Soil Data Warehouse

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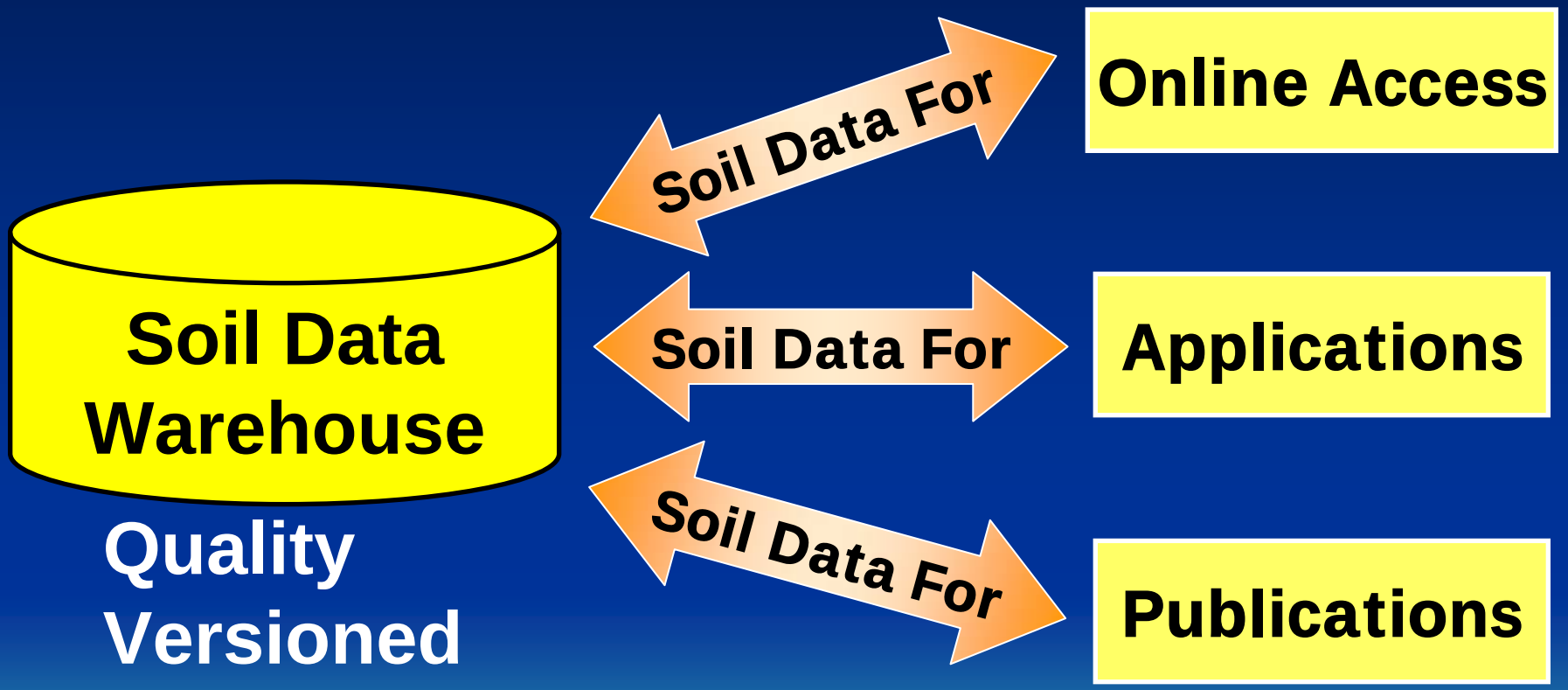
Outline of Presentation

- Soil Data Warehouse Objectives
- Soil Data Warehouse Components
- SDW Phased Implementation & Timeline
- Geospatial Data Warehouse & the Soil Data Warehouse

SDW Objectives

- A single source of current official soil survey data of high quality that meets USDA national program responsibilities.
- Access to current and previous versions of official soil survey data.
- Products that meet customer needs.
- Customer access for selecting, interpreting, reporting and downloading soil survey data and information.

