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OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424 Version 02

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify)

* 3. Date Received: 09/24/2008

4. Applicant Identifier: OSPI - Washington State

5a. Federal Entity Identifier: Longitudinal Data Systems

* 5b. Federal Award Identifier: 84.372A

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Washington State Office of Superintendent of Public Instruct

* b. Employer/Taxpayer Identification Number (EIN/TIN): 916001112

* c. Organizational DUNS: 808882898

d. Address:

* Street1: PO Box 47200
Street2: 600 S. Washington Street
* City: Olympia
County: Thurston
* State: WA: Washington
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 98504-7200

e. Organizational Unit:

Department Name: Application Development

Division Name: Information Technology Service

f. Name and contact information of person to be contacted on matters involving this application:

Prefix: Mr.
* First Name: Tim
Middle Name:
* Last Name: Anderson
Suffix:

Title: Director, Application Development

Organizational Affiliation:

* Telephone Number: 360-725-6447
Fax Number: 360-586-7251

* Email: tim.anderson@k12.wa.us

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9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.372

CFDA Title:

Statewide Data Systems

*** 12. Funding Opportunity Number:**

ED-GRANTS-062608-001

* Title:

Statewide Longitudinal Data Systems Grant Program CFDA 84.372

13. Competition Identification Number:

84-372A2009-1

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

*** 15. Descriptive Title of Applicant's Project:**

Washington Longitudinal Data System Project

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application: R372A090024

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Application for Federal Assistance SF-424 Version 02

16. Congressional Districts Of:

* a. Applicant: 3
* b. Program/Project: All

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 04/01/2009
* b. End Date: 03/19/2013

18. Estimated Funding ($):

* a. Federal	5,941,886.00
* b. Applicant	0.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	5,941,886.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**

☐ Yes ☒ No Explanation

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Dr. * First Name: Cathy

Middle Name:

* Last Name: Davidson

Suffix:

* Title: Chief of Staff

* Telephone Number: 360-725-6115 Fax Number: 360-753-6712

* Email: cathy.davidson@k12.wa.us

* Signature of Authorized Representative: Lucy Polovitch * Date Signed: 09/24/2008

Authorized for Local Reproduction

Standard Form 424 (Revised 10/2005)
Prescribed by OMB Circular A-102

Application: R372A090024

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424 Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

ABSTRACT

The Washington State Office of Superintendent of Public Instruction (OSPI) proposes a four-year project to enhance a statewide K-12 data system to efficiently link and manage individual student data consistent with the requirements of the No Child Left Behind Act. The proposed project titled, the **Washington State Longitudinal Data System Project** will be built on the existing Comprehensive Education Data and Research System (CEDARS). When fully developed, the system will provide longitudinal assessments of student and teacher growth; provide useful data that aligns curriculum with desired student outcomes and provide transparency of information with a demonstration of governmental accountability to students, parents, taxpayers, policy makers and other stakeholders.

The proposed project will provide OSPI with a gap analysis of what data we currently collect and what data is needed; will develop stronger data quality with an agency data governance analysis, and use this analysis to develop governance model. The project will allow the successful completion of the core set of requirements for efficiently transferring education data from schools and districts to the state while protecting student privacy. Interoperability will be supported between other key external education partner organizations, including the department of early learning and the higher education data system.

Over time, different state and federal programs and policies have required a variety of education data elements for reporting and evaluation. With this, each program area developed customized definitions, collection criteria and update schedules for subgroups receiving services. As program reporting requirements were added for accountability and school improvement purposes, similar core elements were collected and stored between multiple data systems, resulting in redundant data, data silos and ever expanding data storage needs.

Most importantly, the data needs of the education stakeholders will be more effectively and efficiently served. The proposed project will provide the integration of business line applications and metadata management for the seventeen various component systems. Third-party analytical, business management processing, governance tools and eXtensible Markup Language (XML) web services will be used to construct an enterprise-wide Service Oriented Architecture (SOA) that will take CEDARS to the next step of interoperability.

The specific outcomes expected from the Washington Longitudinal Data Systems Project are: 1.) a fully developed, dimensional **data warehouse**; 2.) a central **framework for documentation and implementation** of business rules to increase consistency, transparency and facilitate data transfer, 3.) online querying and reporting capabilities via **data dashboards and query tools** and 4.) a **training and certification program** for users and business partners who will increase data quality and system use and sustainability.

The request for this four year project is $5,677,560.00

Introduction

This application is in response to the invitation for proposals for Statewide Longitudinal Data Systems Grants offered under CFDA 84.372A. The Office of Superintendent of Public Instruction (OSPI), Washington's state education agency, proposes a four-year project which will allow the state to generate accurate and timely data to meet reporting requirements and support data-driven decision-making from the classroom to the state policy level. The enhanced system will allow efficient input, transfer of data, and promote interoperability across institutions while protecting the privacy of individuals.

The proposed project builds on OSPI's initial work toward implementing a statewide longitudinal data system. References to two earlier projects are included in this proposal. The first steps toward building a student data system are described when referencing the Core Student Record System (CSRS). Over time, the scope of CSRS broadened to include system re-structuring and greater capabilities including automatic transfers of data, reporting and interoperability with other data systems. The name Comprehensive Education Data and Research System (CEDARS) is used to refer to the next effort. The work proposed in this grant application is unfunded future work and represents the technical, governance and training initiatives that have yet to be accomplished. The four year project described in this proposal is titled the Washington Longitudinal Data System Project.

I. Need for the Project

The Washington Office of Superintendent of Public Instruction has long maintained financial, enrollment, personnel and assessment information from its 295 school districts. Early Washington data sets are best described as silos of isolated data collected for specific purposes and events. By the 1980s, though many of these data sets were automated, they did not have a relational structure. As the policy issues became more complex and the data needs of policy makers and customers became more interdepartmental, there was great demand to not only know *what* programs accomplished, but *why* some were more or less effective than others. Questions about the relationship between costs or other variables and program services could not be answered accurately or consistently because data were collected and stored in separate locations without linking identifiers.

In Washington and across the nation, the education reform issues of the early 1990s demanded the linkage of student assessment data, program services information and school demographics. Important questions related to the interconnectedness of the information and even questions related to the same data set over time, remained unanswered. The need for relational data systems was pressing but there was no overarching planning effort, coordinated initiatives or the fiscal and human resources to accomplish the task.

Increasing Data Requirements

The Washington Education Reform Act (ESHB 1209), and the No Child Left Behind Act (NCLB) intensified accountability measures for schools, districts, and states. There were new requirements to test more grades, report test scores by demographic categories and measure school improvement overtime. Washington State was in the process of implementing to a standards-based assessment system and increased graduation requirements. Student progress

toward graduation needed to be measured and reported. There was great public demand for information about each school, including classroom level data.

Data were needed to support accountability, program improvement, state policy initiatives and educational program improvement on all levels. More so, a longitudinal *data system* was needed to enable the efficient transfer of data; eliminate redundancy and support greater use of data. A statewide system was needed that could link program data; show change over time; allow more sophisticated analyses; and, have technical and governance frameworks. In addition, support was growing for an extended system which could follow a student from pre-Kindergarten education exposures through college completion, in essence a P-20 Longitudinal Data System.

Initial Steps

In 2002, the State legislature approved the development of a secure, permanent and unique student identifier. This allowed the Office of Superintendent of Public Instruction to develop the Core Student Record System (CSRS) which stores student demographic and program data. Through the permanent State Student Identifier (SSID), the CSRS data could be linked to assessment scores and other student information. At the time, the CSRS could be used to report aggregated data for the Education Data Exchange network (EDEN). The system expanded as additional data elements were required for federal and state reporting. However, system expansion for disparate program areas only added to system complexity which limited use. Consequently, the underlying problem with data redundancy accelerated.

In 2006, the State Legislature provided $2.9 million appropriation for the purpose of building a statewide database of longitudinal student information. The OSPI also received a $1.2 million grant from the Bill and Melinda Gates Foundation to expand the student data collection. The Gates Foundation grant supported the analysis and first phase of the development of the Comprehensive Education Data and Research System (CEDARS) which will expand the student data collection to include teacher, course, and student schedule information. As state funding became available, the minimum core elements were finalized and collected on a weekly basis starting in September 2008. The Core Student Record System continues to be the database of record.

Limitations

The agency data systems of the past had been built without the aid of an application or data architect. They were developed using program specific parameters for unique program purposes and reporting requirements. Over the years, as data-driven decision-making became the norm, program areas collected more data: however, there was no central authority for decisions on the system as a whole. This lead to a series of "stovepipe" applications that further isolated program knowledge.

The lack of a unified system presented many challenges to educators, school districts and educational service district administrators. Without guidance, schools and districts reported the same or similar data elements, often duplicating efforts. Individual systems could not share data easily or efficiently as students moved and transferred. It became increasingly difficult to report unduplicated student service counts for these students. At the SEA level, the Common Core of

Data (CCD) Coordinator needs to collect data from each program in order to report to ED*Facts* instead of querying a central repository.

Two levels of decision-making are hampered by the existing system. At the state level, reports for the legislature are developed upon request and on different time schedules. Often the collection of new data elements is required because the central repository does not contain them. Other reports are limited because longitudinal data are not available to show how programs change over time. At the local level student achievement cannot be viewed over time and the data are not readily available to support teaching and learning.

Stakeholder Needs: Governance and Technology

These issues point to the need for local school and stakeholder involvement through a governance model for the state longitudinal data system. Business owners representing state and federal program area and other education entities should have a voice in the decisions regarding the evolution, refinement and maintenance of a state data system. The proposed project will begin with a representative and a reorganized planning group, as noted in the project design. Once the governance groups are identified and functioning, a top priority will be to address the issues of data quality. Both LEA and SEA data entry personnel will be trained and certified. The governance model will support long-term maintenance and expansion of the system.

All stakeholders need data systems that allow for easier data management, clean, accurate data, and reporting and analysis tools to facilitate data-driven decisions. While the current data systems offer basic reporting services, the technical architecture needs to be expanded to include more useful information and tools for state policy makers, federal agencies, and LEAs about students, educators, student achievement, transcripts and dropout rates. This will require OSPI to gather more data elements, create new, more effective data management user interfaces, implement better student tracking mechanisms, and create an infrastructure for data interoperability. The proposed technical architecture will address these needs by developing infrastructure and toolset components that are able to adapt to change.

What will be gained from this project?

A longitudinal data system will allow in depth assessments of student progress over time. Through the new dashboards and query tools, teachers, program specialists, administrators and other data users will be able to address unique local questions and issues. More accurate statements about school improvement will increase the transparency of information and demonstrate governmental accountability to students, parents, taxpayers, policy makers, and other stakeholders. By instituting a structured data governance policy, the state agency will be able to support and enforce data quality standards. Through use of the governance teams that link agency decision makers to outside stakeholders, the OSPI will ensure that system enhancements will be sustainable.

Needs Assessment Process used for the Proposal and Project Development

The preparation of this grant proposal was not done in isolation of the current data owners. It began with the systematic collection of business owner views on current system operations and future needs. Representatives from the OSPI Information Technology Services Division interviewed representatives from each of the 14 business areas within the agency and

classified and analyzed the results of those interviews. Business owner representatives were asked to define the specific programs within their organizational authority and to name the programs with which they interact on a regular basis. Representatives were surveyed regarding their outside business partners; technologies used, and the storage, quality and stewardship of mission critical data. Respondents were asked to state problems or concerns with internal data system operations as well as the aspects of the current system that are positively viewed. They also were asked to comment on future needs and/or connections with the Washington's pre-K and post-secondary education data systems. A gap analysis was run to compare the current status with future needs. The results helped shape the proposed project goals and objectives which are presented in the following section.

II. Objectives for the Proposed System

The proposed project will build on the existing state-level data system and finish the necessary steps to make the K-12 core system meet technical and data quality standards while aligning the system for data exchange with pre-K and higher education institutions. The current system contains student-level demographics and program enrollment information. The system is currently being expanded to include student, teacher and course level data to establish the relationship between students, program variables and achievement levels. Still missing are: 1.) A formal governance structure 2.) Connections with assessment and teacher certification/ professional development data 3.) Interoperability with pre-K and post-secondary entities.

In regard to the interoperability, data exchange policies and/or procedures will need to be established with entities that are separate from the Office of Superintendent of Public Instruction. These organizations, boards and state agencies have defined responsibilities for policy, research, services and/or the coordination of services related to education. Support of the mission and work of these six entities are a high priority for the proposed project. These are:

Washington State Department of Early Learning (DEL) - This state education agency oversees child care licensing and supports other early learning programs using both state and federal laws.

Higher Education Coordinating Board (HECB) - This citizen board administers the state's student financial aid programs and provides strategic planning, coordination, monitoring, and policy analysis for higher education in Washington.

The State Board of Education (SBE) - The SBE role in the K-12 system is to lead the development of state policy, provide system oversight, and advocate for student success. The SBE goals include improve achievement for all students; improving graduation rates, and improving student preparation for post-secondary education, work and citizenship.

The Professional Educator Standards Board (PESB) - This policy board oversees issues related to certified education professionals, including teachers, principals, superintendents and educational staff associates. The PESB also is charged with creating alternative routes to teacher certification and administering new basic skills and subject knowledge assessments for teacher certification.

Additional groups with working relationships and proposed data sharing agreements for data exchange are the **Education Research and Data Center (ERDC)** of the state Office of Financial Management and the **Education Research Consortium (ERC).** Both will be served by the proposed data system through automated data exchanges using a Research ID. Studies authorized by the state legislature of the K-12 system conducted by the ERDC will have access to high quality data across all systems, while student privacy is protected. The ERC, a new group of K-12, college and university researchers, propose to conduct scientific studies of education issues to enhance the knowledge base and improve teaching and learning.

The proposed project will complete foundation work and include expansion components to make the most efficient use of time and resources. Many system improvements related to expansion must take place concurrently as the K-12 core system is being revised. The foundation and expansion work will allow the OSPI to create a data governance system; offer data quality training and certification; develop a service oriented architecture (SOA) to increase interoperability and business agility; expand reporting and business intelligence capabilities, and adopt national standards for data interchange. The Washington State Longitudinal Data System project includes both types of work as part of the following initiatives:

Build on the foundation of the current K-12 student Data System to allow the efficient input and transfer of data between education entities for compliance, accountability and research purposes.

Expand the Washington State K-12 Data System in order to create interoperability with the State Department of Early Learning, the Higher Education Coordinating Board, the Professional Educators Standards Board, State Board of Education, Education Research and Data Center and the Education Research Consortium..

The specific goals and objective for the Washington State Longitudinal Data System project are:

Goal 1: To develop a governance model and to enhance **data quality and stewardship** from data entry through reporting.

> **Objective 1.1:** Form and support new and existing governance bodies that will develop standards and provide leadership for projects and decision-making.
>
> **Objective 1.2**: Create a training and certification program for all levels of staff using the data system to ensure data quality.
>
> **Products:** Operational governance system with published policies, procedures and standards; Training and Certification programs

Goal 2: To implement an **infrastructure** encompassing all K-12 business areas which will facilitate communication and efficiency within the agency and with primary stakeholders.

> **Objective 2.1:** Analyze technical needs to establish a plan for the infrastructure development.
>
> **Objective 2.2:** Identify and restructure data silos and minimize redundancy to increase data quality.

Objective 2.3: Implement a Service Oriented Architecture (SOA) to increase business and data interoperability.

Objective 2.4: Develop a proof of concept system which tests the feasibility of implementing Schools Interoperability Framework (SIF) technology at the state level.

Objective 2.5: Adopt national and international data element standards to increase data interoperability with external stakeholders.

Products: Technical Needs Assessment, an agency SOA, SIF proof of concept software with nationally recognized data standards.

