

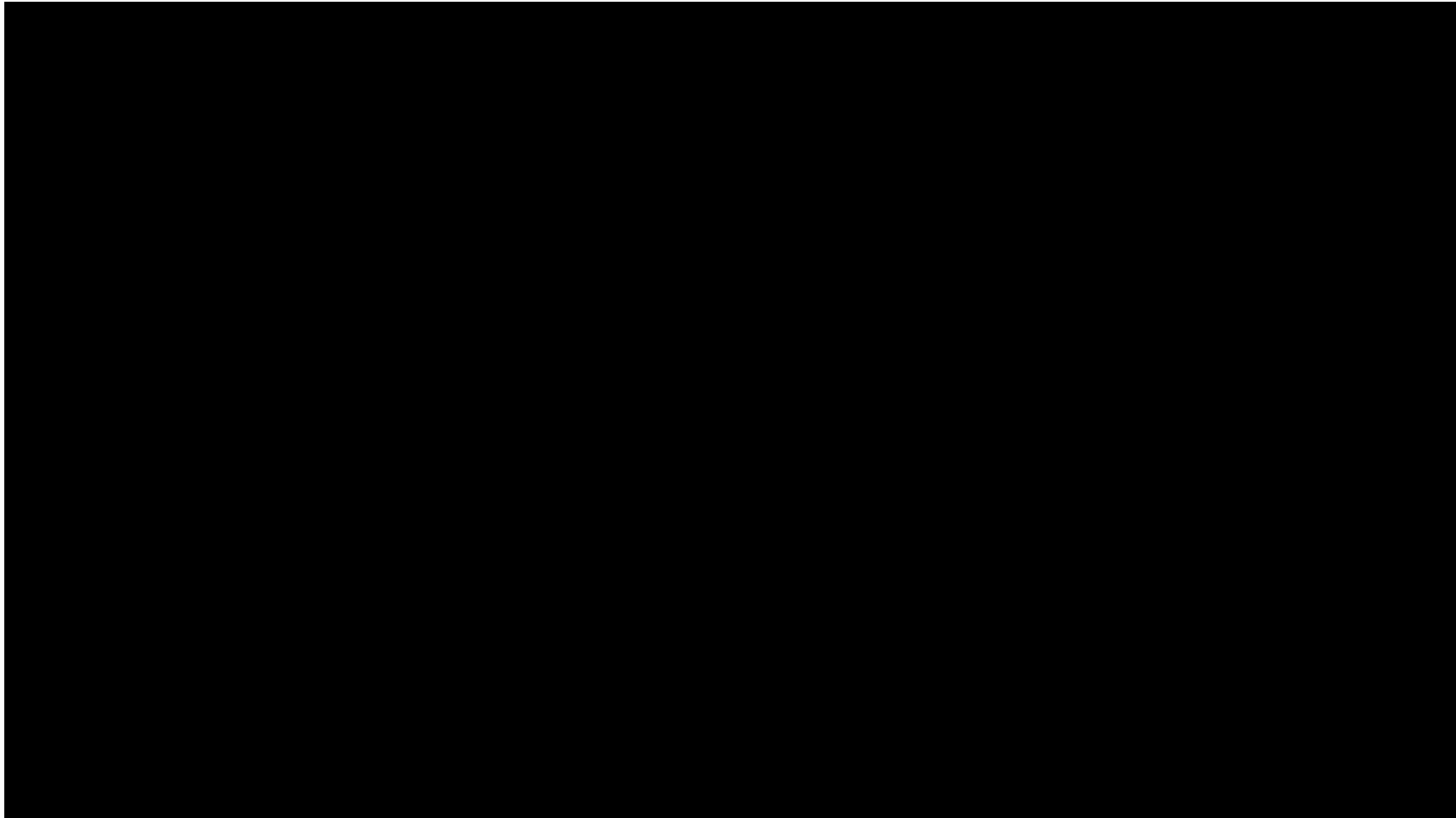
Net-Centricity and NextGen

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Overview



Aviation's Impact on the World

In 2008, the aviation industry...

