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Application Profile

Application Number: R372A05127

Competition: 84.372A05 **Date Entered:** 7/1/2005

Organization Information

Organization Name: Tennessee Department of Education

Organization Unit: Resources and Support Services Division

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Nashville, TN 37243-0375 **Country:** United States of America

Project Director Name and Information

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Application Title

Statewide Longitudinal Data System

State Identifier

Period of Performance

Project Begin Date: 10/01/2005 **Project End Date:** 03/01/2008

Abstract

Tennessee Statewide Longitudinal Data Sysem

The purpose of this grant proposal is to develop a comprehensive data architecture that allows data to be collected, archived, combined and analyzed in a manner that will support the continuous improvement of learning standards, curriculum, instructional processes and programs, professional development and grant allocations. The Tennessee Department of Education (TNDOE) will use a three-phased approach to develop the types of needed data stores and reporting. The phases are as follows:
Phase I is a low-risk, high-return project to add summative assessment data to the existing TNDOE system (EIS). This will give the state an operational data store with a full set of student demographic and assessment data. While this effort is underway, the TNDOE will lay a solid framework for data management and governance to support the subsequent phases of the project. This includes the development of data policies, implementation of an agency-wide data dictionary and a data inventory to capture the types of data collected and reported by the Agency.
Phase II is an effort to acquire and implement a business intelligence reporting tool and to develop an initial set of reports that represent the highest demand for information by the Agency, legislature, community, and districts. Phase II will draw data from EIS as well as other existing systems and systems currently under development, such as teacher certification, an online formative assessment system, an eGrant system (FACTS) and a professional development system.
Phase III is an effort to acquire and implement a data warehouse and set of ETL tools. The purpose of the data warehouse is to archive data from various TNDOE operational data stores to facilitate longitudinal analyses. The data warehouse will also feed the data reporting tools.

Human Subjects: No **Exempt from Regulations:** No **Exemption #:** **Assurance #:**

Exempt Narrative:

Non-Exempt Narrative:

Estimated Funding

Federal: $3,670,519.00 **Local:** $0.00

Applicant: $0.00 **Other:** $0.00 **Total:** $3,670,519.00

State: $0.00 **Program Income:** $0.00

Federal Budget

Budget Categories	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1. Personnel	$65,582.00	$130,080.00	$81,300.00	$0.00	$0.00	$276,962.00
2. Fringe Benefits	$9,837.00	$19,512.00	$12,195.00	$0.00	$0.00	$41,544.00
3. Travel	$28,440.00	$72,360.00	$24,900.00	$0.00	$0.00	$125,700.00
4. Equipment	$0.00	$395,000.00	$0.00	$0.00	$0.00	$395,000.00
5. Supplies	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
6. Contractual	$131,625.00	$201,825.00	$200,363.00	$0.00	$0.00	$533,813.00
7. Construction	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
8. Other	$85,000.00	$1,900,000.00	$0.00	$0.00	$0.00	$1,985,000.00
9. Total Direct Costs	$320,484.00	$2,718,777.00	$318,758.00	$0.00	$0.00	$3,358,019.00
10. Indirect Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
11. Training Stipends	$12,500.00	$280,000.00	$20,000.00	$0.00	$0.00	$312,500.00
12. Total Costs	$332,984.00	$2,998,777.00	$338,758.00	$0.00	$0.00	$3,670,519.00

Non-Federal Budget

Budget Categories	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1. Personnel	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
2. Fringe Benefits	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
3. Travel	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
4. Equipment	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
5. Supplies	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
6. Contractual	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
7. Construction	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
8. Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
9. Total Direct Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
10. Indirect Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
11. Training Stipends	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
12. Total Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

Application Details

D-U-N-S Number:	(b)(2)	T-I-N:	62-6001445	Duration (years):	3
Any Federal Debt:	No	Specify:			
Type of Applicant:	State	If Other, Specify:			

Authorized Representative Information

transportation reports, and fiscal agent reports electronically. The SEA will be able to calculate and/or review career ladder/extended contract reconciliations, indirect cost calculations, maintenance of effort tests, 3% fund balance tests, as well as perform internal calculations such as per pupil expenditures, BEP unit costs, transportation costs, and Title I Maintenance of Effort.

Work that remains in this area includes the linkage of grant data with the student demographic and performance data. This work is included in the data warehouse portion of this grant application.

Core Process # 6: Conduct Data Driven Analysis and Intervention

Supporting technology systems:

- Data Warehouse
- Decision Support Tools

One of the key PMOC projects is The Tennessee Center for Research in Education. This is a collaborative organization that brings the resources of the Tennessee Department of Education and higher education institutions to bear on educational issues in Tennessee and across the nation. The Center facilitates problem-focused research in education, that both builds Departmental capacity and develops collaborative partnerships to realize meaningful research in the areas including, but not limited to: 1) student performance, assessment, and accountability; 2) curriculum, instruction, and validation; 3) school improvement and professional development; 4) school finance, effective practice, teacher recruitment and preparation, school organization and climate, and school-community partnerships.