Soil Data Warehouse Concepts



Quality
Versioned
Metadata

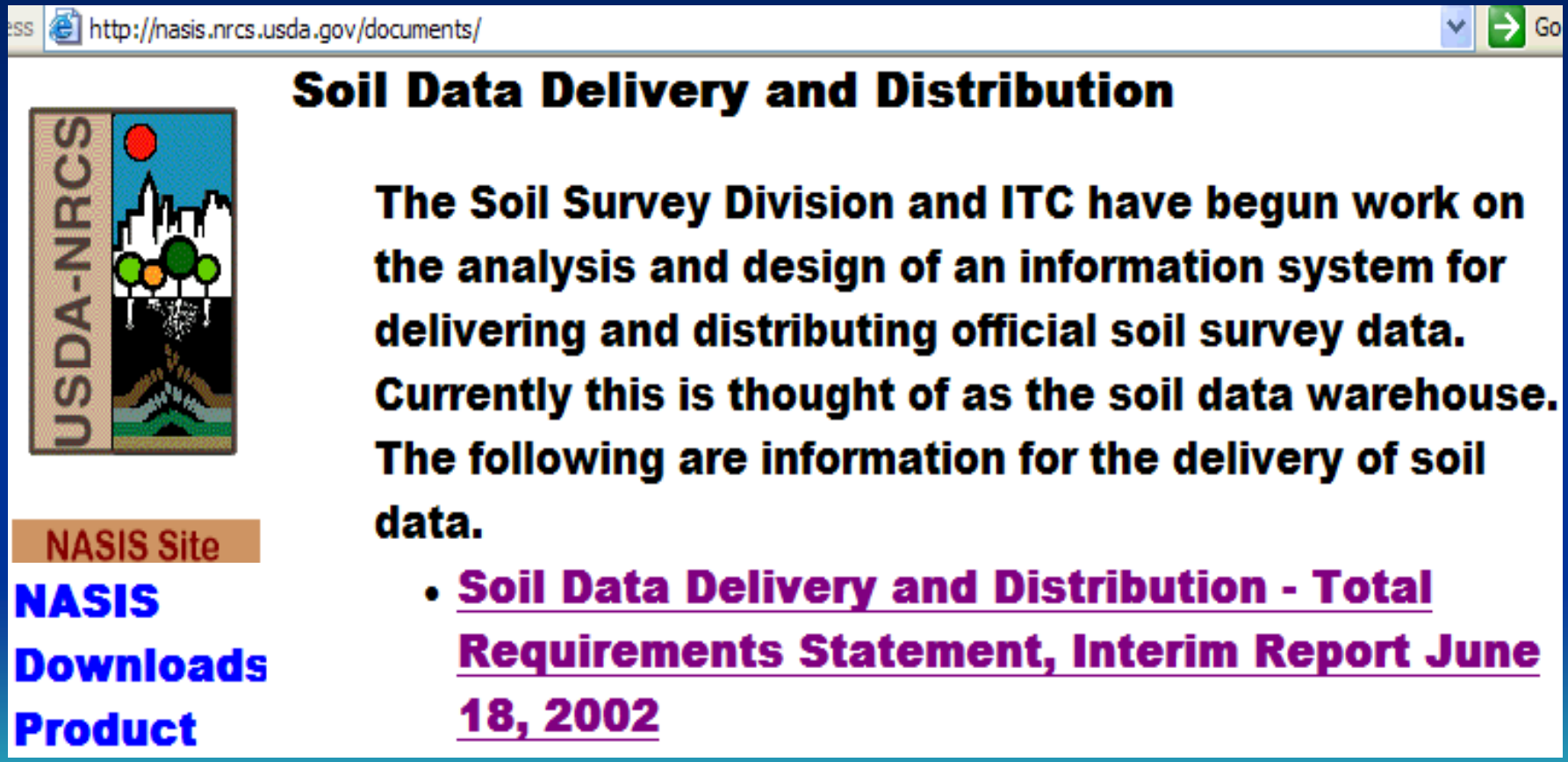
SDW Objectives

- Informational materials explaining the National Cooperative Soil Survey procedures, standards and technical references.
- Supporting soil survey data such as pedon descriptions, laboratory characterization, and photographic and graphic images.
- Metadata and other information about the soil survey products.