- Contributed approximately 3.2%* of the U.S. Gross Domestic Product (GDP) and approximately 10% worldwide
- Transported over 2,271 million people and 41 million tons of freight worldwide*
 - Over 40% of tourists worldwide travel by air
 - 2.25 billion pieces of checked baggage are handled by the air transport industry annually



**ICAO Annual Report of the Council, 2008*



NextGen: The Short Story

- NextGen is a **Congressionally mandated** initiative to modernize the U.S. Air Transportation System in order to:
 - Increase **capacity** and **reliability**
 - Improve **safety** and **security**
 - Minimize the **environmental impact** of aviation
 - Retain U.S. **leadership** in global aviation



NextGen: The Short Story (Cont'd)

- These improvements to the air transportation system will be achieved by applying:
 - Space-based navigation and integrated surveillance
 - Digital communications
 - Layered adaptive security
 - Weather integrated into decision-making
 - Advanced automation of Air Traffic Management
 - Net-centric information access for operations



The NextGen Initiative

The Next Generation Air Transportation System Partners



Department of Transportation (DOT)



Department of Defense (DoD)



Department of Homeland Security (DHS)



Department of Commerce (DOC)



Federal Aviation Administration (FAA)



National Aeronautics and Space Administration (NASA)



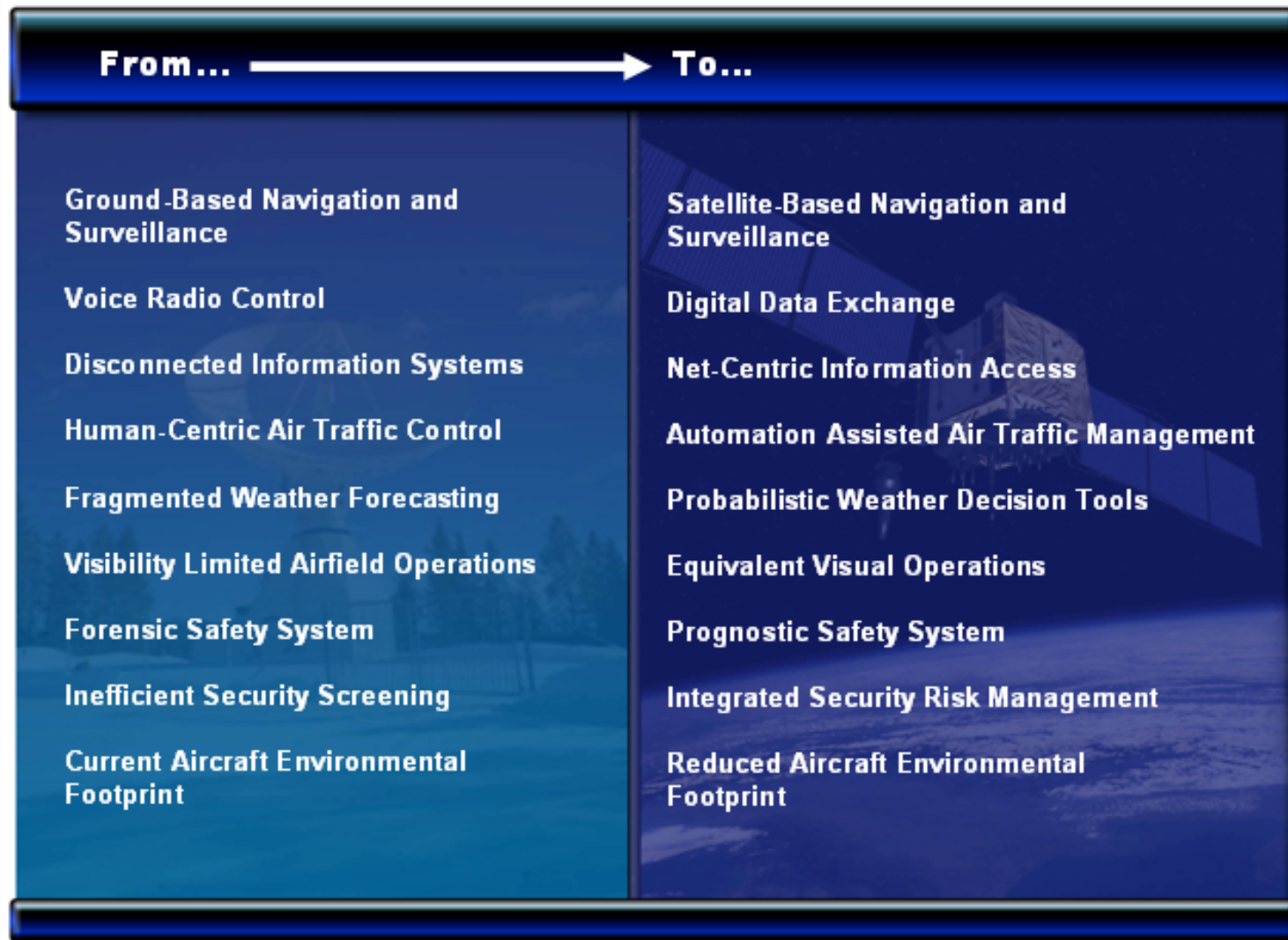
White House Office of Science and Technology Policy (OSTP)



