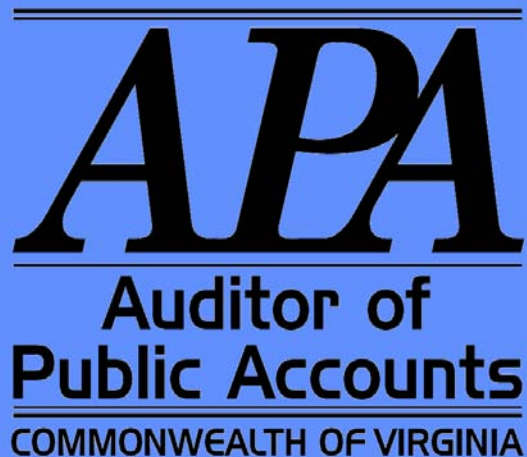


**ENTERPRISE DATA STANDARDS  
PROGRESS REPORT**

**OCTOBER 2009**



## **EXECUTIVE SUMMARY**

As of October 15, 2009, more than one year after required by the Appropriations Act, there are no adopted new data standards for any business area. The Appropriations Act (Act), Chapter 879 contained language requiring that by October 1, 2008 the Departments of General Services, Treasury, Human Resource Management, Planning and Budget, and Accounts provide the Department of Transportation and Chief Applications Officer (CAO) with the data standards for specific areas necessary to conduct business. This deadline was set in order to have defined data standards available for the new financial management and performance budgeting systems when they needed them.

Virginia currently has some data standards, but the standards are nearly 30 years old and come from our existing statewide systems, which the Commonwealth installed when the cost of data storage was expensive. As the Commonwealth has matured and the need for information has grown, the current data has remained relatively the same.

To compensate for these data limitations, state agencies have frequently purchased their own commercially available systems to provide more robust data. In addition, data among the agencies is not consistent because there are no data standards beyond the basic information required in the old systems. Even if the agencies could provide central entities such as the State Comptroller and Planning and Budget with more detailed or timely information, the central systems cannot store the additional data elements.

The Departments of Transportation and Planning and Budget are implementing new enterprise financial management and performance budgeting systems to replace the current systems. Given price reductions in data storage and improvements in technology and applications, now is the time to improve existing data standards for accounting and budgeting so the new applications work together and meet the Commonwealth's data needs.

– TABLE OF CONTENTS –

	<u>Page</u>
EXECUTIVE SUMMARY	
INTRODUCTION	1
AUDIT OBJECTIVES AND METHODOLOGY	1
BACKGROUND	2
What are data standards?	2-3
Why does Virginia need data standards?	4-5
PROGRESS TO DATE	5-8
Data Management Program	9-10
Data Standards	10-13
CONCLUSIONS AND RECOMMENDATIONS	14-15
TRANSMITTAL LETTER	16
AGENCY RESPONSE	17-18

## **INTRODUCTION**

The Appropriations Act (Act), Chapter 879 gave the Commonwealth's Chief Applications Officer (CAO) all the powers necessary to direct the Commonwealth's efforts to modernize central administrative systems and common data repositories. In addition, the Act required all executive branch agencies to comply with directives and requirements of the CAO.

In April 2008, the Department of Transportation received approval from the Information Technology Investment Board (ITIB) to implement a new financial management system that will eventually become the Commonwealth's enterprise financial management system. To ensure Transportation's system would meet the Commonwealth's business needs, the General Assembly included language in the Act. This language required that by October 1, 2008 the Departments of General Services, Treasury, Human Resource Management, Planning and Budget, and Accounts provide the Department of Transportation and CAO with the data standards for specific areas necessary to conduct business. It also required the CAO to identify other financial and administrative areas, and to develop the data standards and an implementation strategy in conjunction with the Commonwealth's Chief Information Officer (CIO). Effective July 1, 2009 the CAO became part of the Virginia Information Technologies Agency (VITA) and reports to the CIO; however, the CAO remains responsible for the planning, development, implementation, improvement, and retirement of enterprise applications and implementation of data standards based on the authority granted to her in Sections 2.2-2033 and 2.2-2034 of the Code of Virginia.

The Act identified seven specific business areas that required data standards. This report discusses these business areas and what the Commonwealth has accomplished relative to the data standards in each of these areas.

