Huerta to Deliver Keynote

The Technical Symposium kicks off a full day of presentations and exhibits with a presentation from the Honorable Michael Huerta, Deputy Administrator of the Federal Aviation Administration (FAA).

ATCA Today spoke to Mr. Huerta this week about his perspective on the current state of the industry and NextGen, as it relates to technical and policy developments. Here are his insights:

**ATCA:** What are your thoughts on the current state of air traffic control?

**Michael Huerta:** We proudly deliver the safest, most efficient air transportation system in the world. Specific to air traffic, our priorities include maintaining an unparalleled standard of safety for the traveling public, working with our labor partners to energize our workforce, and ensuring we move forward on our transformational efforts on NextGen. The president’s 2012 budget request is designed to maintain and enhance operational safety and to invest in the Next Generation infrastructure and technology.

With air traffic control so heavily in the spotlight, what issues do you think deserve equal attention from the public?

We are facing a pivotal time in

Continued on page 2

Sumit Talwar, IMTAS, and Robb Jolly, SiloSmashers, Inc., enjoyed Tuesday evening’s Welcome Reception, sponsored by SRA International, Inc.
Chairman’s Perspective

ATCA: Looking back on the first part of this year, which ATCA accomplishments make you most proud?

Monte Belger: First, I’d like for people to know I’m proud to be elected Chairman. Based upon work of the current staff and the past two Chairmen particularly, the organization is in really good shape both financially and membership-wise. I’m proud of that and everyone else should be as well.

What are you looking forward to gaining from the discussion and events taking place at the ATCA/FAA/NASA Technical Symposium?

I would love to hear some practical discussion this week about ways to speed up our movement to the future. I’d like to hear realistic, implementable ideas about how to address the research, development, and policy questions that need to be answered before we can move on to NextGen. I’m hopeful we can have these types of discussions this week.

Looking forward to the year ahead, what new ground will ATCA break?

We’re looking forward to the 56th Annual Conference & Exposition in October, and making its sessions interesting. Also, we will host the ATCA Aviation Cyber Security Day July 14 – a first for the association and air traffic community as far as we know. We’re truly striving to keep topics relevant and interesting to the members.

First place finishers at the ATCA Scholarship Golf Outing May 17: (l to r) Larry Smith, Robin Monroe, Beth Findlay and Terry Blumer.

What air traffic control standards do you see as currently successful, but also imperative for the future?

First, I’m proud of the work our controllers, tech ops, and support folks do every day to keep the system so safe and efficient. I’m also proud of the organizational work we’re doing to prepare for the future and position ourselves to remain a leader in this industry. Safety initiatives, training, and labor relations all work to ensure our efforts going forward will enable our continued success.

Huerta

Continued from page 1

aviation history. We are transitioning to NextGen – moving from ground-based radar to satellite-based navigation. Air travel will become more precise and safer, and it will leave a smaller carbon footprint. NextGen will create thousands of good jobs. We need to embrace this opportunity and lead the way.

Resorts Atlantic City (www.resortsac.com) has taken a cue from HBO’s new television series “Boardwalk Empire,” helmed by acclaimed director Martin Scorsese. The show, which chronicles Atlantic City’s turbulent and changing times in the 1920s, served as the primary inspiration for the hotel and casino’s recent face lift.

Resorts is now themed to the Roaring Twenties, and transports guests to that decade with its casino dealers, cocktail servers, and hotel bellhops outfitted in 1920s-era attire.

Advertise at the Annual!
For announcements and placements in ATCA Today at the ATCA/FAA/NASA 2011 Technical Symposium, e-mail Marion.Hixon@atca.org.

Advertise at the Annual!
For announcements and placements in ATCA Today at the ATCA/FAA/NASA 2011 Technical Symposium, e-mail Marion.Hixon@atca.org.

Scan the above QR code with your smartphone to get more info about the Tech Symposium online!
As airports and airlines grow in size and complexity, management needs easy access to reliable information covering every facet of operations. ITT integrates ADS-B network-based aircraft tracking data with a web-based application suite to provide the only solution that allows real-time gate to gate aircraft operations management. Essential to improving every facet of airline, fleet management and airport operations, our solution delivers an unprecedented level of collaborative decision-making and operational efficiency. For more information, visit us at www.ittinformationsystems.com.

The big picture, delivered.
Meeting NextGen Challenges
10 – 11:30 a.m.
Superstar Theater

This panel will address the challenges and recent progress in the transformation to NextGen. It will sharpen the focus on the problem NextGen must solve, why it is important, and the consequences of not achieving it (i.e., what is the shortfall?). The challenges associated with NextGen will be touched on briefly to set the context for discussing progress in meeting the challenges. Industry leaders will discuss recent strides in overcoming operational, technological, workforce, programmatic, policy, and fiscal challenges.

