State of New Jersey
Universal Data Management

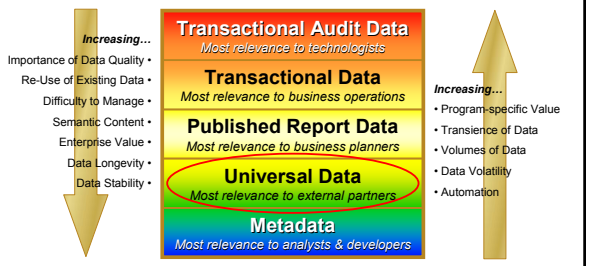
Dan Paolini
Director, Data Management Services
Architecture Standards & Enterprise Technologies
Office of Information Technology
State of New Jersey

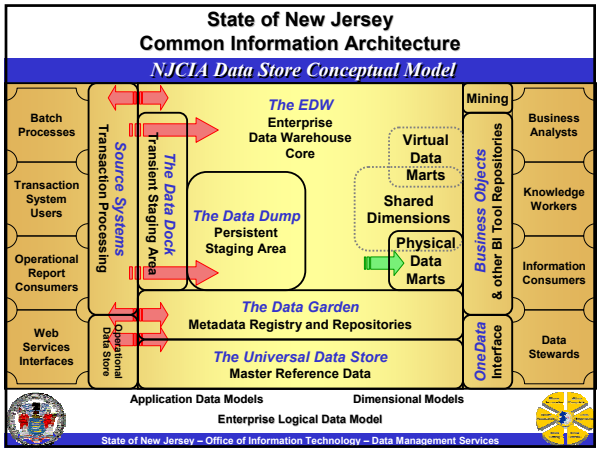
New Jersey Definitions

- Master Data Management is the enterprise-based definition, standardization, and deployment of the significant entities that interact with the organization, such as customers, suppliers, and products, that are used in multiple applications and/or subject areas.
- Reference Data Management is the enterprise-based definition, standardization, and deployment of the lookup and decode tables, such as charts of accounts, regions, and customer categories, that are used in multiple applications and/or subject areas.
- In New Jersey, Universal Data Management is the union of these two data management areas, and the data is collectively referred to as Universal Data.

State of New Jersey
Common Information Architecture

NJCIA Data Stack




State of New Jersey
Common Information Architecture
NJCIA Data Store Conceptual Model
Batch Processes
Transaction System Users
Operational Report Consumers
Web Services Interfaces
Source Systems
Transaction Processing
Operational Data Store
The Data Dock
Transient Staging Area
The EDW
Enterprise Data Warehouse Core
The Data Dump
Persistent Staging Area
Virtual Data Marts
Shared Dimensions
Physical Data Marts
The Data Garden
Metadata Registry and Repositories
The Universal Data Store
Master Reference Data
Mining
Business Objects
& other BI Tool Repositories
OneData
Interface
Business Analysts
Knowledge Workers
Information Consumers
Data Stewards
Application Data Models
Dimensional Models
Enterprise Logical Data Model
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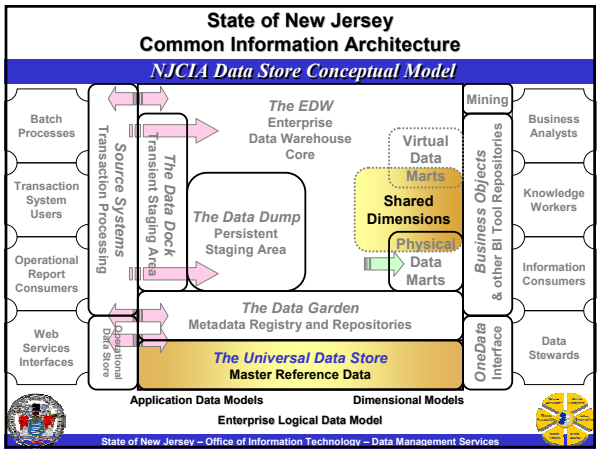
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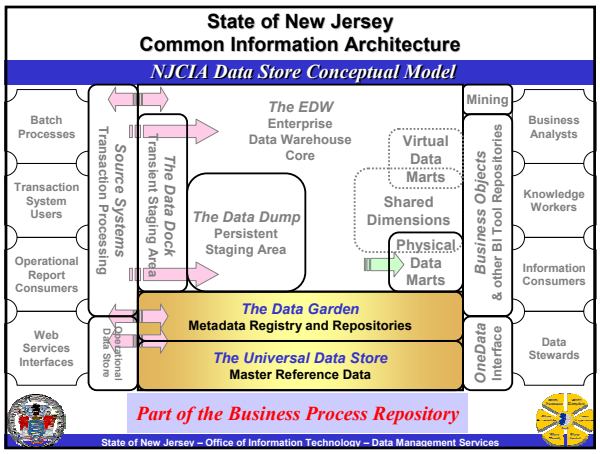
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Data Stewards
Part of the Business Process Repository
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Data Management Vision & Goal

