



ATCA TODAY

ATLANTIC CITY, NJ • RESORTS HOTEL & CASINO

THURSDAY, MAY 14, 2015

Emerging Challenges to the NAS Point to NextGen Implementation

By Kristen Knott, ATCA

The buzzword during Day One of the ATCA Technical Symposium appeared to be game-changer. “We are truly at the dawn of a new age of aviation,” said NASA’s Dr. John Cavolowsky, director of the Airspace Systems Program Office, in his introduction.

Session One - Emerging Challenges to the National Airspace System (NAS) – provided an introduction to the current NAS and its path forward, thus allowing the remaining panel sessions to dive deeper into key issues such as commercial space, disaster recovery, and Unmanned Aircraft Systems. First and foremost, however, was a discussion



Dr. John Cavolowsky, Director of the Airspace Systems Program Office, NASA, delivers remarks during the Welcome and Opening Remarks session.

focused largely on NextGen – a term that goes hand-in-hand with game changing aviation.

As Dennis Filler, the FAA’s William J. Hughes Technical Director, proclaimed, the NAS is delivering its transformation through NextGen. “We’re no longer waiting for the future; we’re living it,” reiterated Pamela Whitley of the FAA.

Among the biggest challenges in NextGen is implementing it in the NAS, and it’s one that bridges shows no bias toward government nor industry. “An undervalued aspect of NextGen is conquering the problem of how to move from research to operations,” said panelist John Borghese, VP, Advanced Technology Center at Rockwell Collins.

No dialogue on NextGen can discount the importance of communication. “The real push right now is with communications, such as the NextGen Voice Switch,” said Jay Merkle, System Integration Director, FAA. “That’s the foundation of getting NextGen pushed through.”

However, what came first – the communication or the data? “In a secure fashion, we want to allow industry to be able to access data without us having to pre-process it,” said Borghese. “We need to open



Pam Whitley, FAA, moderates as Mel Davis, NATCA, discusses Emerging Challenges to the NAS during a panel session Wednesday.

our boundaries; the hard part there is we traditionally have not been terribly willing to open up without an intended or stated purpose.”

A cornerstone of this challenge is the aircraft itself. “The airplane has an air-to-ground voice link,” continued Borghese. “That aircraft is a central part of this data link.”

“It’s been a struggle to mine data,” said panelist Dr. Shon Grabbe, Manager of the SMART NAS Project at NASA. “A system like SWIM

(System Wide Information Management) enables a more seamless data stream – we want to get to a point where we can get a real-time feed.”

Unfortunately, none of this is possible without the right staffing or funding. As anyone will attest to, a challenge in implementing anything new in any industry is finding the right people. “We have two different types of technologies opposing each

Continued on page 11

This Morning’s Breakfast Roundtable

7:30 a.m.
Resorts Ballroom

ATCA/FAA
Partners in Promoting
NextGen Breakfast
Roundtable



Jake Zinna, Ken Knopp, and others enjoy the Midwest ATC Ice Cream Break on the balcony at Resorts International Hotel and Casino.

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ATCA Scholarship Fund
50/50 Drawing – 1 for \$10, 3 for \$20. Buy a 50/50 raffle ticket, and in addition get one of three chances to win a Dunkin’ Donuts gift card. 50/50 winner drawn Thursday. Need not be present to win.



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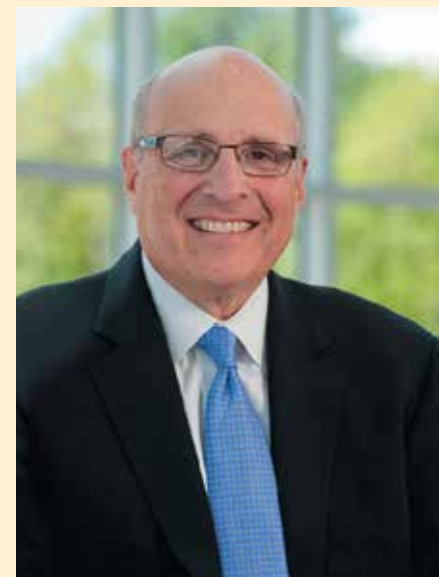
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Chairman's Perspective

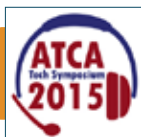
By Neil R. Planzer

It's an exciting time to be a part of ATCA. We're continuing to make improvements to the benefits we provide our members. The ATCA Technical Symposium is a great example of that. It's a conference unlike any other. It establishes a different type of event by focusing on technology and the implementation of those technologies within the industry. The event has morphed from previous years in a positive way. We're now looking at topics on the horizon like UAS, disaster recovery, and other challenges facing the FAA and industry. Events like ATCA's Technical Symposium are important because they enhance the ability of government and industry to solve these challenges. Among others, I'm looking forward to today's Fireside Chat with Teri Bristol and Ed Bolton. It will give an inside view of how the FAA will achieve NextGen success.