Moderator: Steve Bradford, FAA
Coordinator: Stephanie Fraser, Metron Aviation
Speakers:
Mel Davis, NATCA: Time versus Distance
Closed loop ATC operations such as RNAV/RNP arrivals or defined FMS path stretching in lieu of RADAR vectors better define lateral paths. This path definition enables the use of time in the separation equation. However, human operators (controllers and pilots) still “think” in terms of distance. I will explore the tension between time and distance.

Steve Fulton, GE Aviation: The Immediate Benefit of Accelerated RNP AR Deployment
Accelerated deployment of RNP AR arrival procedures in U.S. Airspace provides the dual benefit of creating immediate benefit to RNP capable operators while providing an incentive to increase RNP capability in the NAS.

John Kefaliotis, ITT: The Airport Surface – Challenges and Progress
John will discuss issues associated with airport policy, progress with surface applications, and integration of surface data.

Bobby Sturgell, Rockwell Collins:
The tightening of federal budgets in combination with rising operational costs threatens timely implementation of NextGen. In light of this, our challenge is to focus on those activities which provide the most benefits to the NAS and its users.

Verification and Validation
1:30 – 2:45 p.m.
Superstar Theater

The V&V Panel will focus on understanding what challenges exist for Verification and Validation (V&V) of complex system of systems (SoS) such as net-centric systems. This will begin with a short description of V&V and then move quickly to a technical discussion of how the panelists view the challenges to the V&V process posed by SoS and the solutions that may address these challenges. Each panelist will provide a short summary of thoughts and then the panel will move to a broader questions based discussion. The panel will be composed of experts from FAA, DoD, NASA, Industry and academia to assure many perspectives are discussed.

Moderator: Bill Schane, The Boeing Company
Coordinator: Maureen Molz, FAA
Speakers:
Tom DeSelms, Wyle: V&V of SoS: Understand the challenges
The combination of the ease of implementing networking, IA challenges, and need for interoperability across systems and platforms as created another dimension of complexity for the V&V process. To adequately V&V these SoS, testing must include the interfaces between internal and external systems and strict defining of the start and end points for the SoS testing.

SoS V&V Challenges:
1. Requirements found in acquisition programs with SoS requirements that are difficult to define and test i.e. post to a common repository on the Global Information Grid (GIG)
2. System boundaries of the SoS are difficult to draw, i.e DODAF OV-1 shows the connectivity therefore I should be able to send data to that person/place on that drawing... but systems and IA may not agree.
3. Security boundaries on a SoS are difficult to draw: does it reside with the system interface or the firewall or the encryptors? These boundaries require IA testing.
4. Operationally relevant testing is hard to define and difficult to implement. Need definition for each SoS on what is “operationally relevant.”

Traditional Definitions of V&V:
Verification is a process that is used to evaluate specifications or conditions imposed at the start of a development phase. Verification can be in development, scale-up, or production. This is often an internal process, i.e. it is the right requirement.

Validation is a qualification assurance process of establishing evidence that provides a high degree of assurance that a product, service, or system

Integrated Weather
3:15 – 4:30 p.m.
Superstar Theater

Weather events in the NAS can impact every phase of flight, from Flight Planning to Taxi and Takeoff, to Cruise, Descent, Approach and Landing. Flight delays and congestion on the runways and at the gates have become expected consequences of weather disruptions. Under NextGen, improved weather information—accurate, consistent and integrated—would be shared amongst NAS stakeholders, including Air Traffic Managers, Controllers, Airline Operation Center Specialists, Flight Service Specialists, and Pilots in the cockpit, enabling better decision-making to mitigate the impact of weather. This panel will focus on the challenges and opportunities to integrating air traffic management and weather in the context of 4D Trajectory-Based Operations and Collaborative Air Traffic Management to proactively plan operations.

Moderator: Steve Osterdahl, FAA
Coordinator: Kelly Shea, Lockheed Martin
Speakers:
Mark Andrews, Metron Aviation:
Since 2006 there has been a NextGen concept of weather which includes significant changes in weather information which is used over that today. Many of these changes will involve role and responsibility redefinition for most of the human actors in the future system, yet there has been little formal discussion on what exactly those changes could be. Some policy questions surface and can be discussed during this panel, including:
1) In a Trajectory Based Operations world, where weather is included and considered in the development and modification of trajectories, does this imply weather information is more than just “supplemental” in stature? Does “separation” have anything to do with weather?
2) Translating weather information into more understandable and easier formats to promote a more common set of reactions and proactive behavior for weather induced constraints. Do we need controllers to continue to be weather experts or can we build tools which convert weather information into operational options?
3) How would controllers best deal with increasing the knowledge of the uncertainty of provided weather information?

