DATA MANAGEMENT STRATEGIC PLAN

Implementing Sound Practices for Managing Service Center Data Resources

February 25, 1998

What is Data Management?

A Managerial Function Which Focuses Data Assets on Meeting Program Delivery Goals

It is the discipline of managing data. It encompasses a number of technical functions, standards, procedures, and tools which managers employ in managing business data.

Data Management is a Reflection of the Business Mission

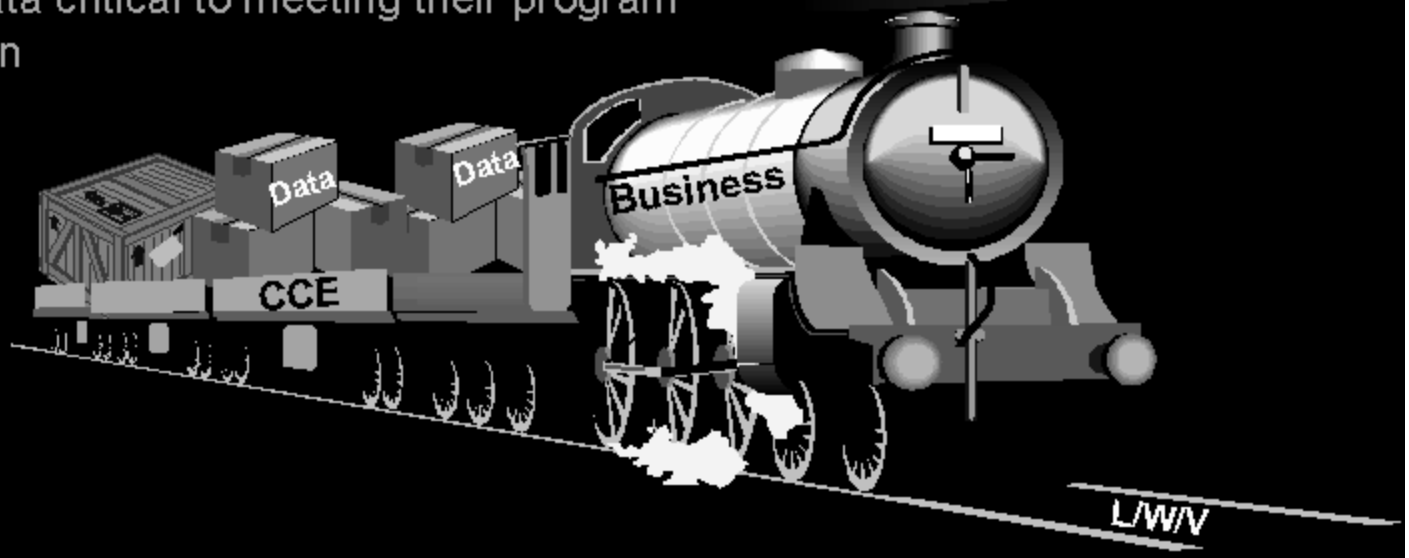
Agency missions define business goals and objectives which drive data requirements.

Data and Information requirements drive the supporting technical architecture.

Managing Data

is a Partnership Between Business and Information Technology

Business Managers collect, manage and use data critical to meeting their program mission



IT groups process, store and retrieve data; plan acquire, integrate, implement, support and maintain technology to manage and distribute information

Data is a USDA Asset

$59 Million - Digital Ortho
$30 Million - Digital Soils
$8 Billion - Natural Resource Data
900,000 loans - >$50 Billion outstanding balance

How do we manage this asset and protect our investment?

Data Management Goals….

are driven by business objectives which are being driven by changing customer demands

Federal Directives

- OMB Circular A-130
- USDA Regulations
- NSDI
- OMB Circular A-16
- Paperwork Reduction Acts of 1980 & 1995
- Computer Security Act of 1987
- GPRA

USDA SC Vision

- One-Stop Shopping
- Quality Customer Service
- Cost Reduction
- Partnership

Business Process Reengineering

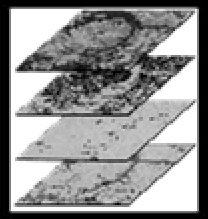
- Land
- GIS
- Customer
- Program
- Public & Customer Access

