on the Pentagon channel and the Army and Air Force Exchange Service channel.

Last year, Air Force Services Agency officials launched MyAirForceLife.com to help airmen and their families stay connected, informed and engaged in programs as part of the Year of the Air Force Family.

"To date, we have awarded over 225 prizes, including Apple Macbook computers, Sony eBook Readers, iPods, iTunes gifts cards, Acer netbooks, and more," said Debbie Kames, Air Force Agency spokeswoman. "A list of winners can be found on the site. For each competition, we add new prizes. During the video short competition, those who register on the site are eligible to win FlipVideo cameras."

Air Force Chief of Staff Gen. Norton Schwartz and Secretary of the Air Force Michael Donley designated July 2009 to July 2010 as the Year of the Air Force Family, a period to recognize the sacrifices and contributions of the diverse Air Force family including active duty, Reserves, Air National Guard, single Airmen, civilians, spouses, children, retirees, and community partners.

"Taking care of families is a solemn promise we make to each airman and family member," said Donley. "Sense of community is a cultural trademark of the Air Force, and we will seek ways to nurture it as part of the larger 'Year of the Air Force Family' effort."

Lost.

(How most kids feel about preparing for college.)

Without the help of an adult, it may be confusing for students to find their way to college. If you know a student with dreams of a higher education, do your part and help lead the way. Learn how at...

KnowHow2GO.org 800-433-3243



Visit to coast, from Shoshone to Sierra, White Mountain to Davy Crockett, they are more than our National Forests. They are national treasures. But they are being devastated by fire as never before.

The Arbor Day Foundation asks for your help in replanting our National Forests — to restore their life-giving benefits and their awe-inspiring splendor.

Visit arborday.org.
See what we're doing. See how you can help.

Arbor Day Foundation
National Day, National Day

LAX'S MARRIOTT CONNECTION



\$135

single/double occupancy

- Less than one block from LAX and closest Marriott hotel to the airport
- Complimentary high-speed Internet wired and wireless access
- 179 superbly designed, sound proof and spacious guestrooms featuring separate work area, sofa, in-room coffee, refrigerator, safe and two phones
- Complimentary business center
- 4 meeting rooms totaling 1,750 square feet of flexible meeting space, complimented with affordable menu selections
- The Courtyard Cafe for breakfast, dinner, room service and the Market for 24/7 "Grab-Go"
- Guest rooms feature many amenities of a full-service hotel
- Located just minutes to El Segundo's business/aerospace district and LAAFB
- Complimentary scheduled 24-hour airport shuttle

Groups & Meetings: **310-981-2360** or **310-981-2361**

Reservations: **888-689-3031**

6161 West Century Blvd., Los Angeles, CA 90045 • www.marriott.com/laxcy
Some restrictions may apply and are based upon availability.

2010
If Not Now... When? Make 2010 A Year of Beauty for You!

Proud Supporters of the USO



Wellness Center
Chiropractic
Dr. Conca, D.C.

Stephenie's
M A N H A T T A N

#1 Painless Permanent Make-Up Artist & Correction Specialist

World Renown Permanent Make-Up Artist

- 100% Sterile • Eyebrows • Eyeliner • Lip Liners • Full Lips •
- Scar Camouflage • Microdermabrasion • Pumpkin Peels • Facial Treatments •

Check out our website • www.stephenies.com

So please join us to unleash the beauty within. Referrals by over 150 Doctors!

Dr. Alfred Marrone • Dr. C. Verbin • Dr. Horowitz, D.O., and many salons & day spas

You Deserve

310-374-0725

Coupons Expires 4/15/10

The Best! 806 Manhattan Beach Blvd., Suite 202 • Manhattan Beach

Permanent Make-up \$100.00 OFF With this ad only	Photo Facial with Pumpkin Special \$75.00 Reg. \$200.00	Brow Wax, Brow Tint or Eyelash Tint \$25.00 Each	Lashes \$35.00 and up Lasts Four Weeks	Eyelash Extensions \$100.00 Reg. \$350.00	FREE Consultation with Dr. Conca With this ad only
---	--	---	--	--	--

Space assets as a force multiplier in all facets of life

by James Webster, Capt. Anil Hariharan,
Capt. Chris Mendoza
Los Angeles AFB, Calif.

The first thought for most people when they hear the term "GPS" is a device that gets them from place A to B.

GPS stands for the Global Positioning System and started out as a U.S. military system for space-based radio navigation.

Over the past decade, the use of GPS has exploded beyond simple positioning to become a global phenomenon used in everything from financial transactions to cell phone calls. Despite how integral GPS has become to our everyday lives, few people understand what it is or how it works.

Central to the GPS network is the Global Positioning Wing at Los Angeles Air Force Base, Calif.

The GPS Wing is a joint service effort directed by the U.S. Air Force and managed at the Space and Missile Systems Center, part of Air Force Space Command.

This joint service includes many civil organizations such as the Federal Aviation Authority.

The GPS Wing mission is to "deliver sustained, reliable GPS capabilities to America's war fighters, our allies and civil users around the world. This is done by maintaining GPS performance today, fielding new capabilities, and developing more robust, modernized capabilities for the future."



The GPS satellite constellation.

What is GPS?

Broadly described, GPS is a space-based radio-positioning system comprised of at least 24 satellites.

These satellites, along with the associated hardware, software, systems engineering, operations and sustainment are operated by the USAF and provide both the military and civilian communities Positioning, Navigation, and Timing services free of charge.

There are a total of six GPS orbital planes, each with at least four satellites. GPS satellites are approximately 20,200 kilometers from the surface of the Earth in a Medium-Earth Orbit, which is nearly circular, and inclined to 55 degrees.

GPS is based on the fundamental concepts of time, distance and the speed of radio waves (approximately that of the speed of light). The GPS signal is a radio wave that is emitted from each satellite and is basically the satellite's position and time. A GPS receiver on the ground "receives" these signals and based on the time the signals are transmitted and received, can calculate the distance from itself to the satellites and use that to formulate a positioning solution. It takes a minimum of four GPS satellites to determine a position on Earth. This position combined with geographical map or grids in the receiver, allows the user to discern their location on the earth. All receivers, civilian and military, work this way.