Bob Avjian, Lockheed Martin:
The integration of weather with NextGen automation systems presents several key challenges. From a systems integration perspective, three key challenges are evident:
1) A common understanding and depiction of emerging NextGen

Continued on page 10

Continued on page 10
WE’RE TASC

PARTNERING WITH THE FAA TODAY FOR A SAFER TOMORROW

Everyday America depends on the FAA to ensure the safe operation of our national airspace. For over 20 years, TASC engineers and specialists have supported the FAA’s development of a safe and secure air traffic management system. With our proven expertise in NAS systems engineering, program management, and aviation operations, TASC continues to support the FAA in planning and developing NextGen, the next generation of air transportation. TASC is a trusted advisor partnering with the FAA today for a safer tomorrow. If it involves National security, public safety or critical infrastructure—TASC is at work.

To explore career opportunities with TASC, please visit our website at http://www.tasc.com/careers/SE2020-careers/.

www.tasc.com
Adacel Systems, Inc.
Booth 203
Adacel develops critical aviation, speech recognition, and advanced simulation systems for military and commercial applications. Adacel has revolutionized speech applications for defense and civil air traffic control systems and interactive control of computer generated entities in training systems. Products include Aurora operational air traffic management automation systems, aircraft direct voice input control systems, and advanced simulator systems for security, airport, traffic control, and pilot training.

www.adacel.com

ASRC Research and Technology Solutions
Booth 402
ASRC Research and Technology Solutions provides research, engineering, scientific and technical support services to multiple government customers, including the FAA, NASA, DOD, NOAA and regional airport authorities. ARTS strives to enhance our customers’ capabilities and strength while advancing programs and enabling project success. ARTS offers an impressive depth and breadth of experience supporting Terminal, En Route and Oceanic Air Traffic Automation systems in the National Airspace System as part of FAA programs at Washington, D.C. headquarters and the William J. Hughes Technical Center in Egg Harbor Township, N.J. ARTS serves as a prime contractor for Systems Operations Support 7 (SOS-7) and the En Route Integration and Interoperability Facility (IF), and as a subcontractor for the Air Traffic Organization Terminal Engineering Support (ATO-TS) Airport Technology Research and Development Engineering Support, and Environmental Airspace Assessment.

www.asrcfederal.com

Brandon Technology Consulting, Inc.
Booth 103
Brandon Technology Consulting, Inc. (BTC) is a trusted and highly regarded information technology provider specializing in areas of data management, information assurance, networking engineering, and IT training. Our skills in these technical areas are recognized by Department of Defense agencies and commercial clients. Our information assurance practice currently supports over 30 sites throughout the United States. BTC realizes that technology evolves constantly and that customer requirements change for a variety of reasons. We provide the appropriate technologies, expertise, methodologies, and training arrangements that give us the flexibility to respond to these trends and diverse requirements.

www.brandontci.com

The Boeing Company
Booth 300
The Boeing Air Traffic Management (ATM) team is working with the Federal Aviation Administration (FAA), international air traffic management agencies, and other aviation stakeholders to improve the world’s air traffic system. Objectives are to make flying safer and more secure, increase capacity as air traffic levels rise, dramatically reduce congestion, delays, fuel burn, emissions, and keep aviation affordable and accessible for commercial, military, business and general aviation operators. Boeing is currently under contract with the FAA to help develop NextGen related concepts, as mentioned above. Boeing is also in partnership with Airbus and other European organizations to devise a new, streamlined air traffic management system for Europe under the Single European Sky ATM Research (SESAR) program.

www.boeing.com

CGH Technologies, Inc.
Booth 102A
CGH Technologies, Inc. is a forward-thinking information engineering and management consulting company dedicated to providing innovative solutions to meet our clients’ unique needs. CGH has in-depth knowledge and experience with the development, testing and deployment of web-based applications, database design, infrastructure and analysis, visualization including geographical information systems (GIS), modeling, software migration, product integration, network design/support, infrastructure technology, air traffic management, traffic control, cultural change, organizational development and budget/financial analysis/management.

