
Commonwealth of Virginia Data Management Program



Status Report

ITIB CITS Committee Meeting

March 30, 2009

Agenda



- Accomplishments
- Opportunities
- Examples
- Resources and Infrastructure Costs
- Short Term and Long Term Deliverables
- Motions

Accomplishments



- Executing a Data Management Plan – four areas of activities
 - Data Standardization
 - Policy and Procedure
 - Organization and Governance
 - Infrastructure – (Process and Tool)

- Facilitating and Collaborating with the Data Steward Community monthly
 - DOA, DPB, DGS, DHRM, TRS and TAX are members so far
 - Some stewards are working in small work groups on data standardization efforts

- Communicating with the Data Management Stakeholders and Data Owners quarterly
 - DOA, DPB, DGS, DHRM, TRS, VDOT and VITA are members so far

- Developed and using a Data Standardization Process
 - Defines a process for creating data standards, defines roles and responsibilities and starts down the path of data governance.
 - Reviewed by Data Stewards and Owners, VITA Enterprise Architecture Group, and VDOT Data Administration Group. Incorporating final round of feedback.

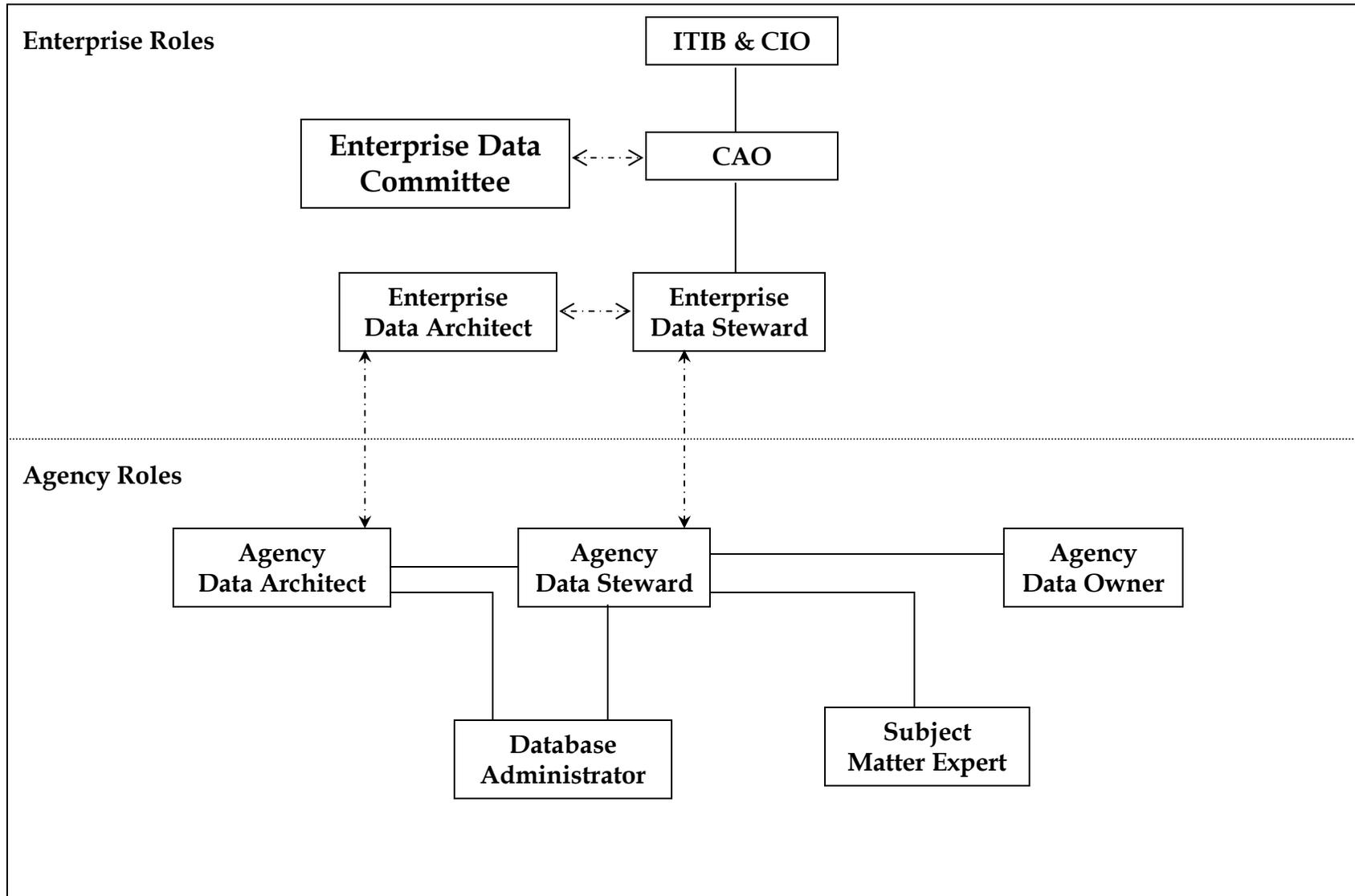
Data Standardization Process



- Phase 1 – Investigate Artifacts
- Phase 2 – Identify and Submit Data Requirements
- Phase 3 – Conduct Formal Cross-Functional Review
- Phase 4 – Resolve Comments
- Phase 5 – Obtain Approvals
- Phase 6 – Implement Standards

| Data Standardization Phases - RACI Diagram | KEY ROLES & RESPONSIBILITIES | | | | | | | | | |
|--|------------------------------|-------------------|---------------------|-------------------------------|-----------------------|---------------------------|-------------------------|---------------------------|---------------------------|---|
| | Agency Level | | | | | Enterprise Level | | | | |
| Activity | Subject Matter Expert(s) | Agency Data Owner | Agency Data Steward | Agency Database Administrator | Agency Data Architect | Enterprise Data Architect | Enterprise Data Steward | Enterprise Data Committee | Chief Application Officer | IT Investment Board (ITB) and Chief Information Officer (CIO) |
| Phase 1 – Investigate Artifacts | C | A | R | C | R | | | | | |