Soil Data Warehouse Components

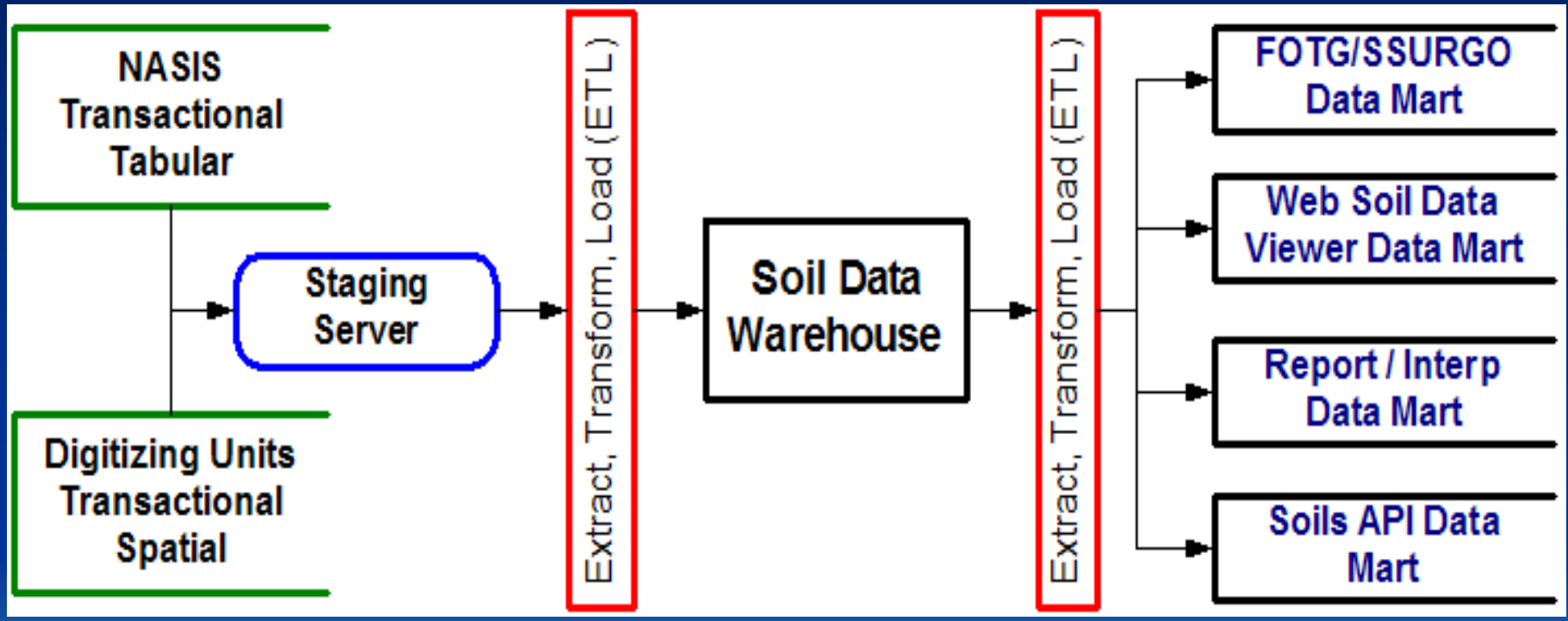
- Business Analysis & Requirements for Soil Data Delivery and Distribution
- Basic design includes a:
  - staging server,
  - warehouse database,
  - and various data marts
- Other components include:
  - Web Soil Data Viewer
  - Online reports & interpretations
  - Custom Exports
  - Soils API (application programming interface)

SDW Business Analysis & Requirements



http://nasis.nrcs.usda.gov/documents/

SDW Basic Design



SDW Phased Implementation

- First priority: primary warehouse functions and a soil data mart for SSURGO and the NRCS Field Office Technical Guide (eFOTG).
- 2nd priority: Web Soil Data Viewer Data Mart.
- Soil Reports and Interpretations Data Mart.
- Custom Export Data Mart.
- Soils Application Programming Interface (API) Data Mart.
- Soil Survey Publication Data Mart.

SDW Timeline

- Initial FOTG/SSURGO data mart up by August 2002.
- Initial Soil Data Warehouse up by November 2002.
- Fully functioning SDW and FOTG/SSURGO data mart by Winter 2003.
- Web Soil Data Viewer data mart by Spring 2003.