CGH Technologies, Inc. was established in 1980 and has become one of the most respected, and uniquely qualified, woman-owned, small businesses in the region. CGH was recently named "2010 Top 10 Small Technology Companies for Commitment to Excellence, Leadership, Integrity, and Perseverance” by the Washington Business Journal.

www.cghtech.com

Concept Solutions, LLC
Booth 403
ConceptSolutions was established in 1999 and is a growing information management and technology consulting company that provides strategic, technical, and problem solving expertise to large and mid-sized businesses and government organizations. ConceptSolutions collaborates with its clients to plan, custom design, and develop effective and secured information systems to help them improve performance, increase productivity, and achieve their business goals.

www.concept-solutions.com

Crown Consulting
Booth 310
Crown, a system engineering and enterprise management consulting firm, specializes in front-end planning and evaluation of new aviation practices and technologies. Our staff blends expertise in air traffic, airports, and piloting with skills in enterprise architecture, system engineering, human factors, operations research, and economics. Our record includes a prominent role in evaluating advances in traffic management systems and developing and assessing new air space and airport configurations. A recipient of the ATCA Small Business Award and FED-100 Award, Crown is recognized for improving technology evaluation practices, and now con-tributes expertise in aviation safety, weather, and shared situational awareness to the Joint Planning and Development Office.

www.crowncti.com

Eizo Nano Technologies, Inc.
Table Top 309
EIZO provides a full spectrum of display and recording products for ATC. With over 40 years of experience in the display industry, EIZO provides the highest quality monitors with unmatched stability and accuracy. It offers RaptoR series products like graphics cards, hi-brite monitors, and 2Kx2K LCD displays. Re/Vue is the latest addition to the EIZO product line-up. This versatile product fulfills the specific capture, compression, and data archive requirements for ATC positions, training, and simulation.

Re/Vue offers lossless video/audio recording at full resolution and refresh rate, with compression of up to 20,000:1. www.eizo.com

www.techsource.com

Embry Riddle Aeronautical University
Table Top 307
The Ph.D. in Aviation allows students to pursue interests in aviation in a diverse, intellectually versatile and multi-disciplinary environment and to effect a global impact on the aviation industry and discipline. It is the only Ph.D. in Aviation and may be completed in as few as three years.

The curriculum is designed to enable working professionals and aviation enthusiasts to achieve their personal, educational, and professional goals. Our program is flexible and provides meaningful educational and scholarly preparation for the aviation field.

Courses are offered online for greater accessibility with practical schedules for the working professional. You may take courses from anywhere in the world.

www.erau.edu

FAA NextGen
Booth 400
NextGen is a comprehensive overhaul of our national Airspace System to make air travel more convenient and dependable, while ensuring your flight is as safe, secure and hassle-
Exhibitor Listing & Descriptions

Continued from page 6

free as possible. In a continuous roll-
out of improvements and upgrades, the
FAA is building the capability to
guide and track air traffic more pre-
cisely and efficiently to save fuel and
reduce major pollution. NextGen is
better for our environment, and better for our economy.

www.faa.gov/nextgen

FAA Technology Transfer
Booth 401

The FAA’s William J. Hughes Tech-
nical Center is the premier aviation
research, development, test and eval-
uation federal laboratory. Technology Transfer is the process by which exis-
ting knowledge, facilities, or capa-
bilities developed with federal funding are transferred and utilized to fulfill
public and private needs. The Tech-
nology Transfer program encourages
collaborative research partnerships
with state and local governments, aca-
demia, and other entities to leverage
resources with these research efforts
utilizing Cooperative Research and
Development Agreements (CRDAs). New, our Aviation Research and Tech-
nology Park will be a highly dynamic
collaborative research and develop-
ment laboratory and academic facility
located on the FAA’s site.

www.tr-faa.gov/technology-transfer

Frequentis USA, Inc.

Booth 101

FREQUENTIS USA, Inc. located in
Columbia, MD, manufactures, in-
stalls, and supports communication and
information systems for the FAA,
NASA, DoD, US Coast Guard, and
Public Safety providers.

Holdings with major government con-
tracts Frequentis USA is a leader in
safety and mission critical systems.
FREQUENTIS supports the Next
generation Air Traffic System, NEXT-
GEN, is a member of RTCA and Te-
chnology America, and actively participates in research and development efforts
with major Aeronautical Universities
as well as the Federal Government.

Frequentis supplies: tower,
TRACON and ARTCC voice commun-
ication systems; voice conferenc-
ing systems and Recording Systems;
electronic Flight Strips systems; tower
and terminal information systems; and
aeronautical information and
NOTAM systems.

www.frequentis.com/usa

FuseSource

Booth 314

Backed by the leaders and found-
ers of several key Apache Software
Foundation projects, FuseSource is
the expert in open source integration and messaging. The company is solely focused on providing enterprise-ready
integration and messaging software com-
bined with tools, training and expert-
sight by organizations implementing and
managing integration projects such as
SOA, cloud environments and others.
Several Federal agencies and hundreds of
large enterprises worldwide rely on Fuse-
Source’s solutions to deploy and manage
integration and messaging infrastructure
at a lower total cost of ownership than
traditional commercial solutions. Fus-
Source is hosting the CamelOne open
source integration conference in Arling-
ton, VA on May 24-26. FuseSource can
be found on the web at fusource.com.

www.fusource.com

HiSasun, Inc.

