Government Data Advisory Board (GDAB) Annual Report, January 2011

STATE OF COLORADO

GOVERNOR'S OFFICE OF INFORMATION TECHNOLOGY

GOVERNMENT DATA ADVISORY BOARD

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John Hickenlooper
Governor

Leah Lewis
Acting State Chief Information Officer

January 14, 2011

Leah Lewis
Acting State Chief Information Officer
Governor's Office of Information Technology
601 East 18th Avenue, Suite 250
Denver, Colorado 80203

Re: Government Data Advisory Board Annual Report

Dear Ms. Lewis,

I am pleased to submit the Government Data Advisory Board's annual report, as required by Colorado Revised Statute 24-37.5-703.

The Government Data Advisory Board completed its first year of work in August 2010, and has actively continued to forward the State's critical data sharing efforts. Policies such as the Information Asset Security Classification policy and Information Sharing Agreement policy were drafted and put forth to OIT. Through House Bills 10-1028 and 10-1392, the GDAB expanded its scope to streamlining the application process for early childhood services and supports, and broadened its membership to the other branches of state government.

We look forward to continuing our work in 2011, and supporting the state's efforts in cross-agency data sharing and enterprise data management.

Please contact me at 303-764-7710 if you have any questions or comments.

Sincerely,

Micheline Casey
Chair, Government Data Advisory Board

OIT Office of Information Technology — *Increasing the effectiveness of government through information technology*

Executive Summary

The Government Data Advisory Board (the "Board") was created through HB 09-1285. Its primary mission is to provide recommendations and advise the State Chief Information Officer (CIO) regarding the ongoing development, maintenance, and implementation of the interdepartmental data protocol.

Persuant to C.R.S. 24-37.5-703, the Board has the following duties:

- To advise the chief information officer concerning best practices in sharing and protecting data in state government
- To recommend to the CIO rules and procedures that a state agency shall follow in requesting, or responding to a request for, data from another state agency, including but not limited to strategies for enforcing said rules
- To advise the chief information officer concerning rules and procedures for responding to data requests submitted by an entity outside of state government
- To recommend to the chief information officer a schedule of fees that the office may charge to state agencies to supervise and administer interdepartmental and external data requests, that a state agency may charge another state agency in responding to an interdepartmental data request, and that a state agency may charge to respond to a data request submitted by an entity outside of state government in recommending the fee schedule, the advisory board shall ensure that the fee amounts do not exceed the direct and indirect costs incurred by the office or by the state agency that is responding to a data request.

The Board is tasked with presenting an Annual Report of its activities to the State CIO by January 15th of each calendar year. The State CIO then updates the Governor's Office and Legislature by March 1st each calendar year.

In its 2010 Annual Report, the Board made two primary recommendations: inventory all state data systems and develop a data stewardship policy. It is our understanding that OIT has begun work on the enterprise inventory effort, but that the data stewardship policy is still outstanding. The Board continues to believe that both efforts will contribute to enterprise data sharing efforts, and urges OIT to complete this work as soon as possible.

The Board understands that calendar year 2011 will be a major implementation year for many of the core enterprise architectural components that will facilitate interagency data sharing and the interdepartmental data protocol. As with any implementation efforts, there will naturally be issues of governance, policies, procedures, and technology that must be resolved. To that end, the Board recommends to the State CIO the following to support these implementation efforts:

- Continue to develop policies and procedures that enhance the state's data sharing efforts, in particular those needed for data matching, data merging, data cleansing, and data exchange

that are necessary for the State Longitudinal Data System and Health Information Exchange efforts.

- Privacy and security of data continue to loom over the state, and strong policies and procedures are needed to instill confidence in the citizenry that the state is protecting their data while enhancing service delivery value.
- Conduct Town Halls with the State Chief Data Officer (CDO) and State Chief Information Security Officer (CISO) to brief agencies on the information asset security classification policy and other pertinent topics.
- Document data management-related controls for the state's IT project management function.
- Provide quarterly updates by the OIT Office of Enterprise Architecture to the Board.

Strong communication across a wide range of stakeholders will be essential to the short and long term success of the state's data sharing efforts. The Board recognizes that the Governor's Office of Information Technology (OIT) has not been resourced effectively to accomplish this task, but urges OIT to implement a communication plan for the following:

- The transition of administration.
- Conduct a data sharing communications outreach to all cabinet members and state legislators.
- Conduct a communications outreach at the application user level emphasizing the importance of data quality best practices.
- Initiate quarterly updates of OIT IT Directors (Agency Services) for all new Board policies, templates, strategic initiatives etc.

The shared services approach that OIT is moving forward with on the implementation side introduces a new architectural model to the State. The Board recommends that OIT's Chief Financial Officer work to integrate costs associated with data sharing between state agencies into the statewide IT consolidation framework as a common policy cost.

Additionally, the success of the Board hinges on full and active membership as outlined in HB 09-1285. The Board seek executive support to ensure full agency participation in this process, across all branches of government. OIT should also seek to expand the support staff for the state CDO to include business analysts and data architects that can support the expansion of these efforts and provide support to executive branch agencies that move in this direction.

The Board is excited to see the momentum that 2011 brings. The Board look forward to continuing our support of information sharing and information management and believe it is really one of the primary areas which can impact government service delivery to our citizens and policy makers for the better.

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Background and Overview

The Colorado Legislature approached the issue of enterprise data sharing with the passage of House Bills 08-1364 and 09-1285. HB 08-1364 directed the Governor's Office of Information Technology (OIT) to convene a Data Protocol Development Council ("Council") to assist in designing and implementing an interdepartmental data protocol. The goals of the cross-departmental data protocol are to facilitate information sharing across agencies, and to assist in formulating and determining the effectiveness of state policies.

The mission of the Council was to provide guidance, policies and procedures for implementing a data sharing architecture across the state enterprise to achieve the stated goals and objectives of HB-1364. HB 08-1364 was driven by the need to:

- analyze and determine the effectiveness of state policies and resources by examining an issue across multiple state agencies;
- formulate informed strategic plans for the application and use of state resources based on strong, accurate, reliable, multi-dimensional data;
- and, to enable more efficient collecting, storing, manipulating, sharing, retrieving, and releasing of data across state agencies.

The Council made a number of recommendations in its final report to the State CIO and Legislature in February 2009. Number one among these recommendations was the establishment of a formal governing board to advise on enterprise policies, directions and priorities for data governance and management across state government agencies. This formal data governance process will describe the “rules of engagement” by which all State Executive Branch agencies will follow regarding data sharing and data management.

Based on the Council’s recommendation, the Legislature introduced and passed HB 09-1285, which created and defined the Government Data Advisory Board (the “Board”). The Board was specifically established to advise the State CIO on activities and policies necessary to developing the interdepartmental data protocol created in HB 08-1364 and to continue the work of the Council.

Mission

The Board’s mission is to provide guidance and recommendations on how the state should govern and manage data and data management systems to improve the efficiency and effectiveness of state government, citizen service delivery and policy-making.

Vision

The vision for ***enterprise data sharing*** is to foster collaboration, innovation and agility in delivering government services to the citizens of Colorado through the seamless, efficient, strategic exchange of core data sets resulting in increased effectiveness of government operations.

“Enterprise” is defined as the State of Colorado Executive Branch Agencies.

"Core data sets" are defined as one or more data elements strategic and/or critical to State agency operational or programmatic needs.

Board Roles

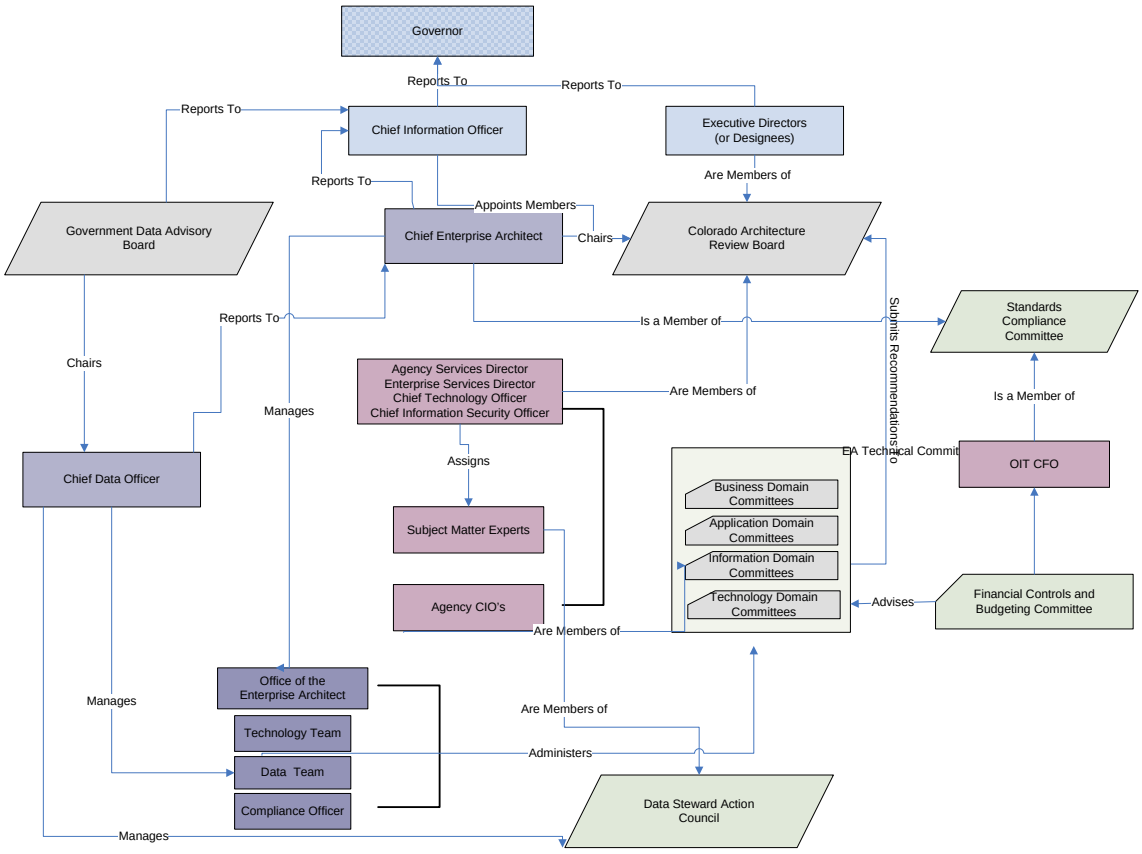
The Board has two primary roles. The first is to assist the State CIO and CDO in determining the state's data strategy, policies, standards, architecture and assisting with issue management. The Board's second role is as advocate: both from their communities to OIT regarding stakeholder needs and concerns; and, to their community as key communicators regarding the state's progress, concerns and challenges.

