**CONCEPT OF INTEGRATION (CONINT)**

**WHAT IS A CONINT?**
- Potential standard System Engineering (SE) artifact
- Based on Concept of Operations (CONOPS)
  - Modeled after the “Draft FAA Concept of Operations Guidance and Template”
  - Made up of the following core sections
    - Introduction and Scope
    - Current Capabilities
    - Concept Methodology, Description and Justification of Changes
    - Concept of Weather Integration
    - Summary of Impacts

**WHY IS A CONINT IMPORTANT?**
- No current SE document addresses ATM-Weather Integration
- Enabling mechanism for ATM-Weather Integration
  - Provides a globally-accepted method
  - Describes use of weather information in detail sufficient to allow feedback from operational experts
  - Allows creation of systems and processes which remain functional in the face of weather constraints
- Retains SE rigor
- Can be signed off by FAA Program and integrated into CONOPS
- Applicable to both existing and future systems and processes

**CONINT OF WEATHER INTO TIME-BASED FLOW MANAGEMENT (TBFM)**

**KEY FEATURES**
- Phased approach allows integration into both existing and future TBFM schedules
- New capabilities associated with individual phases correspond to Levels of Weather Integration
- Phase 1 (Level 1) previously included in TBFM CONOPS
- Skipped Level 2 solution and proceeded straight to Level 3 solution due to perceived small incremental cost / large potential benefit
- Phases 2 (Level 3) and 3 (Level 4) cover convective activity impacting airspace inside the TBFM freeze horizon
- Concepts similar to those proposed in Phases 2 and 3 being tested as part of the Task N work being conducted at the Florida NextGen Test Bed

**PHASE 1 (LEVEL 1)**
- TBFM Weather Integration Phase 1 (Level 1 – Weather on the Glass)
  - Description
    - ONERA/POOA Schedule
    - Spring 2013
    - Benefits
    - Increased situation awareness
    - Enhanced understanding of geographic relationships
    - Between reporting traffic and forecast
    - Thunderstorms Shortfalls
  - Manual impact calculation
  - Manual solution development

**PHASE 2 (LEVEL 3)**
- TBFM Weather Integration Phase 2 (Level 3 – Impact Indicators)
  - Description
    - Individual flight and size impact on TBFM
    - Changes in controller decision data blocks via “exigent” indicators
  - Proposed Schedule: Mid-term (2015-2018)
  - Benefits
    - Automatic impact calculation
    - Shortfalls
  - Manual solution development

**PHASE 3 (LEVEL 4)**
- TBFM Weather Integration Phase 3 (Level 4 – Full DST functionality) (Correction)
  - Description
    - Decision Support System
    - Proposed Schedule
    - Far-term (2019+)
  - Benefits
    - Automated optimized solution recommendations

**NEXT STEPS**
- Transition from current Coordination Draft status
- Sign off by FAA TBFM Program Office
- Integration of key concepts into TBFM CONOPS
- Creation of associated Functional Analysis (Coordination Draft delivered to FAA late November, 2011)
- Creation of associated Functional Requirements document (Coordination Draft to be delivered to FAA this week)
- Creation of Initial Weather Performance Requirements and Weather Shortfalls documents
- Cognitive Walk Through of TBFM with Integrated Weather with subject matter experts (SMEs)

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