Neil Planzer, Chairman, ATCA

Looking forward to ATCA's role in the next year, we can expect to see continued growth and positive change for the 60th ATCA Annual and World ATM Congress - both events continue to set the standard for changes in air traffic control happening around the globe. The 60th ATCA Annual, in particular, is a milestone. It's important to attend this historic event to commemorate the value it provides members and Air Navigation Service Providers. All of ATCA's events provide a forum to discuss the culmination of great technology being implemented. As an industry, we need to understand how to improve the safety and efficiency of the system. The recent upgrade of ATCA's website provides a beneficial platform. As improvements continue to be made, it will serve as a better source of two-way communication between all of us.



SCHEDULE OF EVENTS



Thursday, May 14

7:30 a.m. – 8 a.m.

**ATCA/FAA
Partners in Promoting
NextGen Breakfast Roundtable**
Resorts Ballroom

8 a.m. – 12 p.m.

Registration Open
Resorts Ballroom

8 – 11:45 a.m.

**Speakers/Moderators Room
Open**
Horizon Room

8 – 9 a.m.

Breakfast
Resorts Ballroom

9 a.m.

Welcome
Superstar Theater, Resorts Hotel



Bristol



Bolton

9 – 10 a.m.

**ATCA Presents a Fireside Chat
with Teri Bristol and Ed Bolton
of the Federal Aviation
Administration**

Superstar Theater, Resorts Hotel

9 a.m. – 1:45 p.m.

Exhibit Hall Open
Resorts Ballroom

10 – 11 a.m.

Networking Break
Resorts Ballroom
Sponsored by:



11 a.m. – 12:15 p.m.

**Session 4:
Disaster Recovery**
Superstar Theater, Resorts Hotel



Spurio



Almeida



McCoy



Ng

Moderator:

Kip Spurio, FAA

Speakers:

David Almeida, LS Technologies

Bill Cranor, United Airlines

Jeff McCoy, FAA

Tony Ng, Lockheed Martin

Edwin Zakrzewski, Noblis

In business terms, disaster recovery is generally considered to comprise a combination of people, processes, and technology employed to return a system or organization to a state of normalcy after a catastrophic event. From the perspective of

air traffic management, we're talking about recovery from the operational state known as ATC Zero. Incidents of this magnitude can happen at the system level or the facility level, but the impact is the same – Air Traffic Control services are interrupted. Last October, the aviation community worked together to respond to and recover from an incident that crippled Chicago ARTCC. That incident was initiated in one room, on one floor, in one facility, but the repercussions were NAS-wide. The lessons learned from that disaster serve as a foundation for this panel. System-level visions for improved resiliency, availability, and redundancy, including the potential of new NextGen technologies and procedures to support them, will be discussed. The panel will also discuss the roles of security (physical and cyber) and the Business Continuity Plan (BCP), as well as the role of research and technology development in improving service restoration, system

Continued on page 5



Our name Addx is derived from an antelope species, representing our speed, agility, and tenacity.

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For more information contact:

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- GSA
- Department of Homeland Security: Acquisition Training
- Department of Homeland Security: USCG
- Department of Veterans Affairs: EO (was SMG)
- Department of Veterans Affairs: Other (includes IPT, GCC OSDBU)

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Meeting Our Commitments for NextGen

By Edward L. Bolton, Jr.
Assistant Administrator for
NextGen
Federal Aviation Administration

Last fall we agreed to a set of NextGen commitments in four priority areas during the next three years. I am pleased to report we completed all implementation milestones, to date, in the NextGen Joint Implementation Plan, which is available on our website.

We are making significant progress through ongoing collaboration with stakeholders. The NextGen Integration Working Group, working closely with the NextGen Advisory Committee, represents a new, dynamic model of government-industry engagement that helps to define and implement NextGen.

I want to highlight some of our recent accomplishments.

Under the surface priority area, we completed the implementation of Advanced Electronic Flight Strips (AEFS) in Cleveland. This will improve coordination among controllers, traffic management units and front-line managers by electronically displaying updated data for flights affected by weather reroutes, traffic management initiatives and operator flight plan changes.



We also recently completed the pre-implementation feasibility assessment to bring AEFS to the New York area, and as a result have committed to an additional commitment: **AEFS will be implemented in Newark in the second quarter of 2016.**

During the first quarter of this year we implemented the System Wide Information Management (SWIM) Visualization Tool (SVT) at 11 sites around the country. SVT gives controllers in TRACONs a visual

depiction of the surface activity at airports equipped with Airport Surface Detection Equipment, Model X (ASDE-X).