With No Child Left Behind, the focus is on accountability, clarity of purpose and capacity building at the school system level in enabling its schools to make adequate yearly progress (AYP) and to insure increased student performance for all students. Currently, each school system in Tennessee is involved in developing and implementing a planning process for each program area. In these various processes, there is redundancy in data collection, required budgetary planning, and requests and questioning procedures among federal and state agencies which require large amounts of staff time and effort at both the school system and state personnel levels. To enable Tennessee's schools systems to support schools and to insure increased student performance for all students, the Tennessee Comprehensive System-wide Planning (TCSSP) Process was developed and will be provided to each school system to facilitate a one plan/one process framework for comprehensive system-wide planning. This is a school improvement planning tool and process to aid schools in doing data analysis and planning for systemic improvements and intervention programs.

Unfortunately, there is no robust decision support tool or data warehouse in place to support data analysis for the Tennessee such as the research center and school improvement planning require. The work to develop a data warehouse is getting

underway, and is a large portion of the work we hope will be funded through this grant. (See section A.1.5 for further discussion of this system.) A Data Advisory Council has been formed by the TNDOE to set the groundwork for developing such a system. This Council has two charges. One charge is to conduct and document a comprehensive data inventory of all data collections and reporting requirements to result in the development of a published data dictionary. The second charge is to develop a data policy and procedures manual for publication to establish rules and establish quality assurance for all data collections/reports. These efforts are included as part of the project work for this grant proposal.

A.1.3 Security

Data Security: While data management security is largely a policy and procedural consideration for each SEA and its associated LEAs, the DSAC/TNDOE data management system architecture and its underlying SIF and EDEN standards conform with industry data security best practices. DSAC/TNDOE promote the adoption of policies and procedures around:

- appropriate use of data
- SEA/LEA data stewardship
- role-based/secure access to data at all levels within State and local educational agencies
- FERPA, et al.

Network Security: All State systems that reside on the network are required to adhere to security standards. All Web servers accessible from the Internet are on different physical equipment than the database server. Intranet web servers are on different physical equipment than the database server. Web server functions running on a desktop are configured to allow only 'local host' access. Web server functions (Personal Web Server, Web-To-Go, development environment web services for Visual Studio, DreamWeaver, FrontPage, and ORACLE9ias, etc.) running on a desktop, are used for desktop development. Turnkey and federally supplied or mandated systems adhere to industry standard security practices. Anti-virus software is installed on all workstations and servers, and are state standard software and set up to automatically get the latest virus patterns from an OIR approved source. Configurations for all devices on the State's network that have Internet routable IP addresses are reviewed and approved by OIR .

A.1.4 Vertical Integration

Vertical integration was discussed at length in section 1.1. Much work has been done to improve data collections into EIS. With the full implementation of the state-wide student management system (SSMS) the vertical data collection and integration and data quality will be greatly improved.

A.1.5 Data Warehouse

In addition to the work completed on the DSAP, the Priority files required by the Education Data Exchange Network (EDEN) have served as the key component in the first phase of the TNDOE data warehouse project. The data necessary for submission of these files are housed in a

temporary database until the data warehouse project is mature. Data necessary to meet NCLB reporting requirements are also housed in a temporary database pending the successful deployment of the data warehouse. Foundational work on the core processes and related application architecture from the DSAP and other data currently collected and housed in disparate formats and locations across the TNDOE is in process. This includes moving these data into relational tables for inclusion in the data warehouse. Much work remains to be done to develop the full set of policies, procedures, tools and data structures required for a fully functional data warehouse. Again, this is a major focus for this grant application.

A.2.0 Required Policy and Implementation Components

A.2.1 Capacity to Support Research

This area represents a major need for Tennessee. As part of the TNDOE study completed by a DSAC field team, the needs and opportunities afforded by data-driven decision making at all levels within Tennessee's schools, districts, and educational agencies have been established. The envisioned Decision Support System (DSS) solution set – funded in part through the proposed US DOE grant – will provide the longitudinal data to track student performance (i.e. summative and formative test scores) against any number of factors, including curricular offers, teacher qualifications, attendance and nutrition, and socio-economic variables. More importantly, this information will allow the Agency, as well as local school districts, to focus joint attention on those students and programs in need in a more proactive manner. The ability to deliver student-specific performance information to the appropriate educator and principal in a timely manner means that school personnel will be enabled to work with individual students in addressing his/her particular learning needs.

