Operational Evolution Partnership

An Introduction to FAA’s Integration & Implementation Plan for NextGen

Briefing to National Airspace System Performance Workshop
September 2007
OEP is FAA’s path to NextGen

“This Operational Evolution Partnership will be the mechanism by which we inform our owners, customers, and aviation community of our plans and progress towards the NextGen vision…”

-- Marion C. Blakey, FAA Administrator, before the Senate aviation subcommittee, May 2006
Why OEP?

The Right People, Right Process

• Cross-Agency Participation
• Cross-Community Support
• Proven Results

Goal Achieved by 2013: 30% increase in effective capacity
Agenda

• What is OEP?
• Who has authority over OEP?
• How does OEP work?
• Where must OEP go from here?
What is OEP Version 1?

• Defines framework for FAA’s NextGen implementation plan
  – Scope is broader than capacity
  – Reflects NextGen vision
• Demonstrates how FAA’s integration & implementation plan will be executed
  – To ensure development processes are not just parallel, but complementary
• Aligns research & development with NextGen objectives
• Provides high-level “big picture” content
• Initiates industry collaboration process

OEP online: www.faa.gov/programs/oep
Operational Evolution Partnership

Plus….FAA Cross-Agency Integration
Who has authority over OEP?

OEP Associates Team

Advised by the OEP Review Board

Guided by Ops Planning VP Vicki Cox
How will FAA achieve JPDO’s NextGen Vision?

- Entry to OEP via OEP Review Board process
- OEP will show commitment and accountability
- OEP will track milestones
Why do we need the new OEP and new processes

• OEP
  – Explains how FAA will execute NextGen
  – Represents commitment to implementation

• OEP Process
  – Provides an effective mechanism for managing JPDO recommendations
  – Allows FAA to manage budgets dedicated to NextGen
  – Forces FAA R&D to be relevant to NAS/NextGen requirements
  – Provides for cross Agency & cross ATO influence over future direction of the NAS
  – Allows for early buy-in from external stakeholders
## Review Board Membership

**Co-Chairs:** ATO VP Ops Planning & Director of JPDO

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OEP Process Flow

- Stakeholder Review / Prioritization
- OEP Administrative Activities (Smart Sheet Preparation)

OEP Review Board
FAA Cross-agency and JPDO

OEP Associates Acceptance Decision

NextGen

FAA Implementation

OEP OFFICE

LOB Budget Process

OEP OFFICE

OEP OFFICE

Federal Aviation Administration
Roles and Responsibilities for the OEP Review Board

• Consider JPDO CONOPS, Roadmaps, Enterprise Architecture, Budget Guidance, etc.
• Focus on initiatives for implementation in the NAS
• Prioritize initiatives
• Make recommendations to OEP Associates
• Provide oversight/status/guidance on ongoing initiatives
• Report findings with recommendations to OEP Associates Team
The Path to NextGen:

OEP

- Core contains FAA Commitments

- Transition Rings
  - Related activities that are less mature – but funded
  - R&D programs in outer ring
Before NextGen

- policy
- feasibility
- idea
- concept
- modeling
- R & D
- demos
The Path to NextGen

NextGen Strategic Initiatives

Advanced NAS Concepts
System Performance Requirements
Concept Demonstrations
Initial Benefits and Cost Estimates
Research
The Path to NextGen

Safety, Policy & Certification

- Safety Analysis
- Operating Policy
- Performance Standards
- Certification Requirements
- Operating Requirements

NextGen STRATEGIC INITIATIVES
SAFETY, POLICY & CERTIFICATION
The Path to NextGen

Technical Development

Alternatives Analysis

Field Prototypes

Operational Field Trials

Investment Analysis
Defining the 3 OEP Domains

Airport Development
   – New concrete

Air Traffic Operations
   – Transformational capabilities

Aircraft & Operator Requirements
   – Avionics
1. Airport Development Domain

**Focus:** Airport infrastructure for greater capacity and delay reduction

- OEP 35 Airports, with a view of longer range planning
- Metropolitan Areas
  - 15 metropolitan areas
  - 80+ non-OEP airports
Airport Development Solution Set: OEP 35 Airports