Goal 3: To develop **tools** which will enhance data driven decision-making at all system levels.

Objective 3.1: Create automated reports, dashboards and interactive query tools to increase data-driven decision making and federal reporting capabilities.

Objective 3.2: Build student information portal applications with business rules and edits to assure data quality for educators to support teaching and increase student learning.

Objective 3.3: Develop an educator information portal to manage certification and professional development information.

Objective 3.4: Add SAT and ACT scores to the assessment database.

Objective 3.5: Establish a metadata repository to increase application development, analysis, and reporting flexibility.

Objective 3.6: Construct a data management system for districts with limited available resources for a commercial Student Information System products.

Products: Automated reports, dashboards and interactive query tools, educator and student information portals, metadata repository, student data management system.

Goal 4: To incorporate external education partner organization membership into the proposed K-12 **governance system**.

Objective 4.1: Add representatives from pre-K and post-secondary organizations to data governance bodies

Products: Fully expanded governance system

Goal 5: To extend the statewide, longitudinal data system to **external systems** with infrastructure components that meets technical requirements and standards while protecting individual student privacy.

Objective 5.1: Establish a method to track students through the state pre-K and post-secondary education system.

Objective 5.2: To develop and implement data sharing agreements with external organizations for sharing appropriate student data.

Products: Student tracking system and data sharing agreements.

System Sustainability

Upon completion of the Objectives stated above and the development of the products associated with both the foundation and expansion work, further refinements will be needed as data requirements increase or as new research and policy questions are proposed. The established governance body will address those issues pertaining to data elements, system architecture and interoperability. Larger questions such as further expansion of the system to additional state agencies and boards and data transfer to other state systems will be taken from the Data Steering Committee to the OSPI executive-level and the State Superintendent of Public Instruction via the Chief Information Officer.

III. Project Design

The Office of Superintendent of Public Instruction, the state education agency of Washington State is the applicant, fiscal agent and manager for this project to develop a Statewide Longitudinal Data System. The proposed four-year project will strengthen the core K-12 components and will also simultaneously expand the capabilities of the system in order to exchange allowable data with authorized state education agencies and organizations. The design section begins with a summary of the status of the current system, clearly documenting the items that are currently in place. A description of the governance model including representation and operation is provided as a part of the design. The development activities which support the goals and objectives are aligned with the Timeline and the Management Plan.

Status of Requirements

OSPI has long recognized the need for a longitudinal data system. State legislative support has enabled the OSPI to make considerable progress in meeting privacy and technical requirements. The Bill and Melinda Gates Foundation supported the first phase of a revised data system which holds the name Comprehensive Education Data and Research System (CEDARS). The grant allowed the expansion from student only data to course and teacher data. To chart the specific requirements that have been met, are in progress or need to be completed, the design section begins with the assessment of the components of the National Center for Education Statistics (NCES), Map of Core Elements for Establishing a Statewide Data System.

NCES Map of Core Elements for Establishing a Statewide Data System

1.) **Analysis of Business Needs** – Status: Proposal Development Phase: Complete. A more extensive survey and gap analysis will be performed for future work if funding is secured.

The OSPI is committed to a continuing dialogue and in-depth analysis of business owner needs as the proposed project is implemented. An in-depth analysis will be undertaken for each Phase of the project, and as new business owners are identified.

2). **Cataloguing current and planned local data collection methods and structures** Status: Complete for the Core Student Record System; in-progress for the Comprehensive Education Data and Research System (CEDARS).

3.) **Unique, permanent student identifier** assigned at the state level - Status: Complete.

Washington has established a unique State Student Identifier (SSID) for each student which is randomly generated by Structured Query Language (SQL). Once assigned, the SSID follows a student as he/she progresses from Kindergarten to graduation. An SSID is generated for students who moved to the state and provides districts the ability to search students who transferred from other districts.

4.) Design the **enterprise-wide longitudinal data system architecture** Status: In Progress, planning continues.

5.) **Security, Privacy Procedures** - Status: Complete

The OSPI uses secure socket layer (SSL) for web site data submissions with end-to-end encryption being established starting from login to file upload into the secure SQL database. Data can be accessed only by assigned OSPI staff and data submitted by districts are owned by districts alone. As the system continues to be built, the OSPI can ensure that individually identifiable information about students remains confidential in accordance with the Family Educational Rights and Privacy Act (FERPA).

6.) **Automated Reporting**. - Status: Complete for the Core Student Record System; in-progress for the Comprehensive Education Data and Research System (CEDARS).

7.) **Data Warehouse** - Status: Design complete; enhancements to capacity as described in the proposed project are planned and in progress.

8.) Establishing capacity to **exchange student data across systems** - Status: Technical, program and policy support in progress. The governance model described in the project plan will support the completion of this activity.

9.) Design **business intelligence tools** to providing data access and reports to stakeholders - Status: Ongoing and expanding as described in the proposed project.

10.) **Establish logistical capacity** to create and maintain a statewide longitudinal data system - Status: Ongoing and expanding as described in the proposed project.

Longitudinal Data System Element	Current Status
Completed Elements	
1. Analysis of business needs	Proposal phase Complete. On-going as implementation continues.
2. Cataloguing current and planned local data collection methods and structures	Complete (CSRS). In process (CEDARS).
3. Unique, permanent student identifier assigned at the state level	Complete.
5. Security and privacy procedures, FERPA compliance	Complete.
6. Automated Reporting.	Complete (CSRS). In process (CEDARS).
Incomplete Elements	
4. Design of an enterprise-wide longitudinal data system architecture	Plan developed. Three implementation phases are described in the project plan.
7. Implementing a data warehouse	In process. Additional features specified in project plan.
8. Establishing capacity to exchange student data across systems.	In process. Additional features specified in project plan.
9. Design and implementation of business intelligence tools	In process. Additional features specified in project plan.
10. Establishing logistical capacity to create and maintain a statewide longitudinal data system	In process. Additional features specified in project plan.

Data Governance – Model, Representation and Responsibilities

As educators and other stakeholders identify information needed to improve school systems and programs, they must be included in governance, maintenance and improvement of the system. The shift from collecting and reporting aggregate data to a student-level longitudinal data system requires a review of the roles and responsibilities of all business owners and district level data managers. Additionally, growing numbers of stakeholders outside the K-12 education system are requesting improved information related to issues such as student safety, nutrition, early childhood education and postsecondary success. This is greatly altering the role of data owners, information technology users and system developers. Building and deploying a longitudinal data system is not solely a state-level information technology division effort. It is an SEA and LEA endeavor that must involve stakeholders throughout the education system. As a larger system develops, there must be a singular focus on a reliable network of data infrastructure and business processes which address ownership, accountability, quality, access and security.

Without established governance guidelines, data silos will persist and data quality and integrity will continue to be inconsistent. Therefore, data governance is a critical component of a longitudinal data system. As the larger plan for a unified system evolves both the people representing user entities and organizations and the processes for operating and maintaining the system are equally important. An external consulting group will be brought in to do an

Organizational Governance Assessment. The OSPI will use their findings along with the governing groups outlined below to develop a sustainable governance model that promotes data quality and stewardship.

The governance model and procedures for the Washington data system establishes an environment that will address technical issues and focus on the institutional culture that affects data use. In the last two years the OSPI has worked with stakeholders to form a data steering committee. However, there is a need to provide policies, guidelines and processes and tie into larger policy system so that this committee work will be in alignment with the data governance structure that is proposed. Figure B, which depicts the proposed governance model for the Washington Longitudinal Data System, may be found in Appendix A Optional Attachments.

The initial goals for the Data Steering Committee include: 1.) Introduce new policies, guidelines and processes within the first three months of the project, 2.) Focus the roles and responsibilities of the committee into the larger system during the following three months and 3.) Establish a clear set of responsibilities and guidelines for handling data issues. By defining roles and responsibilities as part of the overall data governance strategy, clear lines of accountability will identify who is responsible for creating a state data audit system assessing quality, validity and accuracy of the data.

Governance Bodies

The OSPI Chief Information Officer (CIO) will be a member of the Data Steering Committee. The CIO will also be the primary communication link between the OSPI Executive Cabinet and the Data Steering Committee. The CIO will inform agency executive officers of operations and issues and to engage members in supporting culture and policy changes that will be needed to maintain the data governance system.

The Data Steering Committee will be reorganized and consist of the CIO, the Assistant Superintendent for Assessment and Student Information, the Director of Student Information, school district representatives (LEA), Educational organization representatives, program area data owners, a student information system vendor representative, a representative from the Washington Higher Education Coordinating Board and a representative from the Department of Early Learning. The DSC is responsible for establishing and enforcing policies related to agency data management, including the data security definitions. The DSC will improve collaboration across the individualized program areas. The data owners will be responsible for their program area data and any requests for the collection of particular sets of data.

The Data Review Board will consist of the Coordinator of Student Information, the Director of Application Development, the Lead Database Analyst, school district representative(s), Technical Development Lead, business owner representative and the System Architect. The Data Review Board will be responsible for regulating data use and access; reinforcing the importance of maintaining quality data throughout the process; creating a standardized review and response process for data requests; developing a tracking process and making a release schedule for data changes.

Data Stewards will be identified and will be responsible for specific program area data and business subject matter. They will assist with analyzing information, ensuring data quality and performing data reporting and auditing functions.

Phase I: Governance and Needs Analysis – Year One

Design Elements by Year of Implementation

The OSPI Project Team will implement the governance model described above, during the first year of the project to ensure data quality and stakeholder ownership from the onset. The Data Steering Committee, comprised of members from various stakeholder organizations will work with the OSPI Functions Team (an agency team coordinating interdepartmental functions such as finance, Human Resources and technology) to coordinate policy and procedures with the State Superintendent of Public Instruction and the OSPI Executive Cabinet. Simultaneously, very specific technical work will begin as described below:

Analysis of Business Needs

Using The Open Group Architecture Framework (TOGAF), the project Business Analysts, architect and contracted subject matter consultant and a governance assessment group will meet with internal and external business units to conduct intensive business and technical analysis. This will build upon the initial analysis work done for proposal development and will establish baseline and target architectures. By working with internal stakeholders to establish architecture viewpoints, the Project Team will gain institutional support as stakeholder concerns are addressed. Data Stewards will be identified within the agency and a plan for their ongoing support and training will be developed. Baseline and target architectures will be established within year one. The Project Team will meet with OSPI managers, legislative staff, and other stakeholders to establish a well-rounded target architecture that will meet a variety of education, policy and research needs. The recommendations and directives that come from the formal data governance boards will be augmented by this additional input.

Conformance to Industry Standards

The OSPI data systems are being revised to conform to the NCES course coding system and International Standardization Organization (ISO) for language and country data standards. As part of this project, OSPI will convert to additional industry standards. The NCES Classification of Instructional Program (CIP) code system, NCES financial account system, NCES data confidentiality guide, NCES technology security standards, and ISO race/ethnicity, and disability status codes will be considered by the Data Steering Committee. Other standards and guidelines may be identified as part of the architecture analysis process.

Phase II: Technical Infrastructure – Years Two and Three

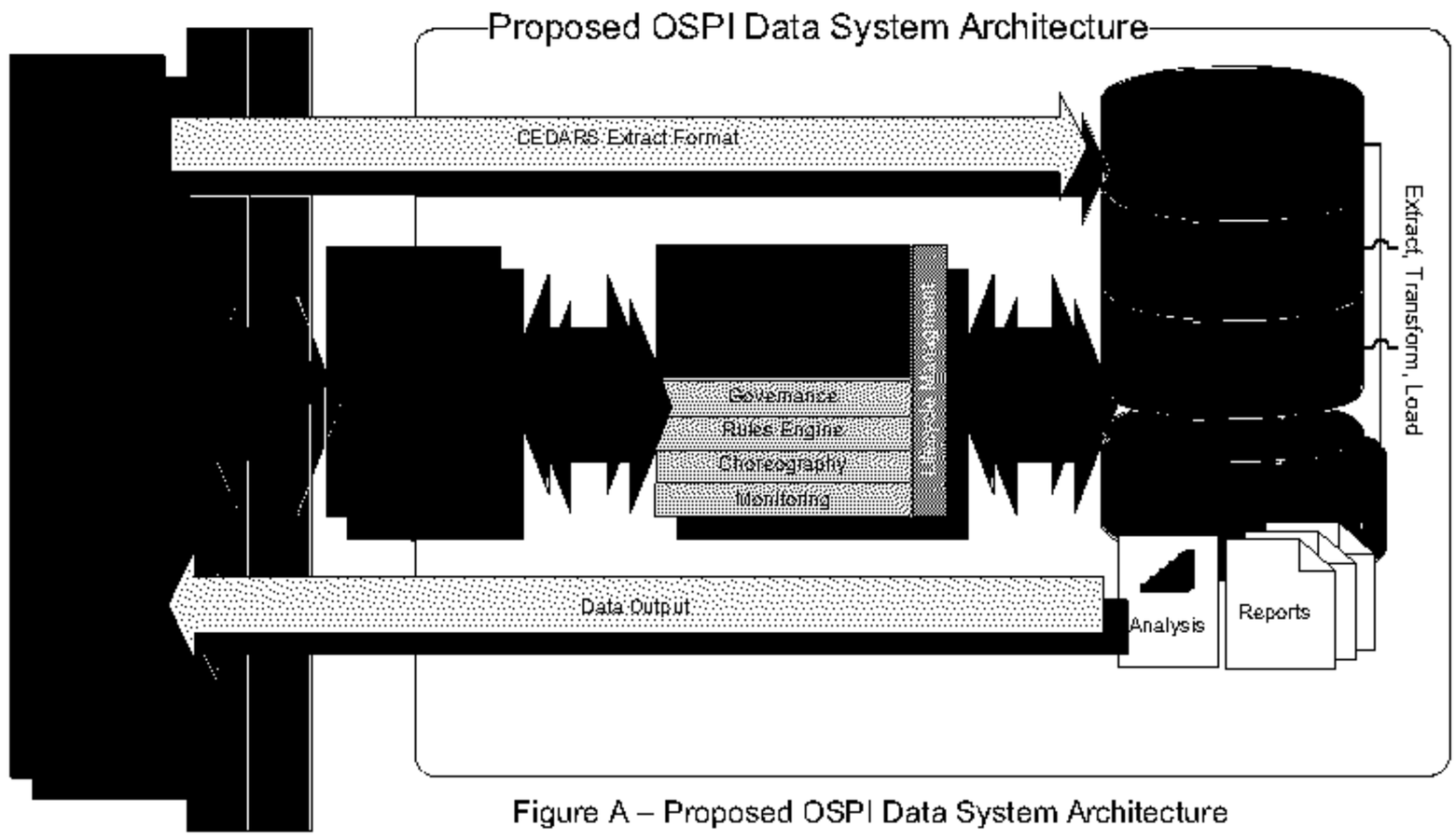


Figure A – Proposed OSPI Data System Architecture

Data Architecture

In the initial needs assessment process, internal stakeholders stated that data silos, redundancy and inconsistencies were the largest technical obstacle in the current system. The target architecture developed in Phase I will address these issues. In the second year, data silos will be broken down and joined with other databases to increase data relationships and minimize redundant and inconsistent data. The resulting unified data model will increase the ability to extract data, gain business intelligence and expand overall system capabilities and users will not have to enter the same data twice.

Once the unified data model is established, existing applications will need to be modified to reflect these changes. The Systems Architect and Project Team will identify areas where data entry duplication occurs and design new user interfaces. The changes will be developed by the development and database teams formed for the project. Application changes will also address other issues identified by stakeholders. All application development listed here will coincide with the SOA initiative as described below.

