

Table of Contents

1	Document Overview	1
	1.1 Summary of Changes	1
	1.2 Distribution	1
	1.3 Document Control Information.....	2
2	Executive Summary and Recommendation	3
	2.1 Summary and Recommendation for Phase 1 of EDD/COA.....	3
3	Prioritized Unmet Enterprise Information Needs	9
	3.1 How Needs Were Identified and Filtered	9
	3.2 Validation by Agency Advisory Business Process Groups	10
	3.3 Validation by Enterprise Executive Group	12
	3.4 List of Final Prioritized Unmet Enterprise Information Needs	13
4	Business Value Proposition	14
	4.1 Business Drivers	14
	4.2 Recommendations for Change	15
	4.3 Business Value for Change	24
5	Common Enterprise Data Definitions.....	26
	5.1 Process	26
	5.2 Formal Data Standards Program.....	27

Appendices

Appendix A	Possible Resolutions
Appendix B	Terms
Appendix C	Original Unmet Enterprise Information Needs List
Appendix D	Reference Sources
Appendix E	Focus Group Participating Agencies and Organizations
Appendix F	Combined Unmet Enterprise Information Needs List
Appendix G	Summary of Focus Group Participant Comments
Appendix H	Final Unmet Enterprise Information Needs List
Appendix I	Results of Executive Enterprise Group and Roadmap Advisory Group Prioritization of Business Process Cycles
Appendix J	Potential Enterprise Data Elements

1 Document Overview

The intended audience for this document is the Project Sponsors, Office of Financial Management Business Owners, Roadmap Program Director and Executive Sponsors, Agency Advisory Group, Department of Information Services Oversight, Enterprise Data Definitions/Chart of Accounts (EDD/COA) project participants and other project stakeholders.

1.1 Summary of Changes

This section records the history of changes to this document. Only the most significant changes are described here.

Version	Date	Author	Description of Change
1.0	7/16/08	Project Team	Final Draft
1.1	7/23/08	Project Team	Final Draft
1.2	7/29/08	Sadie Hawkins, Project Team	Final Report
1.3	7/31/08	Lee Hall	Clean up of formatting for final report
2.0	9/30/08	Lee Hall	Revisions per Roadmap Executive Sponsors

Where significant changes are made to this document, the version number will be incremented by 1.0. Where changes are made for clarity and reading ease only and no change is made to the meaning or intention of this document, the version number will be increased by 0.1.

1.2 Distribution

This document has been distributed to:

Name	Organization	Date of Issue	Version
Candace Espeseth	OFM	7/16/08	1.0
Sadie Rodriguez-Hawkins	OFM	7/16/08	1.0
Candace Espeseth	OFM	7/23/08	1.1
Sadie Rodriguez-Hawkins	OFM	7/23/08	1.1
Candace Espeseth	OFM	7/29/08	1.2
Sadie Rodriguez-Hawkins	OFM	7/29/08	1.2
Candace Espeseth	OFM	7/31/08	1.3
Sadie Rodriguez-Hawkins	OFM	7/31/08	1.3
Final issue	Public	9/30/08	2.0

1.3 Document Control Information

At the end of this document is a box indicating the end of text as shown below.



Any copies found to be incomplete or obsolete should be destroyed under supervision or returned to the owner.

2 Executive Summary and Recommendation

2.1 Summary and Recommendation for Phase 1 of EDD/COA

Background

In February 2007, the Roadmap published the Roadmap Core Financial Systems Feasibility Study. The study recommended “positioning activities” to help reduce risk and increase the usefulness of whatever future financial and administrative solution the state selects. The Enterprise Data Definitions/Chart of Accounts (EDD/COA) project is one of these positioning activities undertaken to prepare the state for future change. For the purpose of this report, the term “enterprise” means Washington State as a single entity or statewide data common across all state agencies.

The EDD/COA Project Sponsors are the Senior Assistant Director of the Office of Financial Management (OFM) Accounting Division and the Assistant Director of OFM Budget Division. The Roadmap Program Executive Sponsors are the Director of the Department of Information Services and the Deputy Director of OFM.

The objectives of the EDD/COA project identified in the project charter are:

Phase 1:

- Identify core information, accountability and management needs not being met or captured by the current chart of accounts;
- Identify common definitions for current and proposed core enterprise data elements, including a business approach for data management;
- Validate the state’s need for new enterprise financial and performance measurement data, including a critical review to determine if changes are needed to the state’s current chart of accounts and the business value of making the changes;
- Provide documentation to the Roadmap Executive Sponsors to help them make a decision on (1) revising current state financial and performance systems or (2) migrating to the SAP Public Sector Financial modules. (SAP is a business software company.)

The outcomes of the above tasks may result in the need to revise the current state systems or migrate to the SAP system.

Phase 2: If necessary, that is, if the work in Phase I indicates that significant enterprise data changes are necessary to support the collection and use of desired enterprise data:

- Map the proposed enterprise changes into both the state’s existing systems and into the SAP Public Sector Financial modules, evaluating whether either will meet the proposed new needs identified, and determine what the gaps are and document them.
- Map the existing enterprise data elements from AFRS to SAP to determine and document any gaps in major business functionality.
- Determine the high-level impacts on state agencies of implementing the proposed changes to either the current state systems or the SAP Public Sector Financial modules. These impacts would include an estimate of costs and time to revise current systems or implement SAP, and analysis on how well the proposed data elements would align with current SAP installations.

In December 2007 the EDD/COA team began the project by identifying unmet enterprise information needs, and then validated these needs through meetings with stakeholders from each of the business processes (major business transaction cycles) identified by the Roadmap Program Office.

The team completed the Phase 1 objectives identified above and the results are included in this report. The team feels that the enterprise information needs can be met without major changes to, or replacement of, the chart of accounts. Therefore, proceeding to Phase 2 work as originally defined is not necessary or recommended. The team reports the following key findings followed by recommendations for actions the state should take next.

Summary of Key Findings

1. The project's key objective was to identify "core information, accountability and management needs not being met." (These are referred to in this report as unmet enterprise information needs.) The project team identified 23 unmet enterprise information needs with validation from 358 meeting participants throughout Phase 1. The team also documented the value in meeting these unmet enterprise information needs as identified by the participants.

Executive and performance measurement experts were invited to participate in the EDD/COA sessions, but were unable to participate fully. Performance measurement at this time is primarily focused on the performance of individual agencies and not on the State as an enterprise, so we believe that this report does not inventory the full range of unmet enterprise information needs from the performance measurement perspective.

2. The appearance of enterprise data available today can be an illusion. The state has many systems that generate the data used for analysis and decision-making. The team found that some commonly used data elements in these systems have various definitions throughout the state. Agencies often use the same word, but it may have completely different meanings. Alternately, there might be multiple words that really mean the same thing. In every business process meeting, participants consistently said, "The state needs to standardize business vocabulary and definitions."

This current lack of standardization occurs in part because Washington State operates in a decentralized culture, which allows agencies a great degree of autonomy in their operations. Agencies may develop their own systems to solve problems, and in doing so have created their own definitions for what we now recognize should be common data elements. To meet the increasing demand for more integrated data, the state will need to standardize business vocabulary to achieve consistent enterprise data.