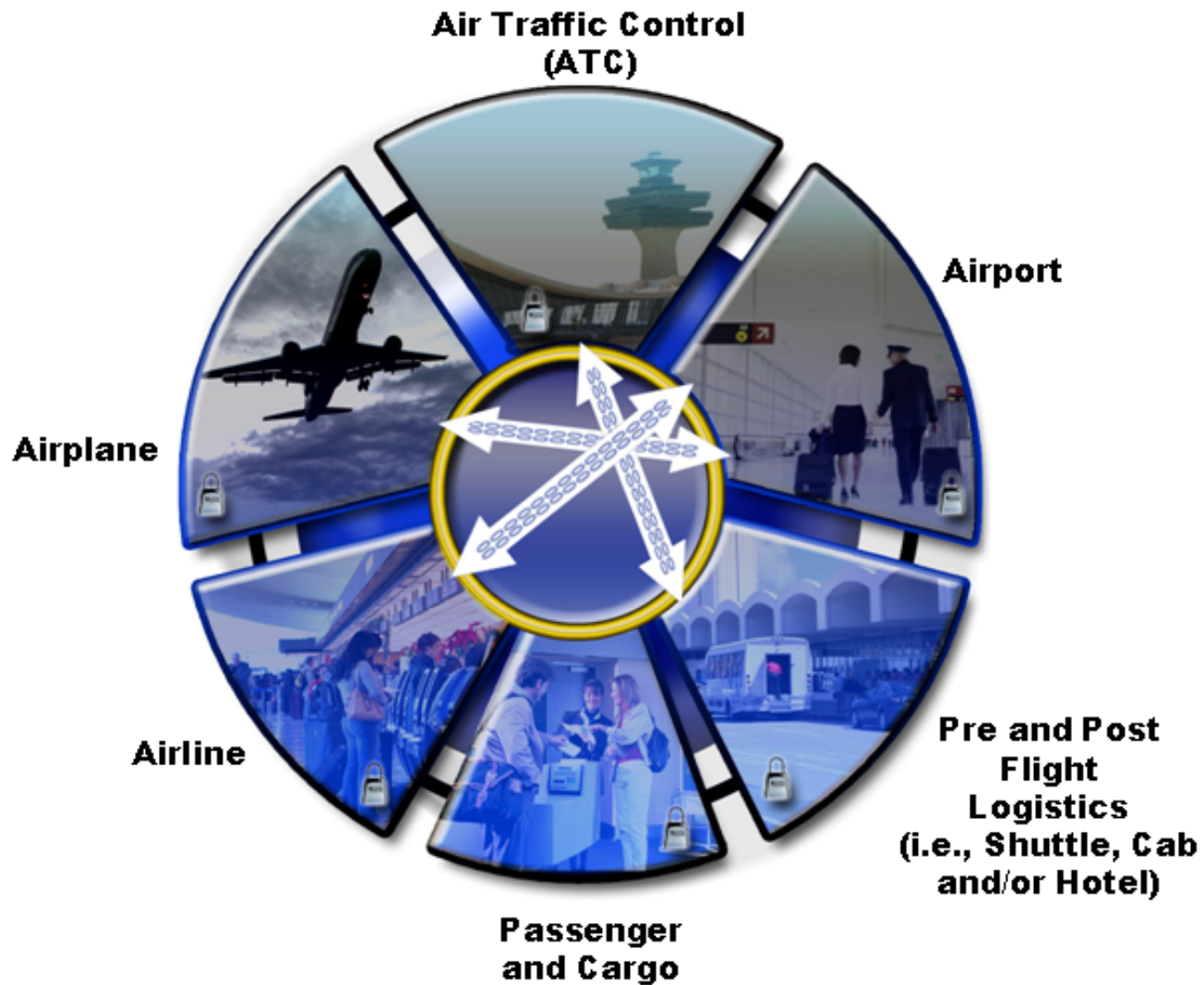
Office of the Director of National Intelligence (ODNI) (*ex officio*)



