

C/AFT
Operational Enhancement Integration
Analysis Focus Group

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Agenda

- Welcome and Introductions, Dave Jones
- Discussion of goals and terms of reference, Dave and Russ Chew
- Status -- what has been already done?
 - FAA, CATS-I, TBD
 - Eurocontrol, Henk Hof
 - MITRE, Joe Sinnott
 - Boeing Alternatives Analysis, Kathleen Pirotte
- OEIA FG Process Proposal
- Work Breakdown Proposal
- Agree on Scope, Schedule, Actions
- Next Steps

Background

- C/AFT Terms of Reference very broad
 - Establish Problems
 - Achieve Consensus
 - Propose Solutions
- C/AFT Focus Groups created based on technologies
 - ATSP FG Metrics gave us tools to evaluate benefits
 - Evaluated specific solutions to achieve operational enhancements
 - Established C/AFT processes and models
- What is now needed is a process that recognizes that investment analysis must address multiple technologies (some competing and some complementary) and multiple integrated objectives.
- Development and implementation of this process will fully meet the original C/AFT Terms of Reference

OEIA FG

Goal

- Define and implement a process to develop an airline ROI-based evolution to the airspace system.

How we are proposing to approach the task -

- Utilize a two phased process, iterating where required
 - First Phase - Define the problem, categorize the solutions, and prototype the process
 - Second Phase - Develop a comprehensive mapping of solutions to problems that defines evolutions to air space system improvements based on perceived airline ROI
 - Will be a “build as you go” process - applying the prototype to the problem, testing the results, modifying the process ,etc....

Groundrules

- We are NOT defining/developing solutions
- We will not be performing simulations/studies -- will rely on existing industry activities.
- Add statement on safety
 - Kathleen to look through old C/AFT presentations to see what was said at the first meetings.

Proposed OEIA FG Process

Metrics

Define fundamental environment, scope, and assumptions

Constraints Model

Identify and define current and projected problems

STRATEGY TABLES

Evaluate interactions between problem solution

Transition Logic Diagrams

For each problem:

Identify and characterize candidate CNS/ATM operational enhancement solutions (populate database)