Board Alignment with OIT Operations

The Board operates as one part of a well-organized process that includes the Office of Enterprise Architecture and the Colorado Enterprise Architecture Framework. As part of Colorado's strategic plan, OIT has adopted a set of guiding principles:

1. Security and Privacy are core missions.
2. The Board will engage the State's highly skilled and dedicated workforce.
3. Information is one of our most valuable assets and should be shared.
4. Businesses will maintain data sovereignty.
5. Our technology should be agile enough to meet the changing needs of agencies and citizens.
6. The Board will strive to constantly improve cost effectiveness.

As the slide below illustrates, the Board advises the State CIO on data sharing master data management. The Board is chaired by the state's CDO, reports to the Enterprise Architect. The Board, OIT and the CDO are aligned as shown in the following figure:



Program Scope

The Board had its kick-off meeting on August 21, 2009 and sunsets in ten years, in 2019. While the data sharing protocol outlined in HB 08-1364 specifically focused on unit records, the Board can and will provide recommendations on records of any type. Unit records will continue to be a priority to the Board due to the privacy and compliance related issues surrounding them. Unit records are defined as records pertaining to individuals, and thus have specific privacy and security components related to the collection, storage, transfer, and maintenance of those records that must be recognized and adhered to.

The Board has the following responsibilities:

- Advise on the development, maintenance, and implementation of the data sharing protocol;
- Advise on the best practices for sharing and protecting citizen data;
- Review, advise, and provide input into the strategic plan for improving data governance;
- Advise on compliance, privacy and security data requirements;

- Advise on internal and external data policies and procedures;
- Advise on financial and budgetary components required for implementation; and,
- Specifically recommend education data sharing and management strategies.

Finally, the Board will develop recommendations with time frames and priorities for developing and implementing the cross-departmental data protocol. *Procurement, development, and/or implementation of Board recommendations are outside the Board's scope of work.*

Goals

The goal of the cross-departmental data protocol is to facilitate information sharing across agencies and assist in formulating and determining the effectiveness of state policies. The goals of the Board in its advisory capacity to the State CIO regarding implementation of the protocol are as follows:

Goal 1: Develop recommendations for enterprise data sharing, integration and consolidation.

Goal 2: Recommend policies and procedures for managing data and resolving conflicts.

Goal 3: Identify areas to reduce operational costs and complexity.

Goal 4: Provide recommendations to improve data privacy, regulatory compliance and access management.

Goal 5: Identify change management opportunities (service delivery, process improvement, organizational re-alignment).

Program Deliverables

The key deliverables for this program include:

Deliverable	Description
Annual priority document	The Board will develop an annual priority document that will target the work the Board will focus on during its current year. Years run from August to July. These documents may be modified and amended via Board procedures as unforeseen or urgent needs are identified by the Board or stakeholders.

Policy documents	Policy documents will be written by the Board for each identified enterprise policy need. These documents will be delivered to the Chief Data Officer in the OIT.
Education Data Subcommittee report due to Board	These reports are due to the Board twice a year, per legislation, on the first December and the first of June.
Board report due to State CIO	This report is due annually, per legislation, by January 15.
State CIO report due to Governor & Legislature	This report is due annually, per legislation, by March 1.

Issues

The following issues will be considered by the Board as its work progresses:

- Cultural and change management issues within state agencies.
- Determine a funding source to implement an enterprise program and system infrastructure to support the cross-departmental data protocol.
- Meet compliance standards set by federal and state statute and regulation.
- Ensure that recommended statutory or regulatory changes can be met in a timely manner.
- Address privacy and security concerns of citizens.

Sponsors and Stakeholders

The following stakeholders have been identified as having a key interest in the program:

Stakeholder/Group	Stakeholder Interest
Executive Sponsorship *OIT Executive Team	OIT is responsible for implementing and delivering the capabilities envisioned with the cross-departmental data protocol and enterprise data sharing initiatives.

Governor's Office * Policy advisors as identified	The Governor's Office drafted HB 08-1364, the initial legislation, in order to help achieve its objectives on a number of policy fronts, including education improvement efforts. The legislation and the work of the Board are a high priority to the Governor's Office.
Colorado Legislature	The Legislature has seen bi-partisan support for its legislation in challenging the state to develop more efficient and effective data management, exchange and delivery capabilities. It knows that the state can be much more effective in its ability to capture, share, store, and analyze data. It also wants the state to do a better job with regards to performance management and service delivery. The Legislature is keenly interested in how the Board's work proceeds.
Colorado State Agencies	Almost all Colorado state agencies will be impacted by the work done by the Board. The impact areas will include policy, technology, financial, and business process. There will also be cultural changes that will be a natural outcome of the Board's work, and it's important to keep the Agencies as informed as possible during these processes.
Office of the Attorney General	The Office of the Attorney General has a keen interest in ensuring strong policies in the areas of privacy and compliance.
Secretary of State	The Office of the Secretary of State is partnered with other state agencies and aims to continue those relationship and others by cooperating in this effort to ensure any future data exchanges meet compatibility, security and privacy interests.
Local Government Agencies and Entities	The State is a strong business partner with local governments across the state for many government service program delivery efforts. These include education, health care, social service, environmental, public safety and other vertical markets. All of the major data sharing initiatives that currently fall under the purview of OIT and HB 08-1364 include both state and local agency efforts, and thus these local governments will be directly impacted by Board directives. Additionally, it is known that there are any number of other data sharing efforts underway at the local level that will ultimately be impacted by Board policy decisions. Efforts should be made to provide crisp, timely communication to local government agencies so that human and financial resources expended on these projects are spent in ways that are aligned with the state's efforts, so that these efforts don't have to be re-done in the future.
State Agency Data Sharing Projects * Colorado Children's	These projects will be directly impacted by the Board's policy development efforts and technology architecture recommendations. These projects will also have urgent multi-agency, multi-governmental

Youth Information Sharing Project (CCYIS) * State Longitudinal Data System Project (SLDS) * State Traffic Records Advisory Committee (STRAC) * Others as identified	level needs that will need to be addressed in a timely manner by the Board so that these projects stay appropriately synchronized to state-level efforts.
Nongovernmental and Research Organizations	These organizations will be impacted by the Board's infrastructure recommendations for access to state data. Additionally, these organizations will be impacted by the fee structure recommended by the Board for access to state data.
General Public	The general public includes, but is not limited to, citizens, businesses, organizations, and media who all have a stake in how the state manages the data entrusted to it.

Roles and Responsibilities

The Board responsibilities are outlined in the Board Procedures. This section outlines the roles and responsibilities of key stakeholders that the Board will need to fulfill its mission to the best of its ability.

Role	Resource Name	Responsibility
Executive Sponsorship	State CIO and members of OIT Executive Leadership Team	Champion the project amongst the Governor's Office, Cabinet members, and Legislature. Exploration and development of funding sources. High-level program objective development. Provide program-related staffing as needed, including project management, financial, administrative, and technical advisory support.

Governor's Office	Senior Policy Advisors	Champion the project amongst the Governor's Office, Cabinet members, and Legislature. Exploration and development of funding sources. High-level program objective development.
Colorado State Agencies	Executive Directors	Provide subject matter experts to the Board for subcommittee or policy work. Communicate with the Board on agency needs and priorities. Champion project throughout their agency.
Office of the Attorney General	Assistant Attorney Generals as required	Provide review and counsel on Board-related legal issues. Provide review and counsel on compliance, legal, and privacy policies created by the Board.
State Agency Data Sharing Projects	Directors and Boards of each initiative	Provide updates on initiative progress as required. Provide communication via email or presentations to the Board regarding priority issues on which they need guidance.