The GPS system is comprised of three major segments: Space, Ground, and User.

The Space Segment consists of the GPS satellites that orbit the Earth.

The Ground, or Control Segment, consists of the Ground Antennas and the Master Control Station located at Schriever Air Force Base, Colo.

The User Segment consists of the antennas, processors, and receivers that process the GPS signals.

The GPS service consists of four authorized signals and four open signals operating over three frequency bands. Authorized signals are for federal use and are encrypted. Open signals are signals available to anyone to use free of charge. The first set of open signals are in the L1 band and are centered at 1575.42 MHz. The most widely used signal is the L1 C/A signal, currently used by almost all commercial receivers in the world today. The L1C signal will also be available on this frequency with the launch of GPS III, the latest generation of satellites, and will be available for public use around 2020. This signal will offer much improved performance from the current L1 C/A signal. The next open signal is the L2C signal, centered at 1227.6 MHz. This signal is currently being broadcast from eight satellites and will be available for use in approximately 2014.

The final open signal is L5, which is centered at 1176.45 MHz. This signal is currently broadcasting in an experimental mode and will be available for general use in approximately 2016.

History of GPS

The concept of using satellites to obtain information originated during the earliest days of the Space Age.

As an interesting note, in June 1959, Walt Disney studios released the short film "Eyes in Outer Space," which introduced mass audiences to the idea of a system of satellites utilized for weather forecasting and control.

Although not specifically mentioned, the sophisticated (and as yet unrealized) weather control techniques depicted in the film imply an ability to coordinate communications between satellites and ground stations to precisely determine locations on the Earth's surface.

Thus, at a time when public attention was already focusing on the manned flight "Space Race," the idea of improving the quality of life on Earth through satellites was already in the air.

In the fast-moving arena of aerospace in the 1960s, efforts to put these ideas into practical effect were not long in coming.

The U.S. Navy Navigation Satellite System, known as Transit, became operational in 1964. At the same time, the other military services and NASA also became interested in developing satellite navigation systems. The first serious study of the possibility of a comprehensive satellite navigation system appeared in 1967, entitled "Study of a Navigation and Traffic Control Technique Employing Satellites," published by TRW Systems Group (now part of Northrop Grumman) of Redondo Beach, Calif.

The TRW study's purpose was to develop a concept for a navigation and satellite control system to initially provide coverage for the Atlantic region, with the option of expanding such coverage into a worldwide network.

The report also included what may be the first recorded use of the term "NAVSTAR," which was an early synonym for the GPS system. The study proposed a network of only four satellites for Atlantic coverage, with the stated objective that "[i]f a user can view three satellites and knows his own altitude, he can calculate latitude and longitude." The basic framework presented in the study is mirrored in the present-day GPS system: Space, Control and User Segments.

The earliest uses and strongest interest in future development of GPS-type systems came from the military. In 1969, the Department of Defense moved to "consolidate the independent development efforts of each military service to form a single joint-use system." The responsibility for developing and deploying the "NAVSTAR GPS" system was assigned to the Air Force in 1973, and the GPS program was formally initiated in 1975 with the establishment of the GPS Joint Program Office, the predecessor to the GPSW.

The term "joint" in the designation JPO reflected that the initial military uses of the system would be used by all branches of the U.S. armed forces, with eventual applications made available to the civilian user community.

The first GPS satellite, named NAVSTAR 1, was launched from Vandenberg Air Force Base Feb. 22, 1978.

Three further launches followed by end of that year, and Jan. 8, 1979, the original TRW vision of a four satellite constellation was realized when NAVSTAR satellites 1 through 4 were "set healthy" to successfully transmit navigation signals.

The 1980s and early 1990s were a time of continued development of the GPS constellation, resulting in a 24-satellite constellation in 1993 and Full Operational Capability of the system in 1995.

A significant development in making GPS available to the general public was the discontinuance of "Selective Availability", which was the deliberate degradation of GPS signals for security reasons.

This happened on May 1, 2000, at the direction of President Bill Clinton, in order to "make GPS more responsive to civil and commercial users worldwide."

This resulted in high accuracy signals being available to civilians for an ever-widening field of private and commercial applications. Today, the GPSW supports a worldwide PNT service to the military and global civilian communities.

Effect of foreign satellites

GPS is a type of Radio Navigation Satellite Service.

RNSS is a generic term for the science of using satellites to determine a position on the earth.

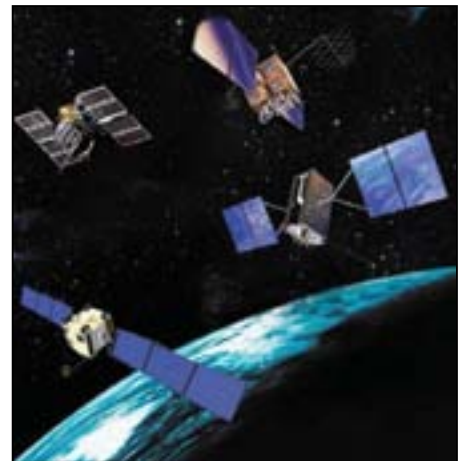
GPS is the United States' contribution to the RNSS world and by no means is it alone.

Other countries have or are developing their own RNSS technology. Currently there are four other global RNSS systems: GLOBal NAVigation Satellite System — Russia; Galileo — European Union; COMPASS — China; and the Global Indian Navigation System — India.

Additionally, there are regional RNSS systems such as the Japanese Quasi-Zenith Satellite System and Indian Regional Navigation Satellite System that provide PNT for specific regions.

Of these systems, the only other operational RNSS system is GLONASS. GLONASS has been operational since 1991 and nominally consists of 24 satellites in three orbital planes. The other three RNSS systems are still in development. The Galileo and COMPASS systems currently have experimental satellites in orbit and plan to be operational by 2013 and 2015 respectively.

Each system has its own benefits, but in an effort to reduce the "congestion" in the available spectrum and to improve the user's performance, the United States spearheaded an effort to define signals that would be common among all the RNSS systems. This effort led to the development of the L1C and L5 signals. These "interoperable" signals can be broadcasted from every RNSS satellite and theoretically provide users up to 120 satellites to receive services from, thereby significantly improving availability and accuracy.



