JPDO and NextGen Weather ...what both are up to

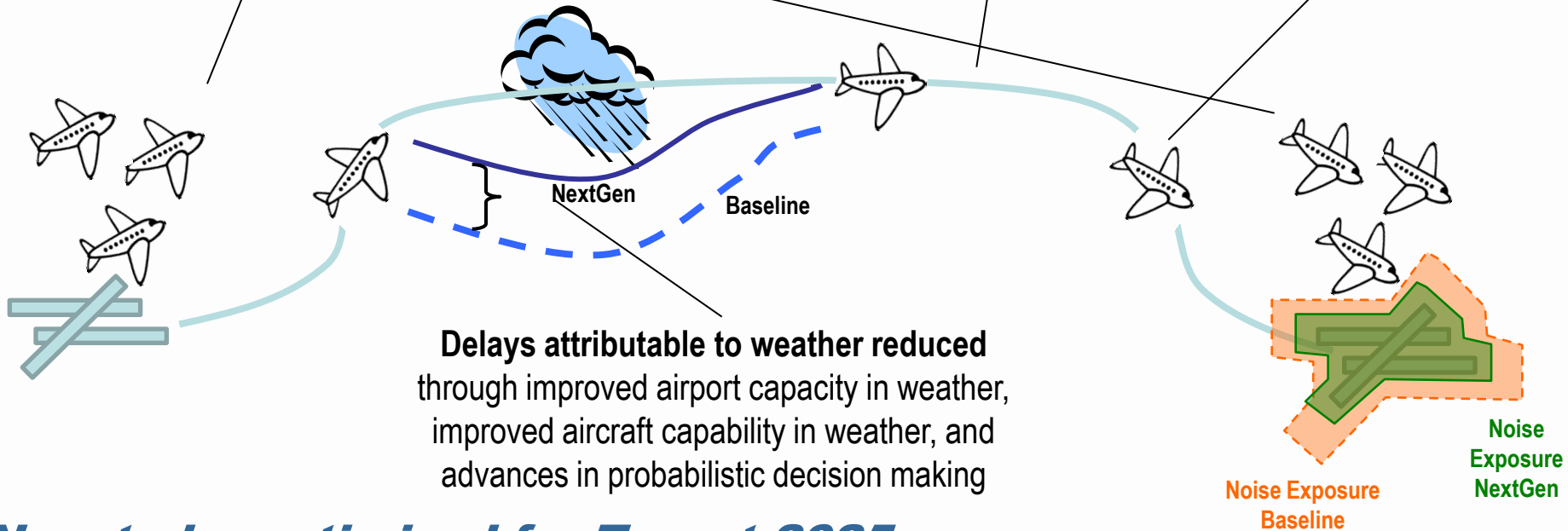Mark Zettlemoyer, NWS/JPDO
FPAW Oct 12 2011

NextGen Performance Benefits

Through High Density Operations, new runways, and other operational improvements, airport capacities increased, allowing **increased throughput** while maintaining reasonable Demand/Capacity ratios

Through Trajectory Based Operations, satellite navigation, data communications, and other operational improvements, **en route capacities increased**

Future individual aircraft (airframes, engines) and ATC exhibit:
Noise reduction
Reduction in fuel burn
Reduction in emissions

NextGen

Baseline

Delays attributable to weather reduced
through improved airport capacity in weather, improved aircraft capability in weather, and advances in probabilistic decision making