3. Based on these deficiencies, the project team assessed the ability of the structure of current chart of accounts to accommodate the unmet enterprise information needs. The team found that the structure of the chart of accounts is not a barrier to obtaining chart-of-accounts-related enterprise information. Therefore, changes to the structure of the chart of accounts are not necessary or recommended.

4. Some unmet enterprise information needs can only be met through new systems deployed across the enterprise, for example in purchasing and accounts receivable.
5. Other enterprise information needs could be met by optimizing the use of the existing chart of accounts. The team finds that additional standards governing the use of the chart of accounts would remove significant barriers to meeting enterprise data needs. Such standards could optimize the use of the existing chart of accounts and other current statewide systems to meet some of the identified enterprise data needs.
6. New tools and better standards will not be sufficient to meeting enterprise data needs; improved data integration is also a key to success. The state's technology environment includes various architectures and infrastructures, which raises the complexity of data sharing. An integration strategy is needed to allow information sharing between systems.

The state currently relies on direct interfaces between systems for sharing data. These require extensive effort to develop and to maintain as the individual systems change over time. A study by Semantic Arts recommends that OFM consider implementing a "service-oriented architecture" instead. This architecture approach allows data to be shared from one system to many systems in a standardized way. Data is "published" in a standardized format and any interested system can "subscribe" to that data, translating the data from the standard format into the specific format required by the system, if necessary, therefore eliminating direct interfaces between systems.

The cost and risk of change over time is reduced as a result. This architecture for data sharing between systems also allows the state more flexibility in the choice and timing of modifying or replacing systems. For example, the state could retain systems that work well, such as its general ledger, and add tools to perform purchasing, accounts receivable and other business functions.

7. Data integration is made easier through increased business process and data standardization. State agencies have different processes for some similar business functions. For example, there is no one process for state procurement. There are several reasons, including:
 - Many of the 19 procurement laws specifying multiple agencies require specific processes to ensure compliance;
 - Agency lines of business differ greatly, from paying for office supplies to purchasing liquor for resale; and
 - Using the statewide vendor payment system is optional.

Different processes have led to different systems, many of which are unable to share information in a centralized manner and therefore make data collection more difficult. For those instances where agencies still choose to use their own systems over available enterprise systems (such as the vendor payment system) the result is redundant data and additional costs to maintain multiple interfaces and conduct reconciliations.

8. The state needs to continue standardizing its processes and identifying business and technical requirements to enable successful decisions to either migrate to the SAP Public Sector

Financial module, or make changes to existing systems with the objective of improving enterprise data. In particular, Enterprise Resource Planning systems like SAP are designed to realize the benefits of data and process integration, but they only make sense if the enterprise will submit to the standardization required to make them economical to operate.

9. There are many issues and recommendations identified in this report for data, integration, process and systems improvements that, if implemented, will impact many agencies. Therefore, the state needs a clear, systematic approach to make these improvements. This approach should include aligning the timing of standardizing of data definitions with scheduled system designs. A multi-year work plan identifying all the project tasks, resources dependencies, and timelines would help mitigate the impact to agencies and ensure success.

Recommendations

At the heart of this report’s findings is that success in efficiently meeting enterprise data needs will depend on state government’s ability to decide on and support changes to systems, processes, integration and data standards as an enterprise. The recommendations below note much of the good work currently underway toward this end. However, effective governance supported by all branches of government will be required to provide clarity and authority over a more streamlined approach to these data issues.

1. The state should establish a data standards program to ensure standardization of data elements and related data definitions. This will enhance the value and usefulness of enterprise data. This report recommends a business approach for data management through a data standards program and definitions for current and proposed core enterprise data elements.

The recommendation is consistent with those found in several recent efforts.

- The 2008-2014 State Strategic IT Plan recognizes the need for data standards in Goal 2 Promote Data Sharing: “Allow for the sharing of data through common data standards and management, data archiving, and the adoption of common platforms and infrastructure.”
- The November 30, 2007, Information Technology Work Group Report, Recommendation 10, states that “The state should adopt a common set of data standards and a common approach to data management.”

The initial steps toward enterprise data standards are now underway. On July 10, 2008 the Information Services Board approved the Enterprise Architecture (EA) Committee’s recommendations to approve Data Standards as the next EA Initiative. The Committee proposed a two-phase approach that will result in:

- A repeatable framework and governance guidelines to help agencies create and maintain Tier 1 data standards (Tier 1 means processes, data or technologies that are common across/among agency systems.)
- A basic set of initial set of common data definitions, templates and standards related to current Tier 1 agency efforts to propose for ISB adoption

- Proposed architectural strategies to automate the storage, management, and communications of future standards
- Common data management terminology and key concepts

The work planned by the EA committee will certainly prove useful to the state, but it will be important to determine whether the committee can fulfill the complete vision of the recommended data standards program. For example, the committee's reliance on volunteer resources and the absence of a clear structure for making and publishing decisions will likely be less effective for completing deliverables than other program models.

2. The state should continue its efforts to develop and implement a data integration strategy to:
 - Govern how systems share information,
 - Reduce interface development and maintenance costs, and
 - Promote efficient information sharing between existing and new systems.

This strategy, along with the data standards program, will improve the ability of state systems to communicate and share data.

The Integration Competency Center (ICC) was created by the Information Services Board to provide efficient, secure, reliable, and cost-effective integration of disparate information systems within state government. The ICC provides:

- A shared technology infrastructure that allows systems to interact according to industry best practices and the state's guidelines for systems integration.
- Technical consulting to agencies that result in the use of shared infrastructure effectively for projects that require system integration.

We encourage the ICC to assess whether its mission will address the integration recommendations outlined in this report or whether other structures or efforts are necessary to complement its work.

3. The state should revise policies and procedures related to existing financial and administrative systems and to resolve some identified unmet enterprise information needs. While the core structure of the chart of accounts does not need to be changed, the revised policies would result in changes to the way the chart of accounts is used.
4. The state should consider implementing new systems to resolve some of the unmet enterprise information needs. The agency executives identified time collection and labor distribution as the most critical unmet enterprise information needs and recommends the state give these needs the highest priority in its systems deployment efforts.

5. The state should modify laws, where possible, to move away from agency-specific laws around common business processes (e.g., purchasing, revenue collections) toward more enterprise-wide laws.
6. While the state is beginning to address the recommendations 1-5 above, the project team feels it is premature and not cost effective to pursue the work originally envisioned for the second phase of this project—mapping and comparing the impacts, risks, and costs of meeting the enterprise information needs in both SAP and the current suite of tools—at this time. To pursue a comparison of impacts, risks and costs, the state would need to identify where and how it wants to standardize processes.

The state will be better prepared to identify and document business and technical requirements for future financial and administrative systems once it has established enterprise groundwork and has settled on standard definitions for enterprise data elements, revised key policies, procedures, and laws, and adopted data integration strategies. This project was not intended to be the only criteria by which to conclude how the state should modernize its core financial systems. Based on the findings of this project, the team concluded that the state is not ready today to migrate to the SAP Public Sector Financial modules or to make significant investments in modifying the current core financial systems until this groundwork is done.