GPS Satellites II, IIR, IIF and III pictured over the Earth.

GPS applications to civil engineering

GPS is used extensively in the Civil Engineering community for construction, surveying, mapping, site exploration and a myriad of others due to its ability to provide high accuracy positioning.

For example GPS surveying instruments offer measurements in 3D (X, Y and Z planes) that enable a surveyor to take measurements accurate up to a millimeter from every point on the area.

Another example of how of GPS is used in Civil Engineering com is the use GPS to monitor the structural integrity of highways, bridges and dams.

See GPS, Page 9

For instance, three GPS receivers were used to monitor the shifting and deformation of the Pacoima Dam. This allowed the builders to use new types of risk mitigation measures to further ensure the safety of the inhabitants downstream from the dam.

High precision measurements are required in order to conduct these activities with the accuracy they require. GPS solutions from stand-alone receivers are accurate to within a few meters.

Better accuracies, on the order of a meter or so, can be obtained through the use of differential GPS techniques that employ pseudo-range measurement corrections supplied by external reference systems at operating at surveyed locations.

GPS solution accuracies of a centimeter or better are commonly achieved using kinematic carrier phase tracking techniques which — although somewhat similar to DGPS with information being supplied by external reference systems — are made with high-end GPS receivers which take very precise measurements of the phase of the incoming L-band carrier signals in addition to the standard pseudo-range measurements.

Receivers can often take 20 to 30 minutes to produce an accurate KCPT position solution using the C/A-code signal on L1. A popular strategy is to just accept the delay. This is frequently the best choice, especially when the KCPT solution can be done after-the-fact. However, there are significant benefits to be had in many applications (road construction, agriculture, mining, etc.) to obtain positioning to a centimeter or better in real time. This can be done by obtaining additional KCPT measurements on the military's Precise/Encrypted (P(Y)) code signal broadcast on the L2 carrier. These "codeless" and "semi-codeless" techniques for kinematically tracking the broadcast L2 carrier phase despite the presence of the

The future of GPS satellites that is currently in development, GPS III, will introduce a third modernized signal, the L1C.

P(Y)-code signal on the L2 carrier allows for real time, high precision receivers.

GPS Wing's future planning

The GPS Wing is in the process of modernizing GPS.

The GPS Block IIF satellite, due for launch in 2010, will allow enough satellites to bring the first modernized signal, L2C, into operational use.

The Block IIF will also introduce the second new modernized signal, L5 that was specifically designed for the aviation community to provide safety of life navigation.

The future of GPS satellites that is currently in development, GPS III, will introduce a third modernized signal, the L1C. This signal is designed to allow for faster acquisition and better multi-path performance than the current L1C/A signal. In order to efficiently provide these modernized signals to the user, the GPSW is updating the ground control segment, known as OCS. These new capabilities will ensure increased signal availability, accuracy and integrity of GPS.

GPS is a very fascinating concept and an incredibly useful technology that it supports both civilians and the military, and

is a free service available to all users, which is provided by the U.S. government.

GPS has saved countless lives, solved crimes, located missing persons and is used in countless applications around the world including civil engineering.

GPS has become the mainstay of transportation systems worldwide, providing navigation for aviation, ground and maritime operations. GPS has provided positioning services as can be seen in the emergence of "telematics" by locating automobile accidents, unlocking doors, or slowing down vehicles for police when vehicles are stolen. GPS has also provided timing services as can be seen in banks, ATMs, and cell towers.

The U.S. Air Force and Air Force Space Command have been the diligent stewards of GPS since its conception in the 1970s and continue its commitment to this critical component of our National Infrastructure. The current GPS constellation has the most satellites and the greatest capability ever. The Air Force is committed to maintaining the current level of

service, while striving to improve service and capability through on-going modernization efforts.



The many commercial uses of GPS.

NewspaperDirect

PRESS  DISPLAY

Never miss another edition!

Aerotech News has partnered with NewspaperDirect and Press Display to be able to provide readers with our flagship paper — Aerotech News and Review — and our eleven military base papers throughout the world.

Available in over 100 countries through a global network of distributors, the newspaper Print-on-Demand service is suitable for individual subscribers, retail outlets, hotels, cruise ships, airlines, corporate offices, libraries, educational institutions, events and private yachts.

Not near a Print-on-Demand center? No problem. You can visit newspaperdirect.com and read and search a paperless version through Press Display.

www.newspaperdirect.com



Webb telescope's first primary mirror segment meets full flight specifications, sets program landmark

REDONDO BEACH, Calif. — The James Webb Space Telescope reached a mission-readiness landmark March 2 when its first primary mirror segment was cryo-polished to its required prescription as measured at operational cryogenic temperatures.

This achievement sets the stage for a successful polishing process for the remaining 18 flight mirror segments. Northrop Grumman is lead-

ing Webb's design and development effort for NASA's Goddard Space Flight Center.

"Many predicted it would take us multiple iterations to successfully polish these mirror segments to achieve the correct optical prescription at the telescope's operating temperatures, but we did it on our first try," said Scott Willoughby, Webb Telescope Program Manager for Northrop Grumman Aero-



NASA photographs by Emmett Givens

Six of the 18 James Webb Space Telescope mirror segments are being prepped to move into the X-Ray and Cryogenic Facility, or XRCF, at NASA's Marshall Space Flight Center in Huntsville, Ala.



The mirrors were cryogenically tested by Ball Aerospace at the X-ray and Cryogenic Facility, at Marshall Space Flight Center.

space Systems. "All our budgets and schedules are based on this and it's a confirmation of the basic plan we proposed ten years ago."

"The completion of cryogenic polishing of the engineering development unit primary mirror segment is a hugely significant milestone for the Webb telescope project that demonstrates that our primary mirror segments can be completed on schedule while meeting the performance necessary for science," said Lee Feinberg, NASA Webb Optical Telescope Element Manager at the Goddard Space Flight Center, Greenbelt, Md.

