

# FAA Enterprise Architecture

Lessons Learned from a Federal  
Business Transformation Effort

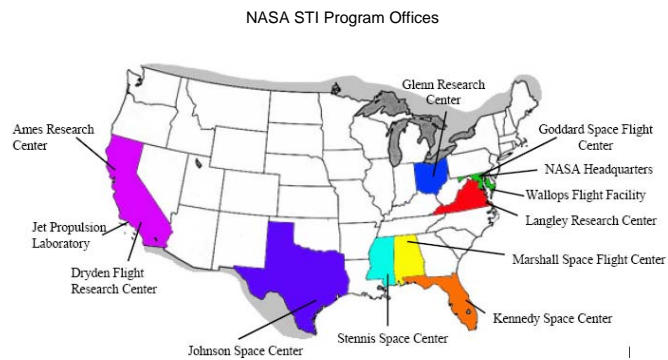
NASA STI Reinvention

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*All viewpoints expressed in this presentation are entirely my own and do not represent the official position of the FAA or any other organization mentioned.*

## Context: NASA Scientific and Technical Information Facility (STIF) in the 1990's

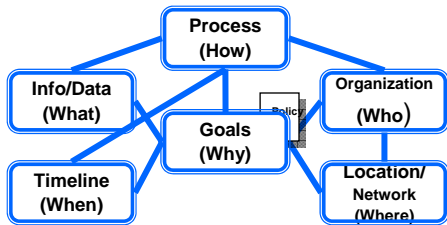


- ▶ Organization perceived as stiff and slow to respond to changing needs of aerospace community.
- ▶ New STI management initiates a reinvention effort.
- ▶ Served as contractor lead for the reinvention effort.

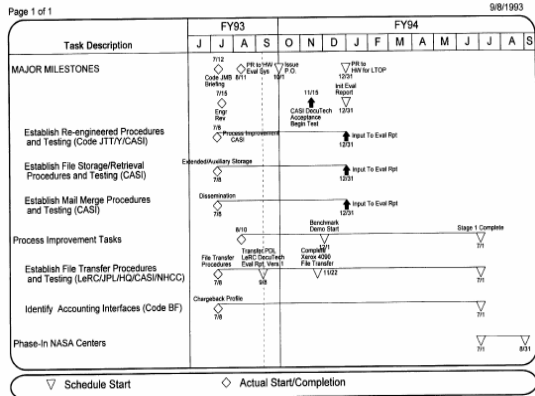
- ▶ Provide integral support to the objectives of NASA missions
- ▶ Provide access to the Scientific and Technical Information produced by NASA and the world's aerospace community
- ▶ Reduce research duplication, increase productivity, and accelerate scientific progress
- ▶ Acquire, process, disseminate, and preserve a world-class collection of STI, maintained in the NASA Aeronautics and Space Database

## Context: Reinvention Approach

- ▶ Our approach emphasized models of every major business process with inter-relationships and relationships to data, applications, and technology solutions.



### NASA - WIDE ELECTRONIC PUBLISHING SYSTEM EVALUATION AND IMPLEMENTATION TASKS HQ/CASI/LERC/JPL



## What Worked to Make the Reinvention Effort Successful

- ▶ **Compelling Business Drivers**
- ▶ **Top Management Support**
- ▶ **Information is the Business...**
- ▶ **Renaming the STIF to the Center for Aerospace Information (CASI)**
- ▶ **Doing Business Process Re-engineering First**
- ▶ **Shared Modernization Vision**
- ▶ **Clear Goals**



## What Worked Continued

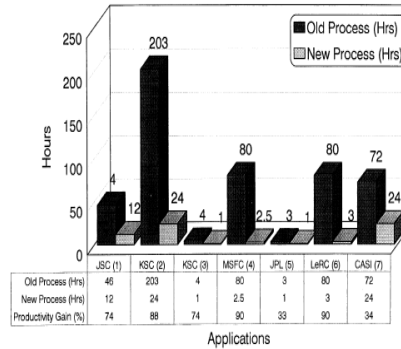
- ▶ **Use of Enterprise Architecture Techniques Borrowed from Zachman**
- ▶ **Feasible Implementation Using Phased Approach with Evolutionary Development and Transformation over 5 Year Time Span**
- ▶ **Creation of Review Boards to Ensure Movement Toward Target**
- ▶ **Established New Business Processes to Facilitate New Way of Doing Business**
  - **A Life Cycle Process Requiring Appropriate Documentation including Program Goals Mapping and Approvals**
  - **Heavy Emphasis on Communications**
- ▶ **Continued Funding Availability**



## Reinvention Results

- ▶ **Reduced Average Turnaround Time from 2 Weeks to 3 Days**
- ▶ **Created Key New Products and Services Providing Additional Value to NASA, the Aerospace Community and the General Public**
  - NASA Images and Videos
  - Digitized National Advisory Committee for Aeronautics (NACA) Seminal Research Collection
  - NASA Electronic Publishing System
  - Many Others (RECON, STI Translation Services etc)

### NASA - ELECTRONIC PUBLISHING SYSTEM Productivity Improvements



- Applications:
1. NASA Blue Book
  2. Facilities Control Book
  3. Analysis Reports
  4. SSL Preprints
  5. GPO Contract Maint System
  6. Visitor Center Program Brochure
  7. Tech Support Packages



## What Didn't Work or Could Have Worked Better

- ▶ **Some Long-Term Staff Members Aggressively Resisted Change**
- ▶ **New Jobs and New Technologies Presented Challenges**
- ▶ **Some Longer than Desirable Periods of Parallel Systems**
- ▶ **Organizational Restructuring Resulted in Loss of Contractor Support Jobs**
- ▶ **Although ROI was Key to Acquiring Funds, it was not Adequately Tracked After the Fact**
- ▶ **More Involvement from Impacted NGO's such as American Institute of Aeronautics and Astronautics (AIAA)**