7. The state should develop a multi-year work plan that encompasses a timeline and resources needed for data standardization, data conversion, infrastructure integration, and new system implementation. This plan should describe the state’s goals and direction for modernizing the state portfolio of systems. The Roadmap Steering committee is currently in the process of developing a high-level plan for modernizing the state’s core financial systems that should address many of these issues.

These recommendations should be evaluated to determine which can be implemented concurrently.

Conclusion

The state of Washington is able to retrieve some enterprise data today; however, requests continue for even more. Consistency, completeness and accessibility of additional data will help meet enterprise information needs. State agencies are willing and ready to take on the challenges necessary to collect better, more complete enterprise data.

The project team felt that creating and enforcing data standards might be the single greatest outcome from the EDD/COA project. The state needs standardization and data governance for long-term success in managing and using enterprise information in this era of electronic data processing.

The success of implementing these recommendations will give state decision makers insight into the state’s willingness to make the changes necessary to achieve common business processes. Adopting enterprise data standards will help the state identify and document business and technical requirements for financial and administrative functions for future systems. A full set of requirements will assist the state in making a decision when to consolidate, which choice of architecture will best fit, and what tools will best meet the need. All these strategies would show the determination of the state to achieve its enterprise potential.

3 Prioritized Unmet Enterprise Information Needs

3.1 How Needs Were Identified and Filtered

The EDD/COA project team includes the following staff: Ann Bruner, Lee Hall, Bruce Gorsky, Laurie Lien, Jamie Langford, Sid Fulford, Cheri Keller, Teri Savage, and Michelle Paul. Consultants hired for this project include M. A. Cook and Semantic Arts, Inc. Sterling Associates, LLP provided quality assurance on this project.

The team performed the following tasks related to gathering unmet enterprise information needs:

- Reviewed results of projects and studies from the prior 10 years
- Held focus group meetings for the seven business process areas (Refer to section 3.2), the major transaction cycles identified by the Roadmap Program Office
- Met with a group of agency executives to discuss the project and solicit their input
- Surveyed attendees after the executive and business process meetings
- Continuously invited comments from stakeholders at meetings, through email and the website

High level impact, risk and value of meeting unmet enterprise information needs were evaluated at several stages during the project. Possible resolutions (refer to *Appendix A*) in the current suite of financial systems became readily apparent as the team analyzed the roadblocks and barriers to meeting needs. Similar resolutions to meet unmet enterprise information needs were combined. The resolutions identified technical and business options, the pros and cons of the resolution, as well as assumptions and dependencies.

The team evaluated the severity of the impacts, risks, costs and values of the possible resolutions, and then vetted these with Office of Financial Management (OFM) staff from the Information Services Division, Statewide Accounting, and Budget. Although opinions differed in urgency, priority, preference, and reasonableness, they agreed these are valid possible resolutions.

The terms the team used throughout this document are defined in *Appendix B*.

3.1.1 Data Elements

This project is all about data: what information do decision makers need, how available is the data, and how useful is the data once it is available? The list of unmet enterprise information needs was analyzed to determine if there was a correlated data element that would help satisfy or answer the particular need.

The project team first listed potential data elements related to the needs. The data elements were discussed with the business process focus group participants, who added to or removed elements from the list. The team also met several times with consultant M. A. Cook for advice on analyzing data elements (refer to Section 5 of this report).

Additional discussion and a proposed data standards program are included later in this report.

3.1.2 Identification Methodology:

In December 2007 the EDD/COA project team identified documents that specifically stated or indicated there were unmet enterprise information needs (refer to section 3.1.3). Conversations with OFM and other state staff helped identify other unmet enterprise information needs as well as potential data elements. A list of the original unmet enterprise needs can be found in *Appendix C*.

3.1.3 Reference Sources

For a complete list of references sources used to create the initial list of unmet enterprise information needs, please refer to *Appendix D*.

3.2 Validation by Agency Advisory Business Process Groups

The recommendations identified in this report are the result of input and validation from a wide variety of stakeholders.

Using the original list of unmet enterprise information needs, the project team determined the logical way to sort them was by business process areas, as identified in prior Roadmap work. The Roadmap report included a chart entitled Roadmap Business Process Scope Model (refer to <http://www.ofm.wa.gov/roadmap/history/scope.pdf>). The business process areas are:

- Procure to Pay
- Revenue Cycle
- Human Resources
- Performance Management and Budget
- Cost Accounting
- Asset Management
- Reporting/General Ledger (GL)

Note on the Human Resources business process area: The Benefits Administration and Insurance Accounting System (BAIAS) project was in process when the EDD/COA project began, so it was excluded from the scope of our project. The BAIAS project funding has since been substantially reduced by the Legislature; therefore, any unmet enterprise information needs intended to be satisfied in the benefits administration area may be omitted from this report's final list of unmet enterprise information needs.

3.2.1 How the Team Went About Getting Agency Participation and Who Attended

The team used the business process focus group as our primary audience to gather input and validation from our stakeholders. The team invited a cross section of agencies to participate in the business process focus group meetings, including higher education, large and small agencies representing governmental and proprietary activities. Ultimately, 40 agencies and organizations

participated in one or more of the business process focus groups, either in person or via telephone. For a list of the participant agencies and organizations, refer to *Appendix E*.

The team also invited agencies to submit comments via email and conducted surveys after each focus group session.

3.2.2 Why the Team Chose This Process

The team chose to conduct business process focus group sessions because we needed a logical way to organize and validate all the unmet enterprise information needs and related data elements at a statewide level. The team also wanted to provide a face-to-face forum where the interaction was direct and immediate. We felt these meetings would provide an opportunity for open discussion and would allow us to ask clarifying questions on issues agency business experts felt were the most important.

3.2.3 When and Where the Team Conducted Our Focus Groups

The team held business process focus group meetings on the following dates and at the following locations. (Total participants: 358)

March 11, 2008	Procure to Pay held at Department of Social and Health Services, 712 Pear Street, SE, Olympia. (65 total attendees)
March 25, 2008	Human Resources held at Department of Social and Health Services, 712 Pear Street, SE, Olympia. (56 total attendees)
April 8, 2008	Asset Management held at Cherberg Building, Olympia. (62 total attendees)
May 6, 2008	Revenue Cycle held at Cherberg Building, Olympia. (70 total attendees)
May 13, 2008	Cost Accounting, Reporting/GL, Performance Management and Budget held at Cherberg Building, Olympia. (58 total attendees)
May 20, 2008	Cost Accounting, Reporting/GL, Performance Management and Budget held at the General Administration Building Auditorium, Olympia. (47 total attendees)

3.2.4 What the Team Asked Focus Groups to Do

First, we asked agencies to review the list of unmet enterprise information needs gathered from reports, and discuss with their staff prior to attending a specific focus group session. Within the focus group session, we asked participants to validate the list of unmet enterprise information needs, confirm the business drivers for the specific need, and further address the business value(s) of meeting the need. We also asked participants to comment on the potential common data elements and roadblocks that have prevented the state from meeting the needs so far.

After each focus group meeting, we emailed participants a document that included the revised business process unmet enterprise information needs as well as the participant comments. The team asked participants to review the document, verify their comments, and send us any additional comments. To the extent that it made sense, we added these additional comments to the document, and then posted the updated document to the EDD/COA website. The combined

unmet enterprise information needs list with participant comments is in Appendix F. The complete list of all participant comments by business process area is in Appendix G.