Factors Producing Change

- Business changes
- Changing clientele
- Customer expectations
- Greater trust in computerized data
- Increased mobility of data
- Data security issues
- Mainstreaming of hardware and software
- Growing respect for value of government data

Data Management Vision

A PARTNERSHIP BETWEEN BUSINESS LEADERS AND THE INFORMATION TECHNOLOGY COMMUNITY TO DELIVER



RIGHT INFORMATION

TO

RIGHT PEOPLE

AT

RIGHT PLACE AND TIME

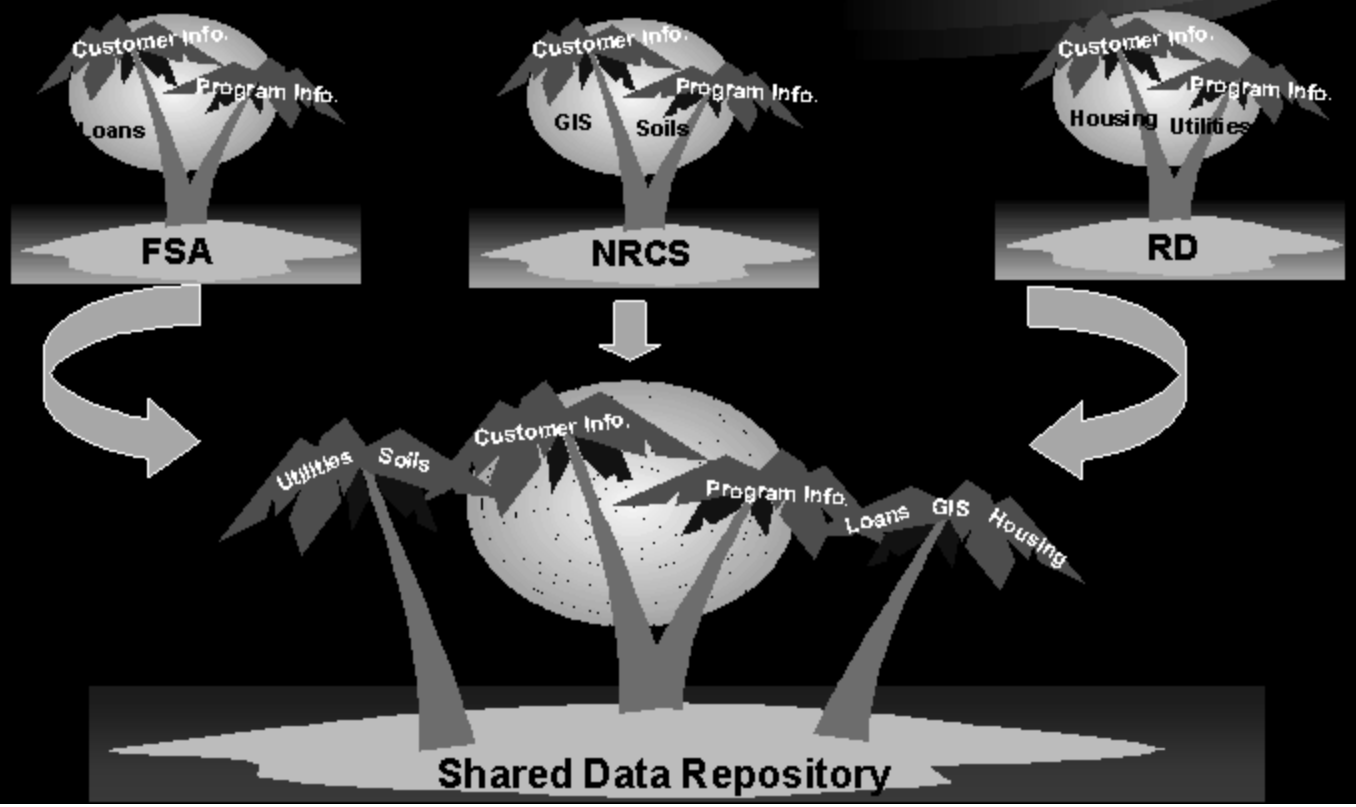
$ FOR THE RIGHT COST $

Data Management Goals

- Enhance Customer Service
- Make Data Available Where it is Needed
- Protect Agency Data Assets
- Improve the Effectiveness of Program Deliver
- Improve the Return on Investment in Data Collection

Missions Change - Data Endures

The current data management paradigm focuses on individual agency missions; not an integrated approach to serving a common customer base.



