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# Data First
## A data focused approach to modernization within the motor vehicle market

### Why Data First approach
The DMV space has seen its fair share of project challenges in recent years. Traditional COTS, MOTS and even SOA approaches for system modernization have encountered challenges due to the complex nature of legacy DMV systems. Data Architecture, Data Quality, Master Data Management and Data Governance are often afterthoughts. The root cause of Replacement Systems failures can be tied to a lack of focus on Enterprise Data Management during the planning phase.

### Enterprise data as your most important asset
Deloitte's approach to system modernization and transformation focuses on the data. Many of the problems facing Public Sector transportation agencies arise from data issues. Deloitte's approach also acknowledges that data problems are one of the foremost challenges that must be overcome in meeting modernization goals.

### Incremental approach
One of the major challenges with modernization projects is delivering incremental value during a multi-year program. The integration or synchronization of legacy systems is a key component of the data first strategy. This enables the project to deliver functionality incrementally while continuing to maintain the legacy system. Data First components like Master Data Management play a key role in performing data synchronization between new and legacy environments enabling incremental releases.

### Data First
- Taking a holistic approach towards modernization includes architecting, moving and storing data
- Building foundational architectures can give agencies the nimbleness required to meet their needs and shift the organization into a customer-driven organization
- Using Informatica products such as Master Data Management, Change Data Capture, PowerCenter and Dynamic Data Masking as a key data integration capability
- Helping an organization/agency execute an iterative process toward modernization or transformation.

### Benefits of focusing on Data First
The Data First approach has been used effectively in business domains outside of the motor vehicle market. For example, when companies merge, it is critical that they consolidate data about their customers to effectively provide customer support. These companies do not have the luxury of waiting to replace either of their core customer systems to achieve a single customer record. Consequently, the Data First approach was developed to provide a single view of a customer's information prior to major system replacement. Potential benefits can include:

- Quick wins
- Better customer service
- Improved transparency into operations
- Fraud detection
- Improved safety programs
- Improved data quality

### Data First Technology is built on a foundation of Informatica Data Integration products
**Architecture:** Places focus on data management. Three primary driving principles: Enabling technology needs to be (1) loosely coupled, (2) architecture needs to centralize the data to avoid the creation of "point-to-point" interfaces, (3) architecture needs to support batch through real time interfaces.

**Master Data Management (MDM):** Embodies the data management disciplines and processes for managing critical master data and becomes the authoritative system for master data like a Customer. MDM generates a Universal ID by reconciling data across different siloed and disparate systems and helps generate the golden record which will be the reconciled profile about the individual customer or corporation.

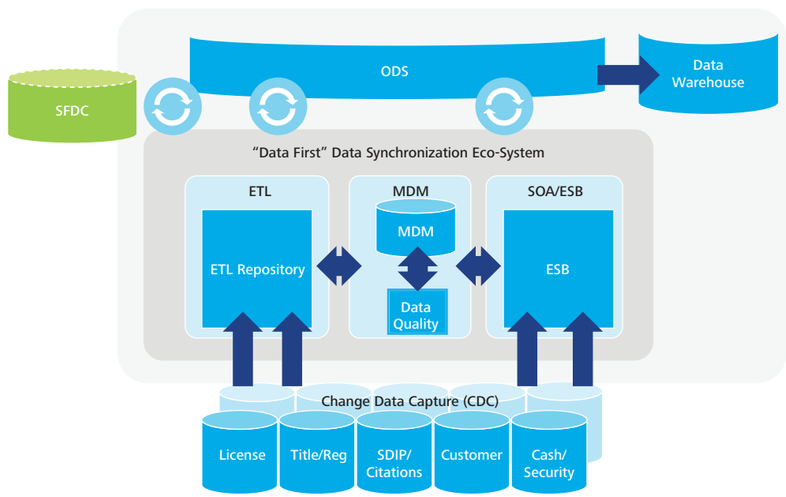
**Extract, Transform and Load (ETL):** Typically associated with data movement required for the data warehouse. ETL can be used to synchronize data across environments. It can be used for both batch and micro-batch processes, centralizes the transformation rules, and modifies the data.

**PowerExchange, Change Data Capture (CDC):** Key architectural component for integrating data with legacy environments. CDC can be used to capture changes and synchronize data with legacy environments. CDC and data synchronization plays a critical role in enabling incremental releases.

**Informatica Data Quality, data explorer, data quality(IDQ):** IDQ plays a critical role in profiling and cleansing data. Given the age of many DMV systems (20-30 years), profiling plays a key role in identifying historical data anomalies. IDQ can be used to standardize the data for conversion.