P-20 Student Identifier

Washington students are not tracked from pre-Kindergarten into the K-12 system or from K-12 to and through post-secondary education. The Project Team will work with the Data Steering Committee, the Department of Early Learning (DEL) and the Higher Education Coordinating Board to establish mechanisms and extend the system. This will include a web service to generate SSIDs for the DEL and a process for sharing SSIDs with higher education entities to track and exchange student data while protecting individual student privacy. This will result in a better understanding of a student's achievement over time and give educators and policy-makers better data-driven decision making capabilities for the entire P-20 domain.

Service Oriented Architecture (SOA)

In Recommendation 7 of the National Education Technology Plan, the U.S. Department of Education recognizes the need for data interoperability across education data systems. SOA technology holds data interoperability at its core. However, there are many other benefits to gain from implementing an SOA, such as business alignment with information technology, business agility, increased security and asset reuse. The OSPI Project Team will build the SOA during year two, once the target data architecture is in place.

The development of the SOA infrastructure will begin once the target architecture has been established. The purchase and installation of governance, orchestration, lifecycle management, and monitoring software will lay the foundation for SOA development. The OSPI architecture and development teams will form development guidelines for software development staff to ensure the quality and fitness for purpose of web services. This will include design review, testing, and deployment policies. The first set of services developed will be those that will be used most commonly. Development of these web services will be completed by the third year of the project. Additional web services will be added as applications are made part of the SOA, including applications not listed as part of longitudinal data system project.

Schools Interoperability Framework (SIF) Technology

SIF is emerging as the industry standard for student data interchange. The OSPI Project Team will construct a proof of concept SIF agent to test the feasibility of incorporating SIF into the Washington State education enterprise architecture. A SIF software development kit and a SIF Zone Integration Server (ZIS) will be purchased to communicate with a volunteer SIS vendor and/or district. The Project Team will build two proofs of concept SIF agents. The first will test SIF's ability to process near real-time student data transfers from the LEA to OSPI as the data is created or edited. Near real-time student data transfers will provide LEAs with an instant data quality feedback loop, enabling them to fix data errors and inconsistencies before they enter the system. It will also eliminate the need for monthly LEA data extracts.

The second proof of concept will test SIF's student record matching and SSID number generation capabilities. Successful implementation of these technologies will streamline LEA student-level data entry, improve data quality, and virtually eliminate the need for monthly LEA data extracts. If these technologies are found to be feasible, a formal development project outside of the bounds of this grant project will be established.

Training Program(s)

The Project Team will create online and in-person training opportunities for data management staff based on the policies and procedures set forth by the Data Steering Committee. The training materials will cover data quality issues related to the essential data components of the LDS, such as student-level and teacher-level data. The curriculum will be presented primarily online, but additional in-person training sessions will be contracted to external partners. The curriculum and teaching plans will be drafted during the second half of the first year and training services will begin in year two.

Certification Program

A data management certification program will be constructed to certify data processing staff. This certification will ensure staff will enter quality data into the LDS. The DSC will determine who needs certification. Certification will be earned by successfully passing online tests. The OSPI will retain certification data in the system. Online data user communities will be established using social networking software. This program will be available in the beginning of year three.

Phase III – Tool Development – Years Three and Four

Student-level and Educator-level Application Portals

An educator who is able to view a student's total education profile is better equipped to address the educational needs of that student. OSPI's existing application architecture offers very few student-level services to educators. In year two, the Project Team will develop an application portal for educators that will contain transcript-level data, assessment scores, and other student related information. Educators will also have access to student learning plans, the High School and Beyond Plan and Certificate of Academic Achievement/Certificate of Individual Achievement (CAA/CIA) status database through this portal. District and school administrative staff will be able to access cumulative data to better enable analysis and reporting capabilities. All access will be regulated through appropriate security protocols for such portals.

Currently, there are three points of interaction between educators and OSPI divisions supporting teachers: professional development, certification, and event registration management (supports accumulation of professional development clock-hours). There is little interaction between these systems. The OSPI will combine this functionality into a single portal application during year three. With the new portal application, educators will be able to see the complete profile of their professional development and track their performance. This will help educators further their careers and provide OSPI with business intelligence insight into the professional development of Washington State educators and staff.

Data Dashboards and Reporting

During the analysis phase of this project, OSPI will investigate stakeholder reporting and dashboard needs. This will determine what data is most important for users to see on a regular basis. The Project Team will then construct a series of dashboards (visual interface with data options) and simple reports that will be integrated into the application changes listed above. The results will enable users to make daily data-driven decisions and use the data easily and independently.

Interactive Query Tools

The Project Team will research interactive querying tool options that will provide users with on-demand, dynamic, drill-down capabilities. Drill-down reports are ideal for situations where a user knows exactly what data elements they want and have a need to go from a summary level to the individual level. The tool will be secure, only allowing users to only look at

information they have been granted access to. Queries can be saved so that they may be re-run at other times. This tool will provide users with detailed reports and analysis, increasing their data-driven decision making capabilities.

Automated State and Federal Reporting

The Project Team will map state and federal reporting elements to system data elements and create automated reporting mechanisms. This will allow agency staff to meet regular reporting requirements faster, more reliably and more consistently by creating predefined queries. Mapping reporting elements to data elements in the transactional databases and longitudinal data system will help quickly identify the correct components to use when new reporting requirements are received.

Assessment Scores

The Project Team will create an assessment score and assessment metadata repository. The existing system only contains data for one assessment instrument - the Washington Assessment of Student Learning (WASL). While this is the primary indicator for academic success in Washington State, gathering additional assessment data and metadata will be very useful for the agency application development and business intelligence endeavors. As a part of the project, the Team will incorporate additional assessment scores as part of its proposed LDS, including assessment structure data such as SAT and ACT scores. This will increase the ability to study college readiness. It will also allow a history of assessment scores to be kept for all students in Washington State.

Metadata Repository

The purpose of the metadata repository is to provide a consistent and reliable means of access to data. The repository itself may be stored in a physical location or may be a virtual database, in which metadata is drawn from separate sources. Metadata may include information about how to access specific data, or more detail about it, among a myriad of possibilities. The need to store metadata about system data structures is necessary for future research and application development projects. The Project Team will identify and implement a metadata repository solution during year three. Metadata will give the OSPI a high level of application development, reporting, and analysis flexibility.

Student Data Management System

There are 30 school districts in Washington State that do not have the funds necessary to purchase and maintain a student information system. These districts are very small and typically use spreadsheet files to maintain student information, which is unreliable and vulnerable to critical failure and data loss. It is also very difficult to perform monthly reporting. To answer the needs of these school districts, OSPI will build a basic student information system that can be used free of charge by any school district. The Washington Longitudinal Data System SIS package will only include basic student-level and teacher-level data components. Data entered into the state student information system will be automatically integrated into the Washington Longitudinal Data System. Participating districts will be provided a service that they cannot

otherwise afford and data quality, reliability, and security of their student information will increase.

Secure Web Services

The OSPI has relationships with many external business partners, including research organizations and universities that would be able to use OSPI web services to help their business and research endeavors. Each partner organization will be required to sign strict data use, privacy (FERPA) and security contracts to use these services. OSPI provides research ID's in lieu of the SSID's to ensure student privacy. Special network access tunnels, developed will be opened for these business partners for an agreed upon timeframe and will be closed once the contract has expired. Offering OSPI web services to partner institutions will increase their ability to perform research and analysis on LDS data, which will lead to richer research results and a better understanding of educational patterns. The full details of the design activity coordinated with specific points in time are provided in the Timeline section of this application.

IV. Institutional Support

As noted earlier, there has been a long-term need but also dedicated leadership and financial support for the development of a longitudinal data system in Washington. State and Foundation resources and support from specific programs which are supported have allowed the initial security, privacy and core record systems to be addressed. Importantly, there has been continuing state financial support for the development and support of the OSPI Information Technology Services of the Office of Superintendent of Public Instruction. A summary of the resources and staff that support the on-going development and day-to-day operations follows.

Facilities: OSPI's Information Technology Services (ITS) Division is housed in the Old Capitol Building in downtown Olympia, Washington, the state capital. The State Superintendent of Public Instruction, Executive Cabinet and business owners' offices are housed in the same building which facilitates policy, communication and collaborative work. The IT staff is both a development group and a service unit and provides data technology support and web site services for approximately 400 agency staff, 295 school districts and nine Educational Service Districts.

Equipment: OSPI staff are trained and equipped to use numerous software applications, the Internet and video conferencing systems. IT development and services are made possible with the following equipment.

- Network Infrastructure

  OSPI uses a statewide fiber optic network for its backbone which connects all educational entities in Washington State. High-throughput equipment, intrusion detection systems, and redundant firewalls ensure safe and reliable communications. Performance monitors automatically alert staff of any abnormal environmental or server health conditions.

- Hardware

  OPSI computer hardware is divided into three environments: production, test and development services. Each environment contains web, SQL, Active Directory, and

other infrastructure related servers. All server environments total about 90 physical servers and 50 virtual servers. All servers have hyper-threaded multi-processor cores. Other services provided are email; agency shared drive space, virus protection, and protected personal work drive space.

- Software

The primary software program used at OSPI is the Microsoft Software Suite. Other licensing agreements enable the agency to be current with other software technologies. The agency is currently licensing the Cognos 8.3 BI suite.

- Storage Capacity

OSPI implements a storage area network (SAN) separated out into two levels: the middle level capacity has 8 TB and is currently at 70 percent utilization but scalable to 24 TB. The enterprise level has 18 TB and is currently at 90% utilization but scalable to 120 TB.

- Backup System

Backups are performed on a nightly incremental basis and weekly full backups are completed every weekend of all key applications and SQL servers. Low-level or non-mission critical applications are done on a less aggressive schedule. Backup tapes are shipped to Iron Mountain for secure off-site storage.

Staff: The IT staff of 35 professionals includes the network, development data architects and technology support staff. OSPI is fortunate in that the pool of well qualified information technology staff continuously enhanced by its location in Washington State. Microsoft is a strong institution and it attracts and trains personnel from across the nation and world. In addition, there are many other technology service providers available who support a ready, well trained supply of technology personnel. A majority of the IT staff has been trained in Washington and they have gained important developmental experiences in businesses, both in Washington and other parts of the country.

Systems Management: The Chief Information Officer, Peter Tamayo has the overall department responsibility. He directs the IT staff, interacts with agency department heads as a member of the Superintendents' cabinet, and interacts with other state agencies and institutions. As a Chief Information Officer for various state agencies Peter's skills in organizational development, quality improvement, systems planning, project management, human resource management, procurement, systems operations and systems development have shown he is a strong, tested leader in information technology. Peter directed the development of the Washington State Department of Retirement Systems (DRS) Information Technology Portfolio, Security Program and Disaster Recovery plan, interacted with DRS business staff to align technology with business direction. As CIO for the Department of Social and Health Services Children's Administration Office of Information Services, Peter prioritized resources in managing an office of over 54 FTE's, 21 contracted programmers and an annual operating budget of $12.4 million to support 2500 staff in 44 offices statewide.

Project Management: Five project management and business analyst staff are responsible for managing timelines, expectations, contractor relations, and budgets for OSPI IT projects. These staff members are knowledgeable in software development methodologies and business processes, making them ideal for bridging the gap between business and IT.

Network Operations: Three Systems Administrators and four Help Desk staff persons handle the maintenance, configurations, and upgrades of all OSPI hardware and software. OSPI's capabilities have expanded in terms of software and hardware as well as staff knowledge and experience.

Developers: The development work for various projects is implemented by a staff of 12 persons. The nature of their work varies from small, internal development activities to those working on longer term projects such as the proposed project.

Data Administrators: Four persons have responsibilities related to the design, maintenance and effectiveness of the data systems, the migration of data from independent data bases, and the maintenance and storage of data and federal reporting.

Technology Support: Two staff members provide training, user support, and the installation of applications. The groups of staff outlined above will be carrying out the direct technical work supported by the proposed project funds.

Regional and District Data Collection: There are nine regional Educational Service Districts (ESDs) within Washington State which provide financial, programmatic, professional development and data collection services. Each district has the responsibility for collecting data needed for federal, state, and district and school users. The ESD staff provides assistance and support to the districts in carrying out these functions. The ESD representatives will be important to the project because of their knowledge of regional issues and resources. The will be important collaborators with representation on the governance committees and will be essential partners in the sustainability of the system.

State Commitment and Sustainability

State Superintendent of Public Instruction, Dr. Terry Bergeson, is committed to the development of a statewide longitudinal data system and the maintenance and sustainability of such a system. (Letter of Support provided in the Attachments.) Superintendent Bergeson's budget requests to the state legislature and efforts to secure external funding from state business partners and foundations illustrate the executive leadership and initiative taken in support of this and other education technology efforts.

The state is committed to continuation of the Data Governance System and Committees after project funding ends. In addition several staff positions will go from project funding into state funding as the project is completed. These commitments, by position are noted in the Personnel and Resources Section.

V. Project Management Plan

Project Location and Structure

The Washington State Longitudinal Data System Project will be located and administered by the Information Technology Division of the Office of Superintendent of Public Instruction. The administrative management and staff of that office have been described in the Institutional Support Section. An organizational chart illustrating the relationship of project staff to each other and to the larger administrative unit is presented in Figure C which is found in Appendix A Optional Attachments.

Oversight, Approval and Policy Coordination

The CIO of the Information Technology Division, Mr. Peter Tamayo will provide this oversight and ensure that the LDS Project is connected to all state technology initiatives and/or legislative directives. As a member of the Superintendent's Cabinet he will ensure that the project goals and recommendations are aligned with the overarching policies of the agency. Key members of the Project Team will report directly to Mr. Tamayo.

Management Control of Operations

The OSPI Informational Technology Division has been the leader in training OSPI staff units in the use of effective program planning and management. The Division and agency adheres to a strong and formal project management methodology designed to enable managers and workers to manage specific tasks, timelines, financial resources, products and interfaces with other staff. The guidelines within the Microsoft Solutions Framework are used to monitor deliverables, and budget and program specifications. These processes provide managers and staff with a level of transparency that supports effective work implementation. This transparency enables managers to monitor, solve problems and implement changes in assignments and other contingency strategies quickly when a project schedule lags or if product quality does not meet the need or the budget is inadequate.

The OSPI project teams have developed strong management skills as well as significant levels of experience in applications development, longitudinal database management and maintenance, and solutions design. The project manager will work closely with internal OPSI program staff as well as the local district and regional staff to ensure the timely and effective implementation of project task requirements. Key project management activities which will be implemented to ensure timely and quality task completion include the following:

Staff Preparation Project staff will meet to begin to outline the project requirements activities, and resource needs.

Stakeholder Input - Structured stakeholder input and data gathering with respect to the general project description via the governance model described.

Work Plans Development - Development of group and individual work plans which further specify the tasks, time requirements, costs, and responsibilities will be required. A realistic comprehensive overall project work plan results from this activity.

Work Plans Coordination Analysis and meetings to evaluate and ensure the alignment of the work plans and the effective coordination of work. An online tool will be used to capture and report time against activities.

Weekly Status Reporting Weekly status reports will be produced and communicated to the stakeholders. The weekly reports will track progress on key deliverables, their due data, open dependencies, risks/migration as well as accomplishments and planned activities for the following week.

Monthly Formative Evaluations Monthly project staff meetings and video conferences will be held to provide updating and effective communications with regional and district staff.

Yearly Evaluations The first year review will involve Project Team staff, agency business owners, the Data Steering Committee and key state technology leaders. While all stakeholders will be provided input and have knowledge of the progress to date, the first year review requires a more technical evaluation of the system plans. The second and third year evaluations will involve not only stakeholder input, but also a broader group of state and district program and technology personnel.