Vision:

"Manage Data as an Enterprise Resource"

Goal:

"Create a Single Version of the Truth"

Create a Single Version of the Truth

- Objectives
  - Maintain a Common Understanding of the Meaning and Description of Data
  - Identify Operational Sources of Record and Eliminate Data Redundancy
  - Identify, Maintain, and Deploy universal data to support transactional and analytical processing

Create a Single Version of the Truth

- Principles
  - XML will be the basis for external data exchange
  - New development will use data definitions that exist in the Federal, New Jersey and Agency data reference models (in that order) before creating new objects
  - New development will use universal data where it exists, and contribute to the creation of universal data that does not yet exist
  - The Federal, NJ and Agency data reference models will be used to define XML schemata for exchange of data
  - Data will be published one time into an enterprise integration environment so it can be reused without creating further impact on the source system

Architecture Implications

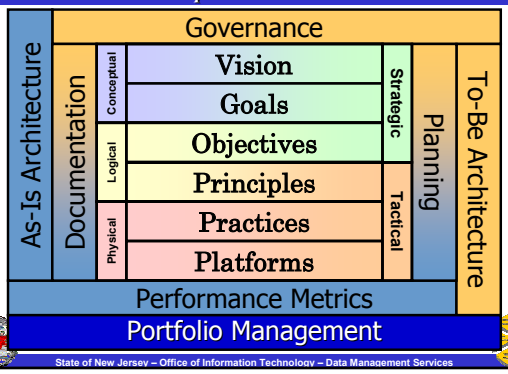
- Universal Data Management is a data architecture component, and therefore is both an information architecture and an enterprise architecture initiative.
- While it is possible to launch a Universal Data Management initiative at the information architecture level, or even the data architecture level, it cannot be truly successful unless it is part of your enterprise architecture program.

Definition of EA

- Integrated set of formal, governed processes to
  - Identify business expectations for Information Technology (IT)
  - Document the existing "As-Is" IT architecture
  - Determine the Vision, Goals, Objectives, Principles, Practices, and Platforms required of IT to meet business expectations
  - Identify the desired "To-Be" IT architecture
  - Plan the migration to the "To-Be" IT architecture given the constraints on the business
  - Define and capture IT Key Performance Indicators
  - Create opportunities for collaboration and reuse
  - Maintain a portfolio of Enterprise IT services

State of New Jersey
Enterprise Architecture

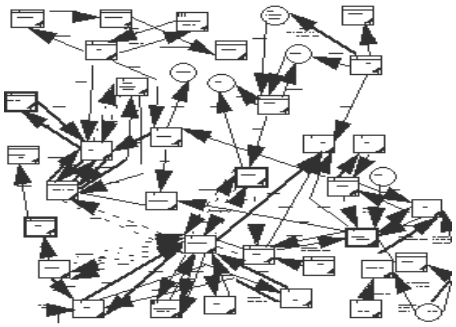
NJ Enterprise Architecture Stack



Value of Enterprise Architecture

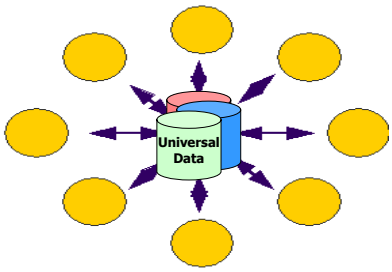
- The EA process enables New Jersey to better
  - Align IT investments to improve mission value
  - Document current IT investments and manage their life cycle (planned refresh/replacement)
  - Identify dependencies between components to improve impact analysis and reduce dependency "surprises"
  - Identify prerequisite projects or gaps in essential IT services that should be prioritized and addressed
  - Discover opportunities for collaboration at all levels
  - Improve interactions with partners that also have an enterprise architecture in place (e.g. Federal agencies)
  - Reduce unnecessary duplication and costs