### Other key architectural components
**Enterprise Service Bus (ESB):** Key architectural component to support business process automation and transaction management, providing an interface to support message movement across numerous systems. The ESB ensures data transmission and delivery. It orchestrates the transfer of messages and the synchronization of different records within the legacy environment, MDM and other data stores to support business processes. Unlike MDM, ESB does not integrate data across systems.

**Operational Data Store (ODS):** Within Data First, ODS is where all non-MDM data is stored during modernization including active transactional data. In other words, ODS provides a canvas where new data structures are designed to help align data structures to new business processes.



## Data governance

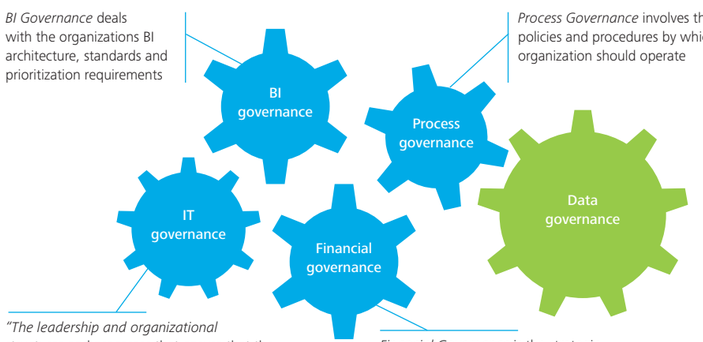
The technology tools related to the Data First approach are critical to the success of any modernization effort. Of equal importance is the need to establish an effective, comprehensive data governance program.

- Defines formalized policies and procedures that the data management organization and organization at large should follow
- Manages the day-to-day operations of the business to establish ongoing data integrity
- Manages technologies required to manage, maintain and leverage information as an enterprise resource.

| | |
|---|---|
| Executive leadership | • Often, unaware of the magnitude of operational inefficiencies caused by data quality issues<br>• Unable to measure the quality of data |
| Strategy | • Data governance has not been a priority or focus<br>• Policies and standards are not cleanly defined |
| Business organizations | • No accountability for adherence to data quality standards, policies ad procedures<br>• Some organizations see data quality solely as an IT issue |
| Processes | • Inconsistent and undefined data management processes<br>• Lack of integration with business process and poorly-defined accessibility |
| Technology | • No technology integration resulting in widespread and duplicate data<br>• Lack of workflow integration, making data management inefficient |

## Data governance defined

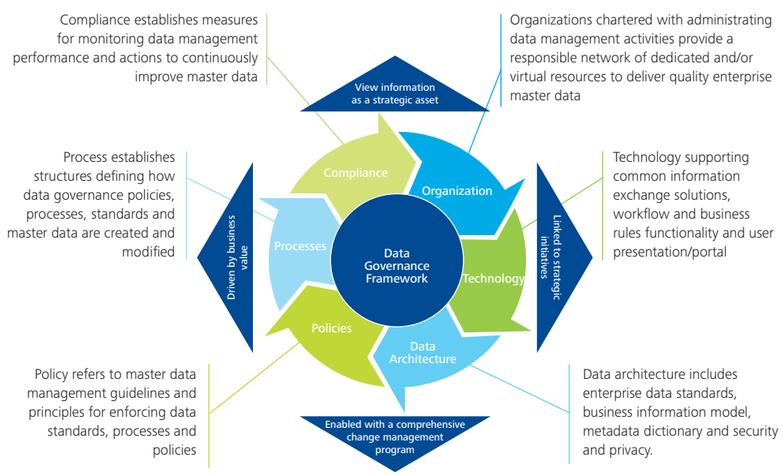
Within an agency, there are different subsets of governances with operational interactions:




## Data governance components

Data governance is the process of managing quality, consistency, usability, security and availability of information enterprise wide.

The goal is to align an organization's business information assets with its business strategy. This includes organization, technology, data architecture, policies, processes and compliance required to maintain the standardized definition of a data element.




| Data Governance Component | Definition |
|---|---|
| Organization | Organizations chartered with administrative data management activities provide a network of resources to deliver quality enterprise master data |
| Technology | Technology supporting common information exchange solutions, workflow and business rules functionality, and user presentation/portal |
| Data Architecture | Data Architecture includes enterprise data standards, business information model, metadata dictionary and security and privacy |
| Policies | Policy refers to master data management guidelines and principals for enforcing data standards, processes and policies |
| Processes | Process establishes structures defining how data governance policies, processes, standards and master data are created and modified |
| Compliance | Compliance establishes measures for monitoring data management performance and actions to continuously improve master data |

## Learn more

To learn more about how Deloitte can put Data First, please contact one of the Deloitte or Informatica team members listed below.

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