Offers an expanded view into planning for new airport infrastructure at the nation’s busiest airports.
Airport Development
Solution Set: OEP Metro Areas

Promotes regional planning.
Identifies supporting airports.
Monitors infrastructure investments.
2. Aircraft & Operator Requirements
Aircraft & Operator Requirements

- Aligns ground and air infrastructure planning for avionics
- Aims to ensure that avionics will ready at the same time we implement new capabilities
- Helps the aviation community make informed equipage decisions
3. Air Traffic Operations Domain

Seven (7) “Solution Sets” targeted to address
Capacity, Efficiency, Safety, Security
of air transportation operations

- Increase Flexibility in the Terminal Environment
- Improve Collaborative Air Traffic Management
- Reduce Weather Impact
- Increase Safety, Security, and Environmental Performance
- Transform Facilities
- Increase Arrivals/Departures at High Density Airports
- Initiate Trajectory-Based Operations
- Initiate Trajectory-Based Operations
OEP Solution Set is a portfolio of capabilities

For example:

- Automated conflict detection
- Clearances by data vs. by voice
- Sectors managed automatically
- Variable separation based on wake
- Real-time assessment of airspace flow
Integration of Activities

Capability Implementation Plans

Integrates activities from multiple LOBs/Service Units.

Identifies which activities are needed & when for a given capability.

Solution Set manager will coordinate cross-agency integration for each solution set.
What information will OEP contain?

**Solution Set Smart Sheet**
- Describes the solution set and its benefits
- Describes the capabilities that build the solution set, including the implementation plans for each
- Implementation plans show which segment of a program impacts a capability.

**Reference Sheet**
- Briefly describes major NextGen programs, like datacom and ADS-B
- Includes program’s timeline with all of its segments, as a cross-reference

**Implementation Plan**
- Datacom Segment X

**Datacom**
(NOTIONAL)
**OEP In Context**

- Fielded NAS systems
- Program Office Implementation Plans, Schedules, Funding
- ATO Service Unit Business Plans
- NAS Enterprise Architecture
- OEP

Increased level of details

NextGen ConOps

Planning & Integration occurs at all levels
FAA is Using the new OEP

• OEP framework is focusing agency strategic planning activities
  – Guiding budget formulation
  – Prioritizing resources
  – Focusing research & development
  – Integrating program planning
  – Developing long-term performance analyses models
  – Informing international interoperability discussions

• Delivering Mid-Term Capabilities
OEP Focus is on the Mid-term (2012-2018)

- Without improvements to the Air Traffic System, delays are projected to increase 62% by 2014

- 27% increases in domestic traffic projected for 2016

- Studies have shown that controllers cannot handle 25% increases in traffic in the busiest sectors using tools available today

**Bottom line:**
Failure to accommodate demand will have severe economic impact inside and outside the aviation industry
FAA will use OEP to Deliver Mid-Term Capabilities

Increase Arrivals/Departures at High Density Airports

OEP Delivers NextGen Capabilities in an Evolutionary Manner

Mid-Term Capabilities Are Steps on the Way to NextGen
FAA is developing several key programs that provide the dynamic infrastructure that will underpin the NextGen system.

When combined with today's research and development projects and new air traffic control procedures, these programs will allow FAA to implement NextGen's initial and end state capabilities.

These capabilities will be described in the OEP Air Traffic Operations domain, which is divided into seven solution sets. These capabilities will be further broken down into a series of activities the progress of which can be tracked to ensure the FAA remains on target for implementation.

Initial internationally harmonized avionics will be used in the mid-term where they are available. New airport development will also increase capacity significantly in this timeframe.
Next Steps

- Communicate with Industry and Advisory Councils
- Build OEP Version 2
- Communicate the “what”
- Engage FAA & the aviation community in defining the “how” and “when”

[www.faa.gov/programs/oep](http://www.faa.gov/programs/oep)