| Phase 2 – Identify and Submit Data Requirements | C | A/C/I | A/R/C | I/C | C/R | I/C | C/A | | | |
| Phase 3 – Conduct Formal Cross-Functional Review | I | R | R | I | R | A | A | R | | |
| Phase 4 – Resolve Comments | | C | C | | C | R | R | A | A | I |
| Phase 5 – Obtain Approvals | | | | | | | | R/C | R/A/C | A/R |
| Phase 6 – Implement Standards | | A | R/I | C | R/C | R | A/C | I | A/I | |

Data Management Roles



Opportunities



- **Opportunity to develop a Commonwealth Data Strategy**
 - Vision, Goals, Objectives and Strategies for managing data
 - IT Investment Management Customer Council members identified volunteers to participate in a a cross-functional work group to develop the data strategy
 - Meeting weekly and reporting monthly to the ITIM Customer Council

- **Opportunity to standardize data beyond VDOT/DOA financial system**
 - Other large modernization efforts underway – DMV, DSS, VEC
 - Collaborative efforts – Business One Stop Phase II

VEAP will work with VITA PMD to incorporate data management activities into the existing Project Initiation and Architecture Review processes.

All major projects must plan time to develop and/or implement data standards.

Current Data Standardization Efforts



| Project | Status | VEAP Partners | Data |
|----------------------------------|---|--|---|
| Business One Stop Phase II | Active Defining Data Requirements | SCC (State Corporation Commission) DBA (Business Assistance) Tax VEC (VA Employment Commission) DGS (General Services) DMBE (Minority Business) | Business data Business Certification data |
| VDOT/Enterprise Financial System | Active DGS conducting data model reviews | VDOT (Transportation) DOA (Accounts) DGS (General Services) DHRM (Human Resources) DPB (Planning & Budget) TRS (Treasury) | Chart of Accounts Financial data Supplier and Purchase Order Employee and Time/Attendance Budget data |
| DMV – CSI System Redesign | Active 3/20 initial meeting | DMV (Motor Vehicles) Tax* DSS* (Social Services) | Citizen data Other categories TBD in April 2009 as project begins |
| Performance Budgeting System | Resources to be assigned | DPB | Budget data |

*VEAP will be requesting Data Owner and Data Steward involvement from these agencies