Cryogenic polishing, or cryo-null figuring, ensures that when the mirror reaches its extremely cold operating temperature, its shape will conform to the exact optical prescription required to collect accurate infrared images of distant stars and galaxies. The engineering development unit mirror,

which will be used as a flight spare, was cryotested in the X-Ray and Cryogenic Facility at NASA's Marshall Space Flight Center in Huntsville, Ala. The mirror polishing was performed at Tinsley Laboratories, Inc. in Richmond, Calif. Late last year, the mirror segment met flight requirements at ambient temperatures.

"For validation purposes, we're planning four sets of completely different cross checks and verification tests to authenticate the outcome of the mirror cryotests," said Scott Texter, Northrop Grumman Webb Optical Telescope Element Manager. "If any discrepancies surface, we can then investigate and re-verify."

NASA Marshall and principal optical contractor Ball Aerospace will conduct separate verification tests using different computer generated holographic null tools. NASA Goddard will use its own testing equipment and measure-

ment methods in its clean room; testing at Johnson Space Flight Center will use a reflective null tool manufactured by optical integration and test partner ITT; and polishing partner Tinsley Labs will make measurements using their own independent method of calibrating their computer generated holographic null tools.

The James Webb Space Telescope is the next-generation premier space observatory, exploring deep space phenomena from distant galaxies to nearby planets and stars. The Webb Telescope will give scientists clues about the formation of the universe and the evolution of our own solar system, from the first light after the Big Bang to the formation of star systems capable of supporting life on planets like Earth. Expected to launch in 2014, the telescope is a joint project of NASA, the European Space Agency and the Canadian Space Agency.

Third Boeing-built WGS satellite passes on-orbit tests

The U.S. Air Force accepted control of the third Boeing-built Wideband Global SATCOM military communications satellite March 1, after the spacecraft passed several weeks of rigorous on-orbit tests.

WGS is the U.S. Department of Defense's highest-capacity satellite communications system. WGS-3 completes the initial constellation of three spacecraft, which will provide broadband communications to every theater of operation around the world.

"Knowledge is power, especially on the battlefield, where the ability to quickly communicate large amounts of information can make a world of difference to mission success," said Air Force Col. David Robbins, WGS Group commander. "With their wide bandwidth and high throughput, WGS satellites are game-changers that give our war fighters a distinct advantage."

Boeing is building three more WGS satellites under Block II of its contract with the Air Force. The Block II satellites will include performance boosters such as a radio frequency bypass designed to support airborne intelligence, surveillance and reconnaissance platforms requiring additional bandwidth.

"We're working with the Air Force to develop cost-effective solutions to the crucial communications challenges facing U.S. war fighters, such as mobile communications, secure and jam-resistant communications, and enhanced support to advanced intelligence, surveillance and reconnaissance operations," said Craig Cooning, vice president and general manager, Boeing Space and Intelligence Systems. "We're showing that future WGS satellites can be efficiently evolved to meet those challenges, and we have a proven, high-performing team of Air Force and Boeing personnel in place to make it happen."

WGS-3 was launched Dec. 5, 2009, from Cape Canaveral Air Force Station, Fla., aboard a Delta IV rocket. On-orbit testing demonstrated the functionality of WGS-3's communications payload features by passing test signals through each of the satellite's 19 antenna beams. The tests also verified WGS-3's beam-steering functions.

Boeing employees conducted the tests at the company's Mission Control Center in El Segundo, Calif., with support from Air Force and Army personnel at the center and at government facilities in central California. Air Force operations personnel at Schriever Air Force Base in Colorado are conducting additional tests and moving WGS-3 into its operational position over the Atlantic Ocean. The satellite is expected to become operational this spring.

WGS-1 and WGS-2 are operating over the Pacific Ocean and the Middle East, respectively. WGS-4, -5 and -6 will be ready for launch in 2011 and 2012.

Key reviews for completed for satellite Series K-L

EL SEGUNDO, Calif. — Boeing and its customer NASA today announced that the Tracking and Data Relay Satellite K-L program successfully completed its system-level Critical Design Review and Production Readiness Review in El Segundo on Feb. 19.

When TDRS satellites K and L join the operational TDRS constellation on orbit, they will provide voice, data and communications relay services to Earth-orbiting spacecraft, such as the International Space Station, several launch vehicles and the Hubble Space Telescope.

The CDR and PRR bridge the design and manufacturing stages of the TDRS program. The reviews validate that the TDRS K-L system design will meet NASA's requirements, is backed with solid analysis and documentation, and will operate effectively when the satellites launch in 2012 and 2013. Based upon this successful review, Boeing will begin assembly of the K and L satellites.

"The K-L series of spacecraft are critical for ensuring the continued availability of high-bandwidth communications necessary for the success of many NASA missions," said TDRS Project Manager Jeff Gramling at NASA's Goddard Space Flight Center in Greenbelt, Md.

"This is a major step toward developing a new generation of tracking and data relay satellites that will deliver high-resolution images, video, voice and data from Earth-orbiting spacecraft to the ground for vital Earth- and space-science missions," said Craig Cooning, vice president and general manager of Boeing Space and Intelligence Systems. "The extraordinary effort by the NASA and Boeing members of the TDRS team to conduct these successful reviews is a testament to the enduring partnership between Boeing and NASA."

The CDR and PRR, held from Feb. 16 to 19, were attended by NASA project, program and headquarters officials. Both reviews were presented to an independent board that evaluated the design aspects of TDRS K and L, including spacecraft assembly and systems integration, testing and safety requirements.

Northrop Grumman names Elizabeth Iversen to lead Navigation Systems Division

WOODLAND HILLS, Calif. — Northrop Grumman has appointed Elizabeth D. Iversen sector vice president and general manager of its Navigation Systems Division, effective March 1.

In her new position, Iversen will have executive responsibility for all Navigation Systems Division business areas, programs and operations at company facilities in Woodland Hills, Calif.; Salt Lake City; Freiberg, Germany; and Pomezia, Italy.