2010 Year-in-Review Strategic Plan

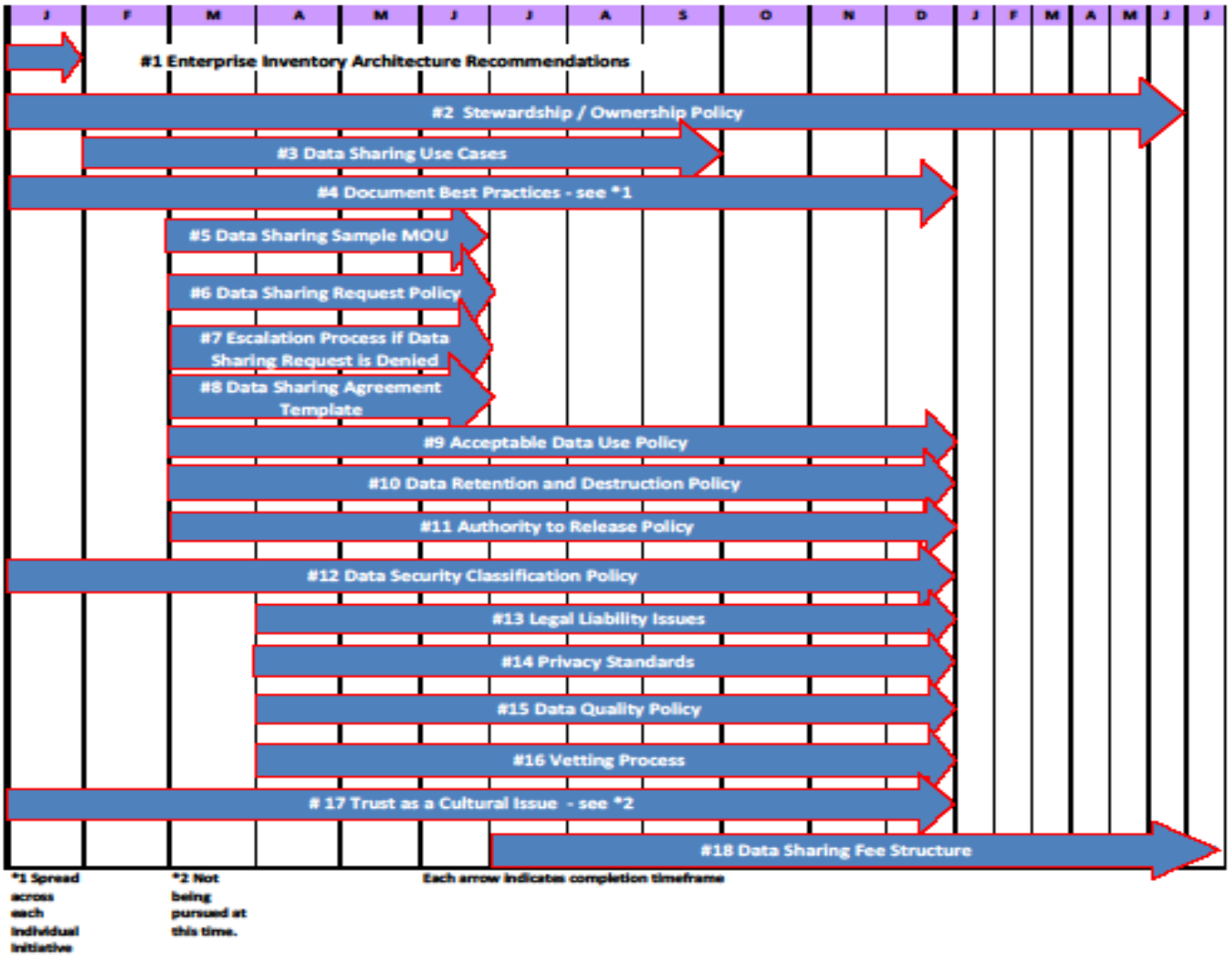
Strategic Plan Elements

In 2010, the Board as a whole identified 18 activities (areas of strategic planning) that when taken together will help meet the deliverables legislated by HB 09-1285. The table below outlines these activities in general order except in some cases, multiple objectives will be pursued simultaneously.

1	Recommend that OIT inventory all state data systems and understand where the data is located and used.
2	Develop a data stewardship and data ownership policy.
3	Develop use cases for data sharing to identify "low hanging fruit."
4	Identify industry best practices and apply to state processes where feasible.
5	Develop a sample memorandum of understanding for sharing data.
6	Develop a data sharing request policy including data reciprocity.
7	Develop an escalation process if a request for data is denied.
8	Develop data sharing agreement templates.
9	Develop an acceptable data usage policy.
10	Develop a data retention and destruction policy.
11	Develop an authority to release data policy.
12	Develop data security classification policies.
13	Analyze legal liability issues and adopt appropriate policies.
14	Develop privacy standards.
15	Develop a data quality policy.
16	Develop a vetting process to ensure data accuracy.
17	Address trust as a cultural issue within the data sharing community.
18	Analyze data sharing fee structure.

Number. 4 was spread across each of the other activities and became a part of the activity milestones. Numbers 13 and 14 were combined into one activity and the Privacy subcommittee was formed. Numbers 9 and 10 were merged with number 5. Number 17 is not being pursued at this time. Should trust become an issue, a special activity will be organized.

The work completed dashboard is shown below.


J F M A M J J A S O N D J F M A M J J
#1 Enterprise Inventory Architecture Recommendations
#2 Stewardship / Ownership Policy
#3 Data Sharing Use Cases
#4 Document Best Practices - see *1
#5 Data Sharing Sample MOU
#6 Data Sharing Request Policy
#7 Escalation Process if Data Sharing Request is Denied
#8 Data Sharing Agreement Template
#9 Acceptable Data Use Policy
#10 Data Retention and Destruction Policy
#11 Authority to Release Policy
#12 Data Security Classification Policy
#13 Legal Liability Issues
#14 Privacy Standards
#15 Data Quality Policy
#16 Vetting Process
17 Trust as a Cultural Issue - see *2
#18 Data Sharing Fee Structure
*1 Spread across each individual initiative
*2 Not being pursued at this time.
Each arrow indicates completion timeframe

Accomplishments

Following is a detailed description and summary of each strategic activity for calendar year 2010:

1. The **State Data Systems Inventory** initiative is to support, guide and make recommendations to OIT regarding the inventory of all state data systems and understand where the state's data is located and how it is used.

Why was this initiative a priority? i.e. what was the need or problem it addresses?

The state collects, stores and uses large quantities of data in the operation of the state's business. Often the same data is collected, stored and used multiple times and in multiple places by multiple agencies. This leads to a waste of storage space, multiple times that that this data must be updated and secured and confusion on the part of the general public on how to interface with the various state agencies.

What were the major milestones and target dates met for the project?

The first milestone was for the Board to recommend to OIT that an inventory of all state data systems be undertaken. This milestone was completed on January 15, 2010 when such a recommendation was made in the Board Annual Report.

Upon acceptance of the recommendation by the State CIO, OIT commenced the project in mid-2010 and the Board assumed an active role in agency coordination and support of the initiative.

What issues and risks were identified and mitigated for the project?

The primary risk to the inventory project was that OIT priorities given the large scale IT consolidation that occurred during CY 2010 agencies would not have the resources to complete this effort in a timely manner.

What changes were made to the original scope of work and why (if any)?

The original scope of work envisioned a complete inventory of all executive branch systems, applications, and databases, and included the acquisition of an enterprise architecture tool for the repository of all the data collected. During the year the Troux enterprise architecture tool was acquired, installed, and tested. Initial training of agency personnel was conducted.

Due to the size and complexity of installing and implementing the tool, OIT made the decision to focus on five major data sharing initiatives: the State Longitudinal Data System; the Colorado Children and Youth Information Sharing Initaitive; the State Traffic Records Advisory Committee Virtual Data Warehouse; the Early Childhood Leadership Commission's interagency data system; and, Health Information Exchange.

What major milestones and target gates remain (if any)?

The only remaining milestone for the Board is to continue the support and monitoring of this project. Since there are no dedicated FTE in the agencies to input information on their data into the tool, there is bound to be a contention of priorities between completing the inventory and carrying out the normal agency operations.

What are the next steps for CY2011 (if any)?

The first agency deadline for identifying data (systems) with the highest security classification of data is 12/31/11. If a substantial number of agencies fail to complete this task, the Board may need to take some action to brief the agency executive directors and try to hold any project slippage to a minimum.

What were the lessons learned from the project?

The project has not yet progressed to the point where lessons learned can be identified. The primary focus is will remain on how much time and how many agency resources are will be necessary to complete the inventory. By dividing the objectives into smaller, more achievable goals, the Board may learn some good lessons and how to complete large, complex tasks with limited agency resources and skill sets to manipulate the inventory tool.

2. **Development of a Data Stewardship and Data Ownership policy**

Project Description: This initiative is to support, guide and make recommendations to OIT on how to document and implement the relevant policy(ies) (i.e. set forth the purpose, definitions, standards, responsibilities and compliance provisions) for handling and caring for the state's data and for defining how ownership of the data will be managed.

Why was this initiative a priority? i.e. what was the need or problem it addresses?

The state has many different models for creating, managing, retaining and sharing data. These models range from full collaboration between multiple agencies (for example traffic accident information) to ad hoc agreements between two agencies to total abstinence from sharing any data with other agencies.

In order to manage the state's overall data strategy, it is necessary to document the policies for data stewardship versus ownership. The state's data belongs to the state but the responsibilities for collecting, using, sharing and securing various types of data is decentralized. This initiative is to create the appropriate policy documents that can be implemented statewide.

What were the major milestones and target dates met for the project?

The policy documents will be drafted by the Data Steward Action Council (DSAC). These documents will then be circulated to the Board and other stakeholders and ultimately go to the state CIO and Colorado Architectural Review Board for consideration and adoption.

What issues and risks were identified and mitigated for the project?

The primary risk to the inventory project was that OIT priorities given the large scale IT consolidation that occurred during CY 2010 would not allow the timely organization of the Data Steward Action Council.

What changes were made to the original scope of work and why (if any)?

No changes to the original scope of work have been made. However, the work did not start in CY 2010 as anticipated, and is now scheduled for CY 2011.

What major milestones and target gates remain (if any)?

The DSAC will be developing the plan for drafting the required policies in the first quarter of CY 2011.

What are the next steps for CY2011 (if any)?

Draft and vett the proposed new policies.

What were the lessons learned from the project?

Lesson number one is that all the Board strategic initiatives are subject to other OIT and agency priorities. The work load being carried to complete this project is not funded and is based to a large extent on volunteers with the accompanying operational time and budget constraints.

3. **Develop use cases for data sharing** to identify low hanging fruit.

Why was this initiative a priority? i.e. what was the need or problem it addresses?

Data sharing, particularly in the K-20 field, lacked a structure that made data sharing more difficult and complex. By developing a use case template, data stewards and data sharing requestors could document the pertinent information necessary to accomplish data sharing.

What were the major milestones and target dates met for the project?

- Collect representative samples of data sharing situations and documentation.
- Develop a data sharing use case template

What issues and risks were identified and mitigated for the project?

The main issue was collecting sample use cases i.e. that there would not be a useful set available. This turned out not to be the case.

What changes were made to the original scope of work and why (if any)?

There were no changes made to the original scope of work.

What major milestones and target gates remain (if any)?

The project is complete.

What are the next steps for CY2011 (if any)?

The Education Data Subcommittee has incorporated the Data Sharing Use Case template as part of its ongoing plan.

What were the lessons learned from the project?

By collecting sample use cases, the process of building a data sharing use case template was very straight forward.

4. **Data Sharing Agreements**. Develop a template to guide departments on the factors to consider when writing agreements to share data.

Why was this initiative a priority? i.e. what was the need or problem it addresses?