Management, Methodology and Framework

To ensure the success of technology projects at OSPI, the guidelines within the Microsoft Solutions Framework (MSF) will be used for the proposed project. MSF provide a flexible and scalable framework that can be adapted to meet the needs of any project regardless of size or complexity. The MSF is a combination of a phased and interactive approach. It allows developers to concentrate on every aspect of a project from envisioning, through planning, development and then finally deployment, or full usage. Within each of the phases, developers determine documented success, and then meet those success standards through iterations of the process. By approaching technology solutions through this systematic process, issues are mitigated early on and resolved quickly.

MSF has been used to formulate the management plan for the Washington State Longitudinal Data System Project. The plan developed during the early stages of the project will provide detailed information about each task and will include start and ending dates; the hours or minutes involved; the persons assigned, and the expected result or product, at the completion of each stage. All of the tasks are integrated into a total project plan which will show the linkages, time span and or overlap, project milestones and products.

A preliminary project management plan has been developed for the proposed project. The plans specifying objectives, tasks and the timeline are provided in the Attachments. Listed below is a summary of the main events of the management plan and the timeline, which is presented separately. Upon notification of funding, the Office of Superintendent of Public Instruction will begin seeking recommendations and nominations in order to form the governance bodies of the project. As the Data Steering Committee, Data Review Board, members are named, and the Data Stewards are identified, the Project Team will take on their assigned tasks as defined in the management plan outlined below.

- Goal 1: K-12 Governance (4/1/09 4/10/09)
  - Objective 1.1: Form data governance bodies (4/1/09 9/9/09)
    - Hire governance consultant
    - Conduct governance analysis
    - Identify members, establish roles, and hold kickoff meetings
    - Governance body formed
  - Objective 1.2: Data management staff training and certification (11/11/09 4/1/10)
    - Develop training materials
    - Establish training program
    - Determine certification criteria
    - Implement certification program
    - Training and certification programs online
- Goal 2: Develop the technical infrastructure (4/1/09 11/1/11)
  - Objective 2.1: Analyze technical needs (4/1/09 4/1/10)
    - Perform business and technical analysis
    - Integrate data governance policies
    - Technical needs assessment complete
  - Objective 2.2: Rework data architecture (4/1/09 7/15/10)
    - Identify relationships between data silos
    - Define new data models
    - Integrate changes identified by the data governance body
    - Make necessary application changes
    - Redesign data model and applications launched
  - Objective 2.3: Implement a Service Oriented Architecture (SOA) (4/1/09 4/1/11)
    - Develop SOA architecture models
    - Write an RFP for SOA management software solution
    - Purchase, Install and configure SOA management server and software
    - SOA foundational components activated
    - Incorporate SOA design principles into application development efforts
    - SOA fully integrated into systems architecture
  - Objective 2.4: Develop proof of concept SIF agents (2/1/11 11/1/11)
    - Establish relationship with development partner (EDS, school district, SIS vendor)
    - Write an RFP for ZIS server and SIF SDK, then purchase
    - Design and Develop SIF agents in cooperation with development partner
    - Proof of concept SIF agents complete
  - Objective 2.5: Adopt national data standards (4/1/09 4/1/10)
    - Identify national data standards
    - Incorporate national data standards into new data model
    - National data standards incorporated into new data model
- Goal 3: Develop application toolsets (10/1/09 3/29/13)
  - "Objective 3.1: Implement automated reports, dashboards, and an interactive query tool" (4/1/10 1/3/11)
    - Perform analysis to determine report and dashboard needs (10/1/09 5/28/10 In conjunction with Objective 2.1)
    - Write an RFP for interactive query tool

        - Purchase interactive query tool
        - Implement interactive query tool
        - Design automated reports and dashboards
        - Develop automated reports
        - Incorporate dashboards into web applications
        - Automated reports and dashboards launched
        - Interactive query tool activated and available to users
    - Objective 3.2: Build a student information portal for educators (10/1/09 9/3/12)
        - Perform business analysis
          (10/1/09 12/30/09 In conjunction with Objective 2.1)
        - Design, then build the portal application
        - Student information portal launched
    - Objective 3.3: Build an educator information portal for educators (10/1/09 3/29/13)
        - Perform business analysis
          (10/1/09 12/30/09 In conjunction with Objective 2.1)
        - Design the portal application
        - Build the portal application
        - Educator information portal launched
    - Objective 3.4: Gather college readiness scores (11/1/10 5/2/11)
        - Work with the data steering committee to coordinate efforts
        - Design a data repository and Build data gathering software
        - Assessment scores are stored and available for research, analysis, and application development
    - Objective 3.5: Implement a metadata repository (9/1/10 5/2/11)
        - Write an RFP for a metadata repository
        - Purchase a metadata repository
        - Implement and configure the purchased metadata repository
        - Incorporate metadata repository into systems architecture
        - Metadata repository incorporated into systems architecture
    - Objective 3.6: Develop a student data management system (10/1/09 2/29/13)
        - Perform business analysis in cooperation with school district stakeholders
          (10/1/09 5/28/10 In conjunction with Objective 2.1)
        - Design the student data management system
        - Develop the student data management system
        - Student data management system launch
- Goal 4: Incorporate external education stakeholders into K-12 governance system (4/1/09 6/1/09)
    - Objective 4.1: Add Pre-K and post-secondary organizations to data steering committee (4/1/09 6/1/09)
        - Identify members
        - Incorporate members into data steering committee
        - Pre-K and post-secondary members incorporated into data steering committee
- Goal 5: Extend longitudinal student data to external stakeholders (4/1/10 3/19/13)
    - Object 5.1: Track students through P-20 experience (4/1/10 1/3/11)
        - Establish a partnership with Pre-K and post secondary stakeholders
        - Perform business analysis to determine tracking mechanism

- Design data sharing mechanisms
- Develop data sharing mechanisms
- Data sharing operational

- Objective 5.2: Establish data sharing agreements with external stakeholders (12/3/12 3/19/13)
  - Establish relationships with external stakeholders
  - Draft a contract for data sharing that ensure student privacy and protection
  - Open secure channels to web services for data sharing partners
  - Secure web service communications operational

A full Timeline is located in the Attachments

VI. Project Personnel and Resources

This section outlines the personnel who will be assigned or hired to develop and implement Washington's Longitudinal Data System Project. The qualifications of key personnel involved in the proposed project and their role in the project follows. Resumes are provided in Appendix B.

LDS Project Director – (.30 FTE project funding)

The Project Director is responsible for all aspects of project management including program implementation, project management staff supervision, budget oversight and all other activities needed to accomplish the project goals and objectives. Specific responsibilities include the management of the project plan, business owner partnership coordination; oversight of external project management contracts; all aspects of project management; providing training and communications. The position requires knowledge of Project oversight of large-scale development projects, managing time, materials and deliverables based contracts, and project management methodology.

Debbie Spaulding is proposed as the Project Director. Ms. Spaulding is currently directing multiple OSPI projects and has directed major projects for the Washington State Department of Licensing. As a part of this work, she has provided oversight for the development of four mission critical systems, 15 business critical systems and directed major re-platforming projects totaling $20M. Her experience includes: Establishing an agency-wide Project Management Methodology including the creation/installation of a PMO dashboard, centralized project tracking tools, templates, and oversight guidelines. Portfolio management of 105 internal agency software applications in technologies ranging from .net/SQL apps to Cobol, MS Access and Delphi; Direct management of personal and professional services contracts with a combined responsibility in excess of $1M for time and materials and deliverables. She is the author and single point of accountability for systems audits by federal and state auditors. She comes to the position with 14+ years experience in information technology including client support, Computer Science teaching, project management and, internal applications management.

Project Manager - (1.00 FTE project funding)

The Project Manager will be a full time contracted position. OSPI will engage the services of a highly qualified project manager for the duration of the project. OSPI will use

current Washington State Department of Information Services master contract solicitation for services process. This position requires: ability to define common goals and success criteria for successful implementations; team management responsibilities with multiple groups in the IT organization and agency programs. This includes team member role definition, role buy-off, and ensuring project task delivery by team members during the project; the ability to engage and facilitate information from technologists, architects and engineers across groups for in-depth review of new products in order to ensure compatibility strategy is appropriate and successful.

The Manager will be responsible for defining application compatibility testing strategy and driving resolution of all application compatibility issues prior to software deployments and during actual deployments; evaluating alternative solutions to issues and make objective recommendations. He/she will be able to apply strong project management methodologies and quality assurance principles; have strong commitment to the principles of trust, teamwork and collaboration and have the ability to work closely with testers, developers, and program managers in agency program groups to facilitate application identification, testing and remediation of issues as well as a strong customer service orientation. The Manager will have the responsibility to follow up with customers to ensure their needs and expectations are satisfied.

Technical Lead - (.30 FTE project funding)

The Technical Lead is responsible for providing leadership to the technical resources and works in conjunction with the Project Director and Project Manager to ensure that project milestones are met. The Lead assists in the planning, scheduling, and coordination of activities related to longitudinal data system development. The Lead consults and mentors technical staff concerning methods, procedures, and standards to be used during design, development, and unit testing phases. The Technical Lead communicates issues and status information to the Project Director and Project Manager concerning system development activities.

Noel Marshall is the proposed Technical Lead. Mr. Marshall has two years of lead developer experience and five years programming and application development experience. He serves as a lead for the application development team, develops cross-browser compatible Web-based solutions, develops stored procedures, develops system models, and is experienced in business tier and user interface development. He has mentored OSPI developers in assistance with methods, procedures and standards and has the ability to work closely with testers, developers, and project managers. He has skills in testing and remediating system errors.

Three Senior Application Developers – (3.00 FTE project funding)

The Senior Application Developer positions will be full time positions. OSPI will solicit and hire two full time senior application developers. One position will remain at OSPI to support the longitudinal data system after completion. The OSPI will use state general funds to support this position when the LDS project is completed. The second will be a project position which will terminate at the completion of the project. These developers will have a minimum of six years experience and possess skills in C#, ASP.NET .NET 1.1/2.0, Object Oriented principles and methodologies, Transact-SQL, HTML, JavaScript and SQL Server 2000/2005. Key responsibilities include: developing cross-browser compatible web-based solutions; development of stored procedures; development of system models; business tier development; documentation of code; UI development; web services; analyze, troubleshoot, and solve software problems;

have the ability to work with agency standards and have a strong commitment to the principles of trust, teamwork and collaboration.

Application Developer - (1.00 FTE project funding)

The Application Developer position will be a full time position. OSPI will nationally solicit and hire a full time application developer. This will be a project position which will terminate at the completion of the project. This developer will have a minimum of three years experience and possess skills in C#, ASP.NET, .NET 1.1/2.0, Object Oriented principles and methodologies, Transact-SQL, HTML, JavaScript and SQL Server 2000/2005. Key responsibilities include: development of cross-browser compatible web-based solutions; development of stored procedures; development of system models; business tier development; documentation of code; UI development; web services; analyze, troubleshoot, and solve software problems.

Subject Matter Expert - (Six month contract using project funds)

As noted in the Project Design, a business analysis of the existing business practices and procedures is necessary and crucial because the effort is innovative and creates documentation of baseline and target architecture gaps. OSPI will engage the services of a highly qualified subject matter contracting service for the first six months of the project. OSPI will use current Washington State Department of Information Services master contract solicitation for services process. The evaluator has responsibility for documenting baseline and target gaps, analysis of data and final evaluation report preparation.

Information Technology and Student Information Experts: (No Project Funding)

Tim Anderson is the Application Development Director at OSPI and will advise staff on project development. He will provide technical assistance and project support to development staff

Ted Loran is the Network Operations Director at OSPI and will advise staff on networking and hardware issues. He will provide assistance and network support to the project team.

Enrico Yap, Ph.D. is the Senior Business Intelligence Analyst who provides expert advice on modeling and mapping business processes.

Nathan Clinton is the OSPI System Architect. He will provide guidance on the architectural framework and methodologies used to the project team.

Shawn Sesna is the Lead Database Analyst at OSPI and will advise staff on database issues.

Robin G. Munson, Ph.D. is the Director, Student Information and will advise the staff on student information issues.

Sheri Dunster is the Student Information Coordinator and will advise the staff on student information issues.

This ends the narrative section of the Washington Longitudinal Data System Project.

ID	Task Name	Duration	Start	Finish
1	**Goal 1: K-12 Governance**	**262 days?**	**Wed 4/1/09**	**Thu 4/1/10**
2	**Objective 1.1: Form data governance bodies**	**115.5 days?**	**Wed 4/1/09**	**Wed 9/9/09**
3	Hire governance consultant	22 days	Wed 4/1/09	Thu 4/30/09
4	Conduct governance analysis	37.5 days?	Wed 6/24/09	Fri 8/14/09
5	Identify members, establish roles, and hold kickoff meetings	16.5 days?	Mon 8/17/09	Tue 9/8/09
6	Governance body formed	1 day?	Tue 9/8/09	Wed 9/9/09
7	**Objective 1.2: Data management staff training and certification**	**102 days?**	**Wed 11/11/09**	**Thu 4/1/10**
8	Develop training materials	58 days?	Wed 11/11/09	Fri 1/29/10
9	Establish training program	30 days?	Mon 12/21/09	Fri 1/29/10
10	Determine certification criteria	30 days?	Mon 12/21/09	Fri 1/29/10
11	Implement certification program	44 days?	Fri 1/29/10	Wed 3/31/10
12	Training and certification programs online	1 day?	Thu 4/1/10	Thu 4/1/10
13	**Goal 2: Develop the technical infrastructure**	**675 days?**	**Wed 4/1/09**	**Tue 11/1/11**
14	**Objective 2.1: Analyze technical needs**	**262 days?**	**Wed 4/1/09**	**Thu 4/1/10**
15	Perform business and technical analysis	261 days	Wed 4/1/09	Wed 3/31/10
16	Integrate data governance policies	130 days?	Thu 10/1/09	Wed 3/31/10
17	Technical needs assessment complete	1 day?	Thu 4/1/10	Thu 4/1/10
18	**Objective 2.2: Rework data architecture**	**336.57 days?**	**Wed 4/1/09**	**Thu 7/15/10**
19	Identify relationships between data silos	13 days?	Wed 4/1/09	Fri 4/17/09
20	Define new data models	248 days	Mon 4/20/09	Wed 3/31/10
21	Integrate changes identified by the data governance body	97.5 days?	Mon 11/16/09	Wed 3/31/10
22	Make necessary application changes	74.57 days?	Thu 4/1/10	Wed 7/14/10
23	Redesign data model and applications launched	1 day?	Wed 7/14/10	Thu 7/15/10
24	**Objective 2.3: Implement a Service Oriented Architecture (SOA)**	**523 days?**	**Wed 4/1/09**	**Fri 4/1/11**
25	Develop SOA architecture models	43 days?	Wed 4/1/09	Fri 5/29/09
26	Write an RFP for SOA management software solution	22 days	Wed 4/1/09	Thu 4/30/09
27	Purchase SOA management server and software	15 days	Fri 5/1/09	Thu 5/21/09
28	Install and configure SOA management server and software	66.29 days	Fri 5/22/09	Mon 8/24/09
29	SOA foundational components activated	1 day?	Mon 8/24/09	Tue 8/25/09
30	Incorporate SOA design principles into application development efforts	325 days?	Fri 1/1/10	Thu 3/31/11
31	SOA fully integrated into systems architecture	1 day?	Fri 4/1/11	Fri 4/1/11
32	**Objective 2.4: Develop proof of concept SIF agents**	**196 days?**	**Tue 2/1/11**	**Tue 11/1/11**
33	Establish relationship with development partner (EDS, school district, SIS vendor)	20 days	Tue 2/1/11	Mon 2/28/11
34	Write an RFP for ZIS server and SIF SDK	20 days?	Tue 2/1/11	Mon 2/28/11
35	Purchase ZIS server and SIF SDK	10 days?	Tue 3/1/11	Mon 3/14/11
36	Design SIF agents in cooperation with development partner	45 days?	Tue 3/15/11	Mon 5/16/11
37	Develop SIF agents	120 days	Tue 5/17/11	Mon 10/31/11
38	Proof of concept SIF agents complete	1 day?	Tue 11/1/11	Tue 11/1/11
39	**Objective 2.5: Adopt national data standards**	**262 days?**	**Wed 4/1/09**	**Thu 4/1/10**
40	Identify national data standards	22 days?	Wed 4/1/09	Thu 4/30/09
41	Incorporate national data standards into new data model	240 days?	Thu 4/30/09	Wed 3/31/10
42	National data standards incorporated into new data model	1 day?	Thu 4/1/10	Thu 4/1/10
43	**Goal 3: Develop application toolsets**	**912 days?**	**Thu 10/1/09**	**Fri 3/29/13**