Table Top 308

HiSasun, Inc. is a small minority wom-
an-owned business, that specializes in
providing engineering and Information
Technology services. Our expertise in-
cludes Research & Development, Engi-
nering, Systems Integration and Test &
Evaluation services. HiSasun’s engineers
and software professionals form a seam-
less team who together provide respon-
sive services to the FAA and U.S. Army
Corps of Engineers.

HiSasun has provided support to
the FAA William J. Hughes Technical Cen-
ter’s Airport and Aircraft Safety Group’s
Flight Technology and Structures & Ma-
terials Sub-Teams for the past 15 years.

www.hisasun.com

Hi-Tec Systems, Inc.

Table Top 306

Hi-Tec Systems, Inc. is a dynamic
award-winning small business with 15
years of expertise in providing engin-
eering, research, management, infor-
mation technology (IT), facilities oper-
ations & maintenance, and education/
training services to the Civil Aviation,
Homeland Security, Aerospace, and De-
fense industries. Hi-Tec is the vendor
of choice for many Aviation Safety and
Security programs, providing direct sup-
pport to airlines, airports, domestic and
international government organizations.
Hi-Tec’s mission is to provide safety and
security for the Next Generation of Air
Transportation Systems and Services.

www.hitesystems.com

iBiz, Inc.

Booth 201

DIGITALiBiz, Inc. (iBiz) is an 8(a)
small business that was founded in
2002. iBiz specializes in systems engi-
nerving and business consulting services
to federal and government customer
including the FAA. iBiz provides re-
search, development, and systems inte-
gration support to the FAA via our OIF
Laboratory; we support TECH OPS by
providing IT, Systems Engineering and
Administrative Support to the National
Operations Group (NOG); and we assist
the NextGen Program Office by providing
Subject Matter Expertise to the Greener
Skies initiative and the Integrated NAS
Design and Procedures (INDP) effort.
iBiz has a capabilities statement

IBM

Booth 102

IBM Federal has long and deep ex-
perience working with the FAA and the
aviation and transportation community.
We offer a unique combination of in-
novative industry insights and proven
tool and technology solutions to help
the FAA, aviation, and transportation
community be a responsive and flex-
ible organization, integrating processes,
information, and technology across de-
partments and agencies. We can help
transform the way you work, col-
laborate, and deliver services, in a cost-
effective and secure manner.

www.ibm.com/federal

Iron Bow Technologies

Booth 305

Implementing $750 million in solu-
tions annually, Iron Bow Technologies is
a proven leader in providing intelli-
gent, full-lifecycle technology solutions
for the Federal Government and Industry.
The company leverages premier products and
advanced expertise through a highly
collaborative engagement model.

Iron Bow Technologies possesses
long-standing strategic partnerships
with tier one IT security, data sharing,
collaboration, network infrastructure
and client computing manufacturers.
The company’s skilled staff and special-
ized technology experts collaborate with
customers from pre-sales through im-
plementation, ensuring that solutions
leverage industry innovations and opti-
mize current investments.

Iron Bow Technologies is a division
of Apptis, Inc. headquartered in Chan-
tilly, Virginia, www.ironbow.com

www.ironbow.com

ITT Corporation

Booth 302

ITT Corporation is a high-technology
engineering and manufacturing com-
pany operating in all seven continents
in three vital markets: Water and Fluids
Management, Global Defense and Secu-
ritv, and Motion and Flow control. With a
heritage of innovation, ITT partners with
its customers to deliver extraordinary
solutions that create more livable envi-
rionments, provide protection and safety,
and connect our world.

Headquartered in White Plains, N.Y.,
the company generates $3 billion in
revenue.

www.itt.com

LTI DataComm

Booth 100

LTI DataComm, a woman-owned/
vented small business established
in 1981, is a supplier of superior
network solutions and services to the
Federal Government. We enable mis-
tion critical IT objectives by providing
engineering expertise and program
support (AAP) at the National Center for
Atmospheric Research plans, devel-
ops, and transfers advanced weather
technologies to support current and
future aviation operations anywhere
in the world. Current research em-
phasizes at AAP are: in-flight icing;
snowfall and freezing precipitation;
convective storm nowcasting and fore-
casting; atmospheric turbulence;
numerical weather prediction; re-
ocment, data assimilation; precipitation physics; ceiling and vis-
bility; oceanic weather; and verifica-
tion methods. Development of use-
ful aviation applications requires a
strong connection between our work
and the needs of aviators. Our work
tends to be heavily oriented toward
real-time operational systems and
this focus leads to an emphasis on
algorithm development, specialized
graphic displays, systems engineer-
ing, operational demonstrations, and
the associated scientific validations
and user-oriented evaluations.

www.nal.ucar.edu/aap

Plantronics, Inc.