Finally, we conducted an automated survey to help the project team again validate the unmet enterprise information needs. The team used the information from the focus groups and follow-up surveys to refine the list of unmet enterprise information needs. We then presented the refined list of needs to agency executives to prioritize (refer to Section 3.3).

3.3 Validation by Enterprise Executive Group

3.3.1 Who Participated

The project team asked agency operations staff and specific agency executives to validate the unmet enterprise information needs. Agency executives, such as those at the deputy director level, could answer questions at a higher “enterprise” level. We felt that agency executives who would most likely know and understand the unmet enterprise information needs were those from agencies such as: Legislative Evaluation and Accountability Program Committee, the House of Representatives, the Senate, higher education, larger agencies, Government Management, Accountability and Performance, and OFM Budget and Accounting.

3.3.2 When and Where Executives Met

The team held our executive enterprise meeting on April 22, 2008 in the General Administration Building Auditorium.

3.3.3 What They Decided

Prior to the meeting, we emailed the meeting agenda, the list of unmet enterprise information needs, the list of data elements and definitions, and a draft of the deliverable expectations document (a draft outline of the project report). We asked agency executives to review these documents and bring any additional unmet enterprise information needs identified by their agencies to the meeting. Many of the invitees substituted individuals and we did not achieve the intended participation from the enterprise level.

At the meeting, the team introduced and discussed the list of unmet enterprise information needs, potential enterprise data elements, and the deliverable expectations document. Participants at the enterprise executive group meeting did not eliminate or add to the list, nor did they reach any decisions or conclusions about the validity or priority of unmet enterprise information needs presented.

3.3.4 Changes to the List of Unmet Enterprise Information Needs

The original list of unmet enterprise information needs contained 28 needs. Over the course of the project, the team made changes to the need, the business value, roadblocks and data elements associated with each need. The project team used comments and survey information from both the business process focus groups and the enterprise executive group to reduce the list of needs to 23. We sent this revised list to the select group mentioned above for prioritization.

3.3.5 How They Came To Their Decision(s)

The team realized early in the enterprise executive group meeting that the people in attendance were not the agency executives who could help decide the priority of unmet enterprise information needs. After numerous discussions with key stakeholders, a group including agency executives and Roadmap Advisory Group members (refer to <http://www.ofm.wa.gov/roadmap/governance.asp>) were surveyed to help prioritize the unmet enterprise information needs in the order of importance.

3.4 List of Final Prioritized Unmet Enterprise Information Needs

In focus group meetings, the team presented each unmet enterprise information need and asked the question, “Is this still an unmet enterprise information need?” Responses from meeting participants, as well as group discussion, helped add to, and delete from, the original list. At the conclusion of the focus group meetings, the EDD/COA team again reviewed each need on the list to verify:

- (1) Is it still an unmet information need?
- (2) Is it enterprise?

The team finalized the list of 23 unmet enterprise information needs, which can be found in *Appendix H*.

At the request of the EDD/COA project executive sponsors, the team asked participants in the executive enterprise group, as well as the Roadmap Advisory group, to prioritize the unmet enterprise information needs. On June 5, 2008 project executive sponsor Sadie Rodriguez-Hawkins emailed this group the final list of unmet enterprise information needs and a survey. The survey asked participants to:

- (1) Prioritize the top three of the seven business process areas (see 3.2)
- (2) Prioritize the “unmet enterprise information need, within each business process area

Forty-six people were asked to complete the survey; 42 responded (about 91 percent).

The following table illustrates the first part of the survey and shows how the 42 respondents ranked each of the seven business process areas. The Weighted Average column represents a weighting in favor of columns one and two to derive the top three areas of importance: Human Resources, Reporting/General Ledger and Procure to Pay.

Answer Options	One	Two	Three	Rating Average	Response Count	Weighted Average
1. Procure to Pay	2	12	6	2.60	20	1.38
2. Human Resources	15	5	5	3.80	25	2.26
3. Asset Management	0	1	7	1.25	8	0.10
4. Revenue	5	8	7	2.80	20	1.36
5. Cost Accounting	5	7	3	3.27	15	1.26
6. Performance Management/Budget	7	3	7	3.00	17	1.12
7. Reporting/General Ledger	8	6	7	3.10	21	1.52

Note: The "Weighted Average" rating is based upon multiplying a weight score of "5" times the total responses in column One, and multiplying a weight score of "4" times the total responses in column Two, adding these scores together, and, finally, dividing the result by the total of 42 respondents.

The second part of the survey prioritized the individual unmet enterprise information needs within each business process area.

- Human Resources was rated the most important business process area. The highest unmet enterprise information need in that area was the need for a “dynamic and responsive payroll and human resource information (labor collection and distribution).”
- Reporting/General Ledger was rated the second most important business process area. The highest unmet enterprise information need in that area was the need for “detailed information technology expenditures at a lower level.”
- Procure to Pay was rated the third most important business process area. The highest unmet enterprise information need in that area was the need for “enhanced expenditure data and expenditure management information.”

The complete list of prioritized needs by business process cycle is included in *Appendix I*.

4 Business Value Proposition

4.1 Business Drivers

Many business drivers identified in the business process meetings support the need to manage the state’s data more effectively. Below is a list and description of some of the business drivers supporting the state’s adoption of a model for meeting enterprise data needs:

- Enhanced Stewardship of State Resources – State law requires agencies to maximize stewardship over state resources, including resources, tangible and intangible assets, and human capital.
- Greater Ability to Meet Public Expectations – The public expects state government to deliver public goods and services in a manner that advances the interests of the electorate, including effective stewardship of state resources.
- More Leveraged Purchase Opportunities – State agencies need to combine efforts to capture lower prices to purchase similar goods.
- Enhanced Cross-Agency Consistency – State agencies need to treat data and data elements more uniformly to make better enterprise funding and resource allocation decisions.
- Greater Accuracy – The state as a whole needs more accurate data to help tell how state resources are used.
- Better Data Driven Decisions – The state enterprise and individual state agencies need better data and improved access to data to make more objective decisions about how resources are used.
- Improved Legal/Social Compliance – The state enterprise and individual state agencies need better data and improved access to data to ensure compliance with legal requirements and social objectives surrounding issues such as diversity and the environment.
- Greater Government Transparency – The public demands that the state make data available in such a way that government use of public resources is transparent.

4.2 Recommendations for Change

4.2.1 Project Objectives and Comparison of Options

Project Objectives

The objectives of the EDD/COA project team identified in the project charter are to:

1. Identify core information, accountability and management needs not being met or captured by the current chart of accounts;
2. Identify common definitions for current and proposed core enterprise data elements including a business approach for data management;
3. Validate the state's need for new enterprise financial and performance measurement data, including a critical review to determine if changes are needed to the state's current chart of accounts and the business value of making the changes
4. Provide documentation to the Roadmap Executive Sponsors to help them make a decision on (1) revising current state financial and performance systems or (2) migrating to the SAP Public Sector Financial modules.

Objective 1

As noted in Section 3.4 of this report, the project team validated 23 unmet enterprise information needs. However, the team did not determine that the current chart of accounts was a prominent barrier prohibiting the state from achieving those unmet enterprise information needs. The project team did determine that the lack of standards governing the use of the chart of accounts represents a significant barrier to meeting enterprise data needs.