Departments are concerned about sharing data. They want to ensure that they have considered all factors before entering into a data sharing agreement.

What were the major milestones and target dates met for the project?

Collect example agreements May 2010

Synthesize best practices from example agreements June 2010

Write template for data sharing agreements August 2010

What issues and risks were identified and mitigated for the project?

Only a few departments had existing written agreements.

What changes were made to the original scope of work and why (if any)?

Originally a policy was also envisioned. It was then decided to include data sharing as part of a larger policy on data governance.

What major milestones and target gates remain (if any)?

None

What are the next steps for CY2011 (if any)?

Distribute templates to the departments.

What were the lessons learned from the project?

It is hard to complete a project with volunteers who have other jobs.

5. **Develop state data security classification policies**

Objective: Develop an updated security classification scheme for the state's data and information assets using a simple confidentiality classification schema. Information confidentiality classification is an important meta-data characteristic, informing if data can be shared and guiding how users are granted access privileges.

Why was this initiative a priority? i.e. what was the need or problem it addresses?

The purpose of this policy is to ensure that State of Colorado information assets are identified, properly classified, and protected throughout their lifecycles. Information must be properly managed from its creation to disposal. As with other assets, not all information has the same value or importance to the State and, therefore, requires different levels of protection. Information asset classification and data management are critical to translating such requirements into security controls, access control policies, and implementation costs.

What were the major milestones and target dates met for the project?

- Research other state/federal/private sector policies for best practices.
- Determine Colorado needs in conjunction with OCS (Office of Cyber Security).
- Draft new policy in conjunction with OCS and Department of Law (DOL).
- Expose policy for review and input with key stakeholders
- Run policy through OIT/OCS approval process.
- Publish policy

What issues and risks were identified and mitigated for the project?

From a big picture perspective, must also understand the connection of data security to data loss prevention (DLP) and access control policies.

What changes were made to the original scope of work and why (if any)?

No changes were made to the original scope of work, but the project was delayed due to time constraints by the policy writer.

What major milestones and target gates remain (if any)?

Policy is complete, has been approved by the Colorado Architecture Review Board, and was officially published in October 2010.

What are the next steps for CY2011 (if any)?

None

6. **Privacy and legal liability issues**. Analyze legal liability issues and adopt appropriate policies. Develop privacy standards.

Why was this initiative a priority? What was the need or problem it addresses?

Data privacy is a major concern. Strong privacy and confidentiality policies and compliance are key enablers of information sharing. With increasing legislation, i.e., FERPA, HIPAA, and more stringent sanctions being imposed for unauthorized release of data, it is important that all parties that are sharing data understand the legal liabilities that may be imposed upon them if they do not have the proper procedures, standards and/or policies in place to protect the privacy of data.

What were the major milestones and target dates met for the project?

Initial research of Federal and State statutes related to privacy was completed.

Initial research of Federal, State, Local and Private Sector standards for best practices was completed.

What issues and risks were identified and mitigated for the project?

It was determined that multiple work efforts across the state on privacy and confidentiality of date in information sharing environments were under way. In an effort to streamline these efforts, a Privacy Subcommittee was formed.

What changes were made to the original scope of work and why (if any)?

A Privacy Subcommittee made up of members from various workgroups that were addressing the same issues was formed. The initial meeting of the Subcommittee was held in September 2010. The purpose of the Subcommittee was discussed along with a list of proposed deliverables. The Subcommittee agreed to meet every month until its work is completed.

What major milestones and target gates remain (if any)?

Generate all documents, policies and procedures for final review by the Office of the Attorney General.

What are the next steps for CY2011 (if any)?

The Subcommittee will meet monthly to accomplish its work. Generate documents, policies and procedures for final review and adoption by September 2011.

7. **Data quality and vetting guidelines** – establishing guidelines to ensure that data maintained by the State is accurate, documented and current, and methods to evaluate and document data accuracy.

Why was this initiative a priority? i.e. what was the need or problem it addresses?

Data accuracy is fundamental to successful business operations of the State of Colorado. Because the state's multitude of systems are inherently complex, and because several thousand individuals maintain data within these systems, errors within state data are inevitable. Establishing data quality guidelines and data vetting procedures will help to minimize these errors.

What were the major milestones and target dates met for the project?

Both sets of guidelines were compiled from a set of best practices nationwide, and presented to the Board in November, 2010.

What issues and risks were identified and mitigated for the project?

Data errors are inevitable within the state's enterprise operations. By creating guidelines for documenting datasets with standardized metadata, guidelines to use standardized data subtypes/domains/lookup tables, and methods to verify the accuracy of data, errors will be minimized.

What changes were made to the original scope of work and why (if any)?

The original scope of work specified that two separate policy documents would be created. However research into best practices suggested that these policies would be well served if combined into a single policy document.

What major milestones and target gates remain (if any)?

The final policy developed by the Board should be incorporated into state agency operations, and adhered to with all new application/database/systems development activities henceforth.

What are the next steps for CY2011 (if any)?

Revision and acceptance of the guidelines by the State CIO.

What were the lessons learned from the project?

Data accuracy policies and vetting procedures are typically very loosely structured in public agencies nationwide. Gathering good precedent research for this task proved to be difficult. However, the Board policy draws from several private corporate procedures, and as such, will require a slight shift in thinking for state departments.

8. **Analyze Data Sharing Fee Structure**. The Board implementing legislation specifically requires a recommendation of a fee structure for the sharing of data. This project includes researching best practices in other states and current practices in state agencies and local governments.

Why was this initiative a priority? i.e. what was the need or problem it addresses?

This initiative is specifically addressed by the legislation. It is an ongoing item that requires an eventual recommendation by the board. A consistent fee structure can provide uniformity that should be able to help foster future increases in government data sharing whether across government agencies or between public and private entities.

What were the major milestones and target dates met for the project?

The major milestone this year for this project is research information. Information gathered needs to be documented. This is an ongoing project that ultimately must result in actual fee schedule/structure recommendations. Preliminary recommendations for some data sharing instances are included in this report.

What issues and risks were identified and mitigated for the project?

The ultimate risk for this project is resource availability. A survey was sent to all board members, but not all departments/institutions are currently represented on the board and complete information was not acquired. Understanding and collecting all relevant data will require additional resources.

What changes were made to the original scope of work and why (if any)?

The project was not anticipated to be completed in one year. Initial recommendations were submitted as part of this report.

What major milestones and target gates remain (if any)?

Formal survey of other states and a broad collection of best practices still needs to be completed. A selectively based sample of various states at different level of data exchange maturity, will help significantly. Additional discussions with OIT Chief Financial Officer about their ability to implement the current recommendations will be needed.

What are the next steps for CY2011 (if any)?

Gathering additional information on best practices will be essential to create additional progress. Based on the Board's current recommendation, a simple methodology for data exchange between state agencies should be fairly straight forward to establish. It can get complicated when approaching the problem from a point of view of exchanging data between state and local government as well as government and private parties (especially if fees subsidize other operations within the governmental entity). Additional work will need to be done in this area.

What were the lessons learned from the project?

Leveraging the limited resources where possible will be imperative to making additional progress.

Key Recommendations for 2011

The Board recommends the following to the State CIO:

1. Conduct town halls with the CISO to brief agencies on the data classification policy and other pertinent topics.
2. Document data management-related controls for the state's IT project management function.
3. Draft a transition communication plan.
4. Provide periodic updates by OIT's Office of Enterprise Architecture at the Board quarterly meetings.
5. Conduct a data sharing communications outreach to all cabinet members and state legislators.
6. Conduct a communications outreach at the application user level emphasizing the importance of data quality best practices.
7. Initiate quarterly updates of OIT IT Directors (Agency Services) for all new Board policies, templates, strategic initiatives etc.
8. Continue and complete the inventory of the state's data systems using up to five current data sharing state initiatives.
9. Complete, adopt and implement data stewardship and ownership policies.
10. The Board recommends that the Office of Information Technology's Chief Financial Officer work to integrate costs associated with data sharing between state agencies into the statewide IT consolidation framework as a common policy cost. The Board believes that this incorporation will help ensure that data sharing costs do not exceed the direct and indirect costs of sharing data between the various agencies and will provide a common framework for sharing the information technology costs of data exchange. The Board encourages this work to be done in order to incorporate currently approved projects such as SLDS into this framework in order to facilitate their completion and ongoing operations. The Board further recommends that these efforts be used to track actual information technology costs for data sharing projects and that this data be used to assist in the development of fee structures beyond sharing between state agencies.

Appendix 1 – Board Members

Board Member Name	Organization
Cindy Richey	Department of Public Safety
Diane Zandin	Department of Health Care Policy and Financing
Micheline Casey	Governor's Office of Information Technology
Richard Coolidge	Secretary of State
Daniel Domagala	Department of Education
Paul Engstrom	Department of Corrections
Ed Freeman, Denver Public Schools	Rep. of Employee of School Districts
Vacant	Rep. of Person serving on School Boards
Vacant	Rep. of Person from an institution of higher education or nongovernmental organization
Chris Markuson, Pueblo County	Rep. of Employee of City, County, or City and County
Vacant	Department of Transportation
Robert O'Doherty	Department of Public Health and Environment
Ronald Ozga	Department of Human Services
Wayne Peel	Department of Labor and Employment
Jason Presley, Dr. Beth Bean	Department of Higher Education
Vacant	Department of Revenue
Guy Mellor	Department of Personnel and Administration
Vacant	Judicial Branch

Appendix 2 - Data Management Glossary of Terms and Acronyms

This glossary of terms and acronyms is intended to serve as a communication vehicle for reading and understanding publications produced from the Office of Enterprise Architecture.

AFIS - Fingerprint identification system at the Colorado Department of Public Safety.

ASCII – Acronym for the American Standard Code for Information Interchange, which is a code for information exchange between computers.

AUP - Acronym for Acceptable Use Policy, which is a set of regulations that govern how a service may be used.

Authentication - A process for verifying that a person or computer is who they say they are.

Business Data Steward - A recognized subject matter experts working with data management professionals on an ongoing basis to define and control data. They will be more simply referred to as the data stewards.