ID	Task Name	Duration	Start	Finish
44	**Objective 3.1: Implement automated reports, dashboards, and an interactive query tool**	**328 days?**	**Thu 10/1/09**	**Mon 1/3/11**
45	Perform analysis to determine report and dashboard needs	65 days	Thu 10/1/09	Wed 12/30/09
46	Write an RFP for interactive query tool	22 days?	Thu 4/1/10	Fri 4/30/10
47	Purchase interactive query tool	10 days?	Mon 5/3/10	Fri 5/14/10
48	Implement interactive query tool	33 days?	Mon 5/17/10	Wed 6/30/10
49	Design automated reports and dashboards	35 days?	Mon 5/31/10	Fri 7/16/10
50	Develop automated reports	75 days?	Mon 7/19/10	Fri 10/29/10
51	Incorporate dashboards into web applications	45 days?	Mon 11/1/10	Fri 12/31/10
52	Automated reports and dashboards launched	1 day?	Mon 1/3/11	Mon 1/3/11
53	Interactive query tool activated and available to users	1 day?	Mon 1/3/11	Mon 1/3/11
54	**Objective 3.2: Build a student information portal for educators**	**763 days?**	**Thu 10/1/09**	**Mon 9/3/12**
55	Perform business analysis	65 days	Thu 10/1/09	Wed 12/30/09
56	Design the portal application	88 days	Mon 8/1/11	Wed 11/30/11
57	Build the portal application	197 days	Thu 12/1/11	Fri 8/31/12
58	Student information portal launched	1 day?	Mon 9/3/12	Mon 9/3/12
59	**Objective 3.3: Build an educator information portal for educators**	**912 days?**	**Thu 10/1/09**	**Fri 3/29/13**
60	Perform business analysis	65 days	Thu 10/1/09	Wed 12/30/09
61	Design the portal application	87 days	Thu 3/1/12	Fri 6/29/12
62	Build the portal application	194 days	Mon 7/2/12	Thu 3/28/13
63	Educator information portal launched	1 day?	Fri 3/29/13	Fri 3/29/13
64	**Objective 3.4: Gather college readiness scores**	**131 days?**	**Mon 11/1/10**	**Mon 5/2/11**
65	Work with the data steering committee to coordinate efforts	22 days	Mon 11/1/10	Tue 11/30/10
66	Design data repository	23 days	Wed 12/1/10	Fri 12/31/10
67	Build data gathering software	85 days	Mon 1/3/11	Fri 4/29/11
68	Assessment scores are stored and available for research, analysis, and application development	1 day?	Mon 5/2/11	Mon 5/2/11
69	**Objective 3.5: Implement a metadata repository**	**174 days?**	**Wed 9/1/10**	**Mon 5/2/11**
70	Write an RFP for a metadata repository	22 days	Wed 9/1/10	Thu 9/30/10
71	Purchase a metadata repository	23 days	Fri 10/1/10	Tue 11/2/10
72	Implement and configure the purchased metadata repository	43 days	Wed 11/3/10	Fri 12/31/10
73	Incorporate metadata repository into systems architecture	85 days	Mon 1/3/11	Fri 4/29/11
74	Metadata repository incorporated into systems architecture	1 day?	Mon 5/2/11	Mon 5/2/11
75	**Objective 3.6: Develop a student data management system**	**630 days?**	**Thu 10/1/09**	**Wed 2/29/12**
76	Perform business analysis in cooperation with school district stakeholders	109 days	Thu 10/1/09	Tue 3/2/10
77	Design the student data management system	86 days	Wed 9/1/10	Wed 12/29/10
78	Develop the student data management system	304 days	Thu 12/30/10	Tue 2/28/12
79	Student data management system launch	1 day?	Wed 2/29/12	Wed 2/29/12
80	**Goal 4: Incorporate external education stakeholders into K-12 governance system**	**44 days?**	**Wed 4/1/09**	**Mon 6/1/09**
81	**Objective 4.1: Add Pre-K and post-secondary organizations to data steering committee**	**44 days?**	**Wed 4/1/09**	**Mon 6/1/09**
82	Identify members	20 days	Wed 4/1/09	Tue 4/28/09
83	Incorporate members into data steering committee	21 days	Fri 5/1/09	Fri 5/29/09
84	Pre-K and post-secondary members incorporated into data steering committee	1 day?	Mon 6/1/09	Mon 6/1/09
85	**Goal 5: Extend longitudinal student data to external stakeholders**	**774 days?**	**Thu 4/1/10**	**Tue 3/19/13**
86	**Object 5.1: Track students through P-20 experience**	**198 days?**	**Thu 4/1/10**	**Mon 1/3/11**

ID	Task Name	Duration	Start	Finish
87	Establish a partnership with Pre-K and post secondary stakeholders	22 days	Thu 4/1/10	Fri 4/30/10
88	Perform business analysis to determine tracking mechanism	43 days	Mon 5/3/10	Wed 6/30/10
89	Design data sharing mechanisms	44 days	Thu 7/1/10	Tue 8/31/10
90	Develop data sharing mechanisms	88 days	Wed 9/1/10	Fri 12/31/10
91	Data sharing operational	1 day?	Mon 1/3/11	Mon 1/3/11
92	**Objective 5.2: Establish data sharing agreements with external stakeholders**	**77 days?**	**Mon 12/3/12**	**Tue 3/19/13**
93	Establish relationships with external stakeholders	22 days	Mon 12/3/12	Tue 1/1/13
94	Draft a contract for data sharing that ensure student privacy and protection	11 days	Wed 1/2/13	Wed 1/16/13
95	Open secure channels to web services for data sharing partners	43 days	Thu 1/17/13	Mon 3/18/13
96	Secure web service communications operational	1 day?	Tue 3/19/13	Tue 3/19/13

Figure B.

Washington State Longitudinal Data System Governance Structure

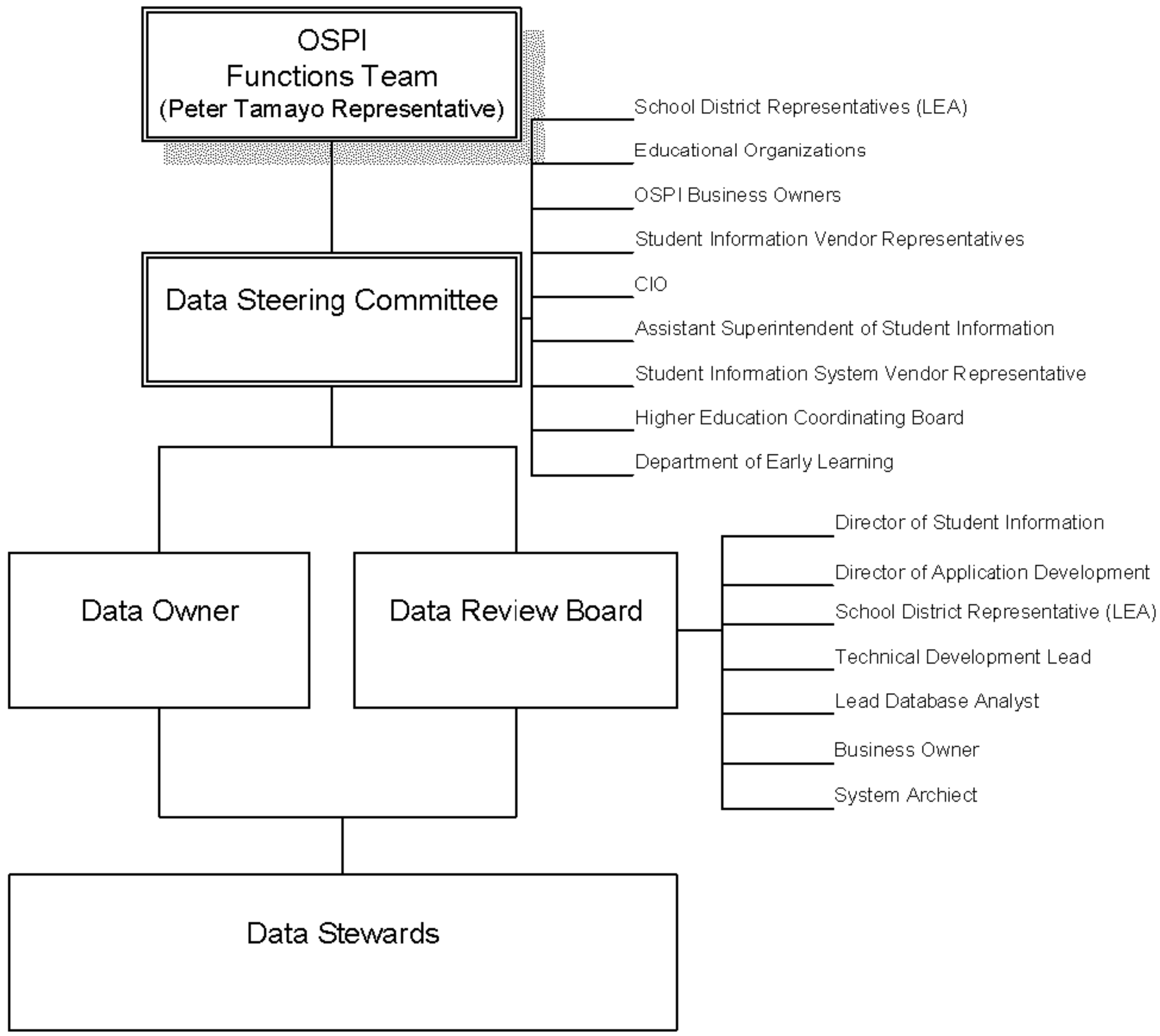
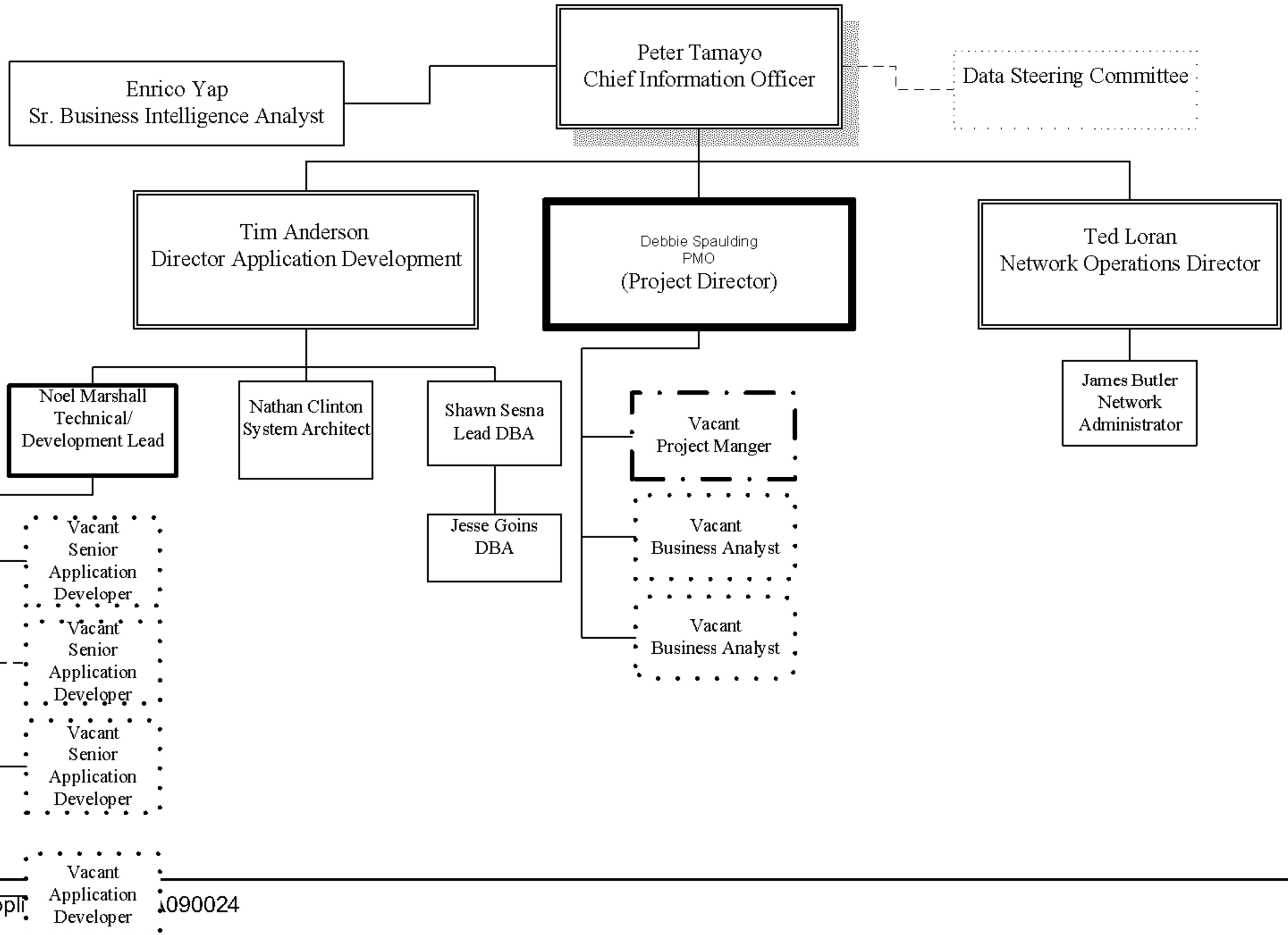


Figure C.
Washington State Office of the Superintendent of Public Instruction Development Team



SUPERINTENDENT OF PUBLIC INSTRUCTION

DR. TERRY BERGESON OLD CAPITOL BUILDING • PO BOX 47200 • OLYMPIA WA 98504-7200 • http://www.k12.wa.us

September 15, 2008

U.S. Department of Education
National Center for Education Statistics
1990 K Street, NW
Washington, DC 20006-5651

To Whom It May Concern:

The Office of the Superintendent of Public Instruction is pleased to submit a proposal titled "Washington State Longitudinal Data System Project" to the U.S. Department of Education for funding consideration under (CFDA) Number 84.372A.

The proposed project is designed to enhance Washington State's existing K-12 data system and allow the efficient transfer and management of individual student data consistent with the requirements of the No Child Left Behind Act. This project will lead to improved data quality and will increase data-driven decision-making at the classroom, school and policy level. The efforts described in the proposal also will greatly increase our ability to produce the analyses and research needed by education stakeholders to improve student achievement.

I look forward to working with the staff members and strong partner organizations assembled for this important and collaborative effort. As State Superintendent of Public Instruction, I am fully committed to the goals of this project and give my full support to the staff who will implement it, should it be funded.

