

# adtc

## Advanced DataTools Corporation

# Building a Web-Enabled Data Warehouse

Report Catalog

- Customer Orders
- Customers
- FSA Baseline

Legend

- View Only
- View and Process
- Analyze
- Analyze and Process
- Query and Analyze

Query

Request (8) Limits (0) Sort (0)

Request Fiscal Year Fund Name Program Name Division Code Organization Code Organization Name Boc Name Dollar Amount

Fund

- Fund Code
- Budget Fy
- End Budget Fy
- Fund Sname
- Fund Name
- Treasury Symbol
- Fund Type
- Agency
- Agency Name
- Agency Loc. Code
- Fund Category
- Fund Class
- Fund Group
- Fund Category Na
- Fund Class Name

Program

- Program Code
- Budget Fy
- Program Sname
- Program Name
- Program Class
- Program Category
- Program Type
- Program Group

GJ Detail

- Line Action
- Document Type
- Acceptance Date
- Fiscal Quarter
- Fiscal Month
- End Budget Fy
- Vendor Id
- Vendor Address C
- Vendor Type
- Vendor Name
- Document Desc
- Line Desc
- Project Code
- Reporting Categori
- Ref Trans Code
- Ref Trans Num
- Ref Trans Cat
- Ref Trans Line
- Ref Trans Type
- Quantity
- Dollar Amount
- Debit Credit Code
- Acctg Entry Id
- Treasury Schedule
- Agency Schedule

Organization

- Organization Code
- Budget Fy
- Orgn Cd Grp
- Organization Snam
- Orgn Sname Grp
- Organization Name
- Division Code
- Level Indicator
- Allotment Org
- Reporting Org 1
- Reporting Org 2
- Reporting Org 3
- Division Name
- Allotment Name
- Reporting Name 1
- Reporting Name 2
- Reporting Name 3

Budget Object Cod

- Boc
- Budget Fy
- Boc Name
- Boc Class

----- List of Brio Adaptive Reports™ (resizable)

No Results Yet Combined View: 5 topics NEW LOGIN

**Advanced DataTools Corporation**

www.advanceddatatools.com

4216 Evergreen Lane, Suite 136

Annandale, VA 22003

(703) 256-0267 or (800) 807-6732

## **Company Profile**

Advanced DataTools Corporation is dedicated to providing database consulting services and training to support companies using database software and building data warehouses. Our current efforts are focused on web-enabled financial data warehouses based on the Federal Financial System (FFS). ADTC has over 20 years of relational database experience in designing and implementing systems, consulting, training, and support, and utilizes the latest tools to rapidly develop prototypes and completed systems. The company was founded in 1993 by Mr. Lester Knutsen, a Certified Database Professional and Certified Technical Trainer, and is a woman-owned small business.

### **Capabilities**

- Development on Microsoft Windows NT, 2000, and various UNIX platforms (experience with IBM AIX, HP, Sun, and SCO)
- Data warehouse design, development, data conversion, and performance tuning
- Web/database and web/data warehouse integration
- Management of database audits
- Construction of data redundancy and disaster recovery mechanisms for networked and OLTP databases
- Development of high volume financial reporting systems
- Development and performance of live tests and benchmarks of relational database software (experience with Informix, DB2, Oracle, Sybase, RDB and Ingres)

### **Development Services**

- Design and planning of strategic database systems using rapid development prototyping
- Database/data warehouse development, administration, and tuning
- Live tests and benchmarks of database software under anticipated system workloads
- Development and implementation of web-enabled database applications

### **Training Services**

- Customized database courses – DBA, development, and networking
- Customized Brio courses – installation through all levels
- Courses on UNIX programming project management
- Brio Technologies Consulting Partner

### **Support Services**

- Performance tuning of strategic database transaction processing systems
- Ongoing project support and database administration services
- Business-hours user support for database applications

## Customer Successes

Advanced DataTools Corporation (ADTC) provides design, development, and support services for the highly successful web-enabled data warehouses and database applications listed below.

### **U.S. Department of the Interior, Bureau of Land Management**

- the Management Information System (MIS) Data Warehouse for BLM's Budget and Fiscal Resources Division, and
- the Collection & Billing System.

### **U.S. Department of Agriculture (USDA), Farm Service Agency**

- the FSA Data Warehouse
- the CCC (Commodity Credit Corporation) Data Warehouse
- the Customer Information and SCOAP data mart, and
- the Foreign Program (GSM) data mart.

### **USDA Office of the Chief Financial Officer**

- Risk Management Agency
- Rural Development
- Animal Plant Health Inspection Service
- Food Safety and Inspection Service, and the
- Natural Resources Conservation Service.