Business Domains - Business domains are the natural divisions of the business architecture and are based on either functional or topical scope. Business domains represent the highest level of the state's business architecture blueprint.

Business Reference Model – The Business Reference Model (BRM) provides a framework facilitating a functional (rather than organizational) view of the federal government's lines of business (LoBs), including its internal operations and its services for citizens, independent of the agencies, bureaus and offices performing them. The BRM describes the federal government around common business areas instead of through a stovepiped, agency-by-agency view. It thus promotes agency collaboration and serves as the underlying foundation for the FEA and E-Gov strategies.

CIO – Acronym for Chief Information Officer.

CISO – Acronym for Chief Information Security Officer.

CMP-SSC - Acronym for the Collaborative Management Program State Steering Committee.

Conceptual Model - A layer of modeling that defines business entities and the relationships between these business entities. Business entities are the concepts and classes of things, people, and places that are familiar and of interest to the State.

Consolidated Reference Model - The FEA Consolidated Reference Model Document Version 2. Published in October 0f 2007, contains four of the five models (Performance Reference Model (PRM), Business Reference Model (BRM), Service Component Reference Model (SRM), Technical Reference Model (TRM), that make up the Federal Enterprise Architecture. The Data Reference Model, DRM, is referenced but not repeated in this document due to its complexity and volume. Abbreviated as CRM.

Coordinating Data Steward - The data steward responsible for coordination of data stewardship activities across an information subject area. This person is responsible for insuring the integrity, quality, security, and coordination of associated metadata across the subject area and will lead a data stewardship team.

COPPA - Acronym for the Children's Online Privacy Protection Act.

COTS - Acronym for Commercial Off-The-Shelf software.

CPO - Acronym for Chief Privacy Officer.

CRM – See “Consolidated Reference Model”.

Cyber Security – A branch of security dealing with digital or information technology.

Data Context – Data context refers to any information that provides additional meaning to data. Data context typically specifies a designation or description of the application environment or discipline in which data is applied or from which it originates. It provides perspective, significance, and connotation to data, and is vital to the discovery, use and comprehension of data.

Data Dictionary - As defined in the *IBM Dictionary of Computing*, is a "centralized repository of information about data such as meaning, relationships to other data, origin, usage, and format."[

Data Element - A precise and concise phrase or sentence associated with a data element within a data dictionary (or metadata registry) that describes the meaning or semantics of a data element.

Data Governance - Data governance refers to the operating discipline for managing data and information as a key enterprise asset.

Data Management - Data management is the development, execution and supervision of plans, policies, programs and practices that control, protect, deliver and enhance the value of data and information assets.

Data Mining - The process of extracting hidden patterns from data. Data mining identifies trends within data that go beyond simple data analysis. Through the use of sophisticated algorithms, non-statistician users have the opportunity to identify key attributes of processes and target opportunities.

Data Modeling – A structured method for representing and describing the data used in an automated system. Data modeling is often used in combination with two other structured methods, data flow analysis and functional decomposition, to define the high-level structure of business and information systems.

Data Reference Model - The Data Reference Model (DRM) is a flexible and standards-based framework to enable information sharing and reuse across the federal government via the standard description and discovery of common data and the promotion of uniform data management practices. The DRM provides a standard means by which data may be described, categorized, and shared. These are reflected within each of the DRM’s three standardization areas of data description, data context, and data sharing.

Data stewardship - The formal accountability for state business responsibilities through ensuring effective definition, coordination, control and use of data assets.

Data Stewardship Teams - One or more temporary or permanent focused groups of business data stewards collaborating on data modeling, data definitions, data quality requirement specification, and data quality improvement, reference and master data management, and meta-data management, typically within an assigned subject area, lead by a coordinating data steward in partnership with a data architect.

Data Warehouse – A central repository for significant parts of the data that an enterprise's various business systems collect specifically designed for reporting. It is a subject-oriented, integrated, time-variant and non-volatile collection of data in support of management's decision making process, specifically providing data for Online Analytical Processing (OLAP) efforts.

DBA - Acronym for database administrator.

DQA - Acronym for Data Quality Assurance, which is a process of examining the data to discover inconsistencies and other anomalies. Data cleansing activities may be performed to improve the data quality.

EDE - Acronym for Electronic Data Exchange.

Enterprise - The State of Colorado Executive Branch Agencies.

ESID - Acronym for the encrypted state ID at the Colorado Dept. of Education.

ETL – Extract, Transform, and Load, which is a process to extract data from one source, transform (or cleanse) it, and load the result into another source. This is frequently part of populating a Data Warehouse.

Extensible Markup Language - Extensible Markup Language (XML) describes a class of data objects called XML documents and partially describes the behavior of computer programs which process them. XML is a subset of SGML, the Standard Generalized Markup Language. Among its uses XML is intended to meet the requirements of vendor-neutral data exchange, the processing of Web documents by intelligent clients, and certain metadata applications. XML is fully internationalized and is designed for the quickest possible client-side processing consistent with its primary purpose as an electronic publishing and data interchange format.

Federal Enterprise Architecture - The Federal Enterprise Architecture (FEA) consists of a set of interrelated “reference models” designed to facilitate cross-agency analysis and the identification of duplicative investments, gaps and opportunities for collaboration within and across agencies. Collectively, the reference models comprise a framework for describing important elements of the FEA in a common and consistent way. Through the use of this common framework and vocabulary, IT portfolios can be better managed and leveraged across the federal government.

FERPA – Acronym for the Family Educational Rights and Privacy Act.

FIPS - Federal Information Processing Standard (FIPS), one of many standards set by the Federal government for exchanging or processing data.

Government Data Advisory Board (GDAB) – Advisory Board created by HB 09-1285 for the purpose of advising the State CIO on matters relating to data sharing.

HIPAA - Acronym for the Health Insurance Portability and Accountability Act.

Identity Management - Identity Management (IdM) means the combination of technical systems, rules, and procedures that define the owner-ship, utilization, and safeguarding of personal identity information. The primary goal of the IdM process is to assign attributes to a digital identity and to connect that identity to an individual.

Information Architecture - The compilation of the business requirements of the enterprise, the information, process entities and integration that drive the business, and rules for selecting, building and maintaining that information.

Information Exchange Package Documentation - An Information Exchange Package Documentation (IEPD), is a specification for a data exchange and defines a particular data exchange. It is a set of artifacts consisting of normative exchange specifications, examples, metadata, and documentation encapsulated by a catalog that describes each artifact. The entire package is archived as a single compressed file.

Information Subject Area - Topical or functional categories of the business processes that are integral to the operations of the State and that span agencies statewide, such as Financial, Person, Geography, Organization, and Service.

Information Subject Sub-Area - A logical subset of an information subject area containing enough unique information to be addressed separately, such as within the subject area of person could be Customer (client/citizen) or Employee.

K-20 – Education from kindergarten through post-graduate college.

Logical Model - the logical data model diagrams add a level of detail for each subject area below the conceptual data model by depicting the essential data attributes for each entity. The enterprise logical data model identifies the data needed about each instance of a business entity. The essential data attributes included represent common data requirement and standardized definitions for shared data attributes.

Master Data – Data that is, for the most part, static, and changes infrequently.

Metadata – Metadata is data about data. An example is a library catalog because it describes publications. In this document, it is usually applied to databases.

Metadata registry – A metadata registry/repository is a central location in an organization where metadata definitions are stored and maintained in a controlled method. Included in the registry are approved enterprise data definitions, representations (models, XML structures), and links to physical constructs, values, exceptions, and data steward information.

Metadata – Metadata is "data about data." Metadata includes data associated with either an information system or an information object, for purposes of description, administration, legal and confidentiality requirements, technical functionality and security, use and usage, and preservation. Metadata gives us detail about both what the data means and how it's stated. Metadata is one of the greatest critical success factors to sharing information because it provides business users, developers and data administrators with consistent descriptions of the enterprise's information assets.

National Information Exchange Model - The National Information Exchange Model (NIEM) is a Federal, State, Local and Tribal interagency initiative providing a foundation for seamless information exchange. NIEM is a framework to bring stakeholders and Communities of Interest together to identify information sharing requirements, develop standards, a common lexicon and an on-line repository of information exchange package documents to support information sharing, provide technical tools to support development, discovery, dissemination and re-use of exchange documents; and provide training, technical assistance and implementation support services for enterprise-wide information exchange.

OMB – Acronym for the Federal Office of Management and Budget.

Online Analytical Processing - Online Analytical Processing (OLAP) is a reporting and data design approach intended to quickly answer analytical queries. Data to satisfy OLAP reporting and analysis needs are designed differently than data used for traditional operational use. Although OLAP can be achieved with standard relational databases, multidimensional data models are often used, allowing for complex analytical and ad-hoc queries with a rapid execution time.

Online Transaction Processing - Online Transaction Processing (OLTP) is a class of systems that facilitate and manage transaction-oriented applications, typically for data entry and retrieval.

P-20 - Education from pre-kindergarten through post-graduate college.

Performance Reference Model – Acronym PRM, is part of the FEA.

Personally Identifiable Information (PII) – PII refers to all information associated with an individual and includes both identifying and non-identifying information. Examples of identifying information which can be used to locate or identify an individual include an individual's name, aliases, Social Security Number, email address, driver's license number, and agency-assigned unique identifier. Non-identifying personal information includes an individual's age, education, finances, criminal history, physical attributes, and gender.

PLC – Acronym for the Prevention Leadership Council.

Repository - An information system used to store and access architectural information, relationships among the information elements, and work products.

SASID - Acronym for the State Assigned Student ID at the Colorado Dept. of Education.

SCRM – Acronym for the Service Component Reference Model; part of the FEA.

SIDMOD – Acronym for the State Identification Module at the Colorado Dept. of Human Services.

SIMU – Acronym for the Student Identifier Management Unit at the Colorado Dept. of Education.

State Enterprise Data Model - An integrated, subject oriented data model defining the essential data produced and consumed across the state. The purpose of a data model is to 1) facilitate communications as a bridge to understand data between people with different levels and type of experience and help us understand the business area 2) to formally document a single and precise definition of data and data related rules, and 3) to help explain the data context and scope of third-party software. The data model is composed of three layers for communication and best utilization: The subject area model, the conceptual model, and the logical model.