Booth 304

Powered by a 50-year obsession with
perfecting headsets and backed by a
worldwide network of services and
support, Plantronics audio de-
ives have earned a sound reputation
in mission-critical applications. Plan-
tronics holds the exclusive contract
with the FAA for ATC headsets, and
is a prime supplier for E911, NASA,
DoD, the Armed Forces, emergency
dispatch services and first responders.

We design headsets for day-to-day
wear in demanding environments and
our expertise is used to ensure that
ev-ry product we build meets the high-
est standards of quality and reliability.

www.plantronics.com/govern-
ment

Continued on page 8
Exhibitor Listing & Descriptions

Continued from page 7

Professionals Inc.
Booth 306
When the nation’s government suppliers need to hire top talent, they turn to Professionals Inc., a women-owned business. Our certified and specialized recruiters know the complexities of working with government contracts. Whether you need a “C” level executive to run your organization, one contractor for a short term engagement, or an entire staff for a specific project, turn to the experts at Professionals Incorporated.
www.cpsprofessionals.com

Robinson Aviation, Inc.
(RVA)
Booth 303
Operating since 1986, RVA currently employs over 500 aviation professionals who provide aviation related services. While our core competency is operational air traffic control, we also provide airport ramp control; navigational aid and communication systems engineering, installation and maintenance; approach lighting engineering and installation; airspace systems design and analysis; aviation safety and Information Technology. Our Quality Management System is ISO 9001:2000 certified.
www.rvainc.com

SRA
Booth 307/308
SRA provides advanced surveillance technologies for the air traffic management, airport operations, military and security markets in addition to systems integration, research and development and cyber security expertise to the FAA. A leader in cyber security, SRA manages large-scale security operations centers within the federal government, and provides proven solutions for staying ahead of cyber threats. SRA has Information Security down cold. Come chill with us at the SRA booth.
www.sra.com

Sunhillo Corporation
Booth 402
Sunhillo moves data — accurately and securely — between mission critical data systems operating on different standards and protocols. Sunhillo leverages the value and reliability of legacy data systems — such as mainframe channel attached devices and serial data communications — by integrating them with other data transport and encryption protocols, standards and platforms.
Sunhillo continues to play a key role in the design and implementation of FAA programs such as ADS-B, En Route Automation Modernization (ERAM), En Route Communication Gateway (ECG), and Advanced Technologies and Operational Procedures (ATOP).
Sunhillo also offers a wide range of services such as custom rack integration, hardware and software engineering, second level maintenance support, and site activation.
www.sunhillo.com

Thales
Booth 309
With operations in 50 countries and 68,000 employees, Thales is a global technology leader for the aerospace, space, defence, security, and transportation markets. Building on proven capabilities in large-scale software systems, Thales is stepping up to the security challenges of its customers in an increasingly interconnected, technology-driven world.
Developing civil and military dual technologies has been a long tradition for Thales, with its global network of 25,000 high-level researchers and engineers. Leveraging a global presence and spanning the entire value chain, from prime contracting to equipment, Thales plays a pivotal role in making the world a safer place.
www.thalesgroup.com

VT MÄK
Booth 312
VT MÄK, a company of VT Systems, Inc., helps customers deliver simulation systems. Leveraging our strong foundation of COTS software products and custom developed system components, we work with our customers to build and populate compelling 3D simulated environments in which our users train, plan, analyze, experiment, prototype, and demonstrate. At the ATCA Technical Symposium, MÄK will demonstrate our visualization and simulation products in Air Traffic Management applications, including desktop flight simulators, airspace visualization, modeling emergency situations, and injecting irregular air and ground traffic into ATM simulations.
www.mak.com

ATC Workshops for the Technical Community

Do you need to learn more about...

Air traffic controllers:
- Tower
- Terminal
- Enroute
- Traffic Flow
- Management

What controllers do...
How they do it...
How it all works together!

Air Traffic Systems Consulting has “Been There, Done That!”
Let us help!

Air Traffic Systems Consulting
www.ats-c.com
W: (703) 461-0604
M: (202) 302-5722
stephen.alvania@ats-c.com

Know Your ATCA Deadlines

July 1
ATCA Award Nominations Due
Help recognize your peers for a job well done. More information at www.atca.org/How-to-Nominate

July 22
Technical Paper Awards
The call for ATCA Conference Proceedings is underway. Abstracts are due by June 17; manuscripts by July 22

For more event dates and deadlines, visit www.atca.org
Transforming the air traffic management (ATM) system is essential for improving safety, efficiency and the environment around the globe. Boeing is fully committed and uniquely qualified to help make ATM transformation a reality. It’s the right time and Boeing is the right partner.
Verification and Validation

Continued from page 4

achieves its intended requirements. This often involves acceptance of fitness for purpose with end users and other product stakeholders.