Noise Exposure Baseline

Noise Exposure NextGen

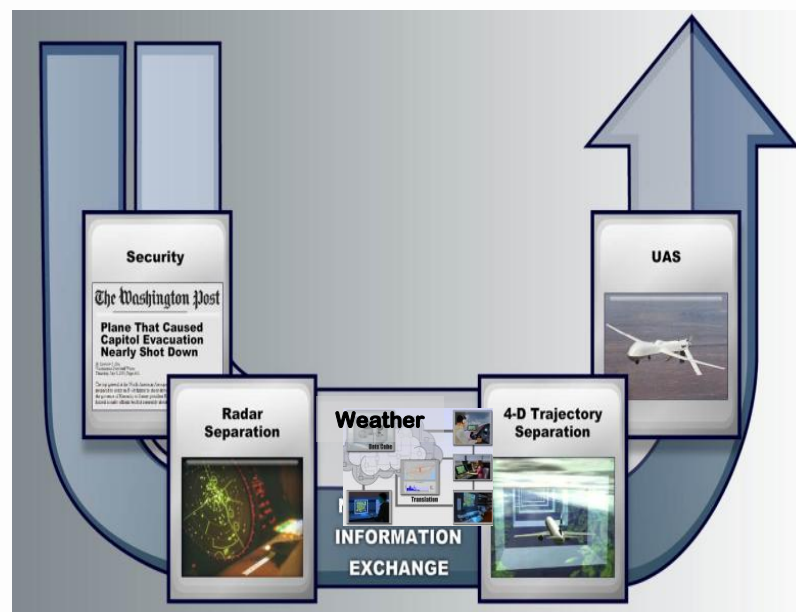*Now to be optimized for Target 2025*

JPDO FY11-12

- Foster collaboration among Federal partners
- Enable high level discussion & decision making
- Coordinate with the international community
- Major accomplishments (FY11)
  - Definition of "optimized" NextGen Target 2025
  - Unmanned Aircraft Systems (UAS) RD&D Roadmap
  - Integrated Surveillance ConOps (for common air picture)
    - Via NextGen Information Sharing Environment
  - Continued Global Harmonization…work seamlessly with other global aviation systems

Work the details to the vision … but collaborate to get there!

JPDO FY12

- Proposed Flagship Products
  - UAS integration feasibility studies
  - NextGen Information Sharing Environment (NISE) development …interagency collaboration in the NETE*

- Ongoing and new efforts
  (resources permitting)
  - Integrated Surveillance
  - TBO Roadmap and TBO Safety Case
  - Future AOC/FOC
  - Global Harmonization

Net-Enabled Test Environment

Vision 100

- "The Secretary of Transportation shall establish in the Federal Aviation Administration a joint planning and development office to manage work related to the Next Generation Air Transportation System." Responsibilities shall include:
    - Create and carry out a plan for NextGen
    - Oversee R&D and create a transition plan for that system
    - ***Coordinate goals and priorities*** and coordinate research activities within the Federal Government with United States aviation and aeronautical firms
    - Facilitate transfer of technology from research programs to Federal agencies with operational responsibilities and to the private sector
    - Review activities relating to ***noise, emissions, fuel consumption, and safety*** conducted by Federal agencies
- "The Office shall ***consult with the public*** and ensure the participation of experts from the private sector including representatives of commercial aviation, general aviation, aviation labor groups, aviation research and development entities, aircraft and air traffic control suppliers, and the space industry."

NextGen Stakeholders and JPDO

JPDO Mission: develop framework for NextGen planning and development, identify and prioritize key multi-agency concerns, and drive consensus in investment choices and decisions.