Technical Data Steward - The information systems professional responsible for assuring integrity of the information captured, for proper handling of the information (not the content), and for assuring the information is available when needed. They are the custodians of the data assets and perform technical functions to safeguard and enable effective use of State data assets.

Transaction Data - Transaction data is data describing an event (the change as a result of a transaction) and is usually described with verbs. Transaction data always has a time dimension, a numerical value and refers to one or more objects (i.e. the reference data). Typical transactions are: financial: orders, invoices, payments; work: plans, activity records; logistics: deliveries, storage records, travel records, etc.

Unit Records - Records containing data that pertain directly to an individual.

XML – See Extensible Markup Language.

Appendix 3 - State Agency Acronyms

Attorney General (DOL)

Colorado Bureau of Investigations (CBI)

Colorado Children and Youth Information Sharing (CCYIS)

Colorado Data Sharing and Utilization Group (CDSUG)

Colorado District Attorneys Council (CDAC)

Colorado Integrated Criminal Justice Information System (CICJIS)

Data Governance Working Group (DGWG)

Department of Agriculture (CDA)

Department of Corrections (DOC)

Department of Education (CDE)

Department of Health Care Policy and Finance (HCPF)

Department of Higher Education (DHE)

Department of Human Services (DHS)

Department of Labor and Employment (CDLE)

Department of Local Affairs (DOLA)

Department of Natural Resources (DNR)

Department of Personnel & Administration (DPA)

Department of Public Health and Environment (CDPHE)

Department of Public Safety (CDPS)

Department of Regulatory Agencies (DORA)

Department of Revenue (DOR)

Department of Transportation (CDOT)

Division of Youth Services (DYS)

Governor's Office of Information Technology (OIT)

Office of Cyber Security (OCS)

Secretary of State (SOS)

Statewide Traffic Records Advisory Council (STRAC)

Appendix 4 – Education Subcommittee Annual Report - Narrative

Government Data Advisory Board
Education Data Subcommittee Report
December 1, 2010

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Section 1 - Executive Summary

The Education Data Subcommittee ("Subcommittee") was created through Colorado Revised Statute (CRS) 24-37.5-703.5 as a subcommittee of the Government Data Advisory Board ("GDAB"). Its primary mission is to provide recommendations for the creation of a statewide comprehensive P-20 education data system.

Per CRS 24-37.5-703.5, the Subcommittee has the following duties:

- To recommend to the State Chief Information Officer ("State CIO") and the GDAB protocols and procedures for sharing education data among charter schools, school districts, boards of cooperative services, the Department of Education, the Department of Higher Education, and state institutions of higher education;
- To recommend to the State CIO and the GDAB appropriate information technology;
- To recommend to the State CIO and the GDAB appropriate reporting formats for education data;
- To recommend data element standards for individual student records for use by charter schools, school districts, boards of cooperative services, the Department of Education, the Department of Higher Education, and state institutions of higher education;
- To recommend electronic standards by which charter schools, school districts, boards of cooperative services, the Department of Education, the Department of Higher Education, and state institutions of higher education may share data currently being shared through other means, including but not limited to interoperability standards, standards and protocols for transfer of records including student transcripts, and the use of data-exchange transcripts;
- To recommend the design and continuing development of a statewide comprehensive P-20 education data system.

Section 2 - Background and Overview

Mission

The Subcommittee was created through CRS 24-37.5-703.5 as a subcommittee of GDAB. Its primary mission is to provide recommendations for the creation of a statewide comprehensive P-20 education data system.

Vision

The vision of the Subcommittee is to advise the State CIO and GDAB in creating a comprehensive P-20 education data system that permits the generation and use of accurate and timely data to support analysis and informed decision-making at all levels of the education system. The intent of this system is to increase the efficiency with which data may be analyzed to support the continuous improvement of education services and outcomes, facilitate research to improve student academic achievement and close achievement gaps, support education accountability systems, and simplify the processes used by State and local educational agencies to make education data transparent through Federal and public reporting.

Risks and Barriers

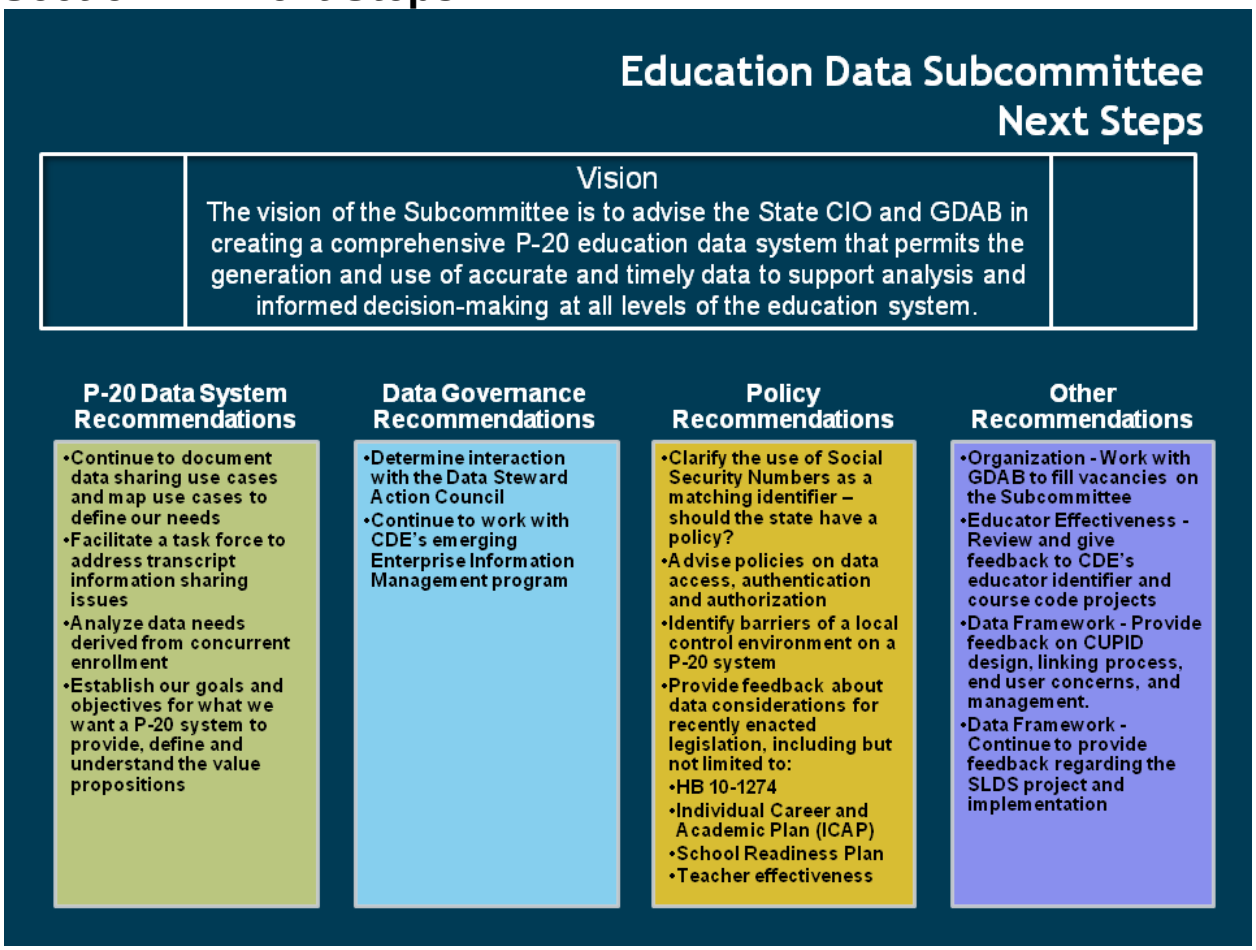
The following issues are being considered by the Subcommittee as its work progresses:

- Cultural, control, and change management issues within State and local agencies.
- The availability of adequate financial, time, and human resources to implement an enterprise program and system infrastructure to support the cross-departmental data protocol.
- Meeting compliance standards set by Federal and State statute and regulation.
- Ensuring that recommended statutory or regulatory changes can be met in a timely manner.
- Addressing privacy and security concerns.
- Possible changes in political/legislative environment.
- Unfilled vacancies and a high rate of turnover among the Subcommittee membership.
- Sustainability and implementability – risk of trying to meet RTT objectives with limited SLDS resources.
- Due to current budget restraints, expected data quality at a local level is inconsistent.

Section 3 – Accomplishments

- The Subcommittee formalized their operating procedures, charter, mission and vision.
- The Subcommittee created a data sharing use case template (Appendix D) and documented and reviewed 16 data sharing examples involving early childhood, K-12 and higher education data. The use cases included Protocols and Procedures for Sharing Education Data, Information Technology and Reporting Formats for Education Data, Data Element Standards, Electronic Standards, and Design and Development of a Statewide Comprehensive P-20 Data System. Creation of data sharing use cases is an ongoing project.
- Overviews of several projects and programs were presented to the Subcommittee in 2010. These included OIT's Data Steward Action Council, early childhood data challenges and opportunities, CDE's FERPA policy, Colorado Transcript Center, the Colorado Growth Model usage survey, CDE's Unified Improvement Plan, and CDE's data governance program.
- Several data models were reviewed including Juvenile Justice and CDE. These reviews included information about the models as well as data sharing, privacy issues, and the data modeling process. Demonstrations of Colorado Trails (Judicial data sharing) and the Colorado Integrated Criminal Justice Information System (CICJIS) were provided.
- A discussion of HB 10-1171 (Repeal of School Reporting Requirements) took place, which, among other things, requires the department of higher education to report the individual students who are assigned remedial coursework back to CDE and local districts, and the impact of trying to match student identifiers. The Subcommittee facilitated the gathering of individuals from CDE, Local Districts, and Higher Education to ensure a better matching process on the SASID when a student enrolls in higher education.
- An overview of HB 10-1274 (Out of Home Juvenile Transition Public Schools) revealed several issues with data sharing, privacy policy conflicts, and process challenges. The Subcommittee will develop a data sharing use case agreement to help determine if any recommendations need to be made.
- Updates were received on Colorado's Race to the Top application, Statewide Longitudinal Data System (SLDS) Grant, the Educator ID legislation and CDE's Educator ID project, and several conferences members attended.
- New models for system interactions, such as the Georgia Dept of Ed Tunneling Methodology were presented and will be explored to determine if they provide a better model for data sharing that meets FERPA requirements as well as local data concern.