John Goodenough, Carnegie Mellon:

A distinguishing characteristic of systems of systems is that they consist of independent, interacting entities. Developing evidence that their collective behavior is acceptable is a different kind of V&V problem because SoS constituents evolve independently and usage patterns change continually. V&V activities must develop justified confidence that despite such changes, SoS behavior will continue to be acceptable. One way to do this is to focus on SoS failure modes to ensure they have been eliminated or their effects minimized. For example, this requires analysis of designs to ensure that local failures do not spread more widely to other constituents of the SoS.

Maureen Molt, FAA:

The FAA is transitioning from a ground-based system of air traffic control to a satellite-based system of air traffic management. This transition, from the National Airspace System (NAS) to the Next Generation Air Transportation System (NextGen), leverages net-centric principles and technologies to enable improved efficiency and increased capacity, while ensuring system safety and security. The system-of-systems complexity raised by this shift and its implications on stakeholders (air traffic controllers, pilots, etc.) has sparked interest in creating and advancing holistic verification and validation (V&V) strategies and practices to address emerging system interoperability and integration complexities.

This talk focuses on how the FAA is using V&V, the strategies, technologies, and tools that are being investigated to facilitate V&V, and the use of life cycle V&V across the FAA’s Acquisition Management System to better understand and mitigate the risks associated with this transition.

Paul Minyer, NASA:

Aviation has historically been a distributed system of systems, with each aircraft and each air traffic control facility having well-defined functions. Communication between the distributed agents (e.g. pilots, controllers, etc.) is based on technology available in the mid-20th century. Within these technological constraints, a sound decomposition of the safety concerns evolved. However, with the advances in digital technologies, novel concepts for realizing advanced capabilities are being developed which fundamentally change the systems interactions. Advances in V&V capabilities are required to ensure that anticipated changes preserve or improve safety.

Dr. James Streilein, Department of Defense:

DoD has a very detailed acquisition approach for all systems spelled out in a regulation DoD Directive 5000.02 and shown interactively on the Defense Acquisition Deskbook found at the Defense Acquisition University website. This approach can be tailored to suit individual system acquisition approaches based on system complexity, urgency of use, cost, test, technical risk, etc. In every case a core approach is the systems engineering(SE) “V”, which flows down from mission needs to detailed technical requirements at low indenture levels and then flows back up from these low technical requirements levels with appropriate V&V back to operational mission testing at the top as final V&V. The Director, Operational Test and Evaluation (DOT&E) is Congressionally mandated to independently report on the results of operational V&V to the highest levels within DoD (Secretary of Defense and Undersecretary for Acquisition, Technology and Logistics) and externally to Congress on systems oversight.

Although the general model sounds good, DoD acquisition has a long history of expensive problems and outright failures to deliver programs on time, within budget, or with all the capabilities promised. Hence, DOT&E is constantly looking at how it can contribute better to DoD systems acquisition outcomes. Dr. Gilmore, DIR, DOT&E, has established a number of initiatives where DOT&E can help to improve acquisition outcomes. These initiatives are: Early Involvement, Reliability Growth, systems acquisition outcomes. Dr. Gilmore, DIR, OT&E, has established a number of initiatives where DOT&E can help to improve acquisition outcomes. These initiatives are: Early Involvement, Reliability Growth, Field New Capabilities Rapidly, Application of Scientific Methods of Test Design, Information Assurance (IA) testing, and Integrated Testing. These initiatives call for T&E to work to ensure operational mission oriented testable/measurable requirements cascade down the left side of the SE “V.” They also require efficiently designed and mission relevant V&V efforts up the right side of the SE “V.” Special attention is given to reliability as a driver of mission success, sustainability and operations and support cost. With the explosion of IT, network connectivity, and systems interoperability requirements within and across DoD systems, IA requires continuing special attention.

Integrated Weather

Continued from page 4

weather products such as Weather Avoidance Fields (WAFs) among traffic managers, controllers and flight crews

a. Assuming the technical challenges are resolved, how will the integration of NextGen weather affect ATC operational issues regarding handling of aircraft near hazardous weather?

2) Definition of the temporal and spatial resolutions of different types of WAFs (convective, icing, turbulence, ash, etc.). This has NASEWAT, ATM implications.