This new government-owned tool, engineered, and developed by the Volpe Center, is a web-based application that provides access to surface data that was previously unavailable outside of a tower cab. Specifically, SVT provides access to ASDE-X and tracking data provided by the SWIM Terminal Data Distribution System.

SVT improves shared surface situational awareness capabilities in TRACONs and centers through shared surveillance data. SVT is only advisory in nature and not used for actual separation of traffic.

Under the Performance Based Navigation priority area, we have completed implementation of the northern California Metroplex, which will improve air traffic flow, reduce airspace congestion, and improve efficiency.

The northern California Metroplex includes San Francisco, Oakland International, San Jose International, and Sacramento International airports. This Metroplex project involved 43 procedures implemented between November 2014 and April 30 of this year: 15 Area Navigation (RNAV) Standard Terminal Arrivals, 19 RNAV Standard Instrument Departures (SID), 8 Q-routes, and one conventional SID. Our Metroplex site partners in this effort were United, Southwest and UPS.

Additionally, in March we implemented Established on RNP (EoR) for widely spaced simultaneous operations in Denver. EoR is a procedure that benefits airports with parallel runways. With increased precision, EoR modifies separation standards for aircraft approaching on adjacent runways. The benefits include shorter and more direct flight paths, which save fuel, cut engine exhaust emissions and minimize delays. Repeatable flight paths and reduced controller-pilot communication enhance safety. This is the first place in the world to use Required Navigation Performance for separation from aircraft established on approaches in the terminal area, for converging approaches onto parallel runways.

Our work in Denver will be used to create a national standard for EoR, to be published in 2017, which will enable national implementation of this capability. United, Southwest, Frontier, Alaska, and Air Canada are working with us in this endeavor.

In the priority area of Multiple Runway Operations, we im-

plemented Wake Recategorization (Wake Recat) in Charlotte in March. As demand for air travel increases, there is a critical need for greater capacity during peak times at major airports in the busiest arrival and departure airspace. Wake Recat is a new procedure that separates aircraft based on their wake profile instead of weight alone – part of the FAA's effort to maximize traffic volume and airport capacity.

By placing aircraft into new wake categories, Wake Recat has increased capacity at major airports without the need for new systems or runways. This provides significant economic benefits to airlines and the public. For example, FedEx reports that Wake Recat in Memphis has reduced taxi-out delay times and time

Four principles behind reaching our goals:

- 1) executing programs to implement the infrastructure of NextGen,
- 2) delivering capabilities to benefit users of the National Airspace System,
- 3) advancing collaboration with our partners in the aviation community, and
- 4) examining and renewing our goals to ensure NextGen remains on track.

We're Coming Back to the Boardwalk

ATCA's Aviation Cyber Security Day
October 6, 2015 • Resorts Hotel
Atlantic City, New Jersey



in airport airspace and saved the carrier about \$1.8 million per month.

Under the fourth priority area of Data Communications, we have committed to delivering tower departure clearance services to 56 airports by the end of calendar year 2016, and I have no doubt we will meet that goal, as well.

Four fundamental principles have contributed significantly to our success and will continue to guide us in implementing NextGen: executing programs to implement the infrastructure of NextGen, delivering capabilities to benefit users of the National Airspace System, advancing collaboration with our partners in the aviation community, and examining and renewing our goals to ensure NextGen remains on track.

Our progress depends on a shared vision of a better air transportation system driven by government-stakeholder collaboration and diligent work.

The progress we have made is now starting to provide significant benefits to the traveling public. These benefits – in efficiency, economy and the environment – will be demonstrated and increase exponentially as we move ahead with NextGen.



SCHEDULE OF EVENTS



Continued from page 3

Thursday, May 14

reconstitution, and facility disaster recovery. Finally, this panel will answer how we can best measure success in terms of level of service restoral versus time elapsed during the various stages of outage events.

12:15 - 1:15 p.m.

Luncheon Buffet

Resorts Ballroom
& Capriccio Restaurant

1:15 - 2:30 p.m.

Session 5: UAS/UTM

Superstar Theater, Resorts Hotel

Moderator:

John Cavolowsky, Director of the Airspace Systems Program Office, NASA



Bekkers



Mooney

Speakers:

Ivan Bekkers, Crown Consulting, Inc.

Rob Hughes,

Northrop Grumman

Rose Mooney, MAAP VT-ICTAS

John Robinson, NASA

Bob Stamm, Raytheon

Many beneficial civilian applications of UAS have been proposed, from goods delivery and infrastructure surveillance, to search and rescue, and agricultural monitoring. As UAS operations require interactions with a

mix of general aviation aircraft, helicopters, and gliders, there is a strong need to safely accommodate all of these vehicles at lower altitudes. Currently, there is no established infrastructure to enable and safely manage the widespread use of low-altitude airspace and UAS operations, regardless of the type of UAS. A UAS traffic management (UTM) system for low-altitude airspace is needed, much like today's surface vehicles that operate within a system consisting of roads, lanes, stop signs, rules, and lights, regardless of whether the vehicle is automated or driven by a human. This panel will discuss the challenges and the research activities that are being conducted in support of creating this unique capability.