BPR Initiatives

- Effective *customer outreach* targeting under-served and rural communities
- *Timely* and *effective* program outreach by employees, enabling service *delivery* and information provided *directly to customers* at their locations as well as providing for customer access to information
- *Comprehensive* customer and program information *integrated* across agency and program lines
- Improved *access to information* provided to service center *employees*, *customers*, USDA *partners*, and the *public*
- *GIS* tools for acquiring, managing and using spatial data
- Streamlined *administrative processes* for travel, hiring, fleet management and directives

Implementation Approach

- Engineering Framework
- Modernization strategy, synchronization of business, data and technical environment
- Service Center Data Team
- Integration Center

ENTERPRISE ARCHITECTURE - A FRAMEWORK ™

	DATA *What*	FUNCTION *How*	NETWORK *Where*	PEOPLE *Who*	TIME *When*	MOTIVATION *Why*	
SCOPE (CONTEXTUAL) *Planner*	List of Things Important to the Business ENTITY - Class of Business Thing	List of Processes the Business Performs Function - Class of Business Process	List of Locations in which the Business Operates Node - Major Business Location	List of Organizations Important to the Business People - Major Organization	List of Events Significant to the Business Time - Major Business Event	List of Business Goals/Strat End/Means - Major Bus. Goal/ Critical Success Factor	SCOPE (CONTEXTUAL) *Planner*
ENTERPRISE MODEL (CONCEPTUAL) *Owner*	e.g. Semantic Model Ent - Business Entity Rele - Business Relationship	e.g. Business Process Model Proc - Business Process I/O - Business Resources	e.g. Logistics Network Node - Business Location Link - Business Linkage	e.g. Work Flow Model People - Organization Unit Work - Work Product	e.g. Master Schedule Time - Business Event Cycle - Business Cycle	e.g. Business Plan End - Business Objective Means - Business Strategy	ENTERPRISE MODEL (CONCEPTUAL) *Owner*
SYSTEM MODEL (LOGICAL) *Designer*	e.g. Logical Data Model Ent - Data Entity Rele - Data Relationship	e.g. 'Application Architecture' Proc - Application Function I/O - User Views	e.g. 'Distributed System Architecture' Node - IS Function (Processor, Storage, etc) Link - Line Characteristics	e.g. Human Interface Architecture People - Role Work - Deliverable	e.g. Processing Structure Time - System Event Cycle - Processing Cycle	e.g., Business Rule Model End - Structural Assertion Means - Action Assertion	SYSTEM MODEL (LOGICAL) *Designer*
TECHNOLOGY MODEL (PHYSICAL) *Builder*	e.g. Physical Data Model Ent - Segment/Table/etc Rele - Pointer/Key/etc	e.g. 'System Design' Proc - Computer Function I/O - Screen/Device Formats	e.g. 'System Architecture' Node - Hardware/System Software Link - Line Specifications	e.g. Presentation Architecture People - Usr Work - Screen Format	e.g. Control Structure Time - Execute Cycle - Component Cycle	e.g. Rule Design End - Condition Means - Action	TECHNOLOGY CONSTRAINED MODEL (PHYSICAL) *Builder*
DETAILED REPRESENTATIONS (OUT-OF-CONTEXT) *Sub-Contractor*	e.g. Data Definition Ent - Field Rele - Address	e.g. 'Program' Proc - Language Stmt I/O - Control Block	e.g. 'Network Architecture' Node - Addresses Link - Protocols	e.g. Security Architecture People - Identity Work - Job	e.g. Timing Definition Time - Interrupt Cycle - Machine Cycle	e.g. Rule Specification End - Sub-condition Means - Step	DETAILED REPRESENTATIONS (OUT-OF-CONTEXT) *Sub-Contractor*
FUNCTIONING ENTERPRISE	e.g. DATA	e.g. FUNCTION	e.g. NETWORK	e.g. ORGANIZATION	e.g. SCHEDULE	e.g. STRATEGY	FUNCTIONING ENTERPRISE