3) Providing trajectory-based weather resolution advisories in a decision support tool while concurrently processing aircraft, airspace, weather, route restrictions, etc. Recognizing the uncertain, probabilistic nature of weather forecasts

Kevin Johnson, FAA:

The Collaborative Convective Forecast Product (CCFP), a key Collaborative Decision Making (CDM) product developed more than 10 years ago provides a consistent and collaborative forecast of convection between government and industry forecasters so that Air Traffic Managers may develop a strategic traffic flow plan for the NAS. The CCFP was required because every Air Traffic Manager had their own forecast which was often conflicting, therefore providing confusion to the Managers on what to do. In essence, CCFP has been and today, still is a Single Authoritative Source (SAS) of weather information which is a core Next Generation Air Transportation (NextGen) core principle. As new automated technology and convective forecasts become available, how the collaborative process needs to evolve will be discussed during this panel.

- Will there be CDM involvement in content and governance of the Single Authoritative Source (SAS) and how?
- How do we involve CDM in the “Operational Bridging” of weather forecasts (highly automated) between the strategic and tactical domains?
- Key related sub-points or questions:
  - Funding: How are we going to address funding issues as related to CDM as well as coordination with NextGen
  - Interaction between CDM, NextGen, and the Weather Community: What processes can we put in place and or use that exist today to ensure this interaction continues?
  - We Need Action: How do we accelerate implementation of operational demonstrations of NextGen concepts and get operators involved?
  - We Need Measurements: What processes can we use or need to put in place to measure success or failure of NextGen and Weather related demonstrations.

Rocky Stone, United Airlines:

Improved long-range graphical weather information in the cockpit is a necessary ingredient in achieving the NextGen objective of improved air traffic management efficiency while improving safety. Airborne weather radars ensure safety today; they keep us from flying into the thunderstorm in front of us. But they provide no information about the convective activity 300-500 miles “down the road.” Long range graphical weather, updated via datalink, will enable the cockpit to be an informed participant in the CDM triad. It will facilitate better coordination with both Air Traffic Control and Dispatch.

1. What are the appropriate products for the cockpit? Are they just weather products, or weather impact products that include traffic flow management constraints?
2. What are the efficiencies that can be achieved with individual flights optimizing their trajectories around convective weather, versus systemic inefficiencies caused by aircraft not following the flow plan?
3. What are the cultural changes necessary for both controllers and pilots to enable more efficiency when deviating around convective weather?

Matthew Tucker, NATCA:

The integration of weather into automation platforms under NextGen lead to a number of issues that will have to be answered:

1. What will the controllers responsibilities concerning hazardous weather and aircraft trajectories be?
2. With all the automation, there will be a need to keep the human in the loop. Especially pilot/controller interaction and how to handle when the weather does not happen as forecasted.
3. Currently, controllers get very little real weather training. Will all the automation and new products that come with NextGen require more or less training?
Interview with Dr. Wilson Felder

ATCA: What can attendees get out of the Tech Symposium – why is the experience so valuable?

Dr. Wilson Felder: The ATCA/FAA/NASA Technical Symposium is a fabulous concentration of the best new technologies covering all aspects of air transportation. I personally think it is the most valuable source of cutting-edge, air traffic control-oriented knowledge of any event presented during the year.

How has it grown over the past several years?

The symposium has grown exponentially in both attendance and scope over the years, and the growing recognition of the importance of advancing NextGen enhances its value even more.

What important topics and new technologies are you looking forward to discussing?

This year, we’re excited to highlight some new Technical Center ventures. Our NextGen Integration and Evaluation Capability, called NIEC, display area is a research platform where we bring together all the elements of air traffic control to explore, integrate and evaluate key NextGen concepts. These include area navigation, trajectory-based operations, flying UAS in the national airspace system and more.

What is currently happening at the Technical Center?

We acquired a 1981 Piper Chieftain last fall, from Cleveland Jet Center. We are replacing an engine and modifying the fuel system to conduct flight tests of alternative fuels for general aviation. We’re looking forward to addressing this important environmental initiative over the next few years.

We also serve as the center for the FAA’s efforts to integrate unmanned operations into the national airspace system.

More NIEC news in the Spring Journal of Air Traffic Control

Want to read the latest on the Tech Center’s new NIEC display? Pick up a copy of the Journal of Air Traffic Control. The Spring issue features a cover story on the NIEC written by the FAA’s Hilda DiMeo. ATCA Members receive complimentary issues of the Journal, a quarterly publication. For more information on membership, visit the ATCA booth, or email Carrie.Courter@atca.org.
SUNHILLO would like to thank the FAA and our customers for 20 years of successful programs.

Sunhillo Corporation · 444 Kelley Drive · West Berlin · NJ · 08091
Tel 856-767-7676 · Fax 856-767-9557 · Email sales@sunhillo.com

Visit us at Booth 200 to find out what Sunhillo is doing today in Next Generation Air Traffic Control.