Populate and define

Alternatives Analysis/Database

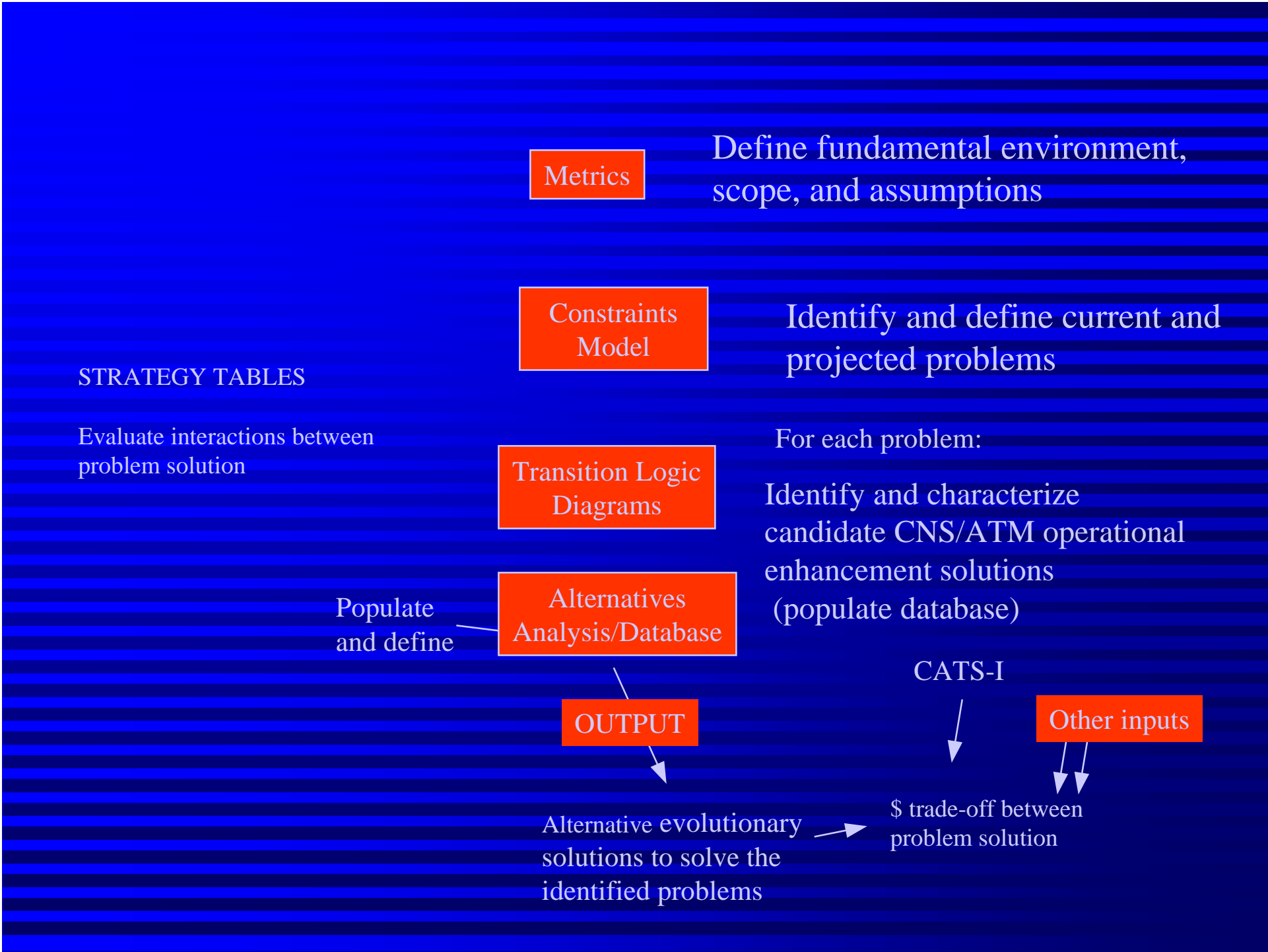
OUTPUT

Alternative evolutionary solutions to solve the identified problems

CATS-I

Other inputs

\$ trade-off between problem solution



Proposed Process

- Define fundamental environment, scope, and assumptions
 - Tool: C/AFT ATSP FG Metrics
- Identify and define current and projected problems, e.g. capacity and performance shortfalls
 - Tool: C/AFT Constraints Model
- Identify and characterize candidate CNS/ATM operational enhancement solutions (populate database)
 - Tool: C/AFT database and Transition Logic Diagrams
- For each problem identified in Bullet 2,
 - develop a set of prioritized operational enhancement goals (e.g. improve final approach throughput)
 - evaluate/rate each of the candidate operational enhancement solutions against the goals
 - Develop sets of enhancement steps to relieve the constraint.
 - Tool: C/AFT OEIA Process
- Evaluate interactions between problem solutions
 - Tool: TBD

OEIA FG Analysis

Ground Rules, Approach,
Work Breakdown, Issues

OEIA Phase One Tasks

- Set the base case assumptions - traffic growth, traffic mix (aircraft capability, RJ's), Hub v.s. point to point, baseline ATC environment, etc...
- Identify and prioritize the problems of the air space system from the airline perspective - what the heavy hitters that impact schedule integrity
- Develop a comprehensive list of enhancement alternatives (including augmenting current system with more resource, procedural changes, ground and air technology upgrades) and their attributes from FAA, Eurocontrol and others
- Prototype a Boeing developed process for mapping, valuing and prioritizing enhancements to air space system problems to validate its applicability for this task

How we propose to organize for First Phase

- Establish a steering group and three task teams
 - Steering Group charged with defining scope, assumptions and work programs for three task teams
 - Task Teams
 - Airline Schedule integrity problem definition team
 - Enhancement alternatives database population team
 - Process prototype and development team.