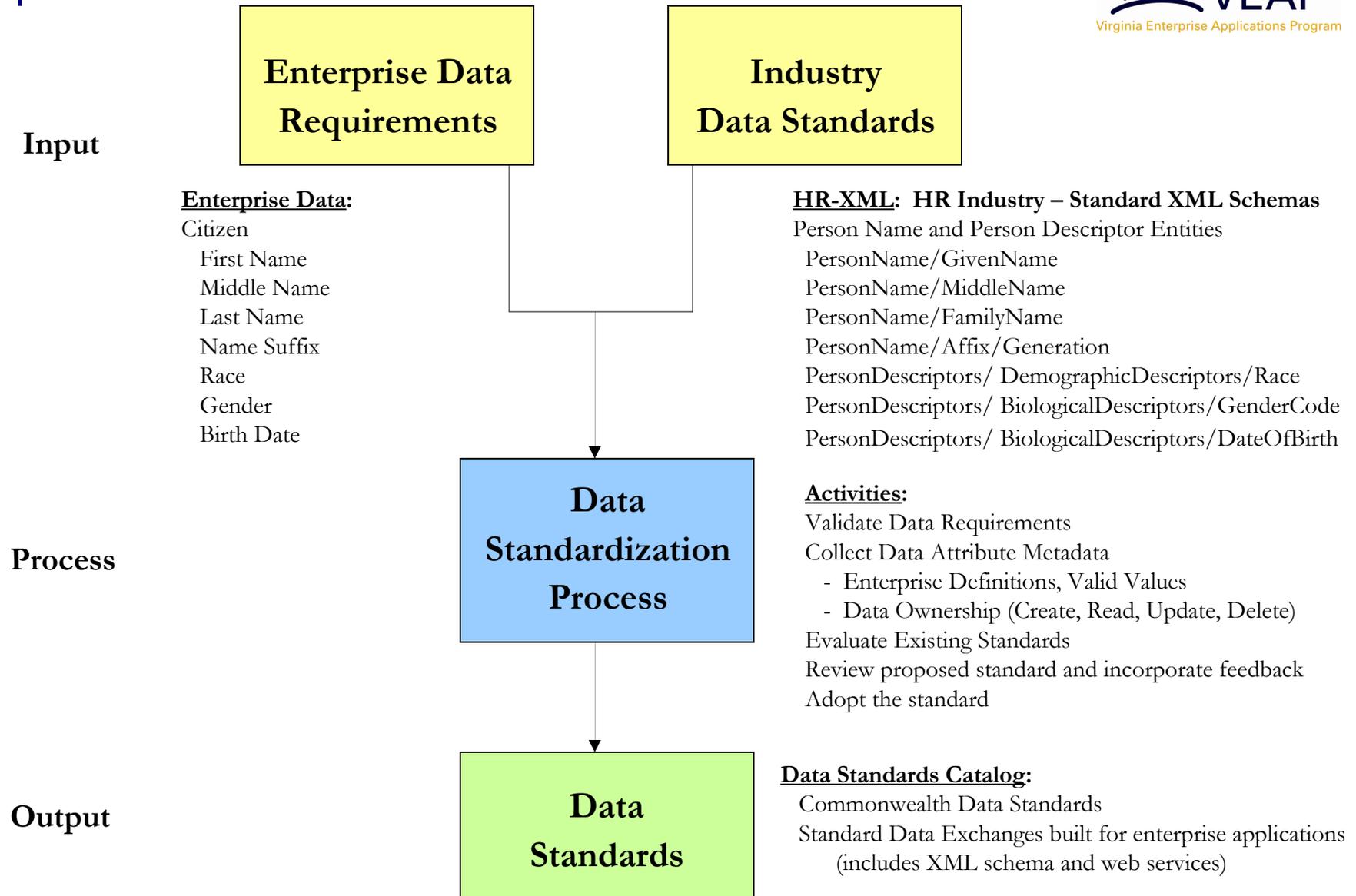
Opportunities

- Opportunity to understand our enterprise data requirements

What questions does the General Assembly ask DOA, DPB and DHRM today that cannot be easily answered?

- We cannot answer these questions today because...
 - Data is decentralized at the agencies – not easy to aggregate
 - Data is not standardized – different definitions, identifiers or formats
 - Data is not available – or only collected by some agencies
- Knowing these data requirements will guide us to implement data standards and data exchanges so we can answer the questions in the future.