Objective 2

Data definitions provide standard meanings to enterprise data elements. Currently, the state does not define many of its data elements, defines them differently in various systems, and may not link data elements with other systems. The project team identified a set of current and proposed enterprise data elements and established general definitions for those elements. We believe that these data elements and their definitions must be refined further in a formal statewide data standards program. Section 5 of this report addresses the data standards program.

Objective 3

The project team determined the state does **not** need to alter its chart of accounts substantially to meet its information needs. The new enterprise financial and performance measurement data the team identified can or should be met either by requiring more widespread use of existing elements, mandating adherence to a data standards program, expanding the scope of existing elements, or creating new tables to link enterprise information.

Objective 4

Revising current financial and performance systems could satisfy needs where current systems are deployed. Appendix A identifies possible resolutions to achieve the state's goals.

Findings

In the course of meeting our project objectives, the team made the following findings:

1. The project team discovered unmet enterprise information needs as noted in Section 3 of this report.
2. This project did not identify a need to change the structure of the current chart of accounts. The current chart of accounts structure works well for its intended purpose. It provides financial enterprise information at a summary level for statewide financial reporting and budget monitoring. However, the state can optimize the chart of accounts to its enterprise capacity for meeting lower levels of information by mandating more required fields and use of available statewide systems.

Currently, the state meets other enterprise information needs by more time intensive methods, such as making requests of each agency and then manually accumulating the results. In the future, retrieving data will be easier, quicker and more consistent with the adoption of some of the recommended resolutions relating to changes in existing systems.

3. The team determined that the Agency Financial Reporting System (AFRS) system is not used to its capacity to meet enterprise needs. For example, OFM could add tables in AFRS for needed data elements.
4. The team discovered some highly valued information, not currently available, could only be provided by new systems (time/attendance, facility management, consumable inventory).
5. The team found there is a lack of standardization of data use and common data definitions. (e.g., Grants, Contracts, and Loans Management (GCLM) system contains definitions and the Department of Information Services' contains master contracts definitions).
6. A decentralized business culture dominates Washington State government. There are multiple decentralized policies, business processes, and systems (e.g., 19 purchasing authorities, various cash receipting systems, various Accounts Receivable systems).
7. The team notes that there are multiple ERP instances/modules and non-ERP systems (some still in development) for statewide data. Many of these systems are optional for agency use.
 - ERP/SAP instances/modules: Human Resource Management System (HRMS), Revenue Management, Timber Sales Contract and Asset Performance Business Function at the Department of Natural Resources, Benefits Administration and Insurance Accounting System (BAIAS); and
 - Non-ERP examples: GCLM, Travel and Expense Management System, Budget Development System, Solomon-Accounts Receivable System, Statewide vendor payments, Constituent Relationship Management System, Capital Asset Management System.
8. The Central Accounting System Interface Inventory (CASII) project results emphasize that there are interfaces from a large number of complex agency-unique line of business systems to AFRS. Agency interviews disclosed that agencies have deeply imbedded statewide and agency charts of account in the agency unique-systems. They indicated that significant changes in the chart of accounts would have a substantial impact on their systems. (refer to CASII report on the Roadmap website at www.ofm.wa.gov/roadmap/casii.asp)

9. The team did not discover a multi-year work plan that provides a single view of where statewide system development is now or where it is going. Individual agency strategic plans are not incorporated into an enterprise strategic plan. Other areas of enterprise planning do not include data definitions development and architecture integration. Advanced notification would allow others to better plan workload, resources, data definition use, and system integration around upcoming development efforts.
10. The team recognizes the ERP limitations in satisfying all of Washington State's requirements as disclosed at Gartner and SAP informational meetings.
11. The team agrees with Semantic Arts that a uniform data architecture could help resolve the current lack of standardization of data use and common data definitions.

From these findings, the project team identified several general barriers that impact the state's ability to generate enterprise information. These include:

1. Existing laws, policies and procedures pre-empt the ability of the state to act as an enterprise when it gathers data, other than at a summary level.
2. Currently it is not mandatory for all agencies to enter detail information into AFRS that would meet some of the unmet enterprise information needs identified. In addition, optional AFRS detail may be inconsistent between agencies.
3. The lack of some enterprise data reflects inconsistencies in the state's approach to system implementation. Required rather than optional use of enterprise systems would ensure more complete enterprise data.
4. The state's ability to generate and gather some important data elements is not due to the shortcomings of central financial systems, but is the result of failing to maximize the capabilities of those systems.

Comparison of Options

SAP/ERP Option

To address the weaknesses listed above, the state could choose to replace its core financial systems with SAP or another form of an ERP solution.

1. An ERP solution may facilitate the accumulation of enterprise data by enforcing uniform data entry requirements.
2. ERP may help solve the proliferation of subsidiary systems that interface with core financials by enforcing tightly woven built-in interfaces that are typified by ERP solutions.
3. An ERP solution, if properly configured, may also serve to reduce shortcomings in enterprise information due to the failure to maximize system capabilities.
4. No solution, however, can solve unmet enterprise information needs where one or more laws, policies and procedures supporting decentralization are contrary to that goal. Examples of these are discussed below under "Project Team Recommendations."

Revise Current Systems Option

Some of the current unmet enterprise information needs could be met without migrating to an ERP based solution.

1. The state could require state agencies to enter data at more detailed levels to meet those needs where detail is lacking at the enterprise level.
2. The state could acquire key mandatory subsidiary systems, interfaced to AFRS through a planned integrated information strategy-like SOA, to meet those needs where data is provided by divergent agency systems.
3. AFRS's table-driven decision processing capabilities could be optimized to provide unmet enterprise information needs in instances where those capabilities have not been maximized. This could include requiring lower levels of reporting and mandatory use of available statewide systems.
4. As noted before, any solution option must take into account the necessary changes to laws, policies and procedures that impair the collection of enterprise data.

4.2.2 EDD/COA Recommendation

Phase 2 Project Objectives

The EDD/COA project charter charged the project team with the responsibility to provide documentation to the Roadmap Executive Sponsors to help them make a decision on a course of action based upon the results of achieving the objectives noted in Section 4.2.1.

The two primary courses of action outlined in the project charter centered on recommending the state either revise current state systems or migrate to the SAP system, as described above under the **Comparison of Options**, also in Section 4.2.1. As part of Phase 2, the charter asks the project team to:

1. As necessary, map the proposed enterprise changes into both the state's existing systems and into the SAP Public Sector Financial modules;
 - Evaluate whether either current state systems or SAP will meet the proposed needs from objectives 1-3 in Section 4.2.1.
 - Determine what the gaps are and document them.
2. Map the existing enterprise data elements from AFRS to SAP to determine and document the gaps in major business functionality;
3. Determine the high level impact on state agencies of implementing the proposed changes to the current state systems or to the SAP Public Sector Financial modules including:
 - Estimating the costs and time at a high level, including change management, for state government to revise current enterprise state systems or to implement SAP to enhance performance management and financial decision-making; and
 - Analyzing how well the proposed data elements in the current state systems or the SAP Public Sector Financial modules would align with the Department of Personnel's SAP

HRMS, the Health Care Authority's SAP BAIAS, and the Department of Natural Resources' SAP Revenue, Timber, and Asset (RTA) System.