Web Soil Data Viewer - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites History

Address /lighthouse/websdv/SoilDataViewer.asp Go Links Soil Data Viewer Navigator http--lighthouse.nrcs.usda.gov-Logs-

Lighthouse USDA NRCS

Dec 8 | Fri

SOIL DATA VIEWER

home navigator about print help

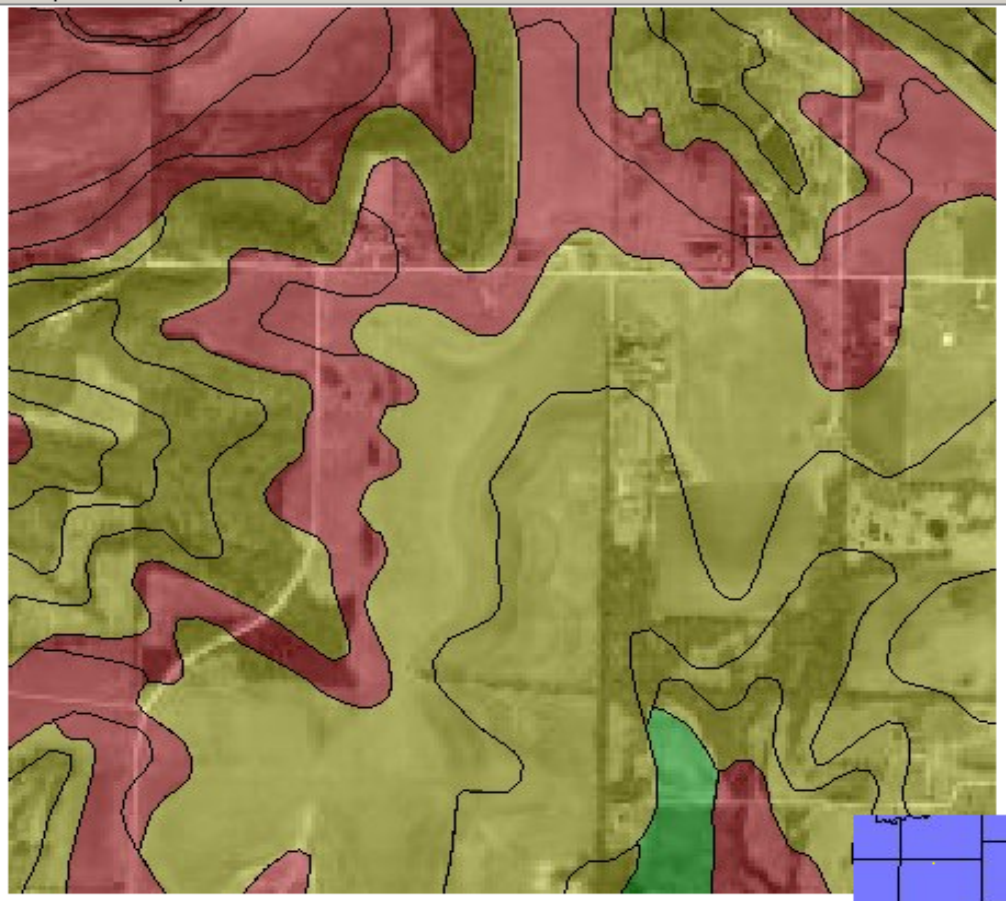
- Agriculture
- Building Site Deve
  - Dwellings W/O Ba
  - Dwellings With Ba
  - Lawn, Landscape
  - Local Roads and
  - Shallow Excavatio
  - Small Commercia
- Construction Mate
- Ecological Sites
- Forest Manageme
- Sanitary Facilities
- Soil Properties
- Waste Manageme

Description Options Report **Map**

Approx. map scale: 1 by 1 miles

Dwellings W/O Basements - Least Limiting

Legend
- Very limited
- Somewhat limited
- Not limited
- No Data



Done Internet

- Agriculture
- Building Site Developme
  - Dwellings W/O Basemer
  - Dwellings With Basemer
  - Lawn, Landscape, Golf F
  - Local Roads and Streets
  - Shallow Excavations
  - Small Commercial Buildi
- Construction Materials
- Ecological Sites
- Forest Management
- Sanitary Facilities
- Soil Properties
- Waste Management