Example – Developing a data standard



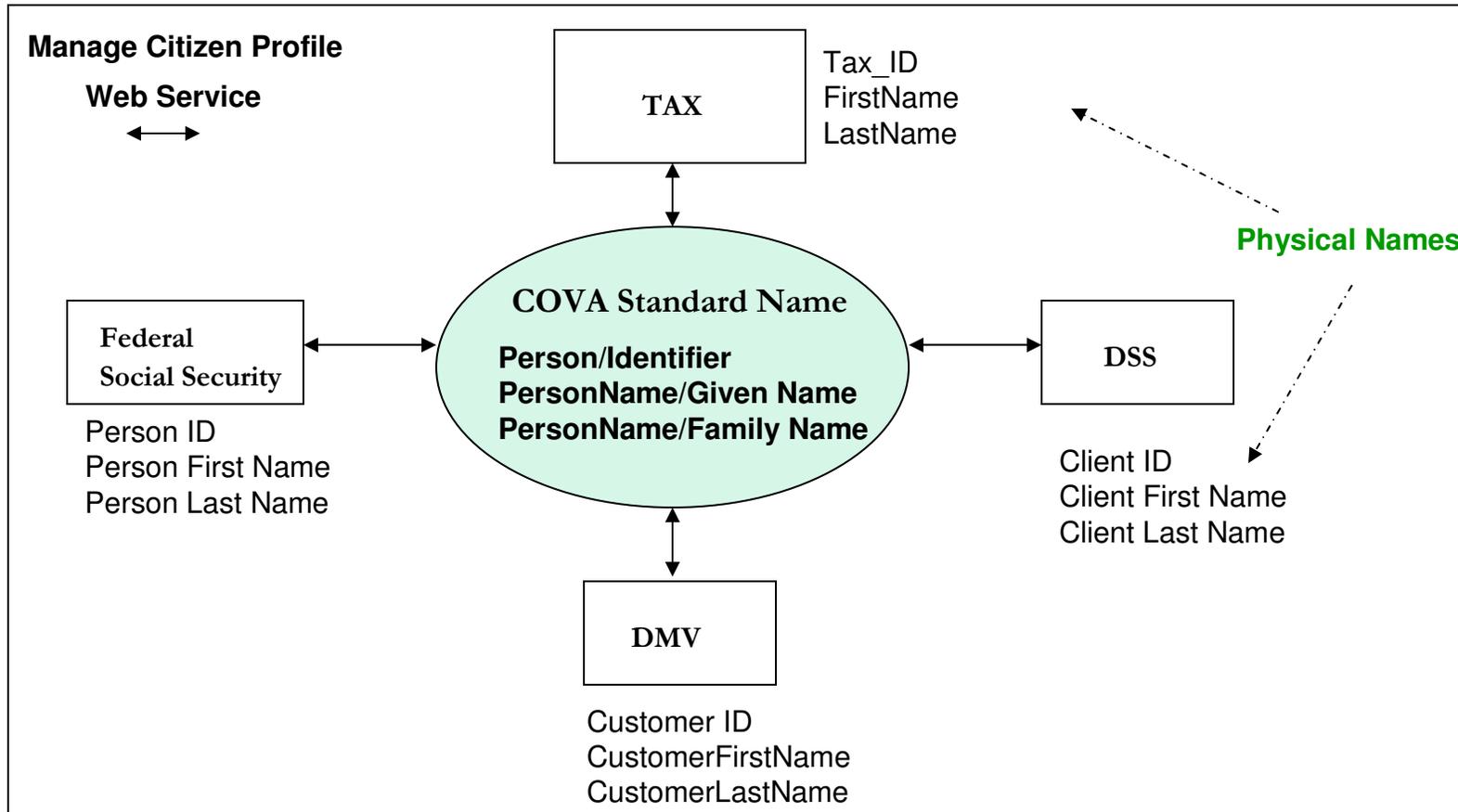
Implementing Data Standards



- Manage standard identifiers (e.g. Person or Citizen ID, Employee ID)
- Either store the standard identifier in your system or build a cross reference structure to cross walk to the standard identifier
- Develop a standard data exchange (web service) to share data
- Physical data names, on existing agency systems, will not be required to change and COTS solutions will not be required to customize
- We want to remain independent from proprietary data stores. Data standards will be used for all new data exchanges and home grown data stores.