Where We've Been, Where We're Going



Information Exchange



A Closer Look: Chicago O'Hare

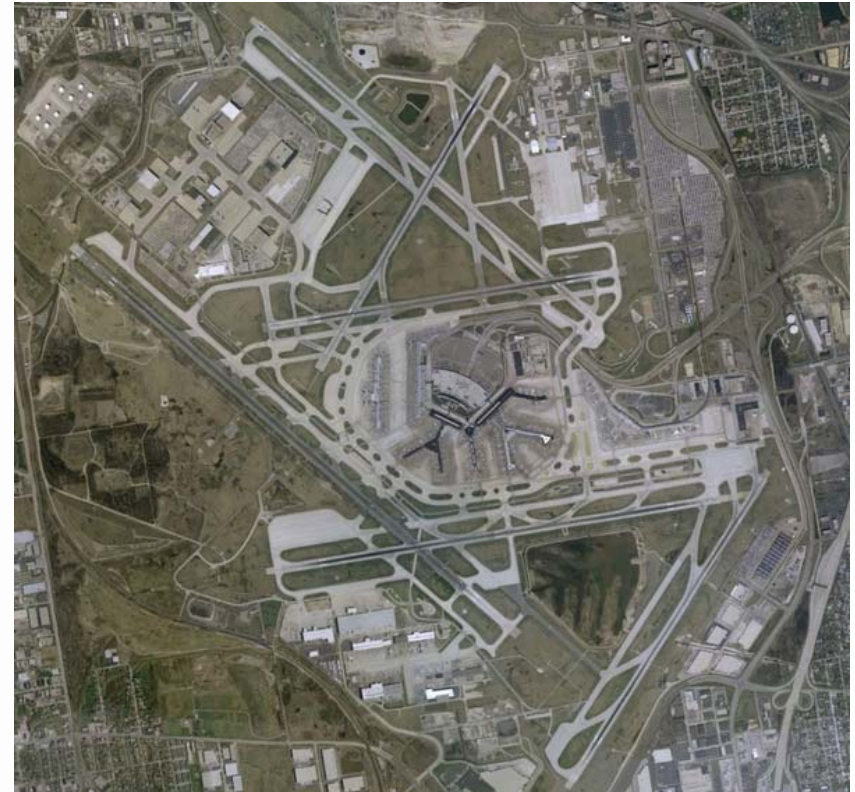
Annual Statistics 2008*

Aircraft Operations: 881,556

- **64% Scheduled Commercial**
- **33% Air Taxi**
- **3% General Aviation**
- **1% Military**

Passenger Volume: 69,353,654

Cargo Tonnage: 1,445,158



**FAA and Chicago O'Hare Web Sites*



Net-Centric Operations in the NAS



- Use IT to unleash the power of information to transform the National Airspace System (NAS)
- Make information a force-multiplier
- Empower stakeholders to make informed decisions

The NextGen Approach



Service Oriented Architecture (SOA)