## **AUDIT OBJECTIVE AND METHODOLOGY**

The objective of this audit is to provide a status report on the Commonwealth's progress in developing and implementing data standards relative to the financial and administrative business areas outlined in the Act. In performing our audit we regularly attended data standards meetings, reviewed all draft and final data management documents, reviewed presentations and reports provided to the ITIB, reviewed data standards as documented on the CAO's website, and held discussions with the CAO, the Commonwealth Data Manager, and staff of the Departments of Transportation and Accounts.

## **BACKGROUND**

### ***What are data standards?***

The term “data standard” is a common term used in conjunction with data management and has different meanings to different people. To make this report easy to understand and to reduce confusion, we believe it is important to begin by defining our use of the term data standard.

The Data Management Body of Knowledge, DMBOK, produced by the Data Management Association and published in April 2009, was our primary source for best practice information in the field of data standards. The DMBOK states that data standards describe how entities fulfill management’s data policies. Specifically, the DMBOK recommends that data standards describe things such as how to name data, how to design a data model, and how to specify a data requirement. For example, data standards relative to data naming would provide clear rules regarding how data managers should name data elements. These standards help to provide naming consistency.

In contrast, both the Act and Code of Virginia use the term data standard in a context that is different from the DMBOK definition. Although the Commonwealth should eventually develop the data standards as noted in DMBOK, we believe the Act and Code of Virginia intend for the Commonwealth to focus primarily on defining its data architecture.

According to DMBOK, data architecture involves activities such as:

- identifying strategic enterprise data needs
- identifying and appointing data stewards
- developing and maintaining the enterprise data model
- defining and maintaining enterprise taxonomies
- defining and maintaining the metadata architecture

For consistency with language in official Commonwealth documents, our report will use the term data standard. However, in using the term data standard we actually mean activities and results similar to that of the DMBOK’s definition of data architecture.

From this perspective, data standards promote the efficient sharing of information among related entities through the cooperative development of standards. They are documented agreements on representations, formats, and definitions of common data. The use of common data standards fosters consistently formatted data elements and values, and provides access to more meaningful information. Data standards can also reduce future system development costs, since development teams do not duplicate efforts to define data standards for elements that are common in the Commonwealth.

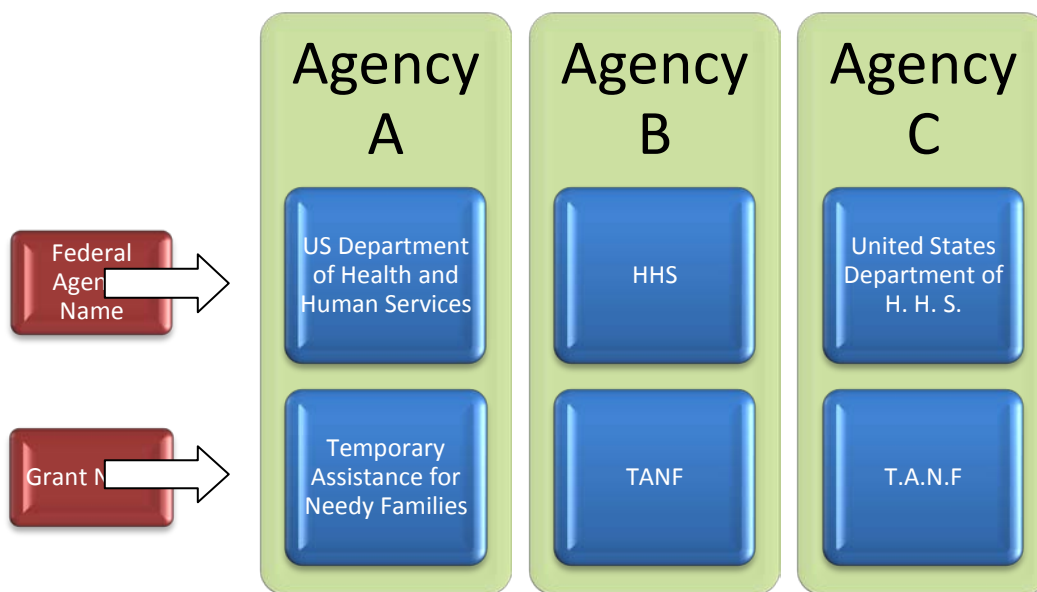
When creating data standards, an organization must assign data stewards who are responsible for defining the standard, making changes to its format or use and identifying policy implications or changes. As an example, in the case of Commonwealth personnel information, the Department of Human Resource Management currently sets personnel policies and procedures for executive branch agencies, and therefore will likely function as the data steward for the personnel data standards.

Human Resources Management, as the data standard steward, would consult experts from other agency human resources departments to review and comment as part of the standard development effort.

