blackbox partners

Data Architecture

BlackBox Migrations, LLC

BlackBox Migrations, LLC, doing business as BlackBox Partners ("BlackBox"), is a Service-Disabled Veteran-Owned Small Business (SDVOSB) that offers solutions to industry and government. BlackBox offers solutions that fit practical business needs:

- **Database Management**
- **Data Warehouse & Business Intelligence**
- **Project Management**
- **Professional Training**
- **Value Added Reselling**

BlackBox, operating out of offices in Houston and Washington DC, serves the market segments of those regions: Oil & Gas, Commercial, & Government.

Data Architecture in Context

Large IT projects almost always involve a database solution, and custom database solutions require sophisticated data architecture planning and execution in order to succeed. BlackBox Partners brings more than two decades of data architecture and data modeling experience to customers and can deliver solutions in the full lifecycle of Data Architecture Tasks. Whether the project involves purely transactional modeling needs, is a Data Warehouse implementation using Inmon or Kimball methodologies, an enterprise data architecture strategy engagement, or some combination of these typical data tasks, BlackBox is capable to execute.

BlackBox's Data Architecture Expertise

BlackBox's specialists bring the full Data Architecture experience to projects, having implemented numerous OLTP and DW database solutions in both the Federal and commercial environments.

- **Requirements and Data Analysis**

BlackBox's specialists meet with customers and technical representatives to perform analysis and gain understanding of source systems and business concepts in order to begin the Data Architecture process. This includes deep-dive into the underlying data to fully understand its impact.

- **Enterprise Data Architecture**

BlackBox designs and implements data standards for the enterprise to maintain data governance across organizations. Creating standards in data naming, data types, data modeling entities, file naming, and object naming are all part of a well-designed Enterprise architecture solution. We advise and consent Master Data Management strategies for large organizations.

- **Conceptual Data Modeling**

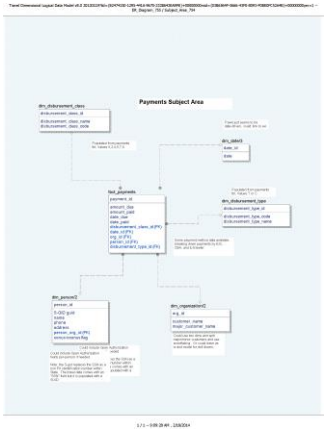
Conceptual (or Business) modeling is an important first step of architecture analysis, modeling high-level data sources. It is part of the Zachman Framework ™, an approach to Enterprise architecture. Conceptual models aid in data comprehension but also identify important data overlaps that need to be addressed in downstream ETL architecture solutions.

- **Logical Data Modeling**

Logical Data Modeling serves as an important first step in graphically representing entities and their relationships to each other, as well as displaying key attributes. These logical models present well to customers and developers and help all parties gain understanding of the data.

- **Physical Data Modeling**

Physical data modeling is a detail-oriented task that requires skill and focused efforts. These data modeling tasks also require expertise in enterprise modeling tools such as Erwin and E/R studio, with which BlackBox has experience in addition to other modeling tools.



- **Physical Database Implementation**

BlackBox builds on a deep base of Database Consulting to bring expertise to the physical instantiation of data models to the database layer. We factor in differences in SQL implementations among the leading RDBMS vendors and adjust modeling efforts for NoSQL, Hadoop, In-Memory, columnar or database Appliance environments as needed.

- **Data Warehouse Architecture**

The two leading schools of thought in Data Warehousing are the Inmon method and the Kimball method. Each has pros and cons to implementation, and hybrid approaches can be addressed that incorporate best of breed aspects of both approaches. Newer architecture theories (Hub and Spoke, Hybrids, DW 2.0, Federated data) are considered and implemented for customers who have non-traditional needs.

- **Metadata Management**

Data dictionaries, Source to Target mappings, documentation of Gold Sources of reference data and maintaining ER diagram repositories are all hallmarks of an excellent Metadata Management strategy.

- **Data and Information Security**

BlackBox has consulted in several environments with HIPAA considerations or federal government clearance requirements, and has ample experience working with PII and other sensitive data. We safeguard data and take steps at all turns of a project to implement data security standards.

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GSA Schedule
Contract GS35F0233W