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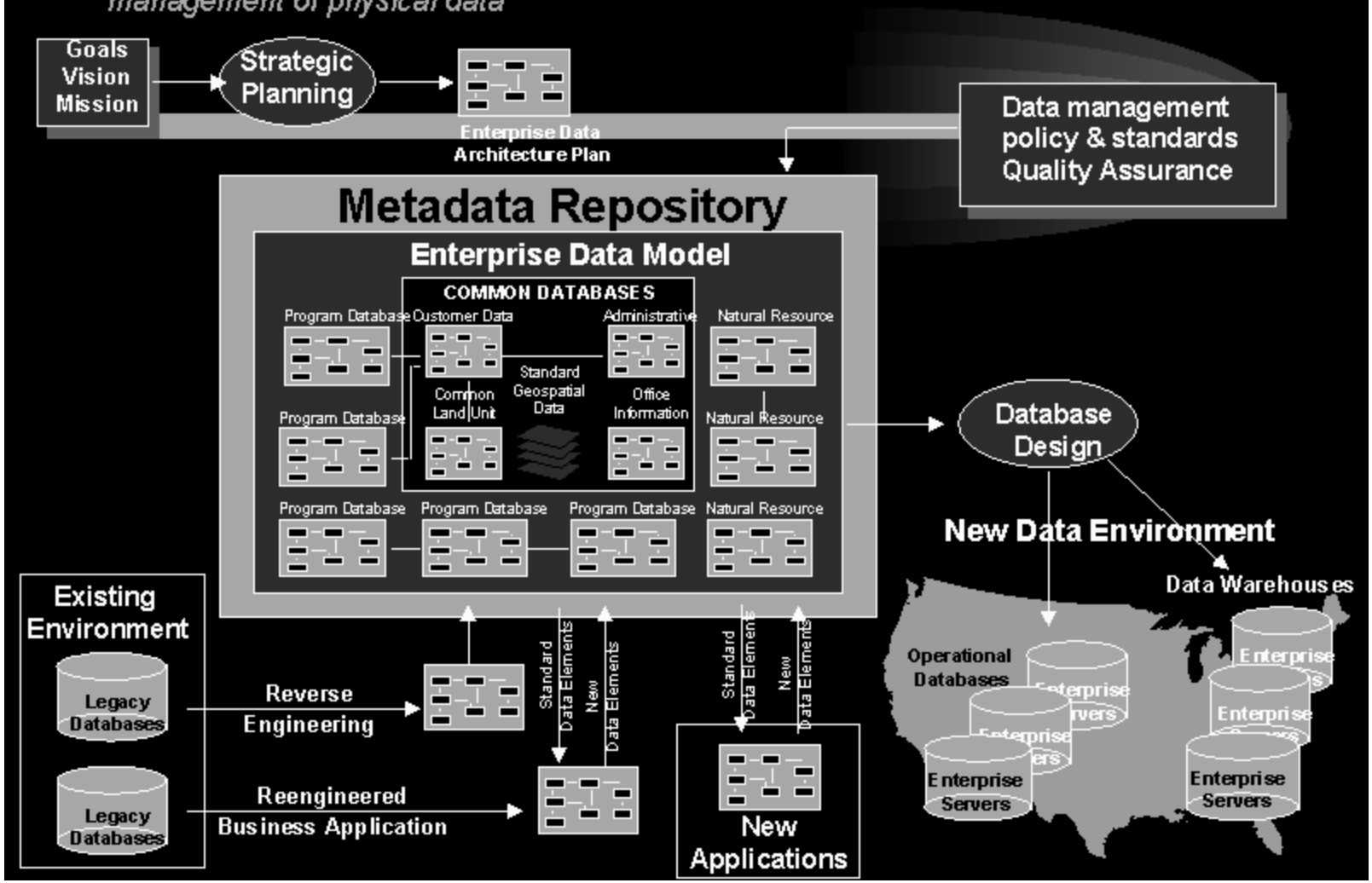
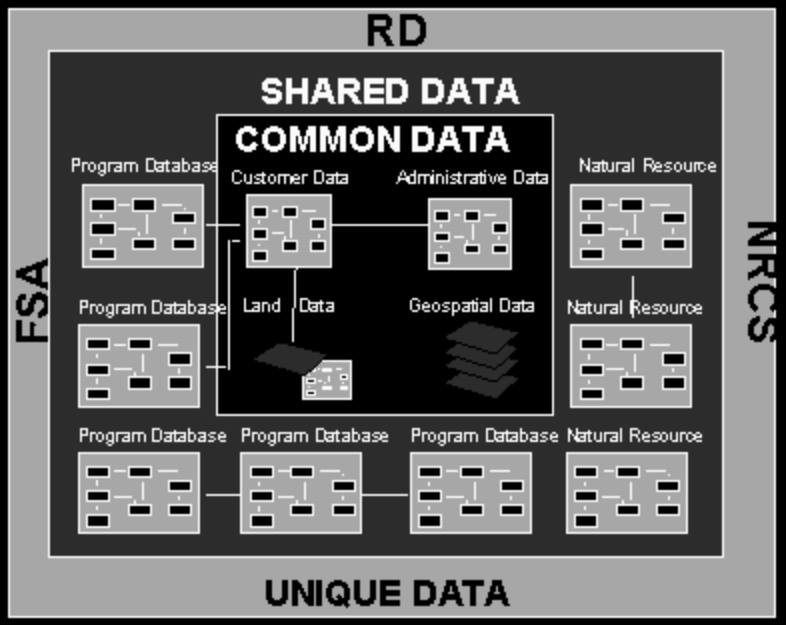
Service Center Data Management Model