The Future of NextGen

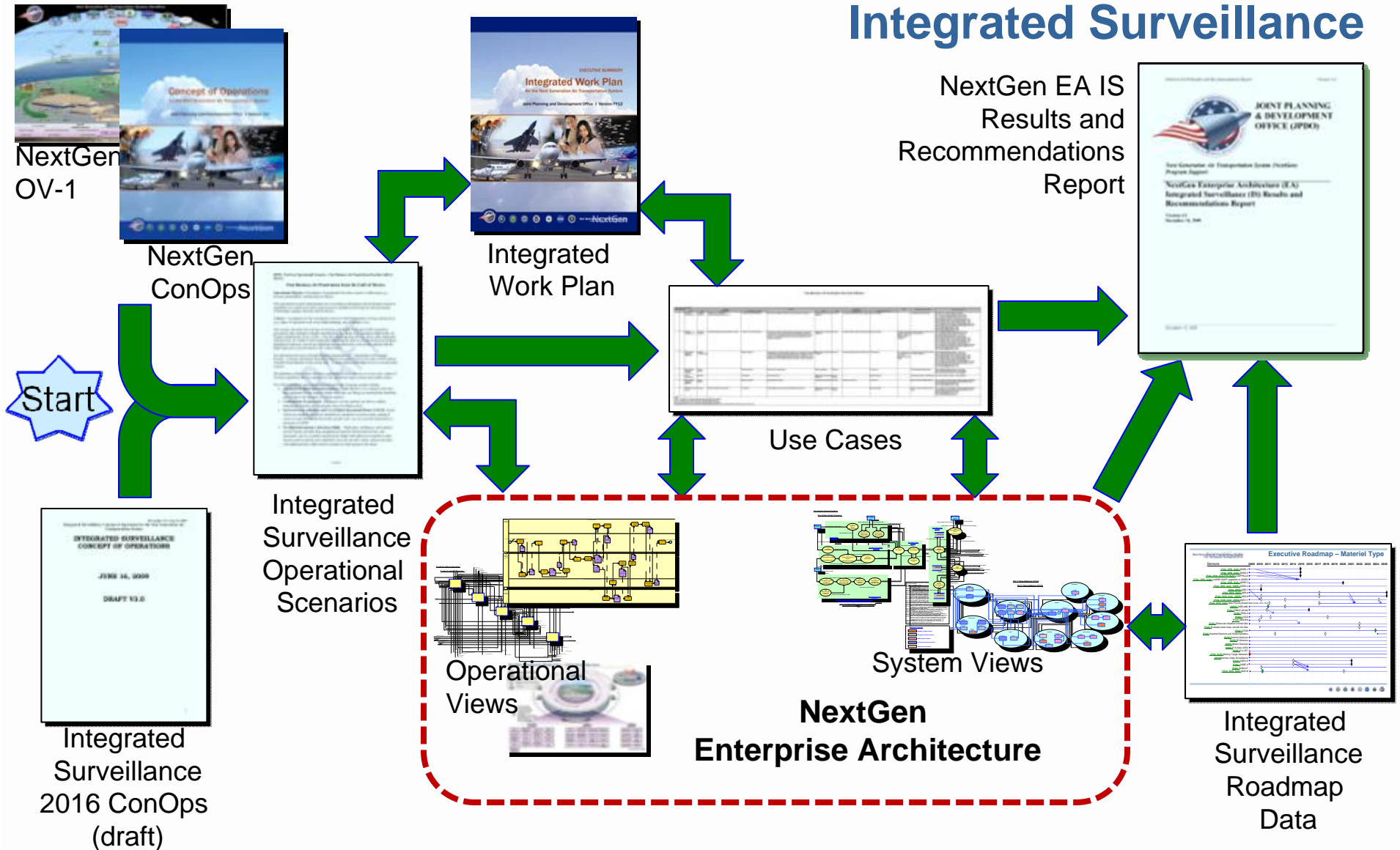


NCO Success: Weather

- In 2009, the FAA and National Weather Service (NWS) conducted a demonstration of a new technology for sharing weather information.
- Various sets of weather information were published at multiple sites, including temperature, wind observations, forecasts, and radar information.
- Future air traffic control systems will use digital weather information to maneuver aircraft around hazardous weather. These systems will need access to the demonstrated technologies.