Sincerely,

Dr. Terry Bergeson
State Superintendent
of Public Instruction

STATE OF WASHINGTON
DEPARTMENT OF EARLY LEARNING
PO BOX 40970 - Olympia, Washington 98504-0970
360.725.4665 - FAX 360.413.3482

September 15, 2008

U.S. Department of Education
National Center for Education Statistics
1990 K Street, NW
Washington, DC 20005-5651

The Department of Early Learning would like to offer this letter in support of the Office of Superintendent of Public Instruction effort to design, develop and implement a statewide data system which will permit the ability for Washington to make evidence based decisions. We believe that being able to track longitudinally the investments made in early learning throughout the educational career of a child is instrumental in ensuring that we are applying out efforts as a State in the right areas and receiving the right outcomes. Without the ability to track the success of our state's educational investments we poise ourselves to miss opportunities for successfully placing the right tools in a child's hand for educational success.

Please accept this letter as the Department of Early Learning's support for the Office of Superintendent of Public Instruction's goal of implementing a Washington State Longitudinal Data System.

Sincerely,

James Minkler, IT Manager

BILL GRINSTEIN
CHAIR

ANN DALEY
EXECUTIVE DIRECTOR

STATE OF WASHINGTON
HIGHER EDUCATION COORDINATING BOARD
917 Lakeridge Way SW • PO Box 43430 • Olympia, WA 98504-3430 • (360) 753-7800 • FAX (360) 753-7808 • www.hecb.wa.gov

September 8, 2008

U.S. Department of Education
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006-5651

To Whom It May Concern:

Please accept this letter of support from the Washington State Higher Education Coordinating Board (HECB) for the Washington State Office of Superintendent of Public Instruction's (OSPI) **Washington State Longitudinal Data System Project** grant request.

This grant will enable the OSPI to develop a statewide data system that will deliver accurate and timely data to meet reporting requirements and facilitate evidence-based education decision-making. In addition, this grant will allow the OSPI to increase the efficiency of transferring data among schools, districts and state agencies, the latter of which is a primary goal of the State of Washington's Education Research and Data Center in the Office of Financial Management.

Sincerely,

B. Billings

Bob Billings
Chief Information Officer
Washington Higher Education Coordinating Board
917 Lakeridge Way SW
Olympia, Washington 98504

STATE OF WASHINGTON
PROFESSIONAL EDUCATOR
STANDARDS BOARD

September 23, 2008

U.S. Department of Education
National Center for Education Statistics
1990 K Street, NW
Washington, DC 20006-5651

To Whom It May Concern:

The Washington State Professional Educator Standards Board (PESB) supports the grant application for the Washington State Longitudinal Data System Project submitted by the Office of Superintendent of Public Instruction to enhance the Comprehensive Education Data and Research System (CEDARS).

As the state policy board for issues of educator preparation, certification and ongoing continuing education, "we don't know and have no means of knowing…" is too often the answer to inquiries posed by the PESB, policymakers and researchers regarding Washington's system of educator preparation, certification and the qualifications of our educator workforce. The existing data sources do not capture, nor communicate with one another, integral information needed about the teacher workforce and teaching quality.

We have been vocal in the need to develop a comprehensive state-level data system that can answer questions and provide data to build and develop solid policies that benefit policymakers, our educators and, ultimately, the K-12 students of Washington. If funded, the Washington State Longitudinal Data System Project will provide a significant investment in a comprehensive data system that will provide much-needed funding for its design, development and implementation.

Sincerely,

Jennifer Wallace
Executive Director

Main Office (360) 725-6275 • FAX (360) 586-4548 • http://www.pesb.wa.gov
Old Capitol Building • 600 Washington Street S., Room 249 • P. O. Box 47236 • Olympia, WA 98504-7236

SUPERINTENDENT OF PUBLIC INSTRUCTION

DR. TERRY BERGESON OLD CAPITOL BUILDING • PO BOX 47200 • OLYMPIA WA 98504-7200 • http://www.k12.wa.us

August 28, 2008

U.S. Department of Education
National Center for Education Statistics
1990 K Street, NW
Washington, DC 20006-5651

To Whom It May Concern:

The complexity of the education research questions that must be answered in the 21st Century is daunting. Important issues such as closing the achievement gap; examining the reasons behind high student dropout rates and studying the many factors affecting student achievement across the PK-16 spectrum are being addressed. These efforts would be greatly assisted through the availability of an enhanced longitudinal student data system in the state of Washington.

On behalf of the Research Collaborative of Washington State[1], the Office of Superintendent of Public Instruction (OSPI), is pleased to endorse the proposal titled "Washington State Longitudinal Data System Project" which is being submitted to the U.S. Department of Education for funding consideration under (CFDA) Number 84.372A.

This project will lead to improved data quality and access within K-12 programs and across systems and agencies. It will greatly increase our ability to answer important policy and program issues that affect teaching and learning. Data enhancement made possible by the project will allow our researchers to obtain, with greater specificity the type and level of data they have desired for some time. We have no doubt that the expanded data venues will lead to stronger, more meaningful research affecting policy, student achievement and educator preparation program designs

We are fully committed to the goals of this project and are committed to assisting the project team in this ambitious endeavor.

Sincerely,

C. McGuigan

Corrine McGuigan, Ph.D.
Assistant Superintendent for Research and Educator Development
OSPI

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[1] The Research Collaborative of Washington State is an initiative of OSPI, the State's University research faculty, professional organization researchers and public and private research institutes.

Peter D. Tamayo
(b)(6)

Career Overview

Since 1985, I have achieved progressive experience and responsibilities in many areas of the information technology field. My experience shows strong demonstrated performance in organizational development, quality improvement, systems planning, project management, human resource management, procurement, systems operations and systems development. I have the ability to lead staff, use best practices, collaborate with staff from different levels of the organization, manage projects to completion and deliver technology products and services to satisfied customers. My diverse knowledge of information technology, oral/written communications, and the ability to adapt and respond to customer and agency needs are my strengths.

Education

Bachelor of Arts in Economics - University of Washington, Seattle; 1985
Executive Management Program, Daniel J. Evans School of Public Affairs, University of Washington 2001

Experience, Duties and Responsibilities

Office of the State Superintendent of Public Instruction (Kindergarten – Grade 12)
12/07 – Present
Title: Chief Information Officer / Assistant Superintendent

Responsible for the overall operations of IT service delivery for the Office of the Superintendent of Public Instruction (OSPI). Planned, coordinated and directed information technology services and activities at OSPI. Managed 40 FTEs, contactors and a budget of $5.8 million to carry out the operational responsibilities of the Information Technology Services Division which includes a complex set of mainframe, web, and client/server systems with interfaces to 295 school districts. Commercially off the shelf software from Cognos and SAS provide in-depth reporting and analysis systems for federal reporting and program and policy development. Provide project oversight to technology projects including the implementation of legislative changes to OSPI business intelligence systems, financial systems and educator certification systems.

Experience, Duties and Responsibilities, cont.

Department of Retirement / Information Services Division
11/05 – 11/07
Title: Chief Information Officer / Assistant Director

Planned, coordinated and directed information technology services and activities at the Department of Retirement Systems. Managed 45 FTEs, contactors and a budget of $14.3 million to carry out the operational responsibilities of the Information Services Division which included a complex set of mainframe, web, and client/server systems with interfaces to 1,300 public employers. Provided project oversight to technology projects including the implementation of legislative changes to DRS systems. Implemented human resource and recruitment and retention activities and initiatives. As a member of the Senior Management team, provided input to the strategic direction for the agency. Directed the development of the DRS Information Technology Portfolio, Security Program and Disaster Recovery plan. Interacted with business staff to align technology with business direction.

Department of Personnel / Human Resource Information Systems Division
11/03 – 11/05
Title: Deputy Assistant Director / Deputy CIO

As the Deputy Assistant Director, established information technology strategies, metrics, technology initiatives, and the IT organizational structure to help maximize the effectiveness and service delivery of the DOP and HRISD business operations. Provided assistance to the CIO in managing and administrating the division's legacy HR systems, technology infrastructure and overall operations of HRISD. Managed over 86 FTEs, a very large complement of contracted staff, and a budget of $15.1M.

Collaborated and coordinated with the central support agencies during an SAP HR payroll and Business Warehouse statewide project. Directed the development of statewide payroll, functional, and operational processes were needed for the post-implementation period of the Human Resource Management System (HRMS). Aligned the organization's information technology with the agency's business and strategic plans.

Department of Social and Health Services – Children's Administration Office of Information Services
7/00-11/03
Title: Children's Administration Chief of Information Services

Responsible for the overall operations of IT service delivery for the Children's Administration. Prioritized resources in managing an office of over 54 FTE's, 21 contracted programmers and an annual operating budget of $12.4 million to support 2500 staff in 44 offices statewide. Managed project managers responsible for various parts of the overall IT portfolio. Lead the enhancement of a large legacy system (CAMIS) with newer technologies. Directed the integration of commercially available software from Cognos into a new reporting and business analysis system. Reviewed and approved technology purchases, IT procurements/contracts and Service Level Agreements. Coordinated and collaborated with other organizations. Provided leadership, vision and strategic planning.

Experience, Duties and Responsibilities, cont.

Department of Corrections – Office of Administrative Services / Information Technology
5/00-7/00
Title: Senior Information Technology Project Manager

Reporting to the IT Office Chief, planned, coordinated, and directed information technology (IT) projects to support the agency mission. Responsible for project management, analysis, design and implementation. Developed and managed the Projects Unit of five senior project managers that works with users, IT management and agency management to determine the scope of projects, resources, project tasks and timelines.

Department of Personnel - Human Resource Information Systems Division
11/94-4/00
Title: Network, Architecture and Applications Manager

Reporting to the Assistant Director, managed staff in the Network Services, Application Development, Desktop Support and Help Desk units comprised of 20 staff. Responsible for the overall management of the department's Microsoft NT, Novell and wide area networks, technical support, production LAN/Client-Server systems, data warehouse, web enabled business computer applications and data communication and telecommunication devices. Managed the integration of commercially available software into existing systems. Planned and developed the department's distributed computing infrastructure including software, hardware devices and network operating systems. Provided practical leadership in the most effective use of current and emerging technologies including the Internet and web enabled systems. Chaired the agency Web steering committee.

Department of Social and Health Services – Revenue Division
7/85-10/94
Title: Network Administrator / Unit Supervisor

Reporting to the Division's IS Manager, provided information systems management, analysis, development, evaluation, integration, and consulting services to end users, executive management and other non-technical staff. Fulfilled office data and equipment needs. Functioned as a project manager for system development and system integration efforts. Supervised, lead and directed five unit staff. Ensured the operational availability of the office's network infrastructure, communication networks and other PC/client-server systems. Defined access control, security and acceptable use policies, guidelines, standards and conventions.

(b)(6)

Office: (360) 725-6447
(b)(6)
Email: **tim.anderson@k12.wa.us**

CAREER OBJECTIVE

Organizational leadership, development, and guidance; bridging cultures and elevating interpersonal aspects of the organization while collaborating to improve operational efficiency and quality service.

PROFESSIONAL EXPERIENCE

Office of the Superintendent of Public Instruction

Director Application Development 2007 - Present

- Manage nine application developers, two contractors and five database analysts
- Manage application development budget
- Oversee maintenance and enhancements of 49 in house applications
- Development of OSPI IT Mission, Vision and Goals
- Assisted in training school district employees in the use of new and modified processes and computer applications

Information Technology Project Management Officer 2005 2007

- Lead Project Manger
- Information Technology Project Manager for assessment projects
- Information Technology Project Manager for the WASL project
- Assisted with introducing project management methodologies and tools to agency managers and staff
- Supervise two information technology project managers
- Assisted in training school district employees in the use of new and modified processes and computer applications

Washington State Department of Revenue

Information Services Test Manager, September 2003 - 2005

- Established test team using industry recognized test methodologies
- Introduction of integrated, automated test tool to division and staff
- Developed test planning, practices and procedures used by staff
- Supervising employees in testing of development applications
- Reviewing test plans and test cases developed by staff

PROFESSIONAL EXPERIENCE cont.

Information Services Financial Systems Supervisor, May 1997 - October 2003

- Strategic and technical planning for Financial and Employee Services main frame and web computing systems
- Supervision of 9 employees in maintenance of 14 complex financial computing systems
- System/Project Lead for development and maintenance of 14 complex financial computing systems
- Conferred with senior personnel of the organizational units to identify problems, establish priorities and establish project timelines
- Project manager for 10+ large development projects
- Coordinates work of others to develop and maintain complex projects
- Studied existing processes to evaluate effectiveness and assist in determining what modifications are necessary
- Designed and developed agency-wide computer based training programs
  - *Technologies used: ASP.Net, HTML, Java, JavaScript, COBOL, SQL COBOL, CGI COBOL, VB 5.0, Oracle, SQL Server, Access, Paradox, Crystal Reports, , JCL, MS Project, PowerPoint, Agency System Lifecycle (methodology)*

Agency Quality Trainer/Facilitator, April 1994 - 2005

- Facilitated 14 agency wide and divisional quality improvement teams
- Mentoring staff, agency facilitators and employees with the use of team building, problem solving skills
- Consulted and performed interventions for teams, work units, individual managers, and employees
- Developed documentation of team progress for team sponsor and agency Quality Coordinator
- Developed and/or delivered training curriculums to acquaint managers and employees with the use of decision making tools, problem-solving tools, facilitation, team management, and goal setting
- Mediated emotionally charged group to resolve personal conflicts

Information Services Automated Compliance Systems Lead, Nov. 1994 - May1997

- Supervision of 2 employees in maintenance of major automated collection system
- System Lead for development and maintenance of major automated collection system
  - *Technologies used: Cobol, SQL Cobol, JCL, MS Project*

Member of Agency Quality Council, Sept. 1997 - Dec. 2000

- Assisted in agency-wide quality improvement development and training programs
- Partnered with members of agency Quality Council to provide leadership and inspiration in helping employees understand the agency's mission and goals

Information Services Programmer Analyst, February 1990 - November 1994

- Programmer for agencies automated receivables system, excise tax computing system and audit tracking system
- Programming languages used: Cobol, JCL, VB, Access

EDUCATION and CERTIFICATIONS

- South Puget Sound Community College
  - Certificate of Education Computer Operations, 1986
- South Puget Sound Community College
  - Studies in computer programming, 1990
- Kennedy-Western University
  - Bachelor of Science Management Information Systems, 2005

- Management and Team Building:
  - Strategic Planning
  - Meyers Briggs Assessment
  - META 360 management evaluation and training
  - Entry-level Management levels 1 and 2 ,
  - Leadership Skills
  - Corrective Action Process
  - Personnel Issues
  - Labor Relations and Collective Bargaining
  - Quality Action Teams Facilitator (ODI) Training - Certified Trainer, 1994
  - Quality Advantage Facilitator (ODI) Training - Certified Trainer, 1994
  - Quest 2001
  - Team Dynamics
  - Team building
  - Washington State Quality Award
- Technical Courses:
  - Project
  - Word
  - Access
  - Excel
  - Power Point
  - Visual Basic 5.0
  - Quality Assurance Techniques
  - Project Management
  - HTML
  - Java , Java Script
  - XML
  - Boot camp for software testers
  - Software Quality Engineers Testing Conference

PROFESSIONAL MEMBERSHIPS AND VOLUNTEER ACTIVITIES

- **Information Project Managers Association,** Member 2002 - present
- **Project Management Institute,** Member 2006 - present
- **Puget Sound Collegiate Umpires Association,** President 1998 - present
- **South Sound Umpires Association,** President 1998 - present

Deborah Spaulding
Project Management Director

(b)(6)

Professional Profile

Bachelor's Degree in Business Administration with major in Marketing; minor in MIS. Graduate work toward MBA. Project Management Certification from UW.