Cavolowsky



Filler



Keegan

2.30 p.m.

Symposium Summary and Closing Remarks

John Cavolowsky, NASA

Dennis Filler, FAA

Charlie Keegan, Chair-Elect, ATCA



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Exhibitor Listing & Descriptions



Booth 302

Aerospace Engineering and Research Associates, Inc. is a dynamic veteran-owned small business with more than 25 years of service to the aviation industry. We are headquartered in Lanham, MD, just a few minutes from the New Carrollton Metro station. With more than 200 man years of hands on ATC/ATM/AOC system experience, we can bring the right mix of expertise and software tools to the challenges of NextGen. Please stop by our booth (102) for a demonstration of the SWIM connected Airspace Dynamics Lab, including Airspace Metrics, Global Tracking and Business Based Flow Management (BBFM). For more information, visit www.freeflight.com.



Booth 102

Established in 1956 by a group of air traffic controllers, the Air Traffic Control Association (ATCA) has been dedicated to progress in the science of air traffic control and the preservation of a safe flight environment. Those in the aviation community; air traffic controllers, system architects, manufacturers, suppliers, system operators, and users join together to share their collective experience, knowledge, and efforts in pursuit of common goals. ATCA is unique in representing the broad spectrum of civil-military cooperation typical of global flying activities. Its Annual Technical Meetings and Exhibits features North America's largest and most diverse display of aviation related technology. These events are attended by thousands of civilian and military members worldwide. ATCA also is a founding Partner in producing the World ATM Congress.



Booth 1309

Black Box technology solutions enable users to access, control, and share common computer resources in a scalable, highly reliable matrix as well as monitor and control remote mission-critical resources, and view and manage a lot of information quickly. Black Box control room solutions include: • Unified KVM (Keyboard/Video/Mouse) and high-definition video switching and extension • IP-based digital KVM and HD video extension and switching • Glide-and-switch keyboard/mouse

control of multiple CPUs and monitors • Multi-screen video processing and KVM switching.



Booth 301

The Boeing Company is working with government, industry and airline partners globally to improve the world's air traffic system. Boeing's Air Traffic Management team is at the forefront of creating the infrastructure for a transformational air traffic management system. This transformational system relies on precision aircraft trajectories, system-wide information management architecture, network-enabled operations and global interoperability. By applying expertise in the areas of modeling and simulation, airspace design, systems integration and navigation services, the success of a modernized and efficient air traffic management system can be realized.

Jeppesen, a wholly-owned subsidiary, provides comprehensive solutions to airports, ANSPs and CAAs around the world. Jeppesen is recognized as one of the world's foremost providers of information and business support solutions to the transportation industry. Its mature, well established and industry validated products and services include procedure design capabilities and airspace and airport modeling (e.g. TAAM).



TT 309

Embry-Riddle Aeronautical University, the world's largest, fully accredited university specializing in aviation and aerospace, is a non-profit, independent institution offering more than 40 baccalaureate, master's and PhD degree programs in its college of Arts and Sciences, Aviation, Business, and Engineering. Embry-Riddle educates students at residential campuses at Daytona Beach, Florida, and Prescott, Arizona, and through the Worldwide Campus with more than 150 locations in the United States, Europe, Asia, and the Middle East. The university is a major research center, seeking solutions to real-world problems in partnership with the aerospace industry, other universities, and government agencies. For more information, visit www.embryriddle.edu, follow us on twitter @embryriddle, and www.facebook.com/EmbryRiddleUniversity, and find expert videos at www.youtube.com/EmbryRiddleUniv.



Booth 313

Enroute Computer Solutions, Inc.

(ECS) primes a FAA multi-task order contract in excess of \$200M, as well as performs on multiple contracts supporting the FAA's William J. Hughes Technical Center, Mike Monroney Aeronautical Center, 20 Air Route Traffic Control Centers (ARTCCs), Oceanic facilities, Embry-Riddle Aeronautical University, NASA's AMES Research Center and U.S. Air Force bases. ECS, founded in 1994, is headquartered in Egg Harbor Township, NJ, with offices in Melbourne, FL, and Washington, DC. ECS has consistently delivered outstanding performance while ensuring high integrity and business ethics.



Booth 307/308

The modernization of the U.S. National Airspace System is occurring through a shift to smarter satellite-based and digital technologies and new procedures that combine to make air travel more convenient, predictable, and environmentally friendly. The FAA is collaborating with its NextGen partners throughout the global aviation community to provide tangible benefits today, while working together to ensure that NextGen continues to enhance safety, reduce delays, save fuel, and reduce aircraft exhaust emissions for decades to come.