For the **USDA Rural Development agency**, Advanced DataTools is providing consulting services for development of an Obligation data mart, and Sun server administration services.

For a **Fortune 50 financial services corporation**, ADTC managed a data warehouse project to audit and review over 113 million records from a four-year period. We supervised a team of subcontract developers and round-the-clock computer processing activities, and coordinated the presentation of information to senior management, lawyers, government officials, and auditors.

ADTC is also well known for its excellent technical training courses on database development and administration, Unix administration, SQL, and Brio. ADTC frequently conducts courses for the BLM's National Training Center in Phoenix, and has trained over 700 USDA agency staff on various Brio products: Designer, Explorer, Insight, and server administration.

## Data Warehouse Development Approach

Advanced DataTools' unique data warehouse development approach is based on years of successful work with many types of teams. **Our approach ensures that:**

- **Results are quickly demonstrated** in Phase 1 to facilitate refinement of the project plan and keep motivation high throughout the project.
- **All perspectives on the project are explicitly included**, from executives' requirements, to the end-users' needs and computing environment, and the data processing staff's knowledge of the systems environment and its challenges.

ADTC's six phase approach maintains focus on the critical success factors along the development path: committed user and technical staff involvement from the beginning, clear definition of scope to prevent paralyzing scope-creep, early executive review and buy-in to ensure priorities are met, careful attention to configuring a platform that will enable rapid response time to queries, intense scrutiny of the data loading and cleansing process to ensure data integrity from source to data warehouse, and documentation and training of technical and production staff and end users to guarantee active use, refinement, and custodianship of the data warehouse.

<b>Data Warehouse Development in 6 Phases</b>			
<b>Phase</b>	<b>Tasks</b>	<b>Results</b>	<b>Time</b>
<b>1</b>	Workshops & Develop Prototype Data Warehouse	Data Warehouse Prototype	<b>8 Weeks</b>
<b>2</b>	Procure the Data Warehouse Equipment & Consulting Services	Hardware, Software, and Implementation Plan	<b>1 Month</b>
<b>3</b>	Develop the Data Warehouse Software & Convert the Initial Data	Operational Software, Initial Queries, Reports, & Data	<b>4 Months</b>
<b>4</b>	Install the Data Warehouse Hardware, Software, & Converted Data	Data Warehouse Goes Live	<b>1 Month</b>
<b>5</b>	Train the Data Warehouse Users & Operational Staff	Software Docs and User Manuals	<b>1 Month</b>
<b>6</b>	Refine the Data Warehouse Data, Queries, & Reports	Revised Queries & Reports	<b>3 Months</b>

## Phase 1 is the Key to Success and User Acceptance

The objective of Phase 1 is to **build a *prototype data warehouse in eight weeks***. The prototype has been instrumental in helping our customers deliver initial results to users quickly, and provides management and users with an early preview of the data warehouse. It serves as a foundation for the full production data warehouse system and allows customers to test the warehouse before full-fledged development is underway, rather than waiting 6 months to a year into the project only to find that the warehouse does not meet their requirements. The prototype consists of a one-time data download and does not include nightly updates.

For the prototype to accomplish its purpose, it is important that the scope of the data be limited and well defined. ADTC recommends that the customer select a subset of the planned production data warehouse for the source data. Information gathered during implementation of the prototype will then be used by the Project Team to anticipate the effort and next steps required to expand the prototype into a fully deployed data warehouse. Issues that arise during the prototype implementation will be documented and brought to the attention of the Executive Team.

<b>Phase 1: Building the Prototype</b>		
<b>Week</b>	<b>Task</b>	<b>Objective</b>
<b>1</b>	<b><i>Vision Workshop</i></b> Data Warehouse Analysis	Review data warehouse objectives, define vision and goals, outline scope, identify facilitators and barriers to success.
<b>2</b>	<b><i>Design Workshop</i></b> Data Warehouse Design	Design logical dimensional data model, identify data sources, develop initial data extraction procedures.
<b>3 - 4</b>	Data Extraction	Collect, extract, and review data; convert all data to ASCII format, create database and tables.
<b>5 - 6</b>	Data Loading & Configuration	Load data, cleanse and verify; configure Brio repository.
<b>7</b>	Brio Training Workshop	Develop sample queries; train pilot users.
<b>8</b>	Executive Presentation & Full Data Warehouse Planning	Prepare and conduct presentation to Executive Team. Summarize the Launch; document recommendations and next steps.