Soil Survey: Linn and Miami
Distribution Date: 05/01/2000
State: Kansas

Map Symbol	Soil Name	Rating	Components
Ar	ARISBURG SILT LOAM, 1 TO 3 PERCENT SLOPES	Somewhat limited	Component - ARISBURG (85%) * Shrink-swell * Depth to saturated zone
Bu	BUCYRUS SILT LOAM, 1 TO 4 PERCENT SLOPES	Very limited	Component - WAGSTAFF (5%) * Shrink-swell * Depth to hard bedrock * Depth to saturated zone
Bv	BUCYRUS SILTY CLAY LOAM, 4 TO 8 PERCENT SLOPES	Very limited	Component - BUCYRUS (85%) * Shrink-swell
Cm	CLARESON-ROCK OUTCROP COMPLEX, 2 TO 15 PERCENT SLOPES	Somewhat limited	Component - LEBO (5%) * Shrink-swell * Slope
Ed	ERAM-SHIDLER SILTY CLAY LOAMS, 4 TO 8 PERCENT SLOPES	Somewhat limited	Component - LEBO (5%) * Shrink-swell
Nh	NEWTONIA SILT LOAM, 4 TO 8 PERCENT SLOPES	Somewhat limited	Component - NEWTONIA (100%) * Shrink-swell
	OSAGE SILTY CLAY, OCCASIONALLY		Component - OSAGE (100%) * Flooding

Geospatial Data Warehouse & the SDW

- Infrastructure funding available through the Service Center Agencies (NRCS, FSA, RD) Data Management Initiative.
- Ongoing six month Pilot project to develop and validate the technical architecture.
- Soils data is included in the Pilot phase.
- Driving forces for the GDW are business continuance and disaster recovery.

Data Directory Services (Metadata)

Operational Data Sources

- NASIS
- SCIMS
- MDOQ Production
- Soils Digitizing
- Plants
- Wetland Easements
- State/Local Public Data

ETL

External Data Sources

ETL

Spatial Data Integration Warehouses

Primary Source
Secondary Source

APFO Spatial Data Warehouse

Cadastral/PLS
Census
Hydrography
Hydrologic Units
Imagery
Map Indexes
Ortho Imagery
Ownership
Topographic Images
Transportation
Wetlands
NRI

Replication

NCGC Spatial Data Warehouse

Cadastral/PLS
Census
Climate
Hydrography
Hydrologic Units
Map Indexes
Ortho Imagery
Ownership
Plants
Soils
Topographic Images
Transportation
Wetlands
NRI

FSA-RS
Imagery

KCMO-WF
Common Land Unit

NWCC
Climate

STL-WF
Census

FC-WF
Plants
Program Data
Soils

ETL Update

Data Marts

- Farm Loans
- Conservation
- Disaster Assistance
- Commodities
- Resource Inventory & Assessment
- Rural Water & Waste Water
- Rural Housing
- External Data Marts

