

# **FAA Data Management Program**

**An Overview**  
**March 31, 2005**

**Office of the Chief Information Officer**  
**Information Management Division**



# Why Data Management & What Is It



# Why Data Management

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## Recent Studies & Events:

- **1995 Data Redundancy Est. Cost: \$25K per occurrence**
- **1995 #1 Risk to data warehouse projects: *poor data quality***
- **1998 74% of IT projects hit project overruns/failures, Cost: \$100 Billion**
- **1999 15,000 data migrations projects started, budgets over \$3million: Est. cost - \$95 Billion – 88% Expected to fail**
- **September 11, 2001 – Information voids: *Loss of life, property & security***
- **February 1, 2003 – Space Shuttle Columbia: *LOCV***

# Why Data Management

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## Primary Reasons:

- 1. Lack of understanding source data**
- 2. Lack of understanding business needs**
- 3. Lack of understanding source data quality**

# What is Data Management

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## Objective:

**Facilitate High Quality Information That Consistently Meets or Exceeds the Needs of the Business**

- **Get the Right Information**
- **To the Right People**
- **At the Right Time**

# What is Data Management

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**Systematic approach to maintaining an organization's data assets to ensure the timely conveyance of data throughout the enterprise through:**

- **Data Standards**
- **Data Quality**
- **Data Stewardship**

# What is Data Management

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## Data Standards involve:

- **Clear, concise definition and representation of data within a given context**
- **Publishing and maintaining accurate information specifications (metadata), including registration and certification**
- **Accurate classification of data sensitivity and data quality measures**

# What is Data Management

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## Data Quality as measured in:

- **Reliability** – the degree to which processed and stored data meet the information requirements of the business
- **Accuracy** – the degree to which processed and stored data reflects the true condition of the business
- **Security** – the degree to which processed and stored data is safeguarded in terms of confidentiality, integrity and availability
- **Remediation** – the degree to which processed and stored data achieves thresholds of acceptability

# What is Data Management

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**Stewardship is ... the recognition that all individual components of an enterprise serve to ensure the future of the total organization.**

**Data Stewardship is ..... the willingness to be accountable for a set of business information for the well being of the larger organization ...**

*... Larry P. English, *Improving Data Warehouse and Business Information Quality*, 1999*

# What is Data Management

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## Information / Data Stewardship to:

- **Ensure the completeness, accuracy, and security of data standards in areas of responsibility**
- **Actively promote the timely conveyance of data throughout the enterprise**
- **Understand and validate the enterprise information architecture**
- **Represent all business areas on a stewardship council and work together for the welfare of the enterprise**

# FAA Data Management Program



# FAA Data Management Program - Goals

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- **Promote FAA data as a sharable corporate resource**
- **Improve data quality, reliability and security**
- **Resolve data inconsistencies and redundancies**
- **Reduce translation / transformation requirements**
- **Reduce development and maintenance costs.**

# FAA Data Management Program - Principles

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- In view of the critical nature of FAA's mission, the quality and reliability of its information and information systems is of the utmost importance. Data are the fundamental components of information and are considered critical resources.
- In order to ensure the quality and reliability of the data resources, data must be understood by all areas requiring it.
- Data must be consistently represented or standardized to support uniform identification, definition, classification, management, and interchange of data elements and other data concepts.
- The focus of data management is on the sharing data throughout FAA, the DOT, the federal government, the international aviation community, and the public.

# FAA Data Management Program - Components

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- **FAA Order 1375.1** – Data Management – establish agency wide program and requirements
- **Process** – Data standardization and governance (configuration controlled through the NIAC, NAS CCB)
- **Tools and Resources:**
  - **FAA Data Registry (FDR) – ISO/IEC 11179**
  - **Data Architecture**
  - **Enterprise Architecture**

# FAA Data Management Program - Agency-wide Work

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- **Total Data Standardized:** 130 +/- data elements related to Aircraft, Airport, Radar, Weather, Various Adaptation Data, includes 35 international data standards
- **Currently In Development & Evaluation:** 138 +/- in must eval; 650 +/- in development
- **Collaboration:** with major IT program managers to incorporate existing standards and develop new data standards; i.e., SASO, ERAM, AVS Safety Mgt System, HAZMAT (Department-wide)