3 years Senior IT Application Systems Management

12+ years Enterprise Systems Project Manager - PMI Member

Education, Honors, & Certifications

WA State Leader path Graduate – January 2008

UW – Project Management Certificate - May 2004

MBA Coursework (30 hours completed)
St. Bonaventure University, St. Bonaventure, NY - June 1990

Bachelor of Science Business Administration (Marketing and MIS)
University of Dayton, Dayton, Ohio - April 1989

Employment

Office of the Superintendent of Public Instruction

Director, Project Management Office – EMS 3
Olympia, WA www.k12.wa.us
Peter Tamayo – CIO
Feb 2008 - Present

Primary Responsibilities

Creation of a Project Management office staff with 3 Project Managers and 2 analysts.

Established an agency-wide Project Management Methodology including the creation/installation of a PMO dashboard, centralized project tracking tools, templates, and oversight guidelines.

Responsible for 2 DIS level 2 projects and several smaller projects including re-hosting/rewrite from Cobol based Vax/Alpha to C#.net/SQL.

Washington State Department of Licensing

Internal Applications Manager/ Vehicle Systems Manager - Vehicle Services Liaison, Drivers Service Liaison - EMS3
Olympia, WA www.dol.wa.gov
Bill Kehoe – CIO, Thomas Bynum Deputy CIO, Jay Ahn Applications Director,
Feb 2005 – Feb 2008

Primary Responsibilities

FTE responsibility up to 27 (currently) plus up to 10 contract and project staff

Portfolio responsibility for 105 internal agency software applications in technologies ranging from .net/SQL apps to Cobol, MS Access and Delphi.

- Headquarters Critical Applications "mainframe" systems. Daily operations of the 3 mission critical recently replatformed mainframe systems for Vehicles, Drivers and Revenue for the processing of almost $2 billion annually in revenue and refunds.

Primary Responsibilities Cont…

- Vehicles and Drivers Field Licensing Systems – the front line field systems for processing of Vehicles and Drivers licenses and all night batch processing.
- 4 mission critical systems and 15 business critical systems including external interfaces to law enforcement, state and federal agencies. These include all transactional systems that drive all work in the agency and contain the master databases for many other interfaces.

Directly managed personal and professional services contract combined responsibility in excess of 1M for time and materials and deliverables based contracts.

ISB level 3 replatforming projects totaling $20M - oversight role as system owner

- Unisys replatforming of 3 mainframe systems to client server Cobol.net/SQL
- HP3000 replatforming from Transact to VB.net/SQL

Liaison and relationship manager for Vehicle Services and later for Drivers Services for all IS needs including legislation, technology solution development, and compliance issues and day-to-day IS operations.

Agency driver for IS strategic planning.

Author and SPA for systems audits by federal and state auditors.

Oversight and daily participation in dozens of IT projects because of ownership of the foundational mission critical systems that resided in the Internal Applications Unit.

Driver for the agency programming and quality standards and strategic roadmap.

Washington State Department of Licensing

Project Manager – WMS2
Olympia, WA www.dol.wa.gov
Patt Dronen – Project Office Manager
Aug 2004 – Jan 2005

Primary Responsibilities

- I-776 (Oct 2004) – Refunding $38 million to 2.4 million WA residents
- Dual Address (Jan 2005) – implementing Monorail address requirements for proper collection of Monorail fees.
- NMVTIS (May 2005) – Interface with the National System for title fraud data.
- Dual Address 2 (August 2005) - Additional Monorail address requirements for proper collection of Monorail fees

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Harborstone Credit Union

IS Project Leader II (Manger) – Electronic Delivery Systems
Lakewood, WA 98499 www.harborstone.com
Theresa Walyor – Manager, Application Support
Feb 2002 – August 2004

Primary Responsibilities

Project Manager/Business Analyst/Technical Support/ Vendor Management for all technical development with Online banking, Website, Audio banking, ATMs (fleet of 24), Extranet, Intranet, and ACH delivery. Ownership of all programming, vendor, project management, and contracts related to all. Coordination of companywide training and communication with marketing and training departments. These represent 3 of 4 delivery

Primary Responsibilities Cont…

channels.

Project Manager for enterprise system installation including: • Synergy Check images module • 2 Zeus releases •Verified by Visa • 9 ATM installations • Extranet • Design and installation of custom SQL CRM solution for Investment Services CUSO.

Negotiation of programming and vendor support for substantial upgrades to online banking. Development and completion of Electronic delivery channels to support our new Business banking division

Project lead for all website projects; coordinator with marketing, design and development of website that has expanded it from 90 pages to over 300 to support all business units. Enterprise content management solution currently in RFP stage.

Completed the delivery and vendor management of the remaining delivery channel of S1's Zeus (branch ops system). Developed procedures, testing environment, and quality control measure to provide clean installation and upgrade, invisible to branch staff. Coordinated credit union communication and training.

Westar Financial Services, Inc

Assistant to the President & CEO
Tumwater, WA 98501 (now Enhanced Technology Financial Services, Inc.)
R. W. Christensen Jr., President & CEO
August 2001 – November 2001 (company closed due to bankruptcy)

Tiny Computers

eCommerce Coordinator
Tacoma, WA 98409
Martyn Adamson, VP Operations, and Geoff Chaplin, VP Sales and Marketing
June 2000 - August 2001 (company closed due to bankruptcy)

Primary Responsibilities

Department head for the web and eCommerce division. Responsible for all marketing and technical requirements for the web site; converted showroom marketing to online marketing with consistent image and message. Key in the transition from static .html to SQL driven .asp.

Adviser to three Vice Presidents during corporate restructure and management turnover; point of contact and project lead to resolve many contract, customer service, and marketing issues. Lead in dissolving two divisions of the business. Sourced and negotiated key agreements for acquisition of those businesses to the financial betterment of the company.

Notre Dame Catholic High School

Computer Science Teacher
LAN and WAN Network Administrator
Technical Coordinator
Wichita Falls, Texas, (940) 692-6041
James Anderson, Principal (no longer employed; point of contact Chris Neeb, Dean of Students)
August 1998 - January 1999, August 1999 – May 2000

Primary Responsibilities

System Administrator/User support - Equipped all school systems for proper hardware/software compatibility and operation; debugged every conceivable software issue.

Middle School (grades 6-8), Created all curriculum and additional practice work in the absence of teachers manual.

High School Computer I (grades 9-12) Computer II - Introduction to Programming and Algorithms in C++.

Led first-ever school technology grant acquisition initiatives; garnered awards in excess of 100K and laid groundwork for second grant of 250K.

Old Kent Bank

Client Support Technician
Grand Rapids, Michigan, now 5th/3rd Bank
Mike Haynes, Manager Production Operations
(contract position through Manpower Technical)
July 1998 - August 1998 January 1999 - Jun 1999

June 1996 - June 1998 - at home mom. I took a break to raise kids

Object Technology Intl Inc. (subsidiary of IBM Canada)

Customer Service Coordinator/Product Support/Project Management
Phoenix, Arizona, 602 569-3800 www.oti.com
Jon Eschinger, Managing Director
June 1994 — May 1996

Zondervan Publishing

Sales Analyst
Grand Rapids, Michigan, (616) 698-6900
Chris Doornbos, Vice President Sales (at this time maiden name Deborah Powers)
September 1993 — June 1994

Noel Marshall

Technical Development Lead

Summary

2 years of lead developer status and 5 years programming and application development experience using C# (versions 1.0-2.0) and Object Oriented Design principles building data-centric applications.

Computer skills

Project Management
User Requirement gathering (Use Cases, meeting facilitation, communications plans)
Project documentation for Initiation, Planning, Execution, and Closure phases
Object Oriented Analysis and Design

Languages
Proficient in: C# using the .NET framework versions 1.0,1.1, and 2.0, and T-SQL
Familiar with: VB.NET, JAVA, VBA, VB6

Software
IDE: Visual Studio 2003, 2005, 2008 (familiarity) Team Suite
Project Management: MS Project (2003, 2007, server), Visio (XP, 2003, 2007), Team Foundation Server
Database: Microsoft SQL Server (2000 and 2005)

Experience

Project Manager/Technical Lead ***7/2006-present***
Washington State Office of Superintendent of Public Instruction ~ Information Technology Services

Primary duties included: Meeting application development timelines and budget targets while maximizing the use of staff and contract resources on the following major projects:

Comprehensive Education Data And Research System (CEDARS)
Developer, Interim Project Manager, and Technical Lead for state education agency's data warehousing effort. Ongoing since 2006, the warehouse stores student, student program, staff, course, course schedule and assessment data for Washington's 295 school districts.

Technology breakdown: ETL using SSIS and Cognos Data Manager. Front end using C#/ASP.NET 1.1 and 2.0, with reports using Cognos 8 and SSRS. Back end will be star schema datamarts using conformed dimensions in SQL Server 2005.

Safe and Drug Free Schools and Communities (SDFSC)
Managed the implementation phase of the SDFSC project. This project was a three-year $1.5 Million dollar venture to design and build a state-wide data entry and planning tool for school districts, educational service districts, and CTED community mobilization contractors to use in the creation of district and county drug and violence prevention programs. The application shipped on time and $500K under budget.

Technology breakdown: C#/ASP.NET 2.0, MS ASP.NET AJAX 1.0, and JavaScript front end with a SQL Server 2005 backend. During this project I also exposed OSPI's single sign-on system for outside use through a web service for an outside party.

C# Development Lead ***10/2001- 7/2006***
Washington State Department of Ecology ~ Toxics Cleanup Program

Primary duties included: Management of software projects for 1-3 full-time Developers; lead C# developer building ASP.NET and Windows Applications for the following major projects:

Project Manager - Sediment Quality Information System (SedQual) redevelopment effort. SedQual is a regional application used by Ecology, EPA, and the US Army Corps of Engineers, that allows the analysis of sediment data collected in Washington, Oregon, and Idaho. The project entailed moving SedQual from a stand-alone VB6 windows application using MSDE to an ASP.NET 2.0 server based application with an online GIS search component.

Developer - TCP's Cleanup Levels And Risk Calculations (CLARC) system This internet based ASP.NET 1.1 application for searching the cleanup levels database displays the results in SQL Server 2000 Reporting Services reports. Responsibities included class library development and implementation; and writing the prototype web application. Deployed to Iraq before the project completion.
URL: https://fortress.wa.gov/ecy/clarc/clarchome.aspx

Agency workgroups: Member: Agency .NET Implementation and Enterprise Architecture teams.

Education

University of Washington
Department of Personnel ~ Olympia, Washington
Project Management Certification 2006

The Evergreen State College
Olympia, Washington

B.S. with focus on Biology and Organic Chemistry 2000

Military Experience

Operation Iraqi Freedom II ***Nov 2003-Feb 2005***
Platoon medic with C Co 1-161 Infantry 3BCT 1st Cavalry Division

Campaign Awards: Combat Medical Badge/Global War on Terrorism Expeditionary Medal/Global War on Terrorism Service Medal/Armed Forces Reserve Medal W/M Device/Overseas Service Bar (2nd Award)/ARCOM

Close Form

SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS

1. Project Director:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
	Debbie		Spaulding	

Address:

* Street1: PO Box 47200
Street2: 600 S. Washington Street
* City: Olympia
County: Thurston
* State: WA: Washington
* Zip Code: 98504-7200
* Country: USA: UNITED STATES

* Phone Number (give area code): 360-725-6142
Fax Number (give area code): 360-586-7251

Email Address: debbie.spaulding@k12.wa.us

2. Applicant Experience:

Novice Applicant ☐ Yes ☐ No ☒ Not applicable to this program

3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project Period?

☐ Yes ☒ No

Are ALL the research activities proposed designated to be exempt from the regulations?

☐ Yes Provide Exemption(s) #:

☐ No Provide Assurance #, if available:

Please attach an explanation Narrative:

Add Attachment | Delete Attachment | View Attachment

Application: R372A090024

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U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1890-0018

Expiration Date: 02/28/2011

* Name of Institution/Organization

Washington State Office of Superintendent of Public Instruct

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION A - BUDGET SUMMARY
U.S. DEPARTMENT OF EDUCATION FUNDS

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	265,637.00	577,854.00	589,181.00	600,965.00		2,033,637.00
2. Fringe Benefits	113,845.00	247,652.00	252,506.00	257,557.00		871,560.00
3. Travel	35,000.00	145,000.00	60,000.00	60,000.00		300,000.00
4. Equipment	47,500.00	191,500.00	7,500.00	0.00		246,500.00
5. Supplies	100,000.00	1,019,300.00	149,500.00	149,500.00		1,418,300.00
6. Contractual	440,000.00	0.00	0.00	0.00		440,000.00
7. Construction	0.00	0.00	0.00	0.00		0.00
8. Other	0.00	0.00	0.00	0.00		0.00
9. Total Direct Costs (lines 1-8)	1,001,982.00	2,181,306.00	1,058,687.00	1,068,022.00		5,309,997.00
10. Indirect Costs*	119,236.00	259,575.00	125,984.00	127,095.00		631,890.00
11. Training Stipends						
12. Total Costs (lines 9-11)	1,121,218.00	2,440,881.00	1,184,671.00	1,195,117.00		5,941,887.00

Indirect Cost Information** ***(To Be Completed by Your Business Office):
If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government? ☒ Yes ☐ No

(2) If yes, please provide the following information:

* Period Covered by the Indirect Cost Rate Agreement: From: 07/01/2007 To: 06/30/2008 (mm/dd/yyyy)

* Approving Federal agency: ☒ ED ☐ Other (please specify):

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

☐ Is included in your approved Indirect Cost Rate Agreement? or, ☐ Complies with 34 CFR 76.564(c)(2)?

Application: R372A090024

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* Name of Institution/Organization

Washington State Office of Superintendent of Public Instruct

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	0.00	0.00	0.00	0.00		0.00
2. Fringe Benefits	0.00	0.00	0.00	0.00		0.00
3. Travel	0.00	0.00	0.00	0.00		0.00
4. Equipment	0.00	0.00	0.00	0.00		0.00
5. Supplies	0.00	0.00	0.00	0.00		0.00
6. Contractual	0.00	0.00	0.00	0.00		0.00
7. Construction	0.00	0.00	0.00	0.00		0.00
8. Other	0.00	0.00	0.00	0.00		0.00
9. Total Direct Costs (lines 1-8)	0.00	0.00	0.00	0.00		0.00
10. Indirect Costs	0.00	0.00	0.00	0.00		0.00
11. Training Stipends	0.00	0.00	0.00	0.00		0.00
12. Total Costs (lines 9-11)	0.00	0.00	0.00	0.00		0.00

SECTION C - BUDGET NARRATIVE (see instructions)

ED Form No. 524

Application: R372A090024

Budget Narrative

The Washington State Longitudinal Data System Project will be accomplished in a four year timeframe at a projected total cost of $5,929,017. The first year project cost of $1,001,982 will be spent performing business and technical analysis. Development of the target architecture will begin in year two at a cost of $2,169,805. Year two expenses are higher because OSPI will purchase several servers and software packages. Year three and four will be spent continuing development efforts and will cost $1,058,687 and $1,068,022 respectively. The indirect rate of 11.9% will be applied to the total costs in accordance with the negotiated Indirect Cost Rate (Agreement No. 2007-188). Total indirect costs are $630,521.

Below is a description and justification of the proposed budget items.

Staff Expenses

The staff members providing primary leadership and management for the proposed project are: the Project Director (.33 FTE years 1-4); Project Manager (1.0 FTE years 1-4); Technical Lead (.33 FTE years 1-4). The project will require the following project staff to perform analysis, development, and testing: Business Analysts (2.0 FTE years 1-4); Senior Software Developers (3.0 FTE years 2-4); one Application Developer (1.0 FTE years 2-4).