Human Resource Management would define the data standards and have responsibility for changing, adding, or deleting elements of the standard, as well as consulting with other agencies to ensure the changes will not impact data interoperability. Data stewards do not operate in a vacuum, and must understand how their changes affect other enterprise applications by thoroughly researching any potential issues before making any changes.

Data standards and stewardship are important because they provide data consistency that makes the data more useful. For example, agreement on how to capture federal grant information would allow the Commonwealth to compare that information, promoting improved data transparency. Exhibit 1 below provides a visual representation of how three agencies could capture federal grant information differently, making it challenging to combine and report the data to citizens, legislators, or the Governor. In this exhibit, each agency has chosen different standards to represent the same federal agency and grant name. To the Governor, legislature, and citizens, this may appear to represent different grants, unless these groups were educated enough in federal agencies and grants to recognize that they were the same.

**Exhibit 1**



In the example above, developing a common data standard would define what constitutes a federal agency name and how that name should appear. Better yet, in developing a common data standard, a central agency would be the designated data steward and may have responsibility for maintaining a central repository of federal agency names and grant names. All systems would rely on data from the central repository for data consistency purposes.

### ***Why does Virginia need data standards?***

Virginia currently has some data standards, but they are limited and old. For example, the State Comptroller (Comptroller) has defined the Commonwealth's accounting standards and adopted a standard chart of accounts. However, this chart of accounts is based on an old accounting system initially installed in the 1980s when the cost of data storage was expensive, and reflects the Commonwealth's data needs at that time. Similarly, the Department of Planning and Budget maintains an outdated budgeting system, and the Commonwealth's budgeting requirements have changed since its implementation. As the Commonwealth has matured and the need for information has grown, the current chart of accounts and budget data has remained relatively the same.

To compensate for these data limitations, state agencies have frequently purchased their own commercially available systems designed to provide more robust data. These agencies continue to supply the basic data to others, such as the Comptroller and Planning and Budget, by translating their systems' detailed data fields into the required data standard, which is not as detailed.

Even if they so desired, the central entities such as the Comptroller and Planning and Budget could not leverage the more detailed data housed in the individual agencies systems because the central systems cannot store the additional data elements. In addition, data among the agencies is not consistent because there are no data standards beyond the basic information required in the old systems.

Had a data steward developed data standards before agencies installed these modern systems, agencies could have ensured that the additional data elements contained in their modern systems conform to the standards, at least creating uniformity between the agencies that have their own systems. Without data consistency, the Comptroller and Planning and Budget will be challenged to share this detailed data internally or externally.

In many functional areas, the Commonwealth has no uniform data standards. When this happens, an agency will set its own data standard that best meets its needs, but this makes it nearly impossible to share and compare data across agencies. Similar to the federal grant example in Exhibit 1, the Commonwealth has taken a decentralized approach to vendor data management. Although General Services has provided agencies with vendor data, they have not required the usage of their vendor data and acknowledge that many agencies have changed the data. Consequently, each agency that has its own accounting system has developed its own vendor data standard. The lack of a vendor data standard and governance has created challenges in aggregating vendor payment information at the Commonwealth level because each agency can spell the vendor name differently with no naming rules or controls. A vendor data standard would ensure data integrity and consistency, making it possible for the Commonwealth to analyze vendor payment information.

The Commonwealth is implementing a new enterprise accounting system and budgeting system to replace those current systems. Given price reductions in data storage and improvements in technology and applications since the implementation of current systems decades ago, now is the time to revisit the existing data standards relating to accounting and budget, to ensure the new applications work together and meet the Commonwealth's data needs.

Additional opportunities exist to define data standards for other enterprise business areas such as payroll and personnel, which are part of the long-range system replacement plan. Even though the Commonwealth is not currently replacing these systems, having data standards for these business areas now will ensure that agencies implementing or replacing their individual systems will conform to a standard so that eventually all systems supporting the business area will adhere to the same standard.

### **PROGRESS TO DATE**

As of October 15, 2009, more than one year after required by the Act, there are no adopted data standards for any business area. The Act required the Departments of General Services, Treasury, Human Resource Management, Planning and Budget, and Accounts to provide the CAO and the Department of Transportation with such standards by October 1, 2008. The Act required the CAO to adopt the data standards as the Commonwealth's standards for future enterprise applications; and within 60 days of adoption the CAO should present such data standards to the Information Technology Investment Board for their approval. This deadline was set in order to ensure defined data standards were available when the new financial management and performance budgeting systems needed them. The Act outlined seven minimum business areas that require data standards.