NCO Success: Integrated Surveillance



NextGen EA IS
Results and
Recommendations
Report



Process to Culture



Traction

- Establish governance arrangements and supplier relationships
- Define core services “spine”

Foundation

- Establish services framework
- Build initial services
- Integrate legacy applications

Momentum

- Build out from initial services
- End-to-end process transformation
- Critical mass established
- Increased delivery of benefits

NCO Culture

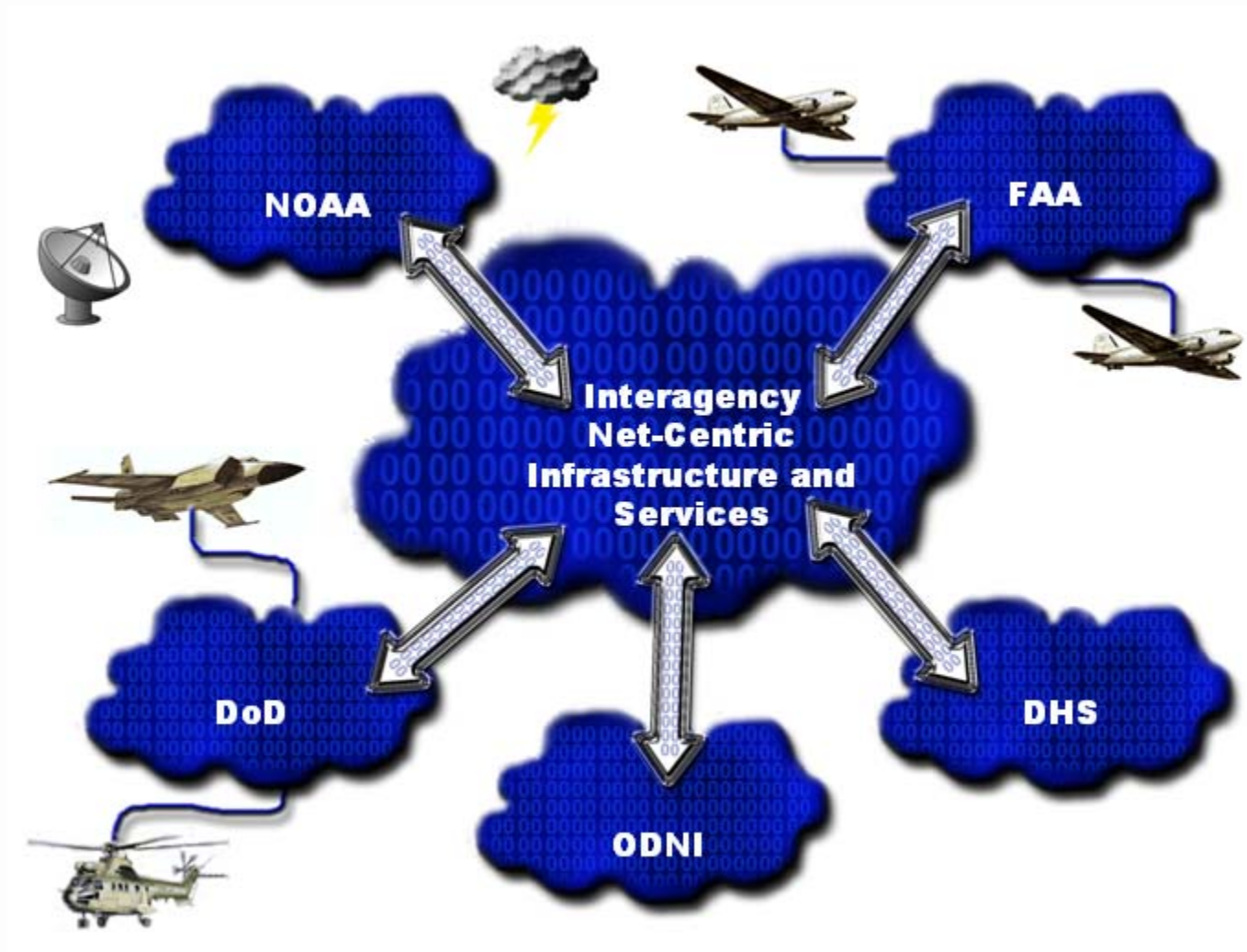
- Service-based culture being established
- Changes to operating model and organizational structure
- Clear operational benefits (e.g., increased agility) and financial returns