Northrop Grumman's Navigation Systems Division designs and develops situational-awareness products and integrated avionics for international and domestic defense and commercial markets, navigation and positioning systems and sensors for space and high-value platforms, navigation-grade and tactical-grade inertial systems, fiber-optic gyro systems designed to customer requirements, underwater fiber-optic sensors, identification friend-or-foe interrogators, cockpit displays and computers, and logistics support products and services.

Iversen joined the company in 2005 as sector vice president of mission assurance for Northrop Grumman's Bal-

son, GE, Gateway Computer, TRW and Hughes Aircraft Company. She brings expertise in operations management, supply change management, quality and reliability assurance, customer service, and lean six sigma implementation. Prior to joining Northrop Grumman, she served as vice president of worldwide process excellence for Johnson & Johnson.

Iversen earned her bachelor's degree in industrial engineering, business management and industrial psychology from Iowa State University. She has completed the Advanced Management Program at Harvard University and a number of executive development programs, including the Women's Executive Leadership Program at Smith-Tuck, the Human Resources Executive Development Program at Cornell University, and the Global Strategic Management Program at Harvard University.

Iversen currently leads the Northrop Grumman Corporate Quality Council and serves as the executive sponsor for the Electronic Systems sector's Women's Initiative.



timore-based Electronic Systems sector. She has over 25 years of leadership experience with commercial and defense companies including Johnson & John-

Stay up to date - subscribe today!



Base Newspaper for Los Angeles AFB

Keep up to date with all that is happening at Los Angeles Air Force Base by subscribing to the Aerotech News - Los Angeles Edition. Published every other Friday and delivered to subscribers by U.S. Mail, the Aerotech News - Los Angeles Edition also contains news and features for our veterans and retired military readers. All for only \$89 per year!

YES! Start my subscription to Aerotech News - Los Angeles Edition today. I have enclosed payment for:

_____ \$59 (6 months) _____ \$89 (1 year)

Name: _____ Phone: _____

Address: _____

_____ Check enclosed _____ Visa _____ Mastercard _____ American Express

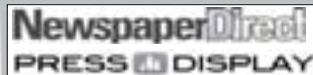
Credit card number: _____ Exp. Date: _____

Signature: _____

To subscribe, simply complete the form to the right, attach your payment, and mail to:

**Aerotech News
Subscriber Services
456 E. Ave. K-4, Suite 8
Lancaster, CA 93535
or call
661.945.5634**

www.newspaperdirect.com



"Now your favorite publication can be printed or read from around the world, in hotels, on cruise ships at airports, libraries and more."

For airmen:

Extraordinary things happen every day

by Maj. Scott M. Finch
Offutt AFB, Neb.

As military members, most of us understand we're a part of something special.

I'm not sure I realized the full reality of just how unique our profession is until I stepped away from it. I didn't stay away long, but when I returned, it was with a new sense of appreciation.

I served almost 10 years on active duty, but currently enjoy the privilege of serving part-time in the Air Force Reserve as an individual mobilization augmentee. My full-time career is in the private sector working for a large financial management corporation. Experiencing both careers side-by-side has allowed me to view my military experience in a new light and deepened my gratitude for the time I spend on active duty.

While I thoroughly enjoy my civilian job and have enormous respect for my co-workers, I'm convinced the business world falls far short when it comes to leadership and taking care of people. I say this not to disparage.

Clearly what we do in the military is unique and to expect as much from a nonmilitary organization is setting a very high standard. Each of us is taught a culture of "service before self" from our earliest days in basic training, and this is something very hard to translate into the business world.

Here are just a few examples of the uniqueness of our profession I've witnessed:

- While serving in support of Operation Joint Guardian in the mid-1990s, the vice chairman of the joint chiefs came to visit us during the holidays. The general learned that one of my team members recently lost a family member, but was unable to get home. The general quietly sought out the bereaved service member and ensured he was on his personal helicopter and plane to the States. It was a small thing for the general to do, but it had a big impact on the service member and to those of us who witnessed it.
- A few years ago, I was planning to attend a conference at Langley Air Force Base, Va. My physical training test was due, and since I was going to be on orders, it was a good time to take the test. I notified the senior individual mobilization augmentee, a colonel, in Air Combat Command contracting, that I'd be testing at Langley AFB. When I showed up to test, I was surprised to see the colonel there in PT gear. He wasn't due to test, he simply felt it was his duty to personally provide me a wingman to run with. It was a small thing, but I still appreciate the leadership he showed.
- Recently, my first sergeant told me of the status on his efforts to prepare a squadron member for career development testing. He

quizzed the airman on possible test questions and as a result of their joint efforts, the young man is not only prepared to pass the test, but is also in a position to excel.

We take this type of thing for granted in the military, but I'm compelled to celebrate it as special when you compare it to other professions. The dedication military members feel to ensure subordinates are mentored and prepared for career advancement is a small thing to many, but I'm convinced it's a treasure of our profession.

The sounding of retreat and the playing of the national anthem on base at the end of the duty day is something I tell my friends and civilian co-workers at home about. I'm not sure they understand, but I look forward to that loud-speaker. It reminds me of where I am and how good it is to be here. It's one more small thing I miss when I return home to my civilian career.

Whether it's a simple order from a general to make room for a grieving service member, the first sergeant showing concern for his Airmen or the simple daily routine of playing the national anthem, once you've left the Air Force for your next chapter in life, you will one day look back and find what was once a routine experience is now viewed as an extraordinary occurrence. These small things are what make the profession we chose so very special.

Are you an airman?

by Lt. Col. Charles R. Owen
Offutt AFB, Neb.

Are you an airman? Honestly?

It seems like a pretty easy question. I wear the Air Force uniform. I work on an Air Force base. I get paid twice a month by the Air Force. I must be an airman, right?

Well, maybe. However, I believe being an airman is a bit more than what you wear, where you work and who pays you.

The thought for this commentary came to me in one of the most unusual places: the Davis-Monthan Air Force Base, Ariz., Status of Discipline meeting.

One of the cases presented to the wing commander involved a young airman with a litany of infractions ranging from being late to work to more serious illegal activity.

I looked around the room as the airman's commander expounded on this young man's list of past and present disciplinary issues, and I was struck by the expressions on the other commanders' faces. It wasn't anger or indifference, it was disappointment. The wing commander summed it up in a single comment with what seemed to be a tinge of sadness, "This airman just doesn't get it."