Project Team Recommendation about Proceeding with Phase 2 as Originally Defined

As the EDD/COA project progressed, the project team began analyzing the information the team gathered. This analysis led to the question, "Is the evidence compelling enough to warrant the mapping objectives of Phase 2?" Since our analysis revealed no significant changes to the state's chart of accounts, and many of the financial or performance measure elements could be met within the current architecture, the answer is no.

- The project team did not identify significant changes to the chart of accounts that warrant the cost and effort of mapping.
- The definition of existing and newly identified data elements is an issue that stands separate from the need to map any specific financial system. There is a lack of centralized data definitions and use. The state can achieve effective data definitions through a rigorous data standards program.
- The team did not identify any critical shortcomings in existing core financial systems that warrant the cost and effort of mapping.

Project Team Recommendations

The project team makes the following recommendations:

1. The state of Washington should establish a data standards program. The state lacks data standardization throughout its business vocabulary, definitions, ownership, system of record and architecture. The project work revealed the following items of relevance:
 - Some data elements have multiple meanings. No system can generate accurate, reliable, consistent and integrated enterprise information due to multiple meanings for data elements today.
 - The state has no program of active governance that will provide direction for uniformity in data standardization, processes and architecture for current and new systems.
 - The state does not have the ability today to streamline identification of business and technical requirements needed for enterprise applications.
 - The state has no policies or procedures that require compliance with data and architecture standards to prepare the state to incorporate enterprise data usage.
 - The state lacks a long-term strategic plan for financial and administrative systems to specify the order of application implementation and indicate what data subject areas have priority in developing data definitions. For example, if the strategic plan includes a procurement system in the near future, the state needs to establish data definitions governing state procurement in time for development.

The project team felt that creating and enforcing data standards might be the single greatest outcome from the EDD/COA project. The state needs standardization and data governance for long-term success in managing and using enterprise information in this era of electronic

data processing. Refer to Section 5 for more details about the recommended approach to data standards.

2. The state should develop and implement a data infrastructure integration strategy. Washington State has different system architectures deployed through the many applications it offers for agencies to use. The state has implemented systems as they were needed, unintentionally resulting in an inconsistent system architecture.

Complexity increases with the addition of new systems, and adds to the cost and risk of integration. Many current systems have interfaces that are hard coded, inflexible and costly to maintain. Some data is not easy to access and share across the enterprise.

The state has lacked a clear strategic direction that establishes architecture, infrastructure and an integration technology to meet its goals and direction. However recent initiatives are starting to address this void.

The Information Services Board recently created the Integration Competency Center (ICC) to provide efficient, secure, reliable, and cost-effective integration of disparate information systems within state government. The ICC will provide:

- A shared technology infrastructure that allows systems to interact according to industry best practices and the state's guidelines for systems integration.
- Technical consulting to agencies that result in the use of shared infrastructure effectively for projects that require system integration.

Information Services Board Committee on Geographic Information Technology (GIT) represents the strategic interest of a coordinated, enterprise approach to utilizing geographic information technology and, provides leadership for implementation of cost effective, collaboratively developed, spatial data management solutions.

The Committee provides executive leadership to:

- Promote geographic information technology coordination and statewide integration.
- Develop strategies for state, local, regional, federal and tribal jurisdiction participation.
- Develop policy and standards recommendations regarding geographic information technology for consideration and adoption by ISB as state policy.
- Develop strategy and process to accelerate implementation of the fundamental, commonly needed, statewide geographic data themes.
- Seek funding support for an enterprise wide, coordinated approach to geographic information acquisition, management, access and distribution.

As part of the Roadmap positioning activities, OFM asked Semantic Arts, Inc. to model system integration that would allow data to flow between systems, whether the system is a best of breed, custom built or Enterprise Resource Planning (ERP).

Part of their recommendations included a service-oriented architecture (SOA). This represents a way of structuring systems where the entity groups functions around business processes and packages them as independent and loosely coupled services. Users usually

access services via a “service bus”, which routes messages to and from systems based on message formats defined by the service.

This approach benefits agencies by:

- Enabling the agencies to be more flexible and respond more quickly to changing business needs because the business process logic is centralized, and
- Decreasing the cost of developing systems through re-use of existing services, better maintainability of existing services and ease of adding and accessing new services.

Semantic Arts created two versions of a high-level service-oriented architecture model for the Office of Financial Management. The first model represents the business processes of OFM’s (and other central service agencies) current suite of financial and administrative systems. The second model depicts financial and administrative services as provided by SAP.

Semantic Arts completed architecture models in parallel with the EDD/COA effort to identify standard definitions for the most commonly used data elements utilized across state agencies. The standardization of data definitions feeds the process of defining the message formats sent to and from services and greatly simplifies the creation and use of these message formats. Semantic Arts noted that the state’s lack of standard data definitions would make the integration process more difficult.

3. The team recommends implementing policy and procedure changes within the current statewide suite of systems to capture many of the unmet enterprise information needs the team identified. Possible changes include:
 - Optimizing use of current financial systems, such as adding tables and fields in AFRS (not in the chart of accounts) to track facilities, statewide result areas (POG), budget activities, capital projects and expenditure authority for non-appropriated funds.
 - Requiring more detailed entry into AFRS including expanding statewide sub-sub-objects, expanding statewide revenue sub-sources, requiring program indexes on revenue transactions, requiring capital project numbers on capital project transactions, and linking program indexes to budget activity codes.
4. The state should consider implementing new systems to resolve some of the unmet enterprise information needs. For example:
 - The state should acquire new mandatory statewide subsidiary systems to manage the procure-to-pay process, consumable inventory, tangible and intangible assets, facilities, accounts receivable and human resource time collection and labor distribution. A survey of agency executives identified Human Resource improvements as the highest business process area of need.
5. The state should request the Legislature modify laws, where needed, to move away from agency-specific laws around common business processes toward more enterprise laws. Possible changes include:

- Revising procurement laws to reduce or consolidate some of the 19 procurement authorities.
 - Revising laws and administrative code relating to how agencies calculate and apply interest, penalties, and principal payments on accounts receivable.
6. The team does not recommend proceeding to Phase 2 mapping of the EDD/COA project. Reasons include:
- The project team did not identify significant changes to the chart of accounts.
 - The definitions of existing and newly identified data elements is an issue that stands separate from the need to map any specific financial system.
 - There is a lack of centralized data definitions and use. The state can achieve effective data definitions through a rigorous data standards program.
7. The state should establish and actively manage a multi-year work plan for addressing statewide financial system needs. The multi-year plan would:
- Identify current and future steps to prepare for any enterprise system replacement.
 - Develop an enterprise-wide technology investment plan
 - Address the unmet enterprise information needs identified in this report
 - Lead the effort to revise laws, policies and procedures, where necessary
 - Align data definitions and system architecture to promote successful future data and system conversions
 - Ensure that a future ERP system conforms to the business processes of the Washington State enterprise where necessary

This would allow the Legislature to plan for future system funding requirements, allow state agencies to plan their system development around statewide systems, and provide transparency to the public. The Roadmap Steering committee is currently in the process of developing a high-level plan for modernizing the state's core financial systems that should address many of these issues.