The model emphasizes centralized management of data definition and decentralized data management of physical data



Service Center Enterprise Data



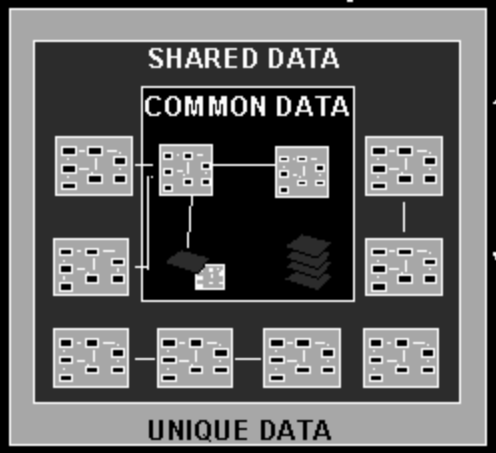
COMMON DATA
Data Jointly owned, used and managed by Service Center Partners

SHARED DATA
Data Owned and managed by a specific Partner but shared by other partners

UNIQUE DATA
Data owned and managed by a specific Partner and not shared

Service Center Data Administration Plan

Service Center Enterprise Data



- **Strategic Plan**
- **Data Management Policies and Standards**
- **Enterprise Data Administration**
  - Data Administration standards and procedures
  - Data Administration tools (CASE)
  - Central Metadata Repository
  - Metadata Standards

Service Center Data Architecture

- **Enterprise Data Management Tools**
  - Data Base Management Systems
  - GIS
  - Other data management tools

New Database Environment

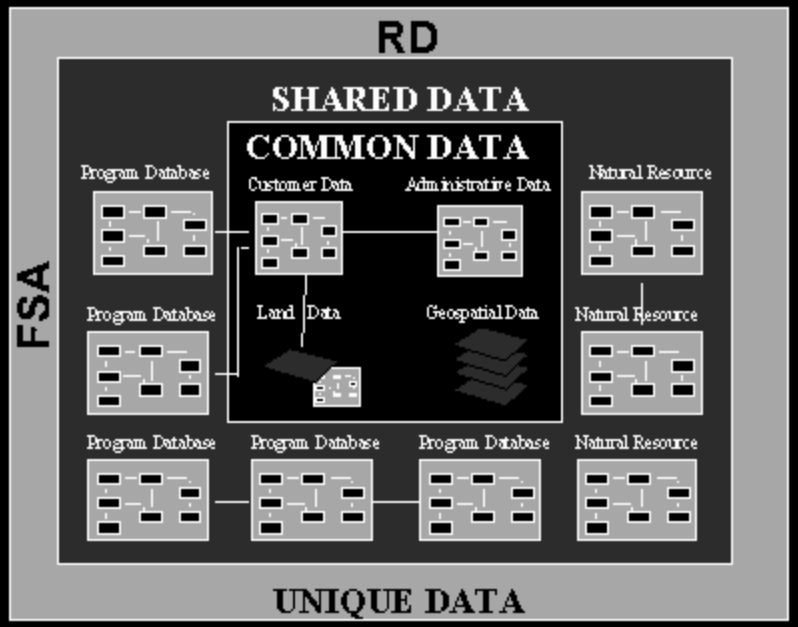
- **Enterprise Data Architecture**
  - Location, and distribution of the data throughout the system (Local, Servers, Mainframe)