## **Data Warehouse Vision and Design Workshops**

The design of the data warehouse begins with a **Vision Workshop** that is fundamental to the success of the project. Instead of plodding through months of user interviews to gather project requirements, ADTC brings the most active data warehouse users and technical staff into the same room for an in-depth requirements workshop. The interaction between users from across the organization, technical staff, project management, and the ADTC team develops a broader, deeper understanding of the business and technical requirements, ensures the best possible design for the data warehouse, and develops ownership of the data warehouse at all levels of the organization.

Following the vision workshop, the technical members of the Data Warehouse Team tackle the systems design aspects of the project with a **Design Workshop**. They will build the data warehouse model, prepare for data transfer, lay the groundwork for software and hardware requirements, and address any anticipated barriers to the active and ongoing use of the data warehouse. This work goes through further refinement following prototype testing.

These multi-day workshops with end users and technical staff are essential to a successful data warehouse project. Full participation in these workshops is required of all persons identified on the Project Team outlined below, including the end users who will be most active, the Customer Project Manager, and the Customer Technical Lead.

### **Team Effort**

ADTC's approach requires the full-time involvement of a Project Team, including end users of the data warehouse, technical staff from the Customer's Data Warehouse Team, and ADTC consultants. It cannot be over-emphasized that one of the primary keys to success is the committed participation of designated end users from a wide variety of levels across the organization in the Vision Workshop.

### **ADTC staff will perform three roles:**

- Data Warehouse Architect
- Project Leader and Brio Consultant
- Senior Systems Analyst and Database Administrator

### **Customer staff roles are crucial to the success of the project:**

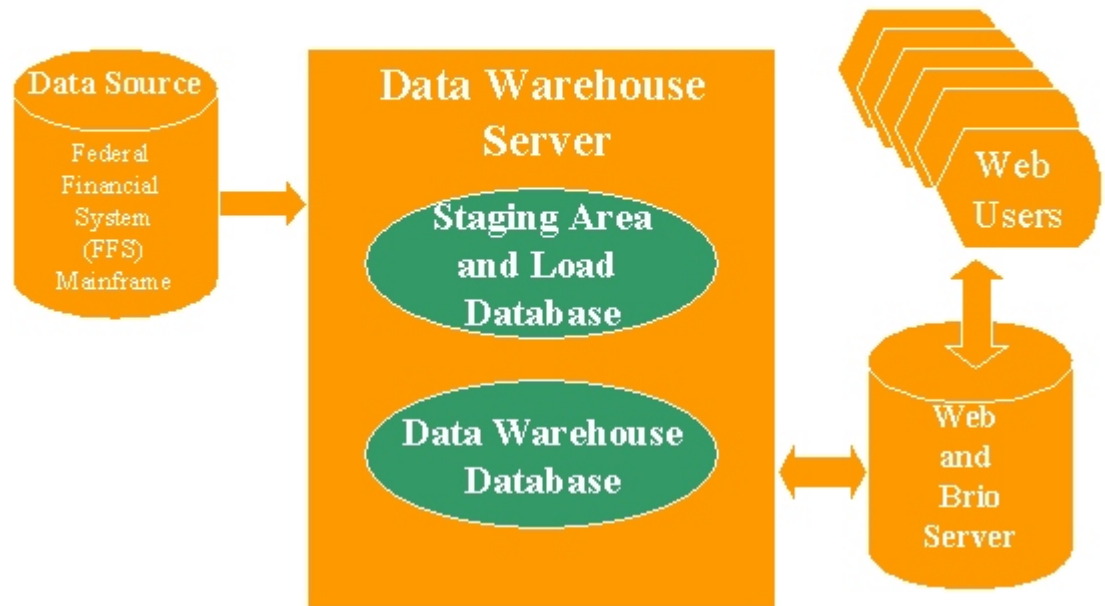
- Executives
- Data Warehouse Project Manager
- Data Warehouse Technical Lead
- End Users
- DBAs, Systems Staff, & Programmers

## Data Warehouse Architecture

The hardware and software architecture for a typical data warehouse project encompasses a staging area for loading and checking the data, and a production database for the data warehouse. To allow end users to query the database from a web browser, a web server and a Brio Enterprise server are required.

- Staging Database
- Production Data Warehouse Database
- Web Server
- Brio Enterprise Server

## Data Warehouse Architecture



Advanced DataTools Corporation is dedicated to the satisfaction of our customers. The majority of our consulting projects come from references from our customers. We take a great deal of pride in the number of database systems developed and tuned over the years that are still in use as production systems, and in the number of customers who continue to use and recommend our training. Please call us for customer contacts and references.



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**Advanced DataTools Corporation**

[www.advanceddatatools.com](http://www.advanceddatatools.com)  
4216 Evergreen Lane, Suite 136  
Annandale, VA 22003  
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