- Vendor tables
- Receiving information
- Invoice information
- Purchase information including commodity codes
- Agency identification information
- Chart of accounts
- State employee identification information

Over the 17 months since the Act first required data standards, the CAO's focus of work in this area has varied and completion dates have moved. This is not to say that no work has been done, but rather that the work has not resulted in approved data standards in the business areas required by the Act.

Initially, the CAO's effort focused primarily on the Act's business areas, with agencies documenting their existing data standards. In July 2008, the CAO hired a Data Manager who analyzed the approach taken to date and determined that the Commonwealth needed to focus on desired future data standards rather than documenting the existing ones.

In August 2008, the CAO and Data Manager met with Auditor of Public Accounts staff to discuss the new data standards direction and there was agreement that the CAO and Data Manager should lead the central agencies in planning and establishing a Data Management Program for the Commonwealth. The deliverables in the first phase of this program supported Transportation's financial management system.

Following are specific briefings given by the CAO and her staff which we believe demonstrates the work effort during the past 17 months, the shift in emphasis, and missed deadlines.



### July 2008 Briefing by CAO to ITIB

In this briefing the CAO reported that data standards were on track. She had established leadership teams and working groups in the business areas of supply chain (procurement), finance and budget, real estate and construction, human resources, and time accounting. She also noted that she developed and distributed data standard templates and set December 2008 as the deadline to give the ITIB the approved data standards.

### October 2008 Briefing by CAO Staff to ITIB

This briefing was given two months before the CAO's promised December 2008 deadline given during the July 2008 briefing. It showed several accomplishments and described the next steps. The briefing also indicates that things are progressing well and on track. The Office of the CAO gave no indication that she needed a revised deadline and therefore, ITIB members were operating under the assumption that they would receive approved data standards by December 2008.

### March 2009 Briefing by CAO's Data Manager to ITIB's Information Technology Solutions Committee

This briefing was given approximately five months after the Act's deadline and three months after the CAO's December 2008 deadline. This briefing was largely a verbal presentation of the CAO's December 2008 written report to the ITIB. The CAO's Data Manager provided the chart below to show her current data standardization efforts.

## 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

The chart above shows the status of all project efforts, with none listed as complete. In addition, there was no comparison to or discussion of the previously promised December 2008 date.

The briefing noted that the data management program required more staff resources to deliver the following data standards as shown below.

**By July 2009**

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

**By September 2009**

Data Standard and exchange defined for purchase order  
Data Standard and data exchange defined for employee profile  
Submit ITIB approval for Commonwealth Data Strategy  
Full functioning data modeling infrastructure  
Website to publish adopted data standards, data strategy, best practices  
COVA-staffed enterprise data management team

**By December 2009**

Data standards for chart of accounts (attribute level)  
Data standards for financial data to be interfaced  
Data standards for budget data to be interfaced  
Data standards and data exchange for employee time card data  
Data standards work with major projects continues throughout 2009, DMS, DSS, VEC  
Data governance  
Commonwealth metadata management

The six required resources, as requested in the briefing, were not forthcoming. In May 2009, the Data Manager hired a Senior Data Architect (wage employee). In July 2009 the CAO transferred a Data Modeler/Analyst to the Data Management Group. Both resources focused on data standards work.

**July 2009 CAO Data Standards Status Report to ITIB**

This report to the ITIB, dated July 1, 2009, described work accomplished in the six months since the previous report, and gave further revised deadlines for work completion. Relative to the business process areas described in the Act, the CAO noted the following planned accomplishments.

- By July 2009 vendor data standards will be ready for CAO adoption.
- By December 1, 2009 procurement to payment data standards will be ready for adoption.
- Chart of Accounts data standards work is underway with submission for ITIB approval before the systems development phase of the new enterprise financial management system.
- CAO was working to develop data standards for enterprise data for exchange with the new performance budgeting application.