Booth 306

FAA System Wide Information Management (SWIM), one of the five transformational NextGen programs, is the infrastructure that allows members of the aviation community to access the information needed to facilitate an innovative and efficiently run NAS. By providing access to real-time or near real-time relevant information, SWIM increases collaboration among aviation partners, reduces costs and increases the agility of the air traffic system. Taxpayers, the flying public and the environment all benefit from the increased efficiencies enabled by SWIM.



Booth 305

Founded in 1999 as a wholly owned subsidiary of Frequentis AG. Holding several multi-year contracts with the Federal Government and Public Safety agencies, Frequentis USA Inc. has consistently grown into a technology powerhouse for mission critical communications and information systems. The operation comprises an ISO9001

certified manufacturing plant, a spare parts depot, repair and maintenance center, hardware and software design, and all support departments needed to successfully deliver on Federal and local Government indefinite delivery indefinite quantity (IDIQ) programs, as well as compliance to various standards and recommended practices for Government contracts.



Booth 103

Air Traffic Control requires permanent concentration. Therefore, KVM technology from G&D offers solutions that allow operators and computers to be separated, moving the noisy, distracting computers into dedicated areas. G&D's extenders and switches are deployed in various Air Traffic Control Centers around the world. In addition to their efficient video bandwidth, Guntermann & Drunck's high quality devices offer special security features such as redundancy concepts and preventive monitoring providing the system safety required in ATC. Numerous ANSPs trust in G&D when it comes to freeing up space and improving both working conditions and system availability in ATC environments.



Booth 100

HP creates new possibilities for technology to have a meaningful impact on people, businesses, governments and society. The world's largest technology company, HP brings together a portfolio that spans services, printing, personal computing, software and IT infrastructure to solve customer problems. More information about HP (NYSE: HPQ) is available at hp.com/gov/transformation.