It is critical for us to define authoritative systems of record and management around creating and updating enterprise data.

Standard Data Exchanges



Data standards must be grounded on business drivers.
Is it our vision to have a 360 view of the citizen?

If yes, we must define the enterprise data and exchange process to manage it.

Data Entity and Attribute Levels

Data Entity Level

Fund

A fund is an independent fiscal and accounting entity with a self-balancing set of accounts recording assets, liabilities, fund balances and operating accounts. A fund classifies data according to fiscal entities necessary to comply with legal requirements and GAAP. The General Assembly appropriates according to funds.

Information Collected

- Standard Definition
- Data Owner
- Relationships with other Data Entities

Data Attribute Level

Fund Code
Fund Name
Appropriation Fund Type Code
CAFR Fund Type Code
Government Wide Fund Type Code

Information Collected

- Definition
- Data Type and Size
- Valid Values
- Data Owner
- Authoritative Source (System of Record)
- Authoritative Reference (Justification for data Collection)
- CRUD – create, read, update, delete controls

Resources and Associated Costs



- The Enterprise Data Management Team will lead all data standardization efforts and support all VEAP enterprise projects.

Required Resources

- Resources must be allocated immediately
- Current staff – 1 Data Manager, 1 Enterprise Architect and .5 Database Administrator
- Table below shows estimated resource costs. Presents the difference between COVA resources and contractor resources (estimates based upon IT Advanced Services Contract)

| Resource Type | Allocation | COVA Cost* | COVA Total | ITAS Cost# | ITAS Total |
|-----------------------------|--------------|------------|------------------|------------|--------------------|
| Senior Data Architect | 1 FTE | \$122,400 | \$122,400 | \$322,560 | \$322,560 |
| Senior Data Modeler/Analyst | 2 FTE | \$102,000 | \$204,000 | \$240,000 | \$480,000 |
| Data Modeler/Analyst | 1 FTE | \$81,600 | \$81,600 | \$211,200 | \$211,200 |
| Database Administrator | 2 FTE | \$115,600 | \$230,000 | \$240,000 | \$480,000 |
| Total | 6 FTE | | \$638,000 | | \$1,493,760 |

* - includes 36% for Benefits

- estimated at 1,920 hours per year

Infrastructure Costs



- Data Management Team will recommend a data modeling tool suite by June 30th
- 1 software license must be purchased for each member of the data management team (7 licenses total – 1 Manager and 6 Team Members)
- Approximately \$35,000 - \$45,000 to establish data modeling infrastructure to support data standardization and model management
- Agency level investment will be recommended

Short Term Deliverables



- *Deliverables and timeframes presented here are dependent upon the immediate allocation of resources to the team.*

- **In the next 3 months (by July 2009)**

Data Standards

- Data standard and data exchange defined for Supplier (attribute level)
- Data standard for chart of accounts (entity level)
- Data standard and data exchange defined for business and certification data (attribute level)

Strategic Planning

- Commonwealth Data Strategy ready to review with business and IT leadership

Short Term Deliverables

■ In the next 6 months (by September 2009)

Data Standards

- Data Standard and exchange defined for Purchase Order (attribute level)
- Data Standard and Data Exchange defined for employee profile (attribute level)

Strategic Planning

- Submit ITIB approval for Commonwealth Data Strategy

Infrastructure – dependent upon procurement process

- A full functioning data modeling infrastructure
 - Selection and implementation of a data modeling toolset
 - Processes, procedures and templates to support data modeling activities
 - Standards to support data modeling – data naming standards
- Web-site to publish adopted data standards, data strategy, best practices and efforts underway

Organization

- COVA staffed enterprise data management team

Long Term Deliverables

■ In the next 9 months (By December 2009)

Data Standards

- Data standards for chart of accounts (attribute level)
- Data standards for financial data to be interfaced (attribute level)
- Data standards for budget data to be interfaced (attribute level)
- Data standards and data exchange for employee time card data (attribute level)

■ Beyond year end

Data Standards

- Data Standardization work with major projects continues throughout 2009
DMV, DSS, VEC, etc.

Strategic Planning

- Data Governance
- Commonwealth Metadata Management