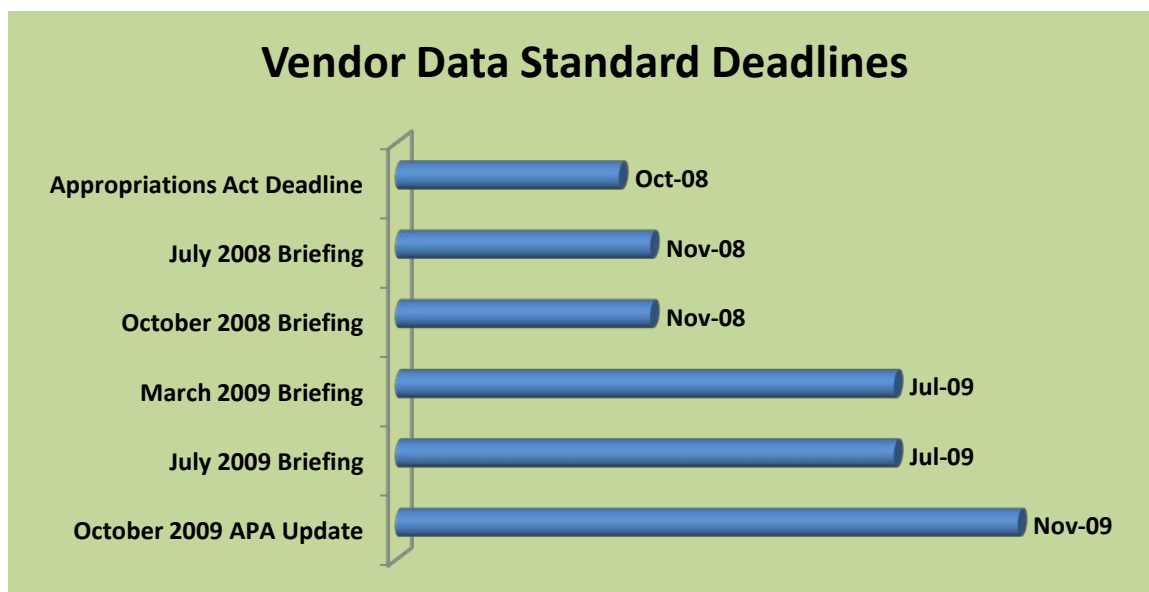
The report was silent as to the status of data standard efforts relative to state employee identification information described in the Act.

### October 2009 APA Briefing

In October 2009, the CAO's Data Manager provided our office with a quarterly status briefing and further revised the estimates given in the CAO's July 2009 written report. We asked the Data Manager for a detailed project plan showing what tasks needed to be completed, by when, and by whom, to support the current deadlines. The Data Manager acknowledged that no type of detailed work schedule exists and agreed that having such a schedule would be a good thing.

These briefings demonstrate that data standard deadlines have been a moving target. Exhibit 2 below shows how the deadline for the one of the data standard areas, vendor information, has shifted.

### **Exhibit 2**



Given the history of missing deadlines coupled with the fact that the CAO does not have a detailed project plan, we are uncertain when delivery of any data standard will occur or whether the current deadlines are realistic.

The CAO contends that agencies have not submitted data standards to her as required by the Act, therefore making it impossible for her to adopt any to date. However, the CAO has never reported any issues regarding agency cooperation in either her verbal presentations or written status reports to the ITIB.

Although there are no final, adopted data standards to date, the CAO has achieved accomplishments and made progress related to establishing a Commonwealth data management program and the development of data standards. Below we describe what work has been done under two broad categories: Data Management Program and Data Standards.

## ***Data Management Program***

The CAO's work in the data management area has involved representatives from a variety of agencies, to include the central administrative agencies, which meet quarterly with the CAO's Data Manager and other support staff to review and comment on draft documents.

### ***Data Management Program Plan Document – Final***

In January 2009, the CAO adopted a Data Management Program Plan Document, which provides a plan for establishing a Commonwealth data management program. The plan identifies program stakeholders such as the Comptroller, the Chief Information Officer, and high ranking officials from the Departments of Accounts, Human Resource Management, General Services, Planning and Budget, Treasury, and Transportation. In addition to describing the program's objectives and scope, the plan clearly indicates that the first phase of the program will focus on defining the enterprise business lines to support Transportation's enterprise system implementation, including defining the data standards to meet related mandates identified in the Act.

### ***Data Standardization Process Document – Final***

In October 2009, the CAO released a Data Standardization Process document that defines a process for how to standardize data and how agencies will collaborate with the CAO to define and adopt data standards. There are three sections within this process document.

- Section 1 defines expectations for compliance with the process and with data standards.
- Section 2 defines the key roles and responsibilities for Commonwealth resources as they pertain to the development of data standards.
- Section 3 defines six phases of the data standardization process including detailed steps, inputs, outputs, timing, and required resources.

This process document used the U.S. Department of Interior's work on data standardization and made changes to align to this work with Commonwealth's needs.