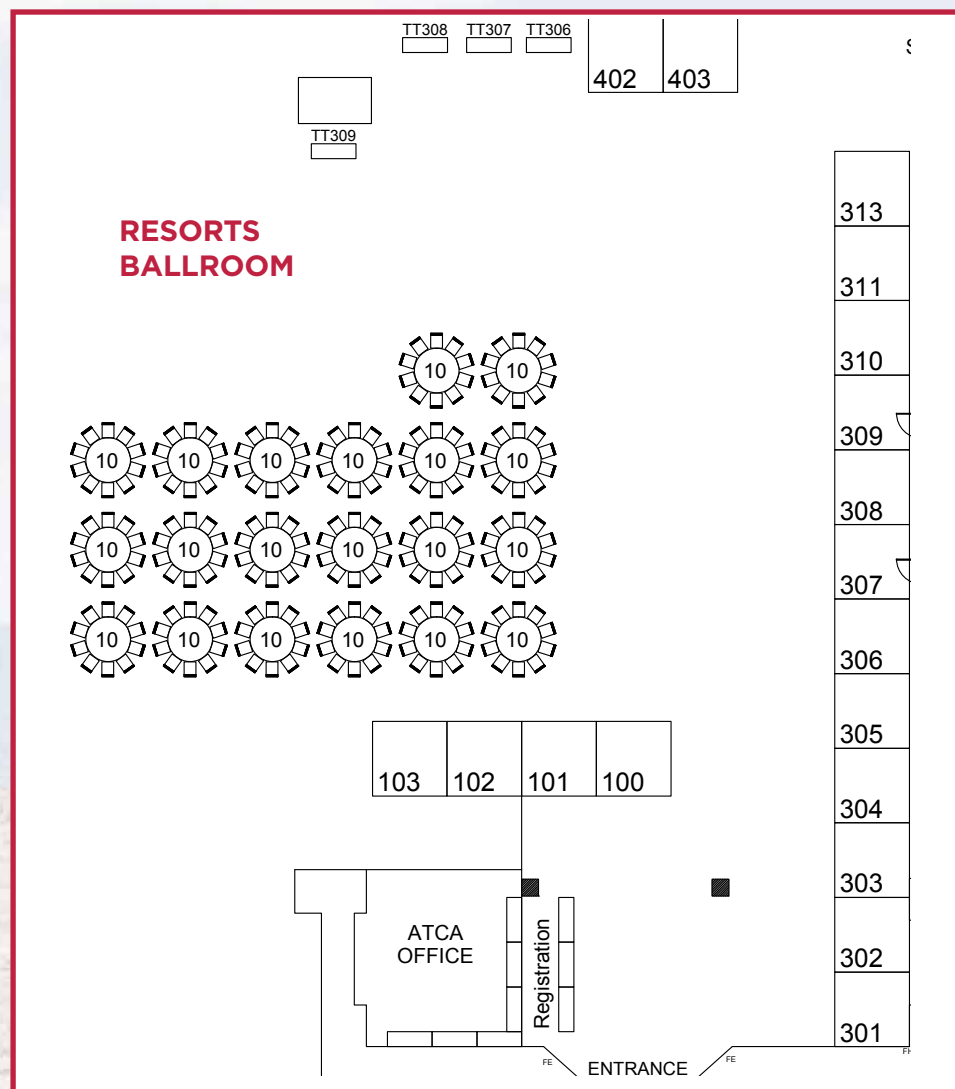


TT 306

Iron Bow Technologies forwards a history of more than three decades as a leading provider of business-aligned and full-lifecycle IT solutions for government and industry. The company leverages strong technology and business resources through a flexible, consultative engagement model to design, build and manage solutions that are precisely on target with each customer mission.

Continued on page 7

Exhibitor Listing & Descriptions



Continued from page 6

Iron Bow possesses strategic partnerships with as-a-service providers and top-tier collaboration, cyber security, data center, mobility and network technology manufacturers. The company helps customers leverage the best of today's complex IT options with expert consulting, managed services and integration that energizes current investments, optimizes new technologies and utilizes cloud services as needed. Driven by a service-oriented culture and supported by mature global logistics, customers can count on reliable service worldwide.



Booth 304

JMA Solutions is a Service Disabled-Veteran, 8 (a) Certified and Woman-Owned small business that provides quality personnel who deliver outstanding service and support to our government clients. Our team focuses on enhancing the federal government's Program Management, Engineering, Financial Management, and Air Traffic Management services. Our commitment to quality service and unparalleled customer service has enabled our growth since we were founded in 2005. JMA's

commitment to excellence has earned the organization a considerable range of customer praise and industry recognition and success.



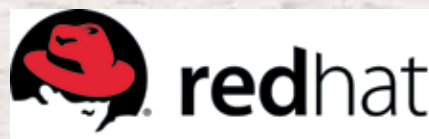
TT 307

MicroSystems Automation Group (MSAG) is a service-disabled, veteran-owned small business (SDVOSB) providing subject matter expertise and technological solutions for government and commercial clients since 1987. We have a rich history of working with clients to understand their business problems and leveraging our technical expertise and knowledge to deliver solutions that improve their business performance. MSAG has gained considerable expertise over the past 25 years. Our strength is our ability to bring the right mix of talent and expertise to serve our clients. We have expertise and experience in several areas including software development, cyber security, information technology and professional services. MSAG has the technical methods, talent and professionalism to deliver the solution that is right for you.



Booth 311

Mosaic ATM offers a unique combination of technology, personnel and industry expertise. Mosaic ATM's professionals combine theoretical expertise with practical domain knowledge to identify novel concepts and successfully advance them into reality. We bridge between concept and implementation. Mosaic ATM conducts extensive research and development related to airport surface traffic management, traffic flow management, capacity impacts of weather, collaborative decision making and integration of unmanned aircraft systems into the NAS. Operational experience of new concepts and technologies in a realistic environment to validate the concept and requirements means Mosaic ATM plays a crucial role in ensuring the success of NextGen.



TT 308

Red Hat is the world's leading provider of open source solutions, using a community-powered approach to provide reliable and high-performing cloud, virtualization, storage, Linux, and middleware technologies. Together with Red Hat's solutions, Red Hat's worldwide support, training and consulting services provide everything you need to bring the power and freedom of open source into government agencies and enterprises.



Booth 402/403

Sunhillo Technical Services (STS) is a wholly-owned subsidiary of Sunhillo Corporation, providing highly qualified, competent and customer-focused talent that meets or exceeds our customers' wants and needs at an affordable price. We are selective, only delivering talent that exemplifies our highest standards for quality, reliability and integrity, while demanding a professional level of performance and conduct in all work performed.

Sunhillo prides itself on being an FAA centric business. We are headquartered in West Berlin, New Jersey, in close proximity to the William J. Hughes Technical Center (WJTC). Our 32,000 sq. ft. facility houses a turn-key operation that is specifically designed around FAA procedures, processes and testing

methodologies. STS was recently awarded two honors from Harris Corporation, The DCIS Partner Excellence Award 2014 & The Small Business Supplier of the Year Award Program Execution Excellence.



Booth 310

For more than 80 years, Thales has been a major supplier of air traffic management solutions for the U.S. aviation community. As a global technology leader in air traffic management, we offer a comprehensive range of automation, navigation, and surveillance solutions. With engagement in NextGen programs such as ADS-B and Data Comm and advanced research, coupled with engagement in SESAR, Thales assists in harmonizing efforts between the U.S., Europe, and the rest of the world. Further, our engineers participate in a variety of working groups and industry forums to help architect and deploy innovative solutions which comply with industry standards for increased aviation safety, capacity, and efficiency.