What was it that this airman didn't "get"? What does it mean to be an airman anyway? What makes us different from our fellow Americans at Walmart or Wall Street?

The Airman's Creed is a good place to start and says a great deal when you look at it:

*I am an American Airman
I am a warrior
I have answered my nation's call*

The statement that strikes me the most is, "I have answered my nation's call." It's not talking about a recruiter calling your house. It's alluding to your decision to serve your nation.

*I am an American Airman.
My mission is to fly, fight, and win
I am faithful to a proud heritage,
A tradition of honor
And a legacy of valor*

As airmen, we have a history. Our honorable service and resolute accomplishment of our mission are tributes to the men and women who served before us. Our failures dishonor their sacrifices.

*I am an American Airman.
Guardian of freedom and justice,
My nation's sword and shield,
Its sentry and avenger
I defend my country with my life*

We have a noble role to play. It falls upon us to protect our country and our way of life. However, what sets us apart from a majority of our nation's citizens is the last statement, "I defend my country with my life." You and your sister service brethren are literally pledging your lives in the service of our country; less than 10 percent of our fellow citizens have ever made that pledge.

*I am an American Airman
Wingman, leader, warrior
I will never leave an Airman behind,
I will never falter
And I will not fail*

This is a pretty tall order. It alludes to our obligation to one another and our mission. Every airman is important, we all are absolutely essential to the accomplishment of the Air Force mission.

The 55th Electronic Combat Group commander put it very well in one of our recent staff meetings, "Airmen don't let other airmen fail."

What this means is that as leaders, we have an obligation to make sure our subordinates have the tools and training to accomplish what is asked of them. As subordinates, we have an obligation to accomplish our mission effectively and efficiently, and not violate the trust our supervisors, and our nation for that matter, have placed in us.

As airmen, we have an obligation to each other. Our mission is constant. If you falter, the burden falls on another airman. If you fail, you put your fellow airmen, and, potentially our nation, at risk. Each of us shoulders a tremendous responsibility.

The dismay at the status of discipline meeting was real. Each of us made a choice to answer our nation's call and each of us has recited the Airman's Creed. The commanders in that room expected airmen to be airmen. We depend on each other to be airmen. Most importantly, our nation needs us to be airmen.

Are you an airman?

Readers' Services

**How to contact
Aerotech News and Review**
• Mail: 456 E. Ave. K-4,
Suite 8, Lancaster CA 93535
• E-Mail: editor@aerotechnews.com
• Phone: (661) 945-5634
• Fax: (661) 723-7757

Advertising
Corporate Headquarters:
(661) 945-5634
Arizona Headquarters:
(623) 487-7321
Southern Arizona:
(520) 452-1500

Subscriber Services
Subscriptions to Aerotech News and Review are \$59 for six months or \$89 for one year. For information, contact the subscription department at:
456 E. Ave. K-4, #8,
Lancaster CA 93535

Story ideas, letters, editorials
Please address all letters and editorials to Stuart A. Ibberson, editor, 456 E. Ave. K-4, Suite 8, Lancaster CA 93535

Web Site
Access the Aerotech News Web site at www.aerotechnews.com
Submissions for upcoming events, air shows and museums should be addressed to Web Updates, 456 E. Ave. K-4, Suite 8, Lancaster CA 93535
For questions concerning the Web site, contact the webmaster at webmaster@aerotechnews.com.

**Where you can get
Aerotech News and Review**
For information on Aerotech distribution, call Chris Ramos, Circulation Manager, at (661) 949-7293.

Aerotech News and Review is published every Friday serving the aerospace and defense industry of Southern California, Nevada and Arizona. News and ad copy deadline is noon on the Tuesday prior to publication. The publisher assumes no responsibility for error in ads other than space used.

Your comments are welcomed and encouraged. Write to the address below. For news and advertising information, or to order subscriptions, call (661) 945-5634.

• Publisher Paul Kinison
• Business Manager Lisa Kinison
• Editor Stuart Ibberson
• National Advertising Manager Gail Ellis
• Arizona Operations Manager Diane Hasse

Aerotech News and Review
456 E. Ave. K-4, Suite 8
Lancaster, CA 93535
E-mail: editor@aerotechnews.com
Visit our Web site at
www.aerotechnews.com

AEROTECH NEWS-LOS ANGELES EDITION CLASSIFIED AD POLICIES AND FORM

FREE ADS

The **ONLY** personnel eligible to place free ads in the Aerotech News-Los Angeles Edition are:

• *Active Duty Military and DoD personnel Stationed at Los Angeles AFB and their dependents, and retired military.*

The **ONLY** Classified ads that are available as free ads to above listed personnel are:

- Pets - Free To Good Home
- Roommate Wanted
- Lost & Found
- Cars & Trucks (Except RV's)
- Furniture & Appliances
- Misc. For Sale
- Garage & Yard Sales
- Motorcycles
- Misc. Wanted

All other categories are paid.

If you are eligible use the form below:

FREE CLASSIFIED AD FORM

AD COPY

One word, phone number, price per space.

20 Words Maximum.Limit 2 Free Ads Per Family, Per Week

Code: _____ (For Aerotech Office Use Only)

Name: _____ Rank: _____

Address: _____

City: _____ State: _____ Zip: _____

Home Phone: _____ Duty Phone: _____

Organization: _____

PAID ADS

The following categories are paid ads:

- | | | |
|--------------------------|-------------------------|----------------------------|
| • Homes For Sale | • Recreational Vehicles | • Acreage |
| • Houses For Rent | • Work Wanted | • Income Property |
| • Apartments For Rent | • Condos For Sale | • Farms & Ranches |
| • Lots | • Townhomes | • Services |
| • Hotels & Motels | • Industrial Properties | • Employment Opportunities |
| • Commercial Rentals | • Mobiles For Sale | • Child care |
| • Loans | • Mobiles For Rent | • Condos For Rent |
| • Investments | • Misc. For Rent | |
| • Business Opportunities | | |