Data Access

Applications

Service Center

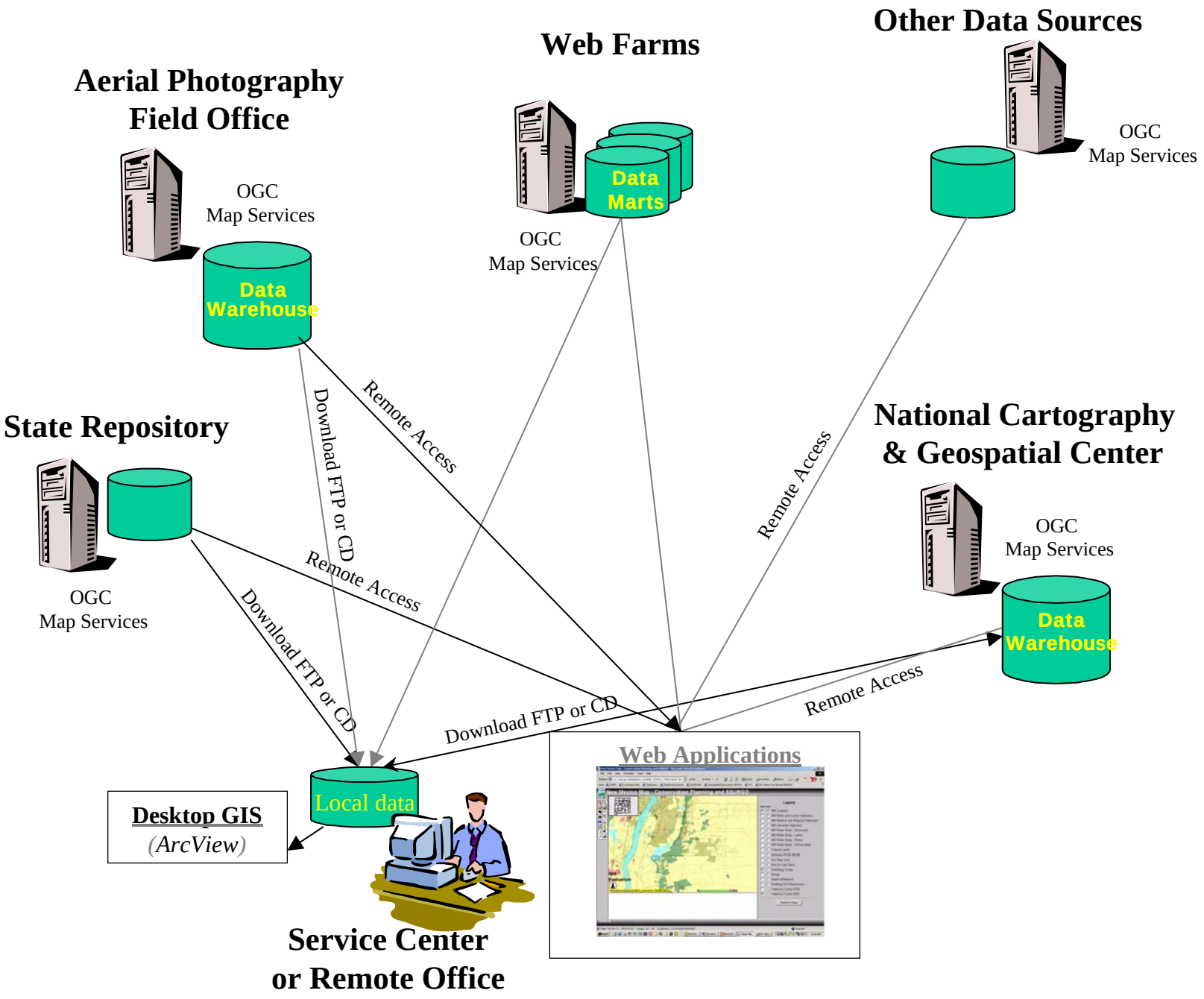
Field Support/Public

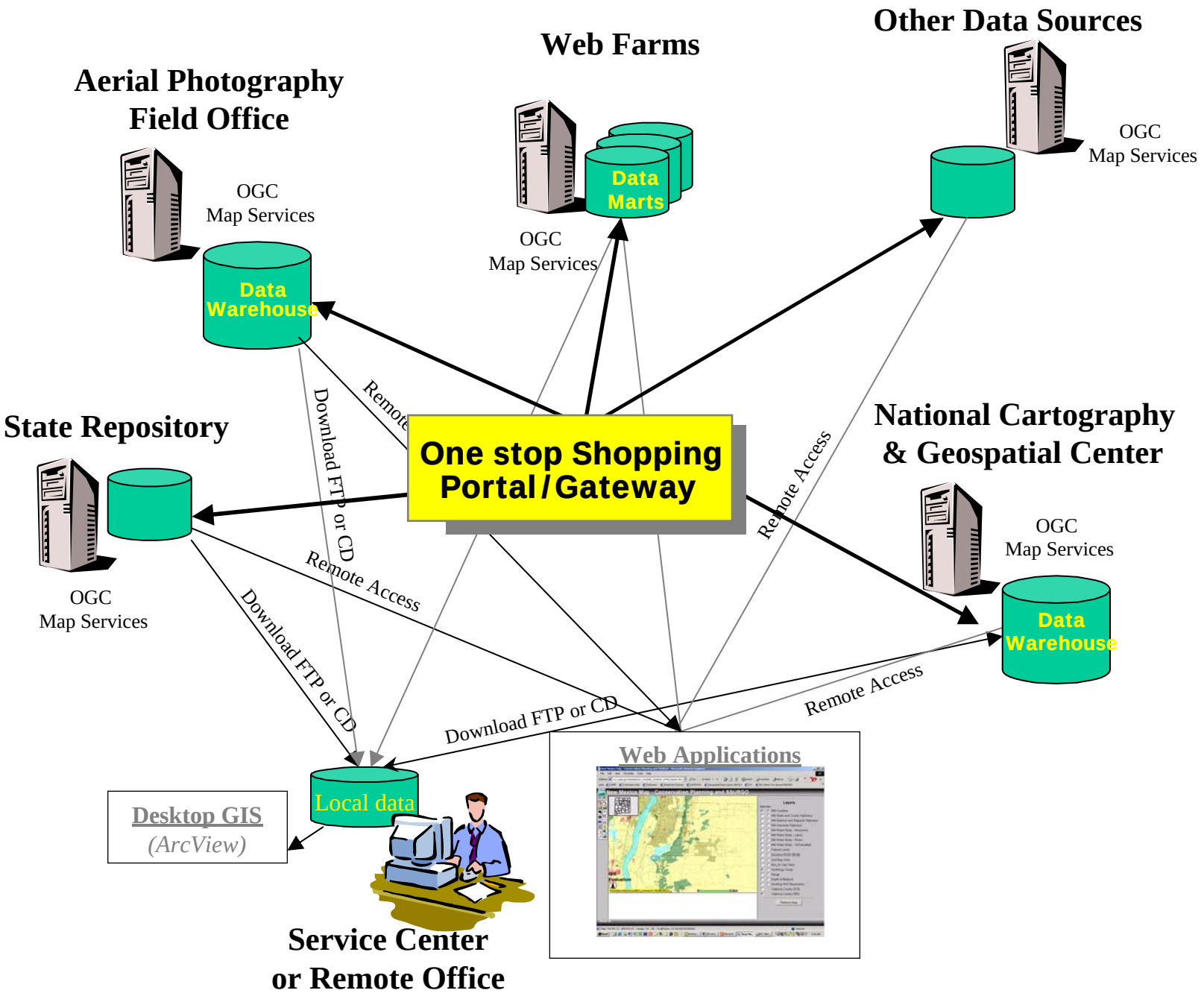
State Govt,, Partners

Fed. Govt., Partners

Geospatial Data Warehouse Pilot Project

- Pilot project runs from June to December 2002.
- Leverage existing production lines at the data centers in Salt Lake City (FSA's APFO) and Fort Worth (NRCS's NCGC).
- Move DOQ, DRG, and Soils data into warehouses at each data center.
- Populate data marts at the Web Farm in Fort Collins.
- Explore data replication, load balancing, and failover technologies.


Aerial Photography Field Office
OGC Map Services
Data Warehouse
Web Farms
Data Marts
OGC Map Services
Other Data Sources
OGC Map Services
State Repository
OGC Map Services
National Cartography & Geospatial Center
OGC Map Services
Data Warehouse
Remote Access
Download FTP or CD
Remote Access
Download FTP or CD
Remote Access
Download FTP or CD
Remote Access
Local data
Desktop GIS
(ArcView)
Web Applications
Service Center or Remote Office


Aerial Photography Field Office
OGC Map Services
Data Warehouse
Web Farms
Data Marts
OGC Map Services
Other Data Sources
OGC Map Services
State Repository
OGC Map Services
One stop Shopping Portal / Gateway
National Cartography & Geospatial Center
OGC Map Services
Data Warehouse
Download FTP or CD
Remote Access
Download FTP or CD
Remote Access
Download FTP or CD
Remote Access
Desktop GIS
(ArcView)
Local data
Web Applications
Service Center or Remote Office

Long-term Outlook

- Geospatial Data Warehouse task consists of a 5 year plan to implement the GDW technical architecture and provide ongoing O&M.
- Service Center Initiative funds the infrastructure.
- NRCS funds Soil Data Warehouse analysis and development.