Booth 303

Thinklogical is the leading provider of high-performance KVM and video extension and switching technology. Used at many of the world's busiest airports, Thinklogical's ATC solution combines high-bandwidth KVM transmitters and receivers, optical matrix switches and a centralized management system that provides maximum flexibility for establishing an environment that meets the specific security and performance requirements of air traffic control facilities and operations. Air traffic management customers worldwide rely on Thinklogical's products and solutions for security, high performance, continuous operation, and ease of integration. An ISO 9001:2008 certified company, Thinklogical products are designed and manufactured in the USA.



Booth 101

The World ATM Congress combines a large-scale exhibitions, world-class conferences, and social events providing premier networking opportunities and the chance to discover the latest trends and developments in ATC. Organized for the industry by the industry, and operated by CANSO in association with ATCA, the World ATM Congress is backed by the world's leading air navigation service providers and industry suppliers.

Sound Bites

from the Commercial Space panel session, Wednesday afternoon.

Bill Khourie, Oklahoma Air and Spaceport



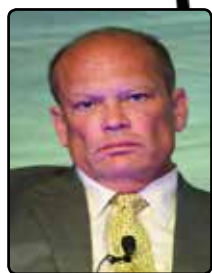
"We're a licensed launch flight facility; we're also a general aviation airport with a runway that's almost 3 miles long. It's incredible to have this infrastructure, but it's useless if we don't have airspace to operate in."

Christopher Allison, Sierra Nevada Corporation

"We are developing the Dream Chaser vehicle, a version of the space shuttle but much smaller – its aim is to carry cargo to the international space stations. Number one we need to think about occupant safety."



"Commercial Crew is, I think, the most exciting program we have right now. It transports the crew back and forth to ISS."



Russ McMurry, Boeing

"A real business base has evolved in the last decade beyond what folks probably see in the press."

Will Pomerantz, Virgin Galactic



"547 people have been in space – our goal at Virgin Galactic is to increase that number by a lot. We have a waiting list of about 700 space flight participants."

Daniel Murray, FAA



"The FAA Administrator specifically called out Commercial Space as one of his key initiatives. Our space-saving integrator will allow us to more dynamically operate the airspace – our prototype is in work."

Moderator Mike Romanowski, FAA



Technical Conference — Thursday Session Abstracts

Disaster Recovery

In business terms, disaster recovery is generally considered to comprise a combination of people, processes, and technology employed to return a system or organization to a state of normalcy

after a catastrophic event. From the perspective of air traffic management, we're talking about recovery from the operational state known as ATC Zero. Incidents of this magnitude can happen at the system level or the facility level,

but the impact is the same – Air Traffic Control services are interrupted. Last October, the aviation community worked together to respond to and recover from an incident that crippled Chicago ARTCC. That incident was initiated in one room, on one floor, in one facility, but the repercussions were NAS-wide. The lessons learned from that disaster serve as a foundation for this panel. System-level visions for improved resiliency, availability, and redundancy, including the potential of new NextGen technologies and procedures to support them, will be discussed. The panel will also discuss the roles of security (physical and cyber) and the Business Continuity Plan (BCP), as well as the role of research and technology development in improving service restoration, system reconstitution, and facility disaster recovery. Finally, this panel will answer how we can best measure success in terms of level of service restoral versus time elapsed during the various stages of outage events.

UAS/UTM

Many beneficial civilian applications of UAS have been proposed, from goods delivery and infrastructure surveillance, to search and rescue, and agricultural monitoring. As UAS operations require interactions with a mix of general aviation aircraft, helicopters, and gliders, there is a strong need to safely accommodate all of these vehicles at lower altitudes. Currently, there is no established infrastructure to enable and safely manage the widespread use of low-altitude airspace and UAS operations, regardless of the type of UAS. A UAS traffic management (UTM) system for low-altitude airspace is needed, much like today's surface vehicles that operate within a system consisting of roads, lanes, stop signs, rules, and lights, regardless of whether the vehicle is automated or driven by a human. This panel will discuss the challenges and the research activities that are being conducted in support of creating this unique capability.



Panelists discuss Remote Operations during a session Wednesday.

SWIM Visualization Tool (SVT) Implemented in 11 Sites Within One Year

By Beth Zimmerman, Evans
Incorporated for SWIM Outreach

As of March 2015, the SWIM Visualization Tool (SVT), a surface viewer prototype, has been implemented in 11 sites around the country. This new government-owned tool, engineered and developed by the Volpe Center, is a web based application that gives controllers and traffic managers access to surface data that was previously unavailable outside of a tower cab. Specifically, the tool provides access to ASDE-X and ASSC tracking data provided by the System Wide Information Management (SWIM) Terminal Data Distribution System, or STDDS.