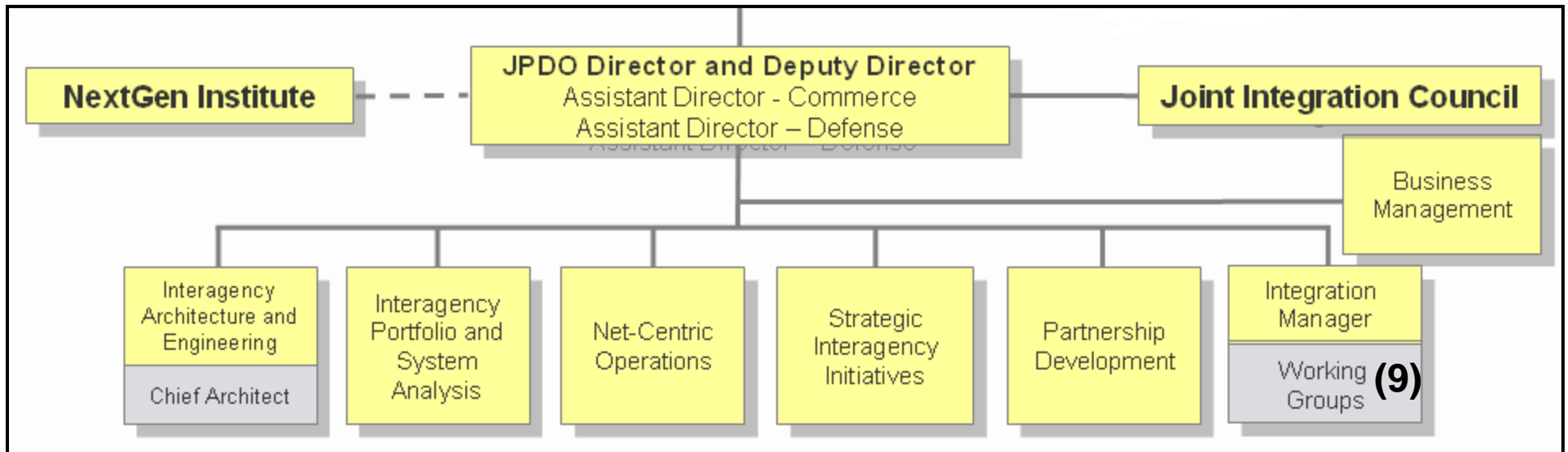
Net-Centricity in the NextGen Environment: Key Challenges

- Cybersecurity
- Governance
- Real-Time and Non-Real-Time Information Needs
- Federated Identity Management
- Standards
- Managing Communities of Interest (COI)
- Forensic Data for Lessons Learned Evaluations
-

NCO Infrastructure and Services



The JPDO



Industry Involvement



- **NextGen Institute**

- Provides a mechanism for the private sector to actively engage with government in defining, developing, and implementing NextGen with the JPDO.

- **Working Groups**

- Government and industry experts form JPDO's nine Working Groups. Each Working Group specializes in developing one of NextGen's key capabilities.

JPDO Online Resources



JPDO Web Site www.jpdo.gov

NextGen Institute www.ncat.com/ngats/index.html



Facebook www.facebook.com*



Twitter twitter.com/theJPDO



MyJPDO Blog myjpdo.wordpress.com



Wikipedia www.wikipedia.org*

**Use the search term "Joint Planning and Development Office"*



Please Join Us...

1st Annual AFCEA DC Symposium on Next Generation Information Exchange in High Consequence Environments

Date: February 10, 2010, 8am – 5pm

Location: Washington Hilton, Washington, DC

Register: <http://www.afceadc.org>



Questions?

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