National Aeronautics and Space Administration

Traffic Flow Management Wrap-up

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Key Findings from 2010

- San Francisco Stratus research
  - Objective was to simultaneously consider weather modeling, traffic flow modeling, and operational practices
  - NASA developed vision, problem statement, and selected NRA
- Analysis complete: shows promise to save $4.8M/year ($9.6M with line of flight consideration) and 19% reduction in delayed flights (1092 hours/year)
- Stand alone, web-based decision aid was created and can be accessed through NWS website (provided to NWS and FAA)
- Operational shadow assessment being planned with the FAA for the 2011 stratus season

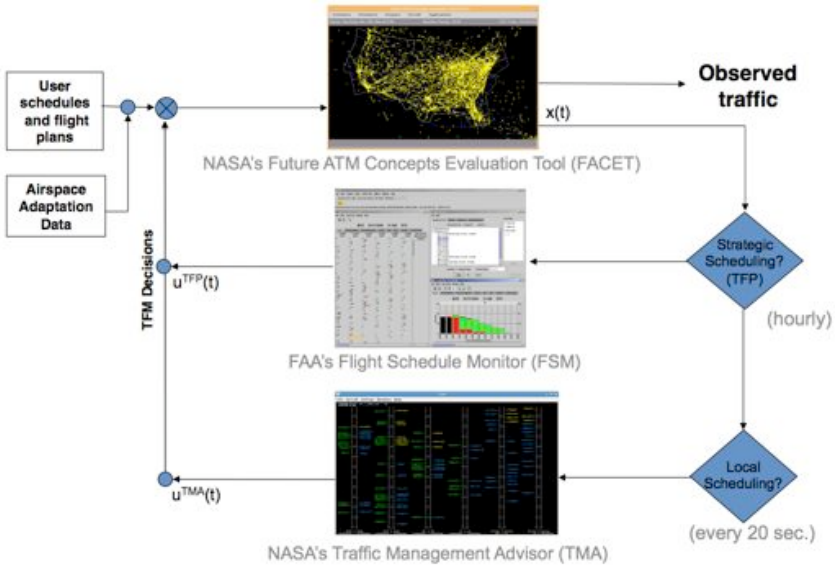
Key Findings from 2010

- Optimization-based scheduling models can reduce NAS delays by over 40% compared to current operations
- Weather information must be translated, not simply displayed, to achieve maximum benefits
- Failure to consider the integrated impact of traffic management initiatives can lead to over 50% of flights being "double delayed", as commonly occurs in current day operations (DFW and ATL Case Studies)

Integration Opportunities

What are the most important TFM integration opportunities to pursue?

- Weather Integration
  - Integration with existing FAA Decision Support Tools
  - Integration with NASA simulation systems (e.g., FACET)
- TFM + Arrival Scheduling
- TFM + DAC
- Others?



Future Research Actives

High Technical Readiness Level Activities:

• Are there HITLs that we should consider running?

• Are there opportunities for operational engineering or shadow assessments?

Low Technical Readiness Level Activities:

- Weather translation models
- Environmental impact modeling
- Scheduling and routing
- Flight prioritization techniques