- 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)*

JPDO Working Group Co-Chairs

Aircraft

Steve VanTrees, FAA

Frank Alexander, Aviation System Consulting Services, LLC

Airports

Benito DeLeon, FAA

Tom Browne, TJB Aviation

Air Navigation Services

James Wetherly, FAA

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Environment

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Global Harmonization

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David Sweet, Boeing

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Jay Pardee, FAA

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Security

TBD, TSA

Paul Druckman, Adayana

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NextGen Institute

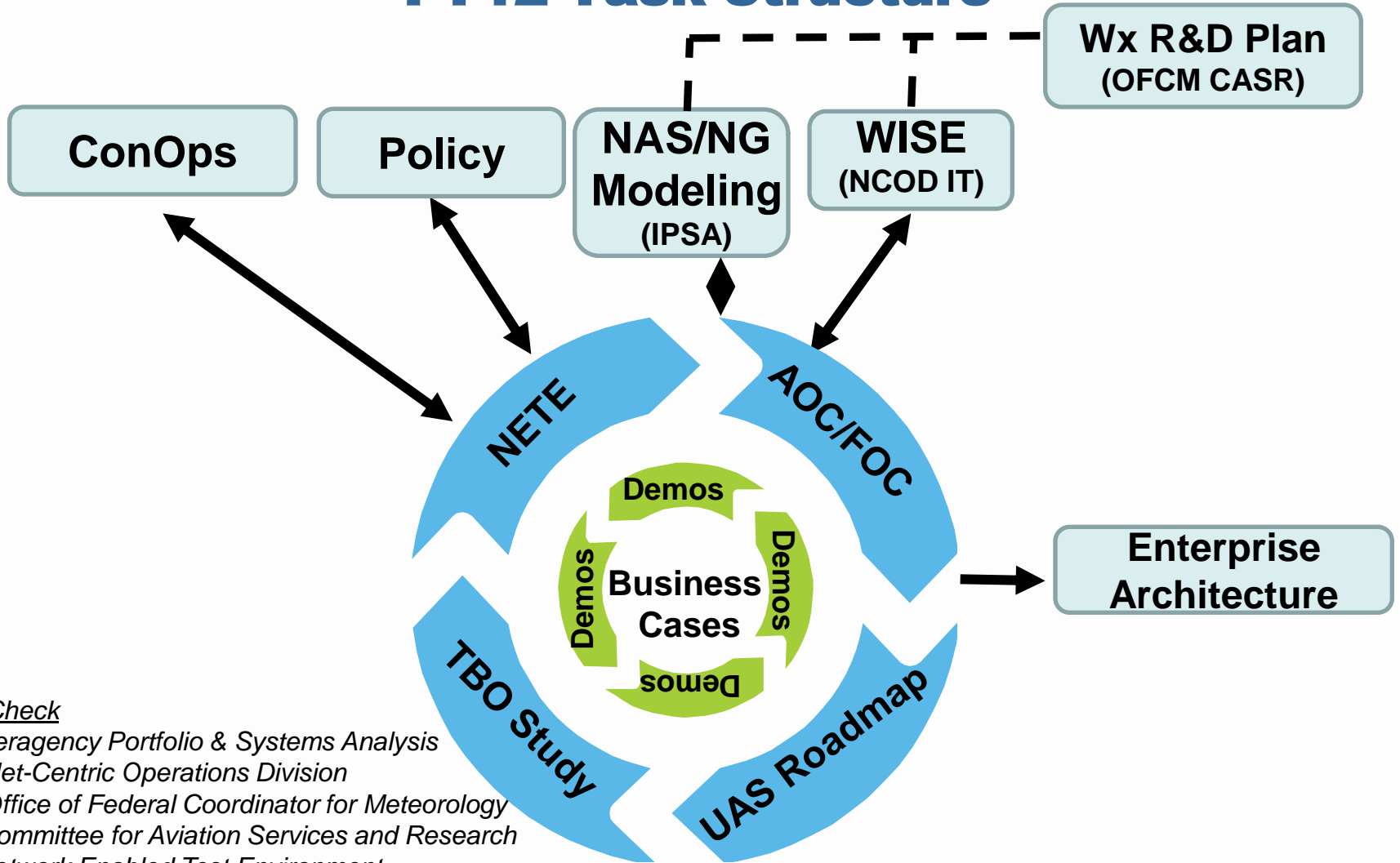Mike Garvin, NGI

Access to SMEs to work issues

NextGen Weather Concept

- Integrated and consistent common weather data picture for observation, analysis, and forecast available to all system users

- Net-centric (net-enabled) capability that:
  - Makes accurate information available, securable, and usable in real time
  - Pushes information to known users and is discoverable by others
- "Virtual" distributed repository
- Integration of weather information into operational decision-making

Wx Working Group
FY12 Task Structure

Wx R&D Plan (OFCM CASR)

ConOps

Policy

NAS/NG Modeling (IPSA)

WISE (NCOD IT)