- **Enterprise Data Warehouse Strategy**
  - Shared data warehouse tools and environments

- **Enterprise Database Administration**
  - Shared resources for managing physical database procedures and standards

Service Center Common Data

Service Center Enterprise Data

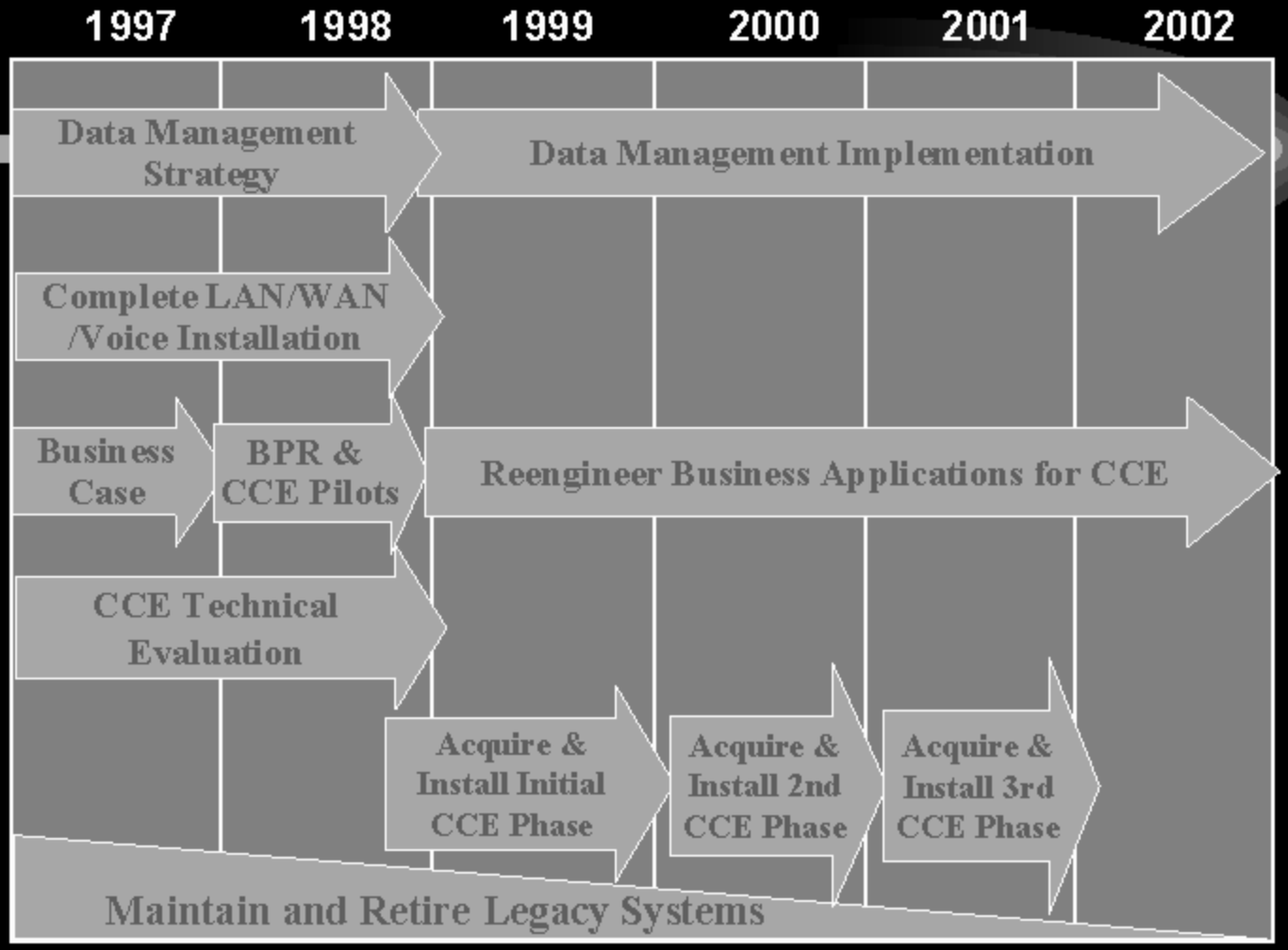


- Common Data
  - Customer
  - Land
  - Geospatial
  - Administrative

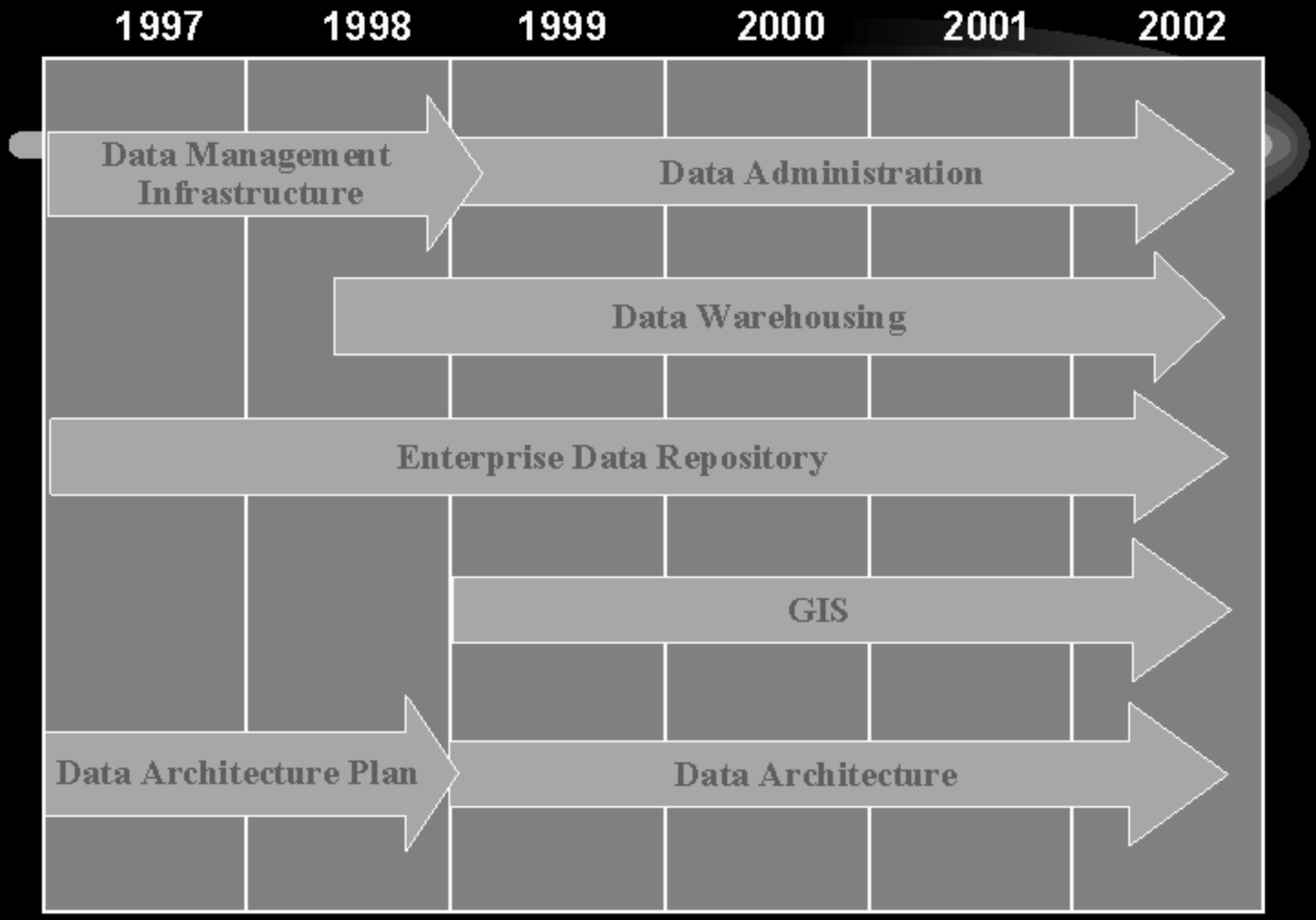
SCIT Data Team TWIGs

- Data Management/ Administration Policy
- Metadata Administration Tools Configuration
- Data Management Tools
- Data Architecture Plan
- Data Warehousing Strategies
- Data Administration/ Management Training
- Database Administration Process
- Geospatial Data Standards

USDA Service Center
Shared Information System Implementation



Data Management Implementation



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Thank You