Section 4 – Next Steps



Section 5 – Summary

The Subcommittee has made great progress gathering and sharing the knowledge required to accomplish its Mission and Vision. Clear goals and tasks are being identified and steps are ongoing to facilitate their implementation. The sharing of use cases from K-12 Education, Early Childhood Education, Juvenile Justice, Higher Education, and many others has proved to be a valuable exercise to help the members of the Subcommittee understand the challenges and needs from various department and organizational points of view. Information provided by member and non-member subject matter experts has enhanced the Subcommittee's perspective and will enable us to provide the best possible recommendations to support the implementation of a statewide P-20 education data system.

The Subcommittee looks forward to continue working with GDAB, OIT, and our stakeholders to improve educational outcomes through the effective use of data.

Section 6 – Appendices
Appendix A - Stakeholders

The following stakeholders have been identified as having a key interest in the program:

- Government Data Advisory Board and its Sponsors and Stakeholders
- Colorado Department of Education
- Colorado Department of Higher Education
- State Board of Education
- Colorado Commission on Higher Education
- Colorado State Agencies

These stakeholders have a vested interest in, and will be impacted by, the work done by the Subcommittee. The impact areas include policy, technology, financial, and business processes.

Appendix B - Education Data Subcommittee Members

Daniel E. Domagala, Rep. Department of Education

Ronald M. Ozga, Rep. Department of Human Services

Vacant, Rep. Department of Higher Education

Vacant, Rep. School District Board of Education

Ed Freeman, Rep. Employee of School District with Expertise in Data Sharing and IT

Jeremy E. Felker, Littleton, Rep. Education Data Advisory Committee

Vacant, Rep. Information Officers Employed by School Districts

Jody L. Ernst, Golden, Rep. State Charter Schools

Vacant, Rep. State Charter School Institute

Vacant, Rep. Boards of Cooperative Services

Julie Ouska, Denver, Rep. Information Officers Employed within State System of Community and Technical Colleges

Patrick J. Burns, Fort Collins, Rep. Governing Boards of State Institutions of Higher Education

Emily Bustos Mootz, Denver, Rep. Early Childhood Councils

Pamela R. Buckley, Golden, Rep. Institutions of Higher Education or Nongovernmental Organizations

Jeffery W. McDonald, Evergreen, Rep. Nonprofit Advocacy Groups that work in Children's Issues

Vacant, Rep. Statewide Membership Organizations of Education Professionals and Local Boards of Education

Stacie Demchak, Colorado Department of Education, Non-voting Member

Appendix C – Data Sharing Use Case Template

Data Sharing Use Case Template

_____

Data Sharing Initiative Title: Simple title of initiative
Participating Agencies: Name of Agencies sharing
Description of Data to be Shared: High-level
Reason for Data Sharing: i.e. legislatively required, or One-sided request, or other?
Objective: objective of initiative i.e. Federal Data reporting requirement, Policy Review and Advocacy, etc.
Key Participants: Data Steward/Executive Directors/Subject Matter Expert/Etc. List name/position/organization.
Description of Project: Describe the project
Background: List the background of how this project came into being
Purpose of the Project:
Clarify liability issues
Facilitate or deal with data dissemination among organizations quickly and with clear liability limits
Actively promote data sharing
Provide a mechanism for enhanced cooperation

Potential Benefits: List the business/education benefits.
Save money, save time, promote better decision making
Clarify relationship between data sharing agreement and public record law (an example would be to define commercial use of data: define what a "list" is RCW 47.17.260)
Promote cooperation and foster relationships
Avoid duplication of data collection efforts as well as writing data agreements

Data sharing agreements would serve as a foundation for developing mechanisms and enhanced business processes
A clear guideline on what agreement can/should include

Increases data accessibility by clearing legal hurdles and possible data distribution costs **15 12/01/2010**

Project Tasks, Estimated Effort, and Costs/Charges if necessary: Major tasks that need to be completed to accomplish objectives and a high-level estimate of required effort. Steps to Completion	Organization and Resource Requirements	Comments/Explanation
Task 1 – DHE	TBD	
Task 2 – DHE	TBD	
Task 3. – CDE	TBD	
Task 4 – CDE	TBD	
Task 5 - Revise data sharing template(s)	TBD	

Task 6 - Formally ask AG opinion on compliance of data sharing agreements with state law	TBD
Task 7 - AG Policy Review	TBD

Government Data Advisory Board
Early Childhood Universal Application
Subcommittee Report
December 1, 2010

Table of Contents

Section 1 - Executive Summary

The Early Childhood Universal Application Subcommittee ("Subcommittee") was created through Colorado House Bill 10-1028 as a subcommittee of the Government Data Advisory Board ("GDAB"). Its primary mission is to recommend to State Chief Information Officer ("State CIO") and the GDAB protocols and procedures for creating and implementing a universal application to be used by all state agencies and school districts for applications for programs related to early childhood care and education, including but not limited to:

- Medicaid
- Children's Basic Health Plan
- Head Start Program
- Colorado Preschool Program
- Free or Reduced-cost Lunch program
- Colorado Child Care Assistance program
- Child and Adult Care Food program
- Colorado Works program
- Special Supplemental Food Program for Women, Infants, and Children
- Food Stamp program
- Early childhood council programs
- Low-income energy assistance program
- Affordable housing programs

And, upon request by the State CIO, to advise the State CIO on other issues pertaining to applications for programs related to early childhood care and education.

The task laid out with this legislatively mandate is complex, as the above listed 13 programs are operated out of four state agencies with a diverse set of funding streams, eligibility requirements, and policy mandates. At the local level, administration is done by a variety of service providers. There is limited coordination across these programs, leaving families confused, and creating inefficiencies in processes at both the state and local level.

Other states have examined the issue of streamlined eligibility and enrollment processes, but not to the broad extent that Colorado is now seeking to tackle it. In February 2010, Governor Bill Ritter, Jr. also issued an executive order creating the Early Childhood Leadership Commission (ECLC), which was codified with Senate Bill 10-195. There is broad recognition of the need to coordinate programs, funding, and policies that provide services and supports for young children and their families. The Subcommittee is working closely with and aligning efforts to the work being done by the ECLC.

The Subcommittee convened in August of 2010, and has developed its working goals and objectives for the next two years to accomplish its stated mission. The Subcommittee has identified its primary deliverables to accomplish this mission, and has identified risks and barriers that may impact the ability of the State CIO or GDAB to implementing a universal application.

Section 2 - Background and Overview

The Early Childhood Universal Application Subcommittee ("Subcommittee") was created through Colorado House Bill 10-1028 as a subcommittee of the Government Data Advisory Board ("GDAB"). Its primary mission is to recommend to State Chief Information Officer ("State CIO") and the GDAB protocols and procedures for creating and implementing a universal application to be used by all state agencies and school districts for applications for programs related to early childhood care and education, including but not limited to:

- Medicaid
- Children's Basic Health Plan
- Head Start Program
- Colorado Preschool Program
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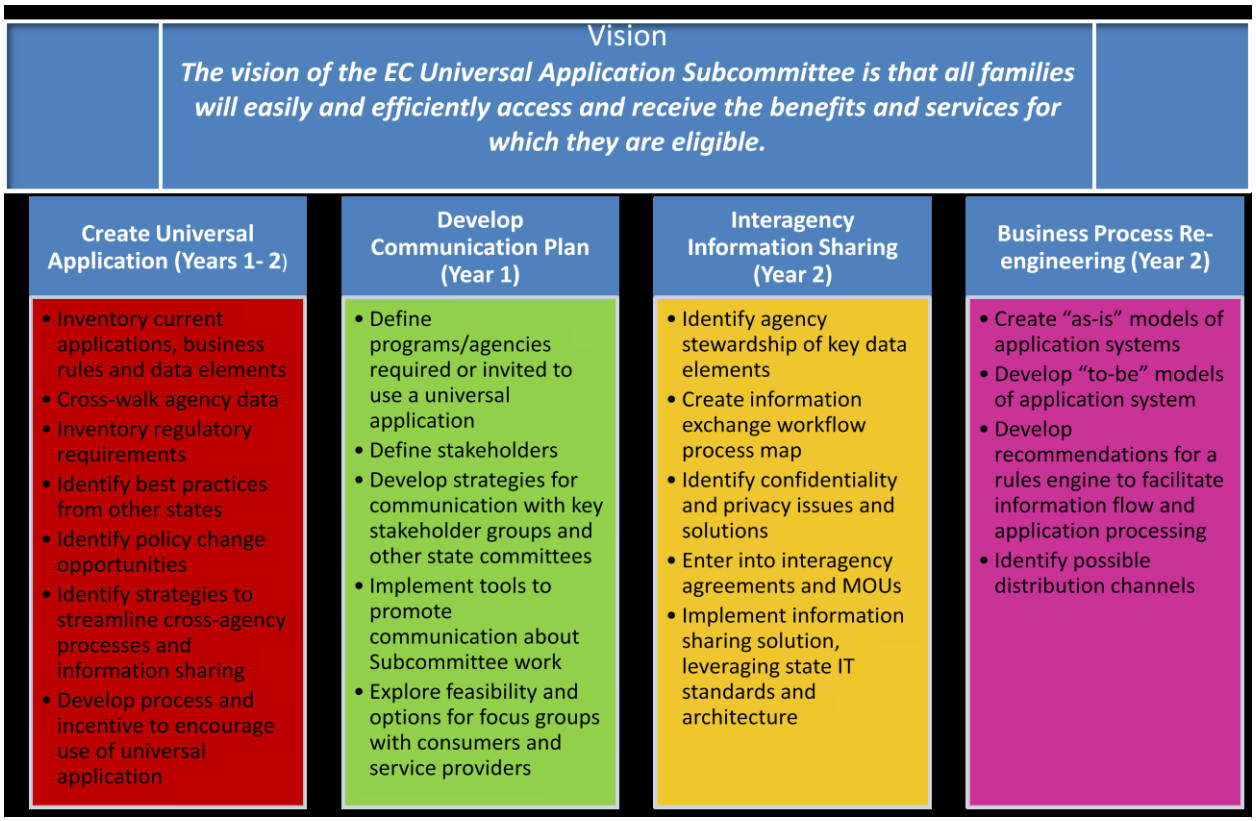
- Child and Adult Care Food program
- Colorado Works program
- Special Supplemental Food Program for Women, Infants, and Children
- Food Stamp program
- Early childhood council programs
- Low-income energy assistance program
- Affordable housing programs

And, upon request by the State CIO, to advise the State CIO on other issues pertaining to applications for programs related to early childhood care and education. The Subcommittee has developed the following vision, goals, and objectives to accomplish its mission.