NETE

AOC/FOC

Demos

Demos

Business Cases

Demos

Demos

TBO Study

UAS Roadmap

Enterprise Architecture

Acronym Check
IPSA = Interagency Portfolio & Systems Analysis
NCOD = Net-Centric Operations Division
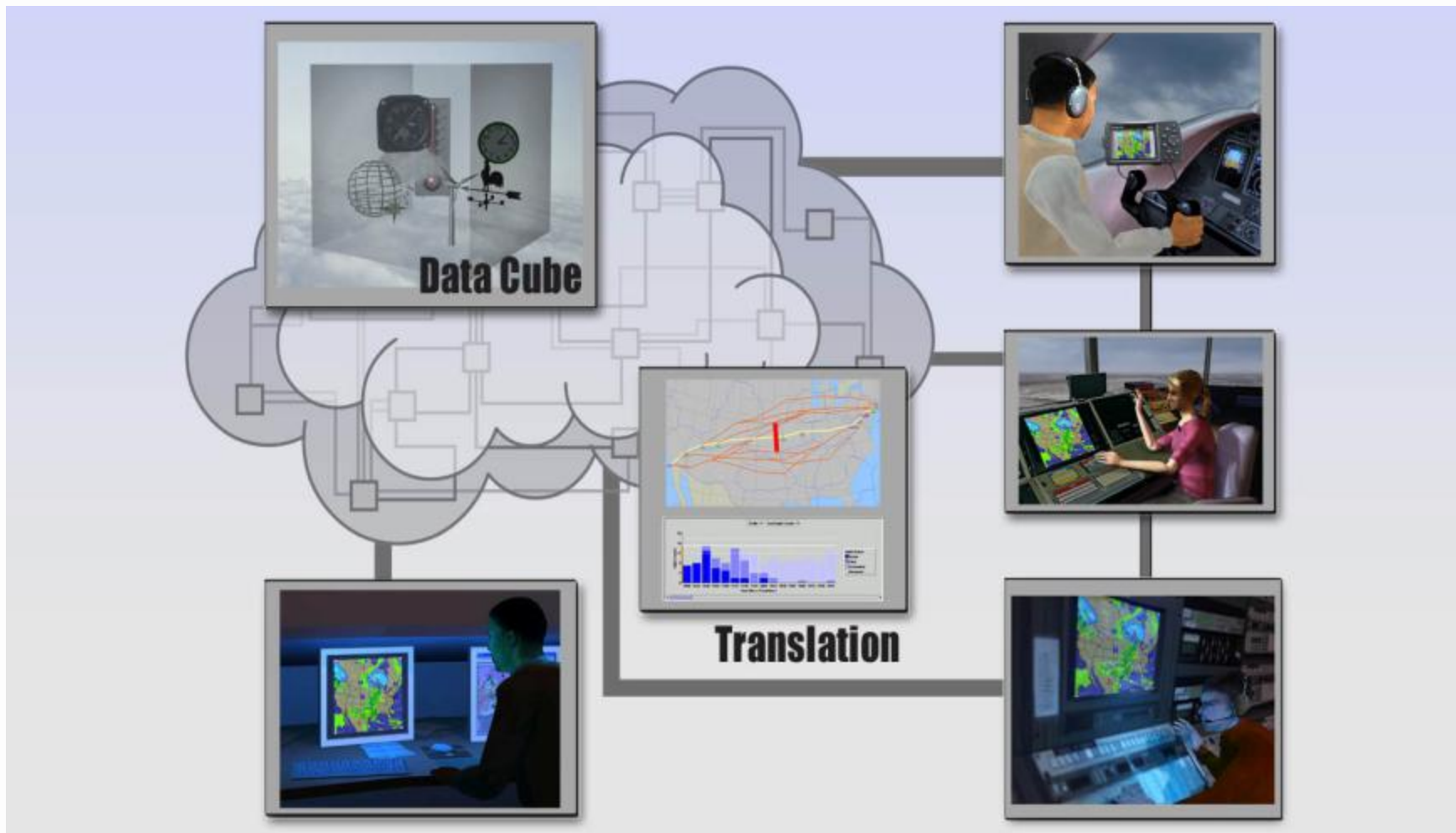*OFCM = Office of Federal Coordinator for Meteorology*
CASR = Committee for Aviation Services and Research
NETE = Network Enabled Test Environment
WISE = Weather in the (NextGen) Information Sharing Environment

NextGen Weather

NextGen Weather

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