### ***Data Strategy Document – Draft***

In July 2009, the CAO released a draft Data Strategy document which describes the Commonwealth's business drivers, principles, and vision for data management. The strategy outlines goals, objectives, and strategies to achieve the vision. In addition, the document introduces data management concepts and best practices to Commonwealth leadership. The document identifies three goals as noted below.

- Goal 1: Implement an enterprise data management program
- Goal 2: Enable enterprise data sharing
- Goal 3: Establish data governance and oversight

Objectives within these goals include understanding the information needs of the enterprise and all its stakeholders, defining and adopting vendor data standards, and defining and adopting a

chart of accounts data standard, to name a few. The strategy document does not describe the detailed tasks or timeline associated with meeting the objectives.

### *Agency Use of the Commonwealth Data Standards Catalog – Draft*

In September 2009 the CAO's Data Manager released the draft Agency Use of the Commonwealth Data Standards Catalog, whose purpose is to define the process state agencies would use to request the creation of a data standard, modify an existing data standard, or receive an exception to using a data standard. The CAO's Data Manager plans to review this process with the ITIB Enterprise Applications and Major Projects Committee on December 17, 2009.

## ***Data Standards***

### *Vendor Data Standards*

Vendor data standards define vendor information required to support the purchase and payment of goods and services. The Vendor data standards encompass the following business area of the seven areas required by the Act.

- **Vendor tables**
- Receiving information
- Invoice information
- Purchase information including commodity codes
- Chart of accounts
- State employee identification information
- Agency identification information

These standards are the most complete of any data standard, and the CAO's Data Manager will present an overview of these standards to the ITIB Enterprise Applications and Major Projects Committee on December 17, 2009. The expected outcome is the committee's recommendation for ITIB approval. The Departments of Accounts, General Services, and Virginia Information Technologies Agency (VITA) are data owners for these standards since General Services and VITA establish the Commonwealth purchasing rules and Accounts establish vendor payment rules.

Legislation enacted during the 2009 General Assembly placed implementation requirements on VITA, Accounts, and General Services to define vendor data standards. This legislation, shown below, requires vendor data standards by December 2009 and that General Services should begin using them by July 1, 2010. Without this legislation, we believe vendor data standards would not be as far along as they currently are.

General Services completed the majority of the vendor data standards work prior to July 2009 because General Services committed a full time dedicated resource to the work beginning in January 2009. Since July 2009, these standards have been in review with VITA.

Code of Virginia section 2.2-1115.1. - Standard Vendor Accounting Information

- A. The Division, the Virginia Information Technologies Agency, and the State Comptroller shall develop and maintain data standards for use by all agencies and institutions for payments and purchases of goods and services pursuant to sections 2.2-1115 and 2.2-2012. Such standards shall include at a minimum the vendor number, name, address, and tax identification number; commodity code, order number, invoice number, and receipt information; and other information necessary to appropriately and consistently identify all suppliers of goods, commodities, and other services to the Commonwealth. The Division, the Virginia Information Technologies Agency, and the State Comptroller shall annually review and update these standards to provide the Commonwealth information to monitor all procurement of goods and services and to implement adequate controls to pay only authorized providers of goods and services to the Commonwealth.
- B. The Division and the Virginia Information Technologies Agency shall submit these standards to the Information Technology Investment Board in accordance with section 2.2-2458 for approval as statewide technical and data standards for information technology.

Order to Pay Data Standards

These standards encompass the data required for purchase transactions such as: contracts, requisitions, purchase orders, receipts, invoices, vouchers, and payments. These data standards consider the following business areas of the seven areas required by the Act.

- Vendor tables
- **Receiving information**
- **Invoice information**
- **Purchase information including commodity codes**
- Chart of accounts
- Agency identification information
- State employee identification information

Representatives from the Departments of Accounts, General Services, and VITA are working to define their data requirements for the data model. The CAO's Data Manager, based upon feedback from the data standard owners, indicates a December 2009 target date for completion of these data standards; however, we believe this target is aggressive given the work still required.

### Financial Management and Performance Budgeting Data Standards

These standards encompass primarily the chart of accounts to support both the financial management and performance budgeting systems underway at the Department of Transportation and Planning and Budget. These data standards consider the following business area of the seven areas required by the Act.

- Vendor tables
- Receiving information
- Invoice information
- Purchase information including commodity codes
- **Chart of accounts**
- **Agency identification information**
- State employee identification information

The CAO led an early effort to define a draft chart of accounts from June 2007 to June 2008. The draft chart provided the Commonwealth's high level requirements, which Transportation used when developing system requirements and in evaluating proposed software solutions.