SVT improves shared surface situational awareness (SSA) capabilities in Terminal Radar Approach Controls (TRACON) and the ATC-SCC through shared surveillance data. It is advisory in nature only and not used for actual separation of traffic. The SVT allows aircraft to be color coded by departure fix and gives all TRACON personnel a



Paul Fitzgerald, EASAT Antennas, talks with Jeri Groce, FAA-AJM at the SWIM booth in the Exhibit Hall.

better idea of how busy a particular route will be and when. Therefore, it can help supervisors appropriately staff sectors in accordance with actual traffic demand rather than relying on rough estimates based on

past activity associated with typically busy times of the day.

SVT is an early implementation of Terminal Flight Data Manager (TFDM), a NextGen program. By combining a common SSA with col-

laborative decision-support tools, TFDM will help aircraft operators, controllers, and airports stage arrivals and departures more efficiently. TFDM will deploy an SSA capability based on lessons learned from the SVT prototype. This capability will enhance collaborative decision-making on the surface, which is one of the key TFDM tools that will make flights more efficient from gate to gate.

The initial SVT implementation was completed in Southern California (SCT) in April 2014. As of March 2015, it is also implemented in 7 additional TRACONS — Northern California (NCT), Chicago (C90), Houston (I90), Louisville (SDF), Boston (A90), New York (N90), Potomac (PCT) — and three Centers — Air Traffic Control System Command Center (ATCSCC), NY Air Route Traffic Control Center (ARTCC) (ZNY), and the Los Angeles ARTCC (ZLA). This marks the completion of the planned SVT implementation. TFDM will include current SVT functionality and will replace SVT when it is deployed.

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8 – 10 March, 2016
IFEMA Feria de Madrid • Madrid, Spain

Red Hat – Power Player Behind the Scenes



Attendees visit the Red Hat booth during the Ice Cream Break in the Exhibit Hall Wednesday afternoon.

Since 2009, Redhat, the leader in Open Source software, has provided the FAA with an integration suite of products to power mission-critical integration support for the System Wide Information Management (SWIM) program for real-time weather and flight information. These key, open source, SOA technologies provide

the interconnections between the individual programs and is the open source integration underpinnings for NextGen. Today there is real time information like weather and flight data being disseminated by SWIM powered by RedHat JBoss, most in highly secure and scalable RedHat Linux environments.”



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NAS*Continued from page 1*

other and our funding and staffing is decreasing,” said Charles Stimley, Deputy Director Operations Support, Technical Operations at FAA.

“The cost of certification of airborne systems has gone from about 30 percent to 50-70 percent,” said Grabbe. “NATCA is strongly supportive of some sort of funding,” said Mel Davis, NATCA’s National NextGen Representative. “The incredible amount of oversight seems to grind things down.”

The session then shifted more toward solutions to these challenges. “We need to move from the science of program management to the art of it,” said Merkle.

Concluded Davis, “our concepts are achievable; I’m excited for what the stage is set for in the future.”

ATCA is proud to have both FAA and NASA as longtime partners in the ATCA Technical Symposium.

Don’t miss NASA’s participation in Panel Session 5 on UAS/UTM on Thursday, May 14 at 1:15 p.m.

Including Dr. John Cavoletsky, Director of the Airspace Systems Program Office, NASA, and other speakers.

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Heard on the Exhibit Hall Floor

“We are excited, as part of the FAA WJHTC community, to showcase our efforts and engage with industry leaders to collaborate for future solutions.”

—Chuck Wieme, EnRoute Computer Solutions (ECS)

“We’ve made a lot of good, high-level contacts at the Tech Symposium. We’re fairly new to the U.S. ATC market, so it’s a great networking event to be a part of.”

—Tobias Dreier, Guntermann & Drunck GmbH

“Visiting the FAA Tech Center was an amazing experience where the FAA team showed us their expertise in research, development and testing. They demonstrated ways to improve the NAS.”

—Robert Hamdoun, SkySoft ATM



Attendees listen to panelists discuss Emerging Challenges to the NAS in a session Wednesday.

“The ATCA Show was very professionally organized and gave Black Box the opportunity to demo new High Performance KVM Extension and Switching technologies to a wide range of attendees. The show also provided us with a chance to network with other vendors exhibiting at the show.”

—Chris Hsu, Black Box



ATCA President & CEO Peter F. Dumont converses with attendees in the exhibit hall Wednesday morning.



Attendees visit the Iron Bow Technologies booth in the Exhibit Hall.



Participants mingle in the exhibit hall during a session break.

ATCA Tech Symposium exhibitors and attendees enjoy food and drinks at the Networking Reception with Exhibitors Wednesday afternoon.