The following ads are also considered paid ads if you do not qualify under **FREE ADS Guidelines.**

- | | |
|-------------------------------|-----------------------|
| • Pets - Free To Good Home | • Garage & Yard Sales |
| • Lost & Found | • Motorcycles |
| • Cars & Trucks (Except RV's) | • Misc. Wanted |
| • Furniture & Appliances | • Roommate Wanted |
| • Misc. For Sale | • Rooms For Rent |

For **PAID ADS**, use the form below:

PAID CLASSIFIED AD FORM

- | | |
|---|---|
| <input type="checkbox"/> HOMES FOR SALE | <input type="checkbox"/> MOBILES FOR RENT |
| <input type="checkbox"/> HOUSES FOR RENT | <input type="checkbox"/> MISC. FOR RENT |
| <input type="checkbox"/> APTS FOR RENT | <input type="checkbox"/> ACREAGE |
| <input type="checkbox"/> LOTS | <input type="checkbox"/> INCOME PROPERTY |
| <input type="checkbox"/> HOTELS & MOTELS | <input type="checkbox"/> FARMS & RANCHES |
| <input type="checkbox"/> COMMERCIAL RENTALS | <input type="checkbox"/> MISC. FOR SALE |
| <input type="checkbox"/> LOANS | <input type="checkbox"/> SERVICES |
| <input type="checkbox"/> INVESTMENTS | <input type="checkbox"/> EMPLOYMENT OPPORTUNITIES |
| <input type="checkbox"/> BUSINESS OPPORTUNITIES | <input type="checkbox"/> PETS |
| <input type="checkbox"/> RECREATION VEHICLES | <input type="checkbox"/> CARS & TRUCKS |
| <input type="checkbox"/> MOTORCYCLES | <input type="checkbox"/> FURNITURE & APPLIANCES |
| <input type="checkbox"/> WORK WANTED | <input type="checkbox"/> MISC. WANTED |
| <input type="checkbox"/> LOST & FOUND | <input type="checkbox"/> GARAGE & YARD SALES |
| <input type="checkbox"/> INDUSTRIAL PROPERTY | <input type="checkbox"/> CHILD CARE |
| <input type="checkbox"/> MOBILES FOR SALE | <input type="checkbox"/> CONDOS FOR RENT |

**ALL ADS MUST
BE PREPAID**

AMOUNTS _____

CASH _____

CHECK # _____

AUTHORIZATION _____

DATE _____

AD COPY

One word, phone number, price per space.
Four lines (\$18.00) minimum. Payment must accompany ad copy

To this line - \$18.00 (minimum)

To this line - \$22.00

To this line - \$26.00

Each additional line \$4.00

Code: _____ (For Aerotech Office Use Only)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Visa/Mastercard/American Express # _____

Exp. Date: _____ Daytime Phone: _____

ALL ADS MUST BE RECEIVED BY TUESDAY NOON FOR THAT FRIDAY'S PAPER

To Submit Ads:

Public Affairs will no longer accept classified ads! Please submit your ads via one of the following methods:

BY MAIL:

Paid And Free Ads
456 E. Ave. K-4, Ste 8
Lancaster, CA 93535

BY FAX:

Paid And Free Ads
(877) 247-9188

BY EMAIL:

Paid And Free Ads
judy@aerotechnews.com

BY PHONE:

Paid Ads Only
(877) 247-9288

Homes For Sale

Make Sure Everyone Knows You're Selling Your Home. Advertise Here. Call 877-247-9288. Aerotech News & Review

Homes For Rent

FIND THE RIGHT RENTER! HIGHLIGHT YOUR AD IN YELLOW TO GET MORE ATTENTION! CALL 877-247-9288 TO PLACE YOUR AD TODAY! Aerotech News & Review

Apartments For Rent

FILL YOUR VACANCIES! REACH THOUSANDS OF READERS! HIGHLIGHT YOUR AD IN YELLOW TO GET MORE ATTENTION! CALL 877-247-9288 TO PLACE YOUR AD TODAY! Aerotech News & Review

Roommate Wanted

Huntington Beach House Close To Beach. Spacious Living Area. Completely Remodeled and Very Clean. \$900 Includes Utilities. Call 951-515-5950

Cars & Trucks

Don't Let it Sit! Get it Sold! Call 877-247-9288 to Place your Ad. Aerotech News & Review

Misc. For Sale

Sheetfed Printing Press. Ryobi 3200PFA - Works (Needs a Little Work). \$1,500. Buyers Pays Shipping. Please Call Brian 661-949-7293

Services

Do You Have an Event Coming Up and You Don't Have Any Promotional Items to Give to Potential Clients? Don't Worry I am Here to Help. Call or Email Me What You Are Looking For and Let Me Find You The Best Deals Out There. Contact Me at 661-435-9866 or Larena@AdPromosOnline.com.

Garage & Yard Sales

One Person's Junk is Another Person's Treasure! You'll be Amazed How Many Treasure Hunters will Respond When you place an Ad in the Paper! Call 877-247-9288 Today to Place your Ad! Aerotech News & Review

FOR SALE



Boat w/Trailer & 2 Waverunners

1996 Marada 18' open bow 7 passenger boat, V-6 Mercruiser with Alpha-1 out drive, "Garges" Custom Tandem Trailer with Double Waver Runner bunks, Remote Control Hoist, Tool Box, 4 Fuel Cans, including two 1997 Yamaha 750 Waverunners, 2-stroke engines, each carries two passengers.

\$15,000 takes all O.B.O.
Call 661-274-4975 or gaile5@sbcglobal.net

FOR SALE



2003 Ford Excursion XLT Sport Utility 4D very low miles 48,030, extremely clean, blue exterior with grey cloth interior, power windows, pwr door locks, low jack anti theft device, dvd player, CD, cassette, AM/FM radio, seats 9, luggage rack, tow package, A/C, rear air, pwr steering, tilt wheel, cruise control, dual front air bags, ABS (4-wheel), privacy glass, running boards, V8, Automatic, 2-wheel drive. rear barn doors, New tires & chrome rims.