Transportation's project team, which includes representatives from the Department of Accounts, plans to analyze the chart of accounts structure with respect to the application software capabilities from November 2009 – January 2010. A chart of accounts workgroup will then meet in late January to review the analysis from Transportation's project team. The chart of accounts structure and supporting data standard will be available for public comment in May 2010.

Key representatives to the chart of accounts workgroup will include the State Comptroller and representatives from his office, the Department of Accounts, as well as executive management from the Departments of Transportation and Planning and Budget. The Departments of Accounts, Planning and Budget, and Transportation have agreed that the Comptroller will own and approve the new chart of accounts.

The CAO staff has committed to participate in the workgroup to support the Department of Accounts, in the development of this data standard. Transportation is taking the lead role in organizing the meetings.

Transportation has indicated they need the chart of accounts structure by the end of January 2010, although they can wait until April 2011 for final data values. For example, by January 2010 Transportation must know that the chart of accounts requires a field called "fund," a definition of what "fund" represents, as well as criteria about "fund," such as its maximum length and whether the data must be alpha or numeric. It is not until April 2011 that Transportation needs to know all of the acceptable values for "fund"; i.e., 0100 indicates general fund, 0200 indicates special revenue fund, and so on.

### Human Resources Data Standards

These standards primarily encompass functions to support the human resource management aspect of the financial management system for Department of Transportation. This data standard considers the following business area of the seven areas required by the Act.

- Vendor tables
- Receiving information
- Invoice information
- Purchase information including commodity codes
- Chart of accounts
- Agency identification information
- **State employee identification information**

The CAO must approve the employee data standard before Transportation finalizes its system design. The CAO began initial work with the Department of Human Resource Management in the Fall of 2008 to draft basic employee information data standards.

The CAO staff and Human Resource Management will continue the initial draft work with the Virginia Community College System's (VCCS), who is implementing a new human resource system. The CAO has committed staff to support Human Resource Management, the owner of the employee data standard, to fully develop the standard and implement a data exchange for managing employee data. There is a scheduled project kick-off meeting with VCCS, CAO staff, and Human Resource Management for early November 2009.



## **CONCLUSIONS AND RECOMMENDATIONS**

No approved data standards exist for any of the business areas described in the Act. The standards closest to approval involve vendor information, and we believe its progress is largely the result of separate legislation passed during the 2009 General Assembly session.

Thus far, the Commonwealth has not met any scheduled deadlines and we believe deadlines will continue to slip primarily because there is no detailed schedule of required tasks. In short, deadlines given by the CAO thus far are an educated guess.

To develop realistic deadlines, we recommend that the CAO prepare a detailed schedule for each data standard area. This schedule should describe the required detailed work tasks, show assigned agency resources, and consider the dates for when those resources are available to perform the tasks. The CAO must consider that some tasks can occur simultaneously, but other tasks must wait until the completion of dependent tasks. Finally, the CAO must share the schedule with affected agencies and receive their agreement that these agencies will commit the resources to work on data standards as scheduled. If agency cooperation slips, the CAO should report this information to the ITIB along with its impact on the data standards project.

Even with a detailed schedule, we are concerned about the reality of meeting the deadline due to resource limitations. Currently the CAO's data management resources only work part-time on data standard initiatives since they are also assigned to other projects.

Based on the projects currently before them, we believe their commitment to data standards is inadequate to meet any deadline, or else is so minimal as to be ineffective. Therefore, we recommend that the CAO prioritize work assignments to meet the detailed schedule developed in our earlier recommendation, and consider assigning other resources to work on non-data standard related projects.

Effective July 1, 2009, legislation formally established the CAO position. The CIO now appoints and supervises the CAO. Since this change became effective, the CAO has largely continued to work independently as the search for a new permanent CIO was underway.

### **Recommendations**

1. The CAO must prepare a detailed work schedule for each data standard area and receive agency resource commitments
2. The CAO must prioritize her staff's work and emphasize data standards projects.
3. The CIO must assess the CAO's work relative to data standards and communicate his expectations. The CIO must also aid the CAO in prioritizing assignments under her responsibility.
4. The CIO and CAO must discuss expectations regarding leadership and authority over data standards.

The ITIB hired the new CIO in September 2009, and we recommend that he assess the CAO's work relative to data standards and communicate his expectations in establishing and meeting deadlines. When performing this evaluation we recommend that the CIO consult agencies that are stakeholders in the new enterprise applications to ensure he understands their needs and schedules. In addition, the CIO should review all projects beyond data standards that the CAO is working on and provide assistance in prioritizing them. Other government officials established much of the CAO's current workload before she reported to the CIO; however, these projects may not represent or support the CIO's priorities or plans for the future of Virginia's information technology.