Why We Need Universal Data



This is Our Goal

A Hub & Spokes Design
for Information Sharing



What We **DON'T** *Want to Do*

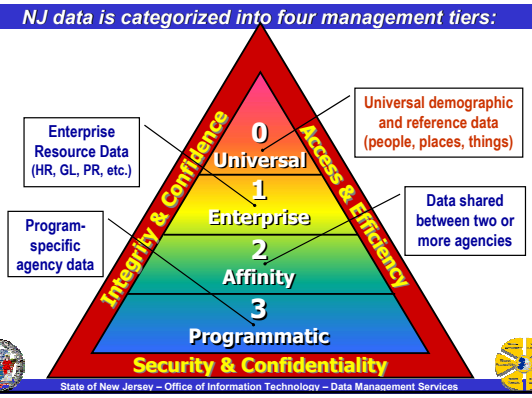
- Centralize all data or processes
- Address every data element
- Change every process

Nor do we want to…

- Design tomorrow's solution handcuffed by today's approach
- Move data around and call it "sharing"
- Think of processes by the agency responsible

New Jersey Data Tiers

NJ data is categorized into four management tiers:

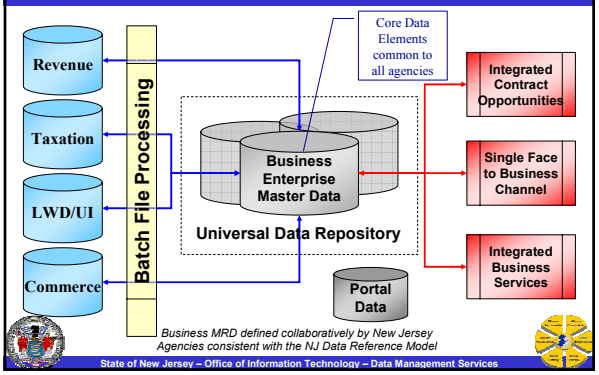


Data Integration Classification

The Integration Classification provides scope for our efforts. It allows us to focus on standardizing the data that has the most value without interfering with programs.

- Universal: State-maintained master reference information, such as a list of businesses.
- Enterprise: State-maintained information specific to individual agencies but maintained in a format common to all agencies, such as financial data
- Affinity: State-maintained information specific to an agency of use to other agencies with common goals, such as economic development
- Programmatic: State-maintained agency-specific information

Governor Corzine's Vision



Business MRD defined collaboratively by New Jersey Agencies consistent with the NJ Data Reference Model

New Jersey Efforts

- Universal Data Store
  - Current views of Universal Data
  - Three Master Data files "Business Enterprise", "Employee Profile", and "NJ Postal Address"
  - Almost two dozen Reference Data files
- Enterprise Data Warehouse
  - Universal Data with History (in the form of conforming dimensions)
  - More than three dozen Dimensions

Benefits

- Improved Data Quality
  - Improved definitions
  - Cross walking of existing code sets
  - Elimination of future divergence
- Faster, more agile development (where data already exists)
- Better data integration
- Cost efficiencies (both development and maintenance)

Challenges

- Development takes longer where data does not yet exist in universal form
- Difficulties in identifying data steward, or agreeing on common definition and format
- Maintaining a production version of universal data in a previous format while implementing an improved format
- Designing, testing, implementing, and maintaining the updating of universal data from multiple source systems

Governance is Key

- There must be a governance structure to enable and enforce…
  - Agreement on roles and responsibilities
  - Documentation of existing reference data
  - Resolution of reference data definitions
  - Establishment of the "To-Be" data model
  - Development of an implementation plan
  - Review of projects for alignment
  - Assessment and mitigation of risks
  - Creation and monitoring of KPI metrics
  - Evaluation and consideration of new technologies
  - Portfolio management and opportunity prioritization

QUESTIONS?

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