Additional Rationale for the Recommendation

In addition to information the project team gathered and used in its analysis and recommendations, the team incorporated knowledge gathered from many years of state government experience of project team members. The team also incorporated accounting and financial systems experience and knowledge, including knowledge of SAP capabilities. The team believes there are a number of factors that present a formidable challenge to a migration to SAP as an ERP. These include:

1. Washington State Government Culture

SAP implementation requires decisions to be made about how the software will be configured for the entire enterprise. A centralized culture might make this task easier.

A decentralized culture exists in state operations, as illustrated by a lack of standardization of common business process and best practices between agencies. This decentralized organizational structure and lack of governance make it difficult for the state to share and leverage the full value of technology implementations.

Washington law contains barriers to centralized authority, which sometimes prevents the state from implementing common processes and procedures. One example of how this is true in occurs in the area procurement. Washington State has 19 separate procurement authorities codified in the Revised Code of Washington (RCW). To make the procurement components of SAP work well, the state would probably have to unify procurement under a central, enterprise authority.

Washington sometimes delegates agencies the authority to make decisions that, in other states may be made at the enterprise level. In this state, timely, consistent and complete enterprise data is not always available in part because agencies sometimes have the option of using their own systems instead of an available statewide system.

To pursue a comparison of impacts, risks and costs, the state would need to identify where and how it wants to standardize processes. Until this standardization is done, and there is a better understanding of how processes would be established, documenting business and technical requirements for SAP or OFM statewide systems to respond to would be difficult.

2. Governmental Accounting

Gartner says that SAP's foundation is private sector manufacturing and in private sector accounting the company is the legal accounting entity. The overriding legal entity of governmental accounting is the fund ("account" in the Statewide Administrative and Accounting Manual (SAAM)). SAP does not manage funds as separate legal entities. This causes additional work when establishing an SAP chart of accounts for Washington. Codes must be "smart-coded" such that the state must string together codes with separate meaning into a single code.

Smart-coding subsequently causes problems on the reporting side. The smart code must be deconstructed to derive a particular piece of meaningful information contained with the smart-coded transaction. A purely table-driven environment where tables separate meaningful code elements works more effectively for fund accounting.

3. Leveraging SAP

Many reports and documents within Roadmap suggest that the state may be able to leverage SAP because of the implementation of HRMS. It is the opinion of the team that if the state were to implement SAP's core financials other individual instances of SAP like HRMS would have to be reimplemented. The limited leverage remaining pertains only to the experience state staff gained in implementing HRMS.

Currently there is no statewide SAP general ledger that includes all the mandatory general ledger elements currently in the state administrative and accounting manual. Each SAP instance has its own general ledger. Neither the general ledger in the HRMS instance nor the

general ledger in the DNR instance satisfies the requirements of the statewide general ledger. If the state were to install an “enterprise instance” with a statewide general ledger, the earlier instances would have to be re-implemented or analyzed for a crosswalk, to reflect the correct general ledger elements, thus reducing much of the integrated value we would want to leverage.

Gartner research paper ID number G00130366 published September 28, 2005 states “Many consider deploying a single instance of an enterprise resource planning application to save on operational costs, reduce IT complexity and align their application strategy with the business strategy.” This paper suggests a single SAP instance leverages the success factors realized from an ERP.

In a June 2008 presentation to OFM by Semantic Arts, Inc., it was noted that “SAP services can only be practically shared within an instance of SAP.” This also implies there is limited leveraging by multiple instances. However, Semantic Arts also reported that the state may potentially leverage some of the SAP experience in HRMS and user experience in agency human resource areas. Also, it is not uncommon in the private sector for organizations to choose to implement separate instances of SAP for human resource management and a separate instance for the remaining business processes for security, performance and other business reasons.

4. Enterprise and Agency Needs and SAP Functionality

No ERP, off-the-shelf system, or state-built system will satisfy all enterprise and agency needs. The Gartner Group indicated that SAP does not satisfy 100 percent of the functionality to support state business. For example, SAP would only deliver 40 percent to 60 percent of the supply chain management functions. The consequences of customizing an ERP or off the shelf system to meet more of an organization’s current requirements include significantly increased costs and risks in future upgrades of the product.

5. The Cost of SAP

In our opinion the cost of the software is small compared to the total cost of the implementation. SAP and ERP implementations in general are high risk, high cost endeavors. Additionally, the cost of SAP deployment goes well beyond license, integration and project management. Product life cycle costs include the stabilization of the system, system upgrades and ongoing expertise retained to make the system work.

4.3 Business Value for Change

4.3.1 Enterprise Data Definitions

The state should reap substantial value by adopting enterprise data definitions. That value is contingent upon how well the state continues to actively manage its data standards program. Data definitions in conjunction with an active data standards program will result in more consistency, integrity, validity, and accuracy of data in statewide systems. The program will align with the state’s strategic direction and support architectural policies and standards. In addition this will bring cross-functional attention to integration challenges.

4.3.2 Business Impact to Agency Stand-Alone Systems

Agency stand-alone systems will be impacted in varying degrees in implementing data definitions statewide. This impact may vary depending on how the state chooses to implement architecture and infrastructure strategies. Business impacts to agency systems include the following:

- Agencies that submit only summary information to AFRS will need to re-engineer their interfaces to provide additional detailed, enterprise data. This may also mean those agencies will need to collect and store more detail data in their systems.
- Agencies with stand-alone systems that incorporate the chart of accounts will need to ensure their systems can provide the data necessary under statewide data definitions. This could be particularly painful if an agency has a multitude of subsidiary systems containing hard-coded data elements.
- In cases where agency systems are candidates for replacement by a statewide mandatory system, agencies may need to re-engineer interfacing subsidiary systems to capture data elements required by enterprise data definitions.

4.3.3 Policy Impact and Value

Roadblocks currently exist in our ability to access all the enterprise data wanted by users. Some of these roadblocks will need to be overcome regardless of whether the choice to meet information needs is an ERP solution or if modification to existing statewide systems is the solution. To be successful, adopting an enterprise data model will require the state to amend laws, policies and procedures.

Additionally, the state will need to adopt new policies establishing and governing data standards to accomplish the objectives of the enterprise data model. The state must also reduce the number of purchase authorities codified in law. The proliferation of purchase authorities over time represents a barrier to achieving statewide data governance.

The chart of accounts is not substantially expanded under our recommendation. Elements of the chart of accounts do need consistent data definitions and will require governance in the data standards program. Expanded data entry and table maintenance in AFRS will require policies and guidelines in the SAAM.

The outcome of these policy changes, along with effective leadership and governance, should help the state operate more as an enterprise in data management.

4.3.4 Resolution Dependencies

Much of the business value derived from implementing a statewide data standards program will occur when systems and processes are developed to promote the resolution of unmet enterprise information needs. A number of the possible resolutions are dependent on activities currently underway. Below are some of the resolution dependencies as identified in the possible resolutions document in *Appendix A*:

- The facilities project must establish the definitions and assign unique numbers to state facilities before they can be linked to AFRS coding elements.
- GCLM will need to complete the current phase before serious work could proceed on a Procure-to-Pay resolution.