Finally, we recommend the CIO discuss his expectations regarding the CAO's leadership and authority over data standards. In our opinion, both the General Assembly and Governor expected the CAO to exercise authority by requiring agencies to develop and follow data standards and to hold them accountable. However, in our discussions with the CAO it appears that she may have questions regarding her degree of authority and responsibility, particularly since becoming part of VITA. The CIO and CAO should discuss this matter with appropriate individuals to ensure a clear understanding is obtained, and seek modification to the Code of Virginia and Act if reasonable and necessary to properly describe her authority.



# Commonwealth of Virginia

**Walter J. Kucharski, Auditor**

**Auditor of Public Accounts  
P.O. Box 1295  
Richmond, Virginia 23218**

November 9, 2009

The Honorable Timothy M. Kaine  
Governor of Virginia

Delegate M. Kirkland Cox  
Chairman, Joint Legislative Audit  
and Review Commission

We have reviewed the Commonwealth's progress in developing data standards and are pleased to submit our report entitled "Enterprise Data Standards Progress Report."

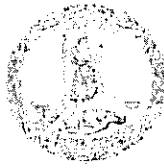
The Appropriations Act (Act), Chapter 879, required that by October 1, 2008 the Departments of General Services, Treasury, Human Resource Management, Planning and Budget, and Accounts would provide the Department of Transportation and Chief Applications Officer (CAO) with the data standards for specific areas necessary to conduct business. Effective July 1, 2009 the CAO became part of the Virginia Information Technologies Agency (VITA) and reports to the Chief Information Officer; however, the CAO remains responsible for the planning, development, implementation, improvement, and retirement of enterprise applications and implementation of data standards based on the authority granted to her in Sections 2.2-2033 and 2.2-2034 of the Code of Virginia.

No approved data standards exist for any of the business areas described in the Act. The standards closest to approval involve vendor information and we believe its progress is largely the result of separate legislation passed during the 2009 General Assembly session.

Our report includes recommendations to improve the Commonwealth's progress in developing data standards. Specific recommendations are described in detail within the report and include developing detailed work schedules, prioritizing data standards work, and establishing expectations regarding leadership and authority over data standards.

AUDITOR OF PUBLIC ACCOUNTS

KKH/alh



## COMMONWEALTH of VIRGINIA

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711

November 30, 2009

Mr. Walter J. Kucharski  
Auditor of Public Accounts  
Post Office Box 1295  
Richmond, Virginia 23218

Dear Mr. Kucharski:

Thank you for the opportunity to respond to the Auditor of Public Accounts' review of the Commonwealth's progress in developing and implementing data standards. We share your opinion regarding the importance of developing data standards for our future enterprise financial system.

I am pleased to report that our efforts to support the Department of Accounts, Department of Planning and Budget, Department of General Services, Department of Human Resources Management and Treasury have positively contributed to the development of the data standards directed within the Act. Furthermore, by aligning the development of these standards with the financial project schedule, the result has been no negative impact to the project's cost, schedule or performance.

I am gratified to see the report recognized the need to develop a data architecture program, to avoid creating standards based on old systems, the challenges with resources and the adjustment to the financial project's timeline. These factors all influenced the Commonwealth's ability to develop the data standards in a more timely fashion.

We are in agreement with your four recommendations and will prepare a recommended corrective action plan accordingly for consideration. In fact, efforts to improve communications are and have been underway. I have instructed my staff to remain focused, with the central agencies, on developing the data standards needed by the financial project. The timely completion of these data standards are a priority for VITA.

We applaud the professionalism of your staff, particularly Karen Helderman, in performing this review and preparing this report. We appreciate the advice of your office and look forward to working with you to improve the maturity of the data standards program within the Commonwealth.

Mr. Walter Kucharski  
November 30, 2009  
Page Two

Sincerely,

A handwritten signature in black ink, appearing to read "George F. Coulter", with a long horizontal flourish extending to the right.

George F. Coulter

c: David Von Moll, State Comptroller, Department of Accounts  
Sara Wilson, Director, Department of Human Resource Management  
Dan Timberlake, Director, Department of Planning and Budget  
Richard Sliwoski, Director, Department of General Services  
Manju Ganeriwala, State Treasurer, Department of the Treasury  
Greg Whirley, Deputy Commissioner, Department of Transportation