The Project Director and Technical Lead will provide .33 FTE supervision to the project. They will make sure the project fits within the OSPI vision and strategic plan. The Project Manager will work closely with the Project Director and Technical Lead to ensure commitment of proper recourses.

During year one, the Business Analysts will work with the Subject Matter Consultant and agency staff to review the current business and data structures, and assist in the development of a gap analysis document. In the second year of the project they will work with agency business owners, ESD and LEA stakeholders, and data entry personnel to ensure that the data governance structure and Service Oriented Architecture meet the needs of the agency and stakeholders. In years three and four the Business Analysts will work more directly with the Technical Lead and Application Developers to develop test plans and perform system testing. As the Project Team members with the most knowledge of the business rules, they will be perfectly suited to act as a testing team.

The Application Developers will be responsible for doing all programming and unit testing work. OSPI is not contracting out this work because the expertise gained from the development work is maintained in house. This will reduce development and maintenance costs both during and after the project.

The total cost for staff expenses is $2,907,238, which includes a 2% salary/benefits increase per year to cover Cost of Living Adjustments (COLA).

Contractor Expenses

OSPI will competitively solicit and employ two nationally recognized consulting companies which specialize in the areas of education data and data governance.

A Subject Matter Consultant will be hired to perform a thorough inventory of agency data collections to discover overlap and data redundancy. They will then work with agency governance bodies to develop a gap analysis of our current data structures based on governance needs. This Subject Matter Consultant will work closely with the Business Analysts, Project Manager, and agency business area staff for the first six months of the project and cost $190.000.

The second contract will be with a company to perform an assessment of our agencies governance policies, structures and models. The company will provide OSPI with recommendations on the development of governance roles, policies and procedures. The governance assessment will cost $250,000.

Pulling in third parties to perform the gap analysis and governance assessment will allow the documents to be written from a neutral perspective that adheres to recognized best practices.

Travel

Funds will be used for key Project Team members to attend the National Grantees Meeting in Washington DC, Data Quality Campaign and MIS Conference. All events are held annually, for a yearly expense of $35,000. A project total expense of $130,000 will be used for attending these meetings. Project Team members will attend these meetings to share information with other grantees, participate in topic forums, hear presentations by guest speakers on education data topic, and attend training sessions.

Training

The OSPI will be implementing several technologies that are new to the Project Team staff. Money has been allocated to address the necessary training for staff members to learn these new technologies.

$15,000 is allocated the first year to staff training on the ProVision enterprise architecture modeling tool.
Project Team staff will attend several training sessions in year two, including:

- Schools Interoperability Framework (SIF) training ($10,000)
    - Zone Integration Server (ZIS) setup and maintenance
    - Software Development Kit (SDK)
    - SIF data model training)
- SOA management software training ($25,000)
- rules engine software training ($25,000)

- metadata repository training ($25,000)

OSPI will reserve $25,000 in years two through four for the Washington Educational Service Districts (ESDs) which will perform training sessions as part of the OSPI training and certification programs. This will lead to better quality data management practices and certified data management staff. The total expense for this training is $75,000.

Total training expenses for this project are $175,000.

Software

OSPI will purchase one Microsoft SQL Server license and five seat licenses for Metastorm ProVision for a total of $85,000 in year one. Most software will be purchased in year two: an interactive query tool ($100,000), metadata repository ($75,000), rule engine ($94,800), Microsoft SQL Server licensing ($20,000), SOA management software ($700,000), SIF software development kit (SDK) ($10,000), and continued Metastorm ProVision licensing ($75,000). Year three and four will only contain continued licensing expenses for the interactive query tool, Microsoft SQL Server, SIF SDK, and Metastorm ProVision for a total of $209,500 each year. Software development tools will be purchased during years two, three, and four at an annual expense of $4,500 and a project total of $13,500. Total software expenses are $1,583,300.

Metastorm's ProVision software is an enterprise architecture modeling tool that allows organizations to model everything from organization charts and business practices to software and databases. A completed enterprise model connects all of these models together so one can see the relationship between business units, processes, and software. ProVision can also run Monte Carlo analysis, a method to randomly test process paths, to verify the stability and completeness of your enterprise model. The software can take completed models and generate software code and business process execution language files, which will save time and increase the quality of OSPI's software base. ProVision will be used by the systems architect, data architecture team, and business analysts to create a complete model of the organization during year one to formulate the target architecture and will be updated continuously afterward.

Several Service Oriented Architecture (SOA) management software components will be purchased to form a foundation for future service oriented software development. SOA management can be broken into five parts: governance, monitoring, lifecycle management, business rules engine, and choreography. Governance is necessary to ensure that software is meeting Service Level Agreements (SLAs) and developmental guidelines. Monitoring services will provide detailed information into the efficiency of the SOA, including how long services take to complete their process, how often services are used, and who is using the services. Software developers will utilize the lifecycle management software to find services they can use in their development efforts and determine what versions of the services are active. Separating business rules from software code and placing them into a business rules engine, a key asset in the proposed architecture, will create consistency and business agility by centralizing the

location and control over the rules. Service choreography is a technique that ties the execution of services together to form business processes. These processes may be executed instead of calling each of the services from the software. The benefits are similar to instituting a business rules engine. Consistency and business agility are created by centralizing the location and control of business processes. These software components are necessary to manage the complexity of the SOA over time.

While OSPI houses valuable, relational and longitudinal data, the software development team cannot support the continuous analysis requests from state organization and LEAs. To meet the needs of these organizations, OSPI will purchase a Business Intelligence Tool. The tool will allow users to define and generate dynamic reports utilizing OSPI's relational and longitudinal data stores, which can be saved and rerun on demand. The tool must also control access to data elements in order to meet FERPA and other security and privacy policies. An interactive querying tool will increase data driven decision making capabilities.

The Schools Interoperability Framework (SIF) is emerging as the industry standard for student-level data interchange. While other data interchange formats have been developed to transport data between LEAs and OSPI, the SIF architecture has been recognized to be more flexible and the data model more complete. OSPI will purchase a Zone Integration Server (ZIS) and SIF agent Software Development Kit (SDK). To test the feasibility of converting the Washington student-level data interoperability infrastructure to SIF, OSPI developers, working in concert with Student Information System (SIS) vendors and school districts will build two proof of concept SIF agents. These agents will increase data quality and save time for LEA staff because they will not need to manually process monthly data exports to OSPI through the CEDARS file format.

Total Software purchases for this project are $1,418,300.

Hardware

Hardware purchases are in support the project software, including SOA/SOA management, rules engine, metadata repository, web, and database servers, a storage area network (SAN), and a tape backup system. OSPI operates development, test, and production server environments; servers will need to be purchased to house software in all three of these environments. Nineteen servers will be purchased at $7,500 each:

- 7 SOA servers
- 3 rules engine server
- 3 metadata repository server
- 2 database servers
- 2 application servers
- 1 file server (for FTP file transfer purposes)

- 1 SIF agent server

The Zone Integration Server will cost $19,000 due to increased memory, processing, and storage capacity needed. A SAN will be purchased at $60,000 to store all of the database repositories utilized in the new system architecture. Dedicating a SAN to database purposes will increase database performance because the resource will not be used for any other purpose. It will also increase security by separating data from user available file storage space. A tape library backup system will be purchased at $25,000 to backup the databases stored on the SAN.

Total hardware purchases for this project are $246,500.

Supplement not Supplant

Federal funds provided for this project will only be used to supplement and not supplant other non-Federal funds that are available.

A budget which details the expenditures of the proposed project by year and by line item follows this overview.

Program Activities Budget

YEAR ONE: 2009 – 2010

Budget Categories	Goals 1-5	Federal Fund Project Costs	Total
1. Personnel	1,2,3,4,5	$265,637	$265,637
2. Fringe Benefits	1,2,3,4,5	$113,845	$113,845
3. Travel/Training	1,2,3,4,5	$35,000	$35,000
4. Equipment	1,2,3,4,5	$47,500	$47,500
5. Software	1,2,3,4,5	$100,000	$100,000
6. Contractual	1,2	$440,000	$440,000
7. Other			
8. Total Direct Costs (L1-L7)	1,2,3,4,5	$1,001,982	$1,001,982
9 Indirect Costs (11.9%)	1,2,3,4,5	$119,236	$119,236
10. Total Costs		$1,121,218	$1,121,218

Program Activities Narrative

YEAR ONE: 2009 – 2010

Budget Categories	Federal Fund Project Costs	Calculation of Costs (Federal Fund)
1. Personnel	$265,637	1 FTE Project Director, 2 FTE Business Analysts, .30 FTE Project Director and .30 FTE technical Lead.
2. Fringe Benefits	$113,845	Benefits calculated at 30% total salaries.
3. Travel/Training	$35,000	ProVision training for 3 people, 3 people to attend federal data quality campaign meetings, 2 people to attend national grantees meeting
4. Equipment	$47,500	1 SQL Server, 1 application server, 1 file server, 1 tape library
5. Software	$100,000	Software licensing for hardware and business intelligengence modeling tool
6. Contractual	$440,000	Agencey data govendance analysis and educational data gap analysis
7. Other		
8. Total Direct Costs (L1-L7)	$1,001,982	
9 Indirect Costs (11.9%)	$119,236	
10. Total Costs	$1,121,218	

Program Activities Budget

YEAR TWO: 2010 – 2011

Budget Categories	Goals 1-5	Federal Fund Project Costs	Total
1. Personnel	1,2,3,4,5	$577,854	$577,854
2. Fringe Benefits	1,2,3,4,5	$247,652	$247,652
3. Travel/Training	1,2,3,4,5	$145,000	$145,000
4. Equipment	1,2,3,4,5	$191,500	$191,500
5. Software	1,2,3,4,5	$1,019,300	$1,019,300
6. Contractual			
7. Other			
8. Total Direct Costs (L1-L7)	1,2,3,4	$2,181,306	$2,181,306
9 Indirect Costs (11.9%)	1,2,3,4	$259,575	$259,575
10. Total Costs		$2,440,881	$2,440,881

Program Activities Narrative

YEAR TWO: 2010 – 2011

Budget Categories	Federal Fund Project Costs	Calculation of Costs (Federal Fund)
1. Personnel	$577,854	1 FTE Project Manager 2 FTE Business Analysts, .30 FTE Project Director and .30 FTE technical Lead, 4 FTE Application developers
2. Fringe Benefits	$247,652	Benefits calculated at 30% total salaries.
3. Travel/Training	$145,000	Project manager, business analysts, database administrator and system architect to attend training on SOA management software, SOA business rule engine and metadata repository, 3 people to attend federal data quality campaign meetings and Federal MIS conferences, travel to training for certification of district personell, 2 people to attend national grantees meeting
4. Equipment	$180,000	1 Storage Area Network, 3 SOA management software servers, 1 SOA development server, 1 SOA test server, 2 SOA production server, 1 SQL server, 1 Zone Integration Server, 1 SIF agent server, 3 rule engine servers, 3 metadata repository servers
5. Software	$1,019,300	SOA management and rules engine software, SIF software, renewal of modeling and business intelligence tools, software developer licenses and SQL server enterprise licenses
6. Contractual		
7. Other		
8. Total Direct Costs (L1-L7)	$2,169,806	
9 Indirect Costs (11.9%)	$258,207	
10. Total Costs	$2,428,013	

Program Activities Budget

YEAR THREE: 2011 – 2012

Budget Categories	Goals 1-5	Federal Fund Project Costs	Total
1. Personnel	1,2,3,4,5	$589,181	$589,181
2. Fringe Benefits	1,2,3,4,5	$252,506	$252,506
3. Travel/Training	1,2,3,4,5	$60,000	$60,000
4. Equipment	1,2,3,4,5	$7,500	$7,500
5. Software	1,2,3,4,5	$149,500	$149,500
6. Contractual			
7. Other			
8. Total Direct Costs (L1-L7)	1,2,3,4,5	$1,058,687	$1,058,687
9 Indirect Costs (11.9%)	1,2,3,4,5	$125,984	$125,984
10. Total Costs		$1,184,671	$1,184,671

Program Activities Narrative

YEAR THREE: 2011 – 2012

Budget Categories	Federal Fund Project Costs	Calculation of Costs (Federal Fund)
1. Personnel	$589,181	1 FTE Project Director, 2 FTE Business Analysts, .30 FTE Project Director and .30 FTE technical Lead, 4 FTE Application developers
2. Fringe Benefits	$252,506	Benefits calculated at 30% total salaries.
3. Travel/Training	$60,000	Allowance for 3 people to attend federal data quality campaign meetings and Federal MIS conferences, travel to training for certification of district personell, 2 people to attend national grantees meeting
4. Equipment	$7,500	1 production web application server
5. Software	$149,500	SOA management and rules engine software, SIF software, renewal of modeling and business intelligence tools, software developer licenses and SQl server enterprise licenses
6. Contractual		
7. Other		
8. Total Direct Costs (L1-L7)	$1,058,687	
9 Indirect Costs (11.9%)	$125,984	
10. Total Costs	$1,184,671	

Program Activities Budget

YEAR FOUR 2012 – 2013

Budget Categories	Goals 1-5	Federal Fund Project Costs	Total
1. Personnel	1,2,3,4,5	$600,965	$600,965
2. Fringe Benefits	1,2,3,4,5	$257,557	$257,557
3. Travel/Training	1,2,3,4,5	$60,000	$60,000
4. Equipment	1,2,3,4,5		$0
5. Software	1,2,3,4,5	$149,500	$149,500
6. Contractual		$0	$0
7. Other		$0	$0
8. Total Direct Costs (L1-L7)	1,2,3,4,5	$1,068,022	$1,068,022
9 Indirect Costs (11.9%)	1,2,3,4,5	$127,095	$127,095
10. Total Costs		$1,195,117	$1,195,117

Program Activities Narrative

YEAR FOUR 2012 – 2013

Budget Categories	Federal Fund Project Costs	Calculation of Costs (Federal Fund)
1. Personnel	$600,965	1 FTE Project Director, 2 FTE Business Analysts, .30 FTE Project Director and .30 FTE technical Lead, 4 FTE Application developers
2. Fringe Benefits	$257,557	Benefits calculated at 30% total salaries.
3. Travel/Training	$60,000	Allowance for 3 people to attend federal data quality campaign meetings and Federal MIS conferences, travel to training for certification of district personell, 2 people to attend national grantees meeting
4. Equipment		
5. Software	$149,500	SOA management and rules engine software, SIF software, renewal of modeling and business intelligence tools, software developer licenses and SQl server enterprise licenses
6. Contractual	$0	
7. Other		
8. Total Direct Costs (L1-L7)	$1,068,022	
9 Indirect Costs (11.9%)	$127,095	
10. Total Costs	$1,195,117	

Program Activities Budget

SUMMARY – FEDERAL FUND

Budget Categories	Year 1 2009-2010	Year 2 2010-2011	Year 3 2011-2012	Year 4 2012-2013	TOTALS
1. Personnel	$265,637	$577,854	$589,181	$600,965	$2,033,637
2. Fringe Benefits	$113,845	$247,652	$252,506	$257,557	$871,560
3. Travel/Training	$35,000	$145,000	$60,000	$60,000	$300,000
4. Equipment	$47,500	$191,500	$7,500		$246,500
5. Software	$100,000	$1,019,300	$149,500	$149,500	$1,418,300
6. Contractual	$440,000				$440,000
7. Other					
8. Total Direct Costs (L1-L7)	$1,001,982	$2,181,306	$1,058,687	$1,068,022	$5,309,997
9 Indirect Costs (11.9%)	$119,236	$259,575	$125,984	$127,095	$631,890
10. Total Costs	$1,121,218	$2,440,881	$1,184,671	$1,195,117	$5,941,887