- The Procure-to-Pay resolution should precede both a Consumable Inventory and Asset Inventory resolution.
- These projects should be prioritized and scheduled in the multi-year strategic plan along with other urgent needs such as Time Accounting/Labor Distribution and a Solomon Accounts Receivable replacement.

The following possible resolutions can only be reasonably started at the beginning of a biennial budgetary period:

- Aggregation of data by capital projects
- Actual expenditures by Priorities of Government and budget activity
- Actual expenditures by expenditure authority types for non-appropriated funds
- Increased detail in object and/or source coding

If work is started immediately, any or all of these could be in place for the start of the 2009-11 Biennium.

5 Common Enterprise Data Definitions

5.1 Process

5.1.1 Beginning List

The common enterprise data list was developed from commonly used budget and accounting data elements. The list is not intended to represent all of the elements which might be included in a list of enterprise data definitions. Elements were added to the list from the analysis of the unmet enterprise information needs.

Working with a consultant specializing in data structures and standards (M. A. Cook), the project team developed a five-step process which the team used to analyse potential enterprise data elements.

- Step one required the team to identify and confirm the unmet enterprise information needs. The team accomplished this step through the focus groups discussed in section 3.2.
- Step two required the team identify and confirm business drivers and constraints. This step was also largely accomplished within the focus groups.
- Step three required the team ensure the business value of an unmet information need was 'enterprise' in nature. If an information need was unique to a state agency, it would have to have enterprise reporting requirements in order to qualify.
- Step four required the team ensure involvement by the appropriate parties. The identified domain experts and data stewards needed to be involved.
- Finally, step five was the establishment of data definitions necessary to support the business drivers.

A list of proposed data elements and definitions is included in Appendix J.

5.1.2 Data Element Standards

The team made preliminary determinations of:

- The business driver for the data element.
- The business owner of the standard.
- The steward of the standard.
- Who has the content expertise to set the standard?

5.1.3 The Weakness in Data Management

The lack of consistent data and business definitions was a common theme emerging from all of the focus groups. For example, participants reported they were often asked to report items such as the number of ‘vacancies’ or the number of ‘managers’ in their agency. Discussions demonstrated it was very doubtful all agencies were counting the same things. Standard definitions of these and other elements would greatly improve the quality and consistency of enterprise information.

The team also came across other emerging issues such as ‘location in a Geographic Information System’ (GIS). More and more agencies are implementing process and systems containing GIS coordinates for location. So far Washington State has not adopted a standard format for recording locations in a GIS. Unless a standard is established soon a valuable opportunity to standardize enterprise information will be lost.

The ISB has also recognized this challenge. The ISB committee on Geographic Information Technology (GIT) represents the strategic interest of a coordinated, enterprise approach to utilizing geographic information technology and provides leadership for implementation of cost effective, collaboratively developed spatial data management solutions.

5.2 Formal Data Standards Program

5.2.1 Statewide Responsibility for Data

The Data Governance Institute (DGI) defines data governance as “. . . a system of decision rights and accountabilities for information related processes, executed according to agreed-upon models which describe who can take what actions with what information, and when, under what circumstances, using what models.”

DGI also notes enterprises moving from silo development to enterprise systems will find a “formal data governance policies, backed by cross-functional stewards, can give needed weight to architectural positions.”

They suggest a charter for this type of program would hold data governance and stewardship participants accountable to:

- Review, approve, monitor policy
- Collect, choose, review, approve, monitor standards

- Align sets of policies and standards
- Contribute to business rules
- Contribute to data strategies
- Identify stakeholders and establish decision rights
- Ensure consistent data definitions
- Support architectural policies and standards
- Support SOA, metadata programs, and management of master data
- Bring cross-functional attention to integration challenges

The team believes substantial benefits will accrue from the establishment of this type of statewide data standards program. Standardization of data elements and their definitions will provide consistency of meaning at the management level and portability of data at the systems level.

It is important to note the data standards process is primarily a business oriented activity and not a technical one. The data standards committee and the data subject area groups should be primarily composed of business area representatives.

OFM should be tasked to provide the chairperson for a state data standards committee. The committee should meet on a regular schedule and publish and maintain a data usage handbook. The intent is all newly developed systems would conform to the data usage handbook.

Current systems should establish a migration strategy which will ensure mapping and communication conformity within five years. This migration would also be identified in the multi-year strategic plan.

The committee should receive reports and recommendations from the following data subject area groups.

- Budget and Accounting/Performance Management/Economics and Forecasting
- Chart of Accounts
- Geopolitical
- Procurement/Purchasing/Contracting
- Asset Management (Equipment, Land, Fleet, Infrastructure, Facilities)
- Human Resources
- Legal Matters (Risk Management., Tort Claims)
- Time/Date
- Services

Applicability

In general most data elements included in the data usage handbook as statewide elements would be adopted prospectively and incrementally. Retroactive application, while sometimes desirable, would rarely be required. Communications from the data standards committee should always explicitly disclose the applicability of any new or amended standards.

Requests for New Data Elements

When new data elements are submitted to the committee they should include a proposed data definition, the data format, and a suggested data steward. The submission should also include a discussion of the business driver(s), the potential cost, and the case for a statewide data standard.

The committee should review the submission and weigh the value of the business driver(s) against the cost and determine if the proposed data elements are ‘enterprise’ in nature. If the committee determines the proposed data element(s) will not be included in the data usage handbook, the proposal should be returned to the originator with an appropriate explanation.

If the committee decides the proposed data element(s) should be included as statewide data element(s) they should refer the submittal to the appropriate data subject area(s). The referral should include any applicable timetable.

Requests for Domain Changes

Proposals for additions/deletions to data domains should be originated by the data steward/domain manager. Proposals should include the requested change(s) and their business reasons.

The request should also include a discussion of the potential cost of the change(s) and the targeted implementation date. The committee will act promptly on these requests and communicate their decision in a timely manner.

5.2.2 Management of Data Domains

Each of the data subject areas should have an administrator and include agency business experts from appropriate stakeholder agencies. These groups would meet as needed to work on new, revised and/or deleted data elements. They would present their recommendations to the data standards committee which would provide final review before adoption and publishing in the data usage handbook.

5.2.3 Cross-Domain Issues

Data subject area groups would involve other data subject area groups as needed to address data elements and standards impacting multiple data subject areas.

5.2.4 Start-Up Recommendation

In recent years Washington State has begun to move away from silo development and towards enterprise system development. As part of this trend the state is also moving towards a services oriented architecture in an attempt to achieve enterprise integration through the data.

In order for these trends to continue and be successful the team believe Washington State will need to establish formal data governance policies backed by cross functional stewards. This will allow the necessary focus on metadata and master data management.

A state Data Management Office should be created which will initially be staffed by a state data manager who would act as the chair for the data standards committee, two business analysts and one administrative support person.

All of these positions should be fully dedicated to the data management function. Independent business analysts are important to ensure all of the appropriate stakeholders are fairly represented. Administrative support is essential for scheduling assistance, communication and publishing of the data usage handbook.

A charter for this function should incorporate some of the organizational recommendations of the Data Governance Institute, including those listed in section 5.2.1.

END OF DOCUMENT