Vision

All families will easily and efficiently access and receive the benefits and services for which they are eligible.

Goals and Objectives



The subcommittee is currently developing a project plan and timeline to address the completion of all of our objectives and goals.

Section 3 - Risks and Barriers

Understanding the risks and barriers related to an undertaking of this magnitude is one of the priorities of this sub-committee. The stakeholders in the process are so diverse, as are their interest and priorities that the sub-committee must work to have as full an understanding of the divergent issues as possible. To that end, the sub-committee has begun a discussion of the possible risks and barriers with representatives from the various stakeholder groups (within the committee itself) and that is described below.

Barriers to implementation of the universal application include the absence of understanding regarding implementation as a process, not an event. Cultural, control, and change management issues within State and local agencies are barriers to stakeholder involvement and support of the final product. The availability of adequate financial, time, and human resources to implement a universal application is both a risk and a barrier to final implementation. Meeting compliance standards set by Federal and State statute and regulations and the diversity of programs listed in the legislation are a challenge to the process at its earliest infancy stages and as the development of the actual universal

application begins. Naturally, privacy and security concerns of the end users are a consideration for the sub-committee to consider at each step of the process.

Implementation drivers critical to success of the universal application include staff training, ongoing consultation and coaching, evaluation, facilitative administrative support, and response to the need for modification after implementation. The implementation drivers are integrated and compensatory. Fixsen et al. (2005) report it may take approximately three years to implement a program or process if all these categories are taken into account.[1]Therefore, one barrier to consider is the expectation of the public for an immediately efficient process. Rarely are tools implemented in perfect form. Public perception of the usefulness of the universal application will need to be addressed. An extensive education campaign may be needed in state agencies among employees, as well as the customers they serve. For agencies and staff who take leadership in the change, training is a core implementation component. The "train and hope" approach does not work. When coupled with coaching, training is effective. Therefore, agency involvement is essential.

1 Fixsen, D. L. & Blase, K. A. (2009, January). Implementation: The missing link between research and practice. *NIRN Implementation Brief #1.* Chapel Hill: The University of North Carolina, FPG, NIRN.

Context & External Influences

Contextual elements that drive implementation must be considered. Funding is a critical element that can derail the best of implementation efforts. The organizational support of leaders and employees willing to adopt the universal application is essential. In the absence of strong leadership, the individual employee is the key to success or failure. Issues of management support, staff performance, and sustainability will impact the outcome of implementation efforts. Attitudes, political factors, economic and other social factors also emerge as important.

A framework for basic rationale, data quality, utilization of feedback from staff and consumers, and problem identification as the implementation of a universal application moves forward is needed in order to overcome barriers and mitigate risks.

Section 4 - Meetings and Documents

The Early Childhood Universal Application Subcommittee of the Government Data Advisory Board meets once a month. Future meetings are scheduled for the first Thursday of the month from 1:00PM to 4:00 PM. at the Clayton Training Center, 3975 Martin Luther King Blvd, Denver, CO 80205.

All meetings are open to the public. Meeting dates and minutes can be found on the OIT Governor's Office of Information Technology web site at http://www.colorado.gov/cs/Satellite/OIT-New/OITX/1251580544068 .

Section 5 – Program Deliverables

The Subcommittee's key deliverables are:

- Twice yearly report due to GDAB on December 1st and June 1st.
- Draft Universal Application
- Advise the State CIO on issues pertaining to applications for programs related to early childhood care and education
- Complete inventory of relevant federal and state statutes as it relates to the subcommittee's work
- Data element cross-walk

Section 6 – Summary

The subcommittee convened in August, 2010 and has met three times. In this short period, the Subcommittee has made great progress establishing its Mission and Vision. Clear goals and tasks have been identified and steps are ongoing to facilitate their implementation. The sharing of information about current policies, procedures, and applications has proved to be valuable to help the members of the Subcommittee understand the challenges and needs from various department and organizational points of view. The Subcommittee looks forward to continue working with GDAB, OIT, and our stakeholders.

Section 7 – Appendices

Appendix A - Stakeholders

The following stakeholders have been identified as having a key interest in the program:

- Government Data Advisory Board and its Sponsors and Stakeholders
- Colorado State Agencies and their Boards
- Colorado Department of Education
- Colorado Department of Human Services
- Colorado Department of Health Care Policy and Financing
- Colorado Department of Public Health and Environment
- Office of Information Technology
- Other state agencies
- Colorado School Districts
- Early Childhood Programs
- Early Childhood Leadership Commission
- Community Center Boards
- Non-profit Groups
- Members of Early Childhood State Partnerships
- Families with young children
- State Legislature

These stakeholders have a vested interest in, and will be impacted by, the work done by the Subcommittee. The impact areas include policy, technology, financial, and business processes.

Appendix B - Early Childhood Universal Application Subcommittee Members

Vacant
Designee to represent school districts

Stacie Demchak, Business Analyst
Department of Education
Designee for the Department of Education

Ron Ozga, IT Director
Governor's Office of Information Technology
Department of Human Services

Judy Hall, Eligibility Specialist
Health Care Policy and Financing
Designee for Department of Health Care Policy and Financing

Micheline Casey, Chief Data Officer
Governor's Office of Information Technology
Designee for the Chief Information Officer

Jodi Hardin, Early Childhood Systems Specialist
Office of the Lieutenant Governor
Designee for the Lieutenant Governor

Michelle Bender, Early Childhood Education Department Chair
Pikes Peak Community College
Designee for the President of the State System of Community and Technical Colleges

Sonia Bauduy, Director
Warren Village Learning Center
Private provider under the CO Child Care Assistance Program

Charlotte Brantley, President and CEO
Clayton Early Learning Centers
Private early head start or head start agency

Kimberly Bloemen, Early Childhood Director
Poudre School District
Early childhood care and education provider that is a certified assistance site for Medicaid and the Children's Basic Health Plan

Judi Whilden, Owner/Director
Sunrise Kids, LLC
At-large member

Melissa Buchholz, Clinical Psychologist
University of Colorado, Denver
At-large member

Ashley Tunstall, Director of Clinical Services
Division of Youth Corrections
Rep. from Division of Youth Corrections, Department of Human Services

Patricia Daniluk, Director, Nutrition Services Branch
Department of Public Health and Environment
Rep. from Prevention Services Division, Department of Public Health and Environment

Appendix 5 – Privacy Subcommittee Annual Report - Narrative

The purpose of the subcommittee is to make recommendations to the Government Data Advisory Board (GDAB) on policies and procedures relating to privacy and confidentiality of data in information sharing. It was determined that multiple work efforts across the state on privacy and confidentiality of data in information sharing environments were under way. In an effort to streamline these efforts, the Privacy Subcommittee was formed. Strong privacy and confidentiality polices and compliance are key enablers of information sharing. These efforts are anticipated to take 6 – 12 months.

The initial meeting of the Subcommittee was held on September 28, 2010. At that meeting, the purpose of the subcommittee was discussed along with a list of proposed deliverables. The subcommittee agreed to meet every month until its work is completed.

It is anticipated that by September 2011, all documents, policies, and procedure generated by the subcommittee will be available for final review by the Office of the Attorney General.

Subcommittee Members

Erika Bol	Privacy Officer	Department of Health Care Policy and Financing
Micheline Casey	Chief Data Officer	Governor's Office of Information Technology
Kerry Cataldo	Researcher	Department of Public Safety, Division of Criminal Justice, Office of Research Statistics
Susan Clark	Senior Project Manger/Privacy Officer	Colorado Regional Health Information Organization
Cynthia Coffman	Deputy Attorney General	Department of Law
Chris Edmundson	Information Security Officer	Department of Education
Jose Esquibel	Director, Interagency Prevention Systems	Department of Public Health and Environment
Troy Evatt	Data Manager	Department of Human Services, Division of Behavorar Health

Kat Foo	HIPAA Privacy and Security Officer	Department of Human Services
Liza Fox-Wylie	Manager of Policy and Public Sector Initiatives	Colorado Regional Health Information Organization
Mary Griffin	Program Administrator for Foster Care	Colorado Department of Human Services
Linda Kanan	Director	Department of Public Safety, School Safety Resource Center
Anna Lopez	Planning and Grants Specialist	Department of Public Safety, Office of Adult and Juvenile Justice Assistance
Fernando Martinez		San Luis Valley Community Health Center
Ron Ozga	Agency IT Director for CDHS/HCPF/CBMS	Governor's Office of Information Technology
Lauren Plunkett	State HIT Coordinator	Governor's Office of Information Technology
Kim Poast	Deputy Director	Department of Higher Education
Stephanie Rondenell	Executive Director	Center for Network Development
Travis Schack	State Chief Information Security Officer	Governor's Office of Information Technology
Meg Williams	Manager	Department of Public Safety, Office of Adult and Juvenile Justice Assistance
Robert Daniel	Oracle BD	Oracle

Paul Laurent	Legal & Compliance Architect	Oracle
Jason Taule	CISO and Chief Privacy Officer for Healthcare	General Dynamics Information Technology