Phase One Work Breakdown and Schedule

- **Steering Group** - Define fundamental environment, scope, and assumptions
 - Team Members: Airline strategic operations
 - Completion Date: Before Melbourne (March 6th)
- **Airline Schedule integrity problem definition team.**
Define the problems
 - Team Members: airline operations
 - Completion Date: TBD
- **Enhancement alternatives database population team.**
Populate the database of existing candidate solutions
 - Team Members: all C/AFT organizations
 - Completion Date: TBD
- **Process prototype and development team.**
Test/refine/apply the model/process
 - Team Members: all C/AFT organizations
 - Completion Date: TBD

PHASE ONE Initial Timeline Proposal

For Discussion - Jan. 27 - 28

- Steering group set assumptions and tasks of teams - Target Completion - March 6 Melbourne CAFT meeting
- Airline Schedule integrity problem definition team -
 - First meeting by April 1
 - First draft of problem definitions - July 1
 - Second draft of problem definitions - Oct 1
- Enhancement alternatives database population team
 - First meeting by March 1
 - First draft of enhancement database - July 1
 - Second draft of enhancement database - Oct..... 1
- Process prototype and development team
 - First meeting by March 1
 - Complete review of Boeing process - July 1
 - Prototype Boeing process - Oct..... 1

Phase Two

- Utilize “the process” to develop enhancement evolution scenarios that contribute NPV to solve the problems defined by Airline Schedule integrity problem definition team;
 - Work under the assumptions provided by the Steering Group
 - Team Members: all C/AFT organizations
 - Start date - Fourth quarter 2000?
 - First iteration deliverable - ? Goal - what resources can we assume?
 - Work complete in 18 months?

Issues

- What is our end-product?
- Who is our customer/audience?
- Do we include only capacity and performance shortfalls?
 - Service providers: More mundane, but critically important infrastructure replacement needs
 - Carriers: other competing capital needs
- Do we make any specific assumptions about service provider budgets?
- What level of effort will be required to carry this off? (A lot.) Do we have it available? From whom?

OEIA

■ Where are we?

- Starting assumptions
 - Need to establish airline perception of today's problems
 - Will need to address common problems as well as region specific problems.
 - Proposed action - Dave Jones/Russ Chew solicit airline participation in the Airline "problem" definition team. (Need to have US, European and Pacific Oceanic considerations)
 - Joe Sinnott will be point of contact to bring Mitre resource to the group.
 - Mike Burski AND-370 will be involved.
 - Jady Handal AOP 200 - Operational Impacts of infrastructure
 - Two European participants - Steve Zerkowitz IATA and Vincent deVroey, AEA
 - Boeing will host the activity

Steps to define Airline problems

- Process of defining the airline problem
 - To build an airline industry consensus you need to develop a process that will gain airline company consensus vs one individual's perception
 - Proposal for initial team - develop a structured set of questions to take to specified organizations /individuals in each airline participant.
- Summary of discussion on how to approach this problem
 - Assess the current airline environment (airline questionnaire)
 - 2002 - 2003 timeframe: evaluating the airline scheduling demand against airspace system capability
 - 2005: evaluate airline scheduling demand against performance gains projected with planned airspace improvements
 - We agree that we need to look beyond 2005. The method for doing this needs to be discussed in future meetings.
- Proposed Completion Date: October 2000
- Next Meeting Date and Location
 - 2nd half of March, 1 1/2 days,

Deliverables for Melbourne, March 7th

■ Results of Steering Group

- “sales document” -- what we are doing and how we will do it.
Message: “we will be developing airline operational assessment against which we will evaluate operational enhancements”
- Options for next meeting: February 7-18 (1 1/2 day meeting), Seattle or Wash DC. Kathleen will coordinate.

■ Airline Problem Questionnaire

- Dave Jones will work with Boeing to develop first draft early-mid February, coordination via e-mail
- Kathleen will coordinate with IATA/ATA to disseminate questionnaire
- from where you sit within your airline, what do you see as biggest obstacle to maintain schedule integrity
- how do you see these problems changing over the next 3-5-10 years.

Schedule/Next Steps

- Steering group meeting in February
- Melbourne all-airline March 7th
- Airline problem team meeting late March
- Issues for Steering Group to discuss
 - What teams should do and in what order:
 - Team to refine/exercise the process
 - Database development / populating team
 - Kathleen to establish contacts between FAA, Eurocontrol, and Boeing database people.
 - What does success look like