The Aviation Information Sharing and Analysis Center (A-ISAC)

Faye Francy
Aviation ISAC
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The Threat
A National Security Issue

- Rapidly escalating cyber threats
- Executive action

Executive Order 13636: Improving Critical Infrastructure Cybersecurity


- Comprehensive Global approach
- Resiliency for our Critical Infrastructures

“Now our enemies are also seeking the ability to sabotage our power grid, our financial institutions, and our air traffic control systems.”

Feb, 2013
Communities to broadly share information, and rapidly respond to emerging threats.

Voluntary establishment of Information Sharing & Analysis Centers (ISACs)

- Open and collaborative approach
- Omni-directional communication
- Bridges gap between public/private sector
- Voluntary standards for sharing.
- Efficient means for granting clearances
Significant Changes in Aviation

Digital Airplanes provide operational efficiencies

- **Digital Age**
  - Customers demand connectivity everywhere
  - Airlines want real-time airplane performance data
  - Move from physical media to digital media for software

- **Airplane Design**
  - Shift into digital design, connected
  - Federated, isolated systems
  - Safety culture versus a security culture

- **e-Enabled Airplanes**
  - Greater efficiencies created but also potential risks
  - Cyber threats and vulnerabilities growing

Airplanes Are Connected – How Do We Protect?
Aviation Industry Call-to-Action
Drivers & Challenges

External Drivers Influencing Aviation
✓ Economic considerations drive increased connectivity
✓ The speed at which cyber threats continue to evolve
✓ Maintaining security in complex & dynamic environment
✓ Integration of physical and cyber threats is critical
✓ Continued growth in information sharing and analysis

Key Challenges for the Aviation Community
✓ Aviation’s cyber security honeymoon has ended
✓ Success depends on alignment of many stakeholders
✓ Broad spectrum of technology deployment throughout fleet
✓ Regulatory environment constrains the pace of the change
✓ Cyber skills in aerospace engineering are critical
Safe, Secure, Efficient & Resilient
Global Air Transportation System

An Airplane is a Global, Mobile Industrial Control System
What is an ISAC?

- **Information Sharing & Analysis Centers (ISACs)**
  - Operational concept for sharing information within private sector
  - DHS National Infrastructure Protection Plan (NIPP)

- **Protection of Critical Infrastructure / Key Resources**
  - 16 CIKR sectors defined by PPD-21
  - Physical and cybersecurity focus
  - Variance in ISAC structures & capabilities

- **Unique Information Sharing Capabilities**
  - Company proprietary / PII / SSI
  - USG classified / LE / Foreign Gov
  - Global multi-national companies / foreign OEMs

*ISACs sit at the nexus of public-private information sharing*
Aviation Sector Protection ➔ A-ISAC

Purpose
➢ Maintain public trust in aviation
➢ Reduce risks and costs
➢ Timely, Actionable Intelligence
➢ Shared situational awareness
➢ Resiliency

Benefits
➢ Access to threat intelligence & analysis
➢ Detailed threat monitoring
➢ Sector-wide / cross sector view
➢ Non-attribution information sharing
➢ Crowd sourcing

My Detection is Your Prevention
### A-ISAC Value Proposition

**Protecting the Aviation Sector**

*‘To reduce the risks and costs associated with disruption to aviation operations due to cyber & physical security events’*

| Needs | Mitigation of business risks  
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<th>Maintaining public trust</th>
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| Offering | Comprehensive, across the aviation sector  
|         | Provision of Indications & Warning (I&W)  
|         | Preparedness, response, and recovery planning  
|         | Strategic coordination with global partners / government partners |
| What we don’t do | Law enforcement activities  
|                 | Security infrastructure design  
|                 | Lobbying |
| Benefits | Timely & actionable threat information  
|           | Common view of cyber & physical threat  
|           | Fusion and analysis of threat-based, aviation-specific information  
|           | Protection of private sector data  
|           | Sharing of best security practices |
A-ISAC Benefits

- Risk mitigation for aviation sector
- Cyber-Physical Integration
- Focused Intelligence Information/Briefings
- Member to Member Sharing
- Non-attribution & Anonymity of Submissions
- Information source for entire organization
- Security and Resiliency

Distribute Information Gathering Costs across the Sector
A-ISAC Info Sharing Relationships
Timely, Actionable Intelligence, Anonymized

A-ISAC Members
- General Aviation
- Service Providers
- Manufacturers
- Air Cargo
- Suppliers
- Industry Associations

10 Members
- Incident reporting
- Tips / field reports
- Intelligence
- Trends & analysis
- Analyzes, aggregates, fuses information
- Filters & selects for Aviation relevance
- Protects member info & attribution (TLP)
- Creates alerts & analysis for members
- Coordinates response & recovery
- Interfaces with Gov / other sectors
- Urgent alerts & indicators
- Intelligence reports
- Best practices
- Mitigation strategies

Govt & All Other
- Open Sources
- Other Industries & Sectors
- Other Info Sharing Orgs - NCI
- NCCIC
- ADIAC
- Other Govt

A-ISAC
- TLP
- VOLUNTARY
- Anonymized

Govt & All Other
- Aviation expertise
- Indicators
- Incident reports
- Mitigation actions

January 2015
A-ISAC Collaborative Framework

*Working Together Across Private and Public Sector*

### Private Sector
- Airlines
- Air Cargo
- Suppliers
- Manufacturers
- General Aviation
- Airports
- Service Providers
- Aviation Industry Groups
- Others – Other ISACs, NCI, MROs, FBOs, etc.

### Government Partners
- Department of Homeland Security
  - NCCIC
- Transportation Security Admin
  - ADIAC
- Federal Aviation Administration
- Federal Bureau of Investigation
- Intelligence Community (ODNI)
- Department of Defense (CAOIC)
President Barack Obama & DHS Secretary Jeh Johnson

NCCIC Visit January 13, 2015
Summary
The Path Forward

Shared Situational Awareness and Collaboration

- Trusted environment for collaboration
- Anonymized information sharing
- Shared situational awareness
- Focused, actionable intelligence
- Global engagement
- Greater responsiveness and resilience
- Reduced business risk

A Resilient Global Aviation Transportation System
Contact Information
The Trajectory – Safe, Secure, Efficient and Resilient
Global Air Transportation System

Faye Francy, Executive Director
ffrancy@a-isac.com
703-861-5417

Terrance Kirk, Operations Manager
tkirk@a-isac.com
301-346-0715

Douglas Blough, Senior Analyst
dblough@a-isac.com
609-775-8355

Candice Burke, Secretary
cburke@a-isac.com
425-238-1164

Working Together Across the Aviation System
For A Resilient Global Aviation Transportation System