# FAA Data Management Program - International and Interagency Leadership

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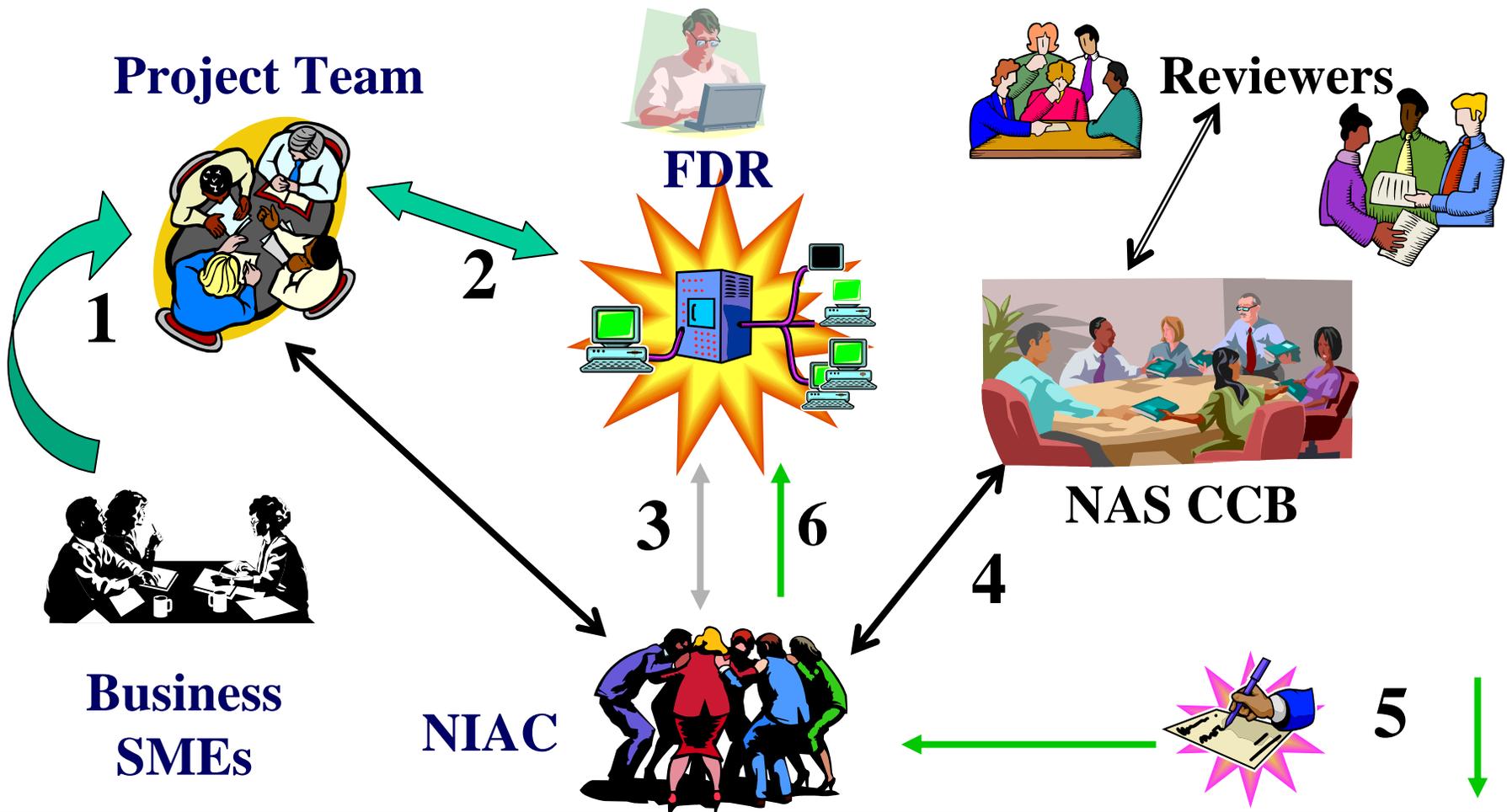
- **CAST/ICAO Common Taxonomy Team (CICTT)**
  - establish common language to share aviation safety data
- **EuroControl** - establishing standards for sharing operational air traffic data (AIXM / AICM)
- **Federal Enterprise Architecture** – federal government wide business, process, technical, service and data reference models
- **Federal Metadata Management Consortium** – 35+ federal agencies to collaborate in data standards & data management practices

# FAA Data Management Program – Policies & Procedures

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- **FAA Order 1375.1C – Data Management Policy**
- **FAA STD-060 Rev. B – Data Standards for the NAS**
- **FAA STD-025 Rev. E – Preparing Interface Documents**
- **NAS Information Architecture Committee (NIAC) Charter**
- **NIAC Operating Procedures**
- **NAS Standardization Procedures Version 2**

# FAA Data Management Program – Data Standardization Process



# Food for Thought ....

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**Quality is never an accident; it is always the result of high intention, intelligent direction and skillful execution. It represents the wisest choice of many alternatives.**

..... Will Foster

**Combine ISO 9000** with other standards for better results.

..... S. Mingay, Gartner

# **Thank You for Your Interest**

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