\$17,480. O.B.O.
Call 661-274-4975 or gaile5@sbcglobal.net

NEW FOR CLASSIFIED ADS

You can now get your Paid Classified Ads **highlighted in Yellow!**

Homes for Rent

Beautiful and Spacious 2 Master Bedrooms/2 Baths/2 Car Garage 1,800 sq. ft. in Gate Community. Appliances Included. Fenced Yard, Community Pool. \$995/mo.

*Homes for Rent • Apartments for Rent
Employment Opportunities • Cars & Trucks
Furniture & Appliances • Yard Sales
Services • and many more...*

For information, call Judy
toll free 877-247-9288

When I am home **ALONE**



I feel safe. I am protected. I have Life Alert®.

One touch of a button sends **help** quickly in the event of a medical emergency, fall, home invasion, fire or carbon monoxide poisoning.

New!

Now we have two systems available:

- Life Alert Classic for seniors
- Life Alert 50+ for people 50+



For a **FREE** brochure call:

1-866-216-3648

5 Things Everyone Should Know About Identity Theft:

1. You're Only as Safe as Your Weakest Link.

The challenge in protecting your identity is that your personal information is everywhere. Even if you shred your private documents, or use secure websites and strong passwords, what about everyone else who has your Social Security number - like your doctor, dentist or the 17-year-old clerk handling your credit application at the electronics store? The problem quickly becomes obvious: you may be doing everything right, but what about everyone else who has your information?

2. Once Your Social Security Number is Out, It's Staying Out.

If your credit or debit card is stolen, you can replace it, but what happens when non-changing information like your Social Security number is stolen? The fact is, once it's out, it's out. Identity thieves buy, sell and trade stolen information, using it over and over again for years. Is your Social Security number really secure?

3. Anyone Can Be A Target.

Recent news reports revealed that even the chairman of the Federal Reserve¹ was one of the 9.9 million Americans who were victims of identity theft in 2008.² Other reports describe how one identity theft ring was responsible for two of the largest thefts in history, resulting in the theft of more than 130 million credit and debit card numbers.³ Think you could be at risk? (See #1.)

4. How Protected Are You?

You may think you're protected, but are you really? Your credit card may be safeguarded, but that won't help if thieves open new lines of credit. Credit monitoring will only alert you once something bad has already happened. Neither method will help prevent identity theft, nor resolve problems once you've become a victim.

5. There is Help.

LifeLock, the leader in identity theft protection, helps protect your identity - even if your information gets in the wrong hands. And at LifeLock, we're so confident in our service that we back it with a million dollar guarantee - if you become a victim of identity theft because of a failure in our service, we will help you fix it, up to one million dollars. Of course, restrictions apply and we want you to check it out by calling us now. Then use promo code FIVEFACTS for a special offer on LifeLock.

Enroll Today and Receive a Special Offer.

1-866-213-9039

USE PROMO CODE: **FIVEFACTS**



LifeLock
#1 In Identity Theft Protection

¹Source: Ickoff, Michael. "Bernanke Victimized by Identity Fraud Ring." *Newsweek*, 25 August 2009. Web. 20 September 2009. ²Source: Javelin Strategy & Research. "2009 Identity Fraud Survey Report." February 2009. ³Source: Wallack, Todd. "Hacker Pleads Guilty in Data Theft." *The Boston Globe*, 12 September 2009. Web. 20 September 2009.

Vonage **FREE UNLIMITED** Calls Around the World

\$24.99
Per Month*

Now call the U.S. for only \$24.99/mo* plus more than 60 countries for FREE!

SAY NO TO HIGHER PHONE BILLS!

- Our price **STARTS LOW AND STAYS LOW**™. Satisfaction Guaranteed!
- No bundles, no hassles, no introductory pricing — just reliable phone service at a reliable price!

EASY TO SWITCH, EASY TO SAVE

- Keep your existing phone number!
- Vonage® works with your existing home phone and high-speed Internet connection.
- 25 Premium Features at no extra cost.
- FREE calls to more than 60 countries.

30 Day Money-Back Guarantee

Call: **1.877.631.3945**

Vonage 911 service operates differently than traditional 911. See www.vonage.com/911 for details. High-Speed Internet or Broadband Required. Alarms and other systems may not be compatible. * Rates exclude broadband service, regulatory and activation fees and certain other charges, equipment, taxes, & shipping. International calls billed per minute. Offer valid in the US only. See Terms of Service for details. < 30-day money back guarantee is refunded for any paid activation fee, 1st month service charge, initial shipping charges and termination fee. Applicable only to first ordered line per account. Available only in the event of timely cancellation for subscribers who have not exceeded 500 minutes of usage and who obtain a valid return authorization number from 1-VONAGE-HELP and return of equipment in original condition and packaging within 14 days of cancellation. Refund will not include charges for taxes, international usage, payphone calls to Vonage toll free numbers and directory assistance. Offer revocable. ^ Where available. The number transfer process takes approximately 10 business days from the time you confirm your transfer request. ©2010 Vonage.

MILITARY

DISCOUNT AND SERVICE PROVIDER

DIRECTORY

The EASY way to locate LOCAL businesses that offer discounts or special consideration to the military.

Just go to

www.laafbnews.com

and click on the button in the top right that says Military Discount Directory.

Also available in print

December - April - August

inserted into your base newspaper.

**FOR ADVERTISING OPPORTUNITIES:
CALL TOLL FREE 877-247-9288**

WE'RE TASC

YOUR PROVEN SYSTEMS ENGINEERING
AND INTEGRATION PARTNER

AN INDEPENDENT COMPANY WITH A LEGACY OF SUCCESS

TASC has a rich legacy as a premier provider of advanced systems engineering and advisory services. We have over 5,000 engineers, scientists and support personnel dedicated to solving our customers' most difficult challenges.

Since 1966, we have partnered with our customers working toward one goal—the success of their operational missions. Today, as an independent company, we're in full compliance with the Government's organizational conflict of interest (OCI) policies. **Let TASC help solve your most difficult problems.**

3001 N. Aviation Blvd., Bldg O4
Manhattan Beach, CA 90266
310.813.9063
www.tasc.com

TASC
Proven • Trusted • OCI-Free