A.2.2 Capacity to Exchange Data across Institutions

As part of the decision support architecture plan and this grant application, the TNDOE will establish an educational portal that will serve as the platform for both the collection of LEA and SEA data and the dissemination of processed information from the State's educational data warehouse. The ease of use and self-directed "Help' features of the portal as well as its 24 x 7 availability will afford ready access to all authorized users. The information services as supported by the portal will come in three flavors:

- ***standard reports*** – pre-formatted presentations of the most commonly requested categories of information, each report will be dynamic, i.e. generated on request and employing the most recent version of all appropriate data. Data views would be tailored to each end user depending upon that person's role and access permissions. For example, a teacher would have access to classroom data for his/her classes; a principal for his/her school, and so forth.
- ***data marts*** – subsets of data tailored to each end user depending upon that person's role and access permissions, presented as pivot tables so that the end user may drill down/explore the data relevant to that person's responsibilities. This service will allow for easy/ad hoc querying of the data without imposing an undue burden on the TNDOE.

- ***ongoing training and support*** – online help, FAQs, training sessions, and a Help Desk will further support end user data access and analysis. Feedback from these services will assist the TNDOE to further refine its standard reports and data mart offerings.

A.2.3 Capacity to Provide Reports

See 2.2 above.

A.2.4 Capacity to Sustain Statewide Longitudinal Data System

From the outset of the work within DSAC, the TNDOE has focused on the sustainability of its DSS services. For these reasons, the design and construction of architected, standards-based, easily- maintained technical solutions has been emphasized. More importantly, the Agency's approach is built around stakeholder engagement and a sustained governance process using the PMOC project management tools and procedures that will ensure the right focus, the delivery of desired results, and, therefore, ongoing funding in support of TNDOE's DSS efforts.

A.2.5 Procedures that Support Access to Longitudinal Data by Researchers

See 2.2 above as well as the prior features section on DSS services ***Security***.

A.2.6 Evaluation Criteria

The following criteria will be employed to assess the overall return to the State's students of the investment in this DSS development effort:

- Project Phase
  - stakeholder engagement
  - chartering of the processes
  - governance reviews of both process and delivery results
  - deliverables on time, within budget, and in keeping with stakeholder specifications – as managed through the DSS project plan
- Post-Project Implementation:
  - ongoing stakeholder engagement through process governance
  - customer satisfaction surveys (through the portal)
  - service delivery on time, within budget, and in keeping with stakeholder specifications – as managed through the DSS service delivery agreement (SLA)
  - the ongoing changes/direction of State policy, funding, standards/curriculum change, and even student score performance as a result of system-delivered data-driven decision making.

In addition, as mentioned previously, the implementation of the DSAP is the first goal in the TNDOE strategic plan. As such, the status for implementing the DSAP will be monitored and reported to the State on a regular basis. The rubric in Table 1 in Appendix B has been developed to monitor and report progress on the DSAC recommendations and DSAP efforts.

B. Project Design

Current Work – As part of this application, the TNDOE proposes funded work in the following required system and policy, and implementation component areas:

- Enterprise-wide data architecture
- Procedures for protecting the integrity of data and ensuring accuracy and timeliness
- Data warehouse
- Reporting tools to support research, exchange data across institutions and provide a wide range of reports at the state, district, school and community level
- Policy, governance and support organization to sustain the statewide longitudinal data system
- Procedures that support access to the longitudinal system's database by researchers.
- Evaluation criteria for determining successful deployment of the system.

The following required system components fall outside this grant application, but are addressed through other Agency activities already under way:

- Unique Student ID & Security (See Project Charter for SSMS in Appendix B)
- Vertical Integration (See Project Charter for SSMS in Appendix B)

While this application focuses on the longitudinal data system needs of this Agency, the TNDOE intends to leverage both its own work through DSAC and the shared investment of resources with its SEA partners to fund those ***common/sharable elements*** of each respective proposal.

While the TNDOE has made very good progress toward building a comprehensive statewide longitudinal data system, the Agency believes it has further to go than the distance traveled thus far. The TNDOE plans to continue to develop a comprehensive longitudinal data system that allows data to be collected, archived, combined and analyzed in a manner that will support the continuous improvement of learning standards, curriculum, instructional practices and programs at the state, local, school and classroom level. The TNDOE approach to continuing its construction of a comprehensive longitudinal data system is a phased approach over multiple years. The approach focuses on improving the three weakest of the five required system components and all six of the required policy and implementation components. The phases for this work are as follows (see Diagram 1 in Appendix B):

Phase I is low-risk, high-return project to do the following:

1. Establish an enterprise-wide data architecture that includes an Agency-wide logical data model, data dictionary, business rules, data standards and element definitions, and quality assurance procedures. While the TNDOE has established the DSAC architecture as the

high-level framework, work remains to develop and implement the next level of detail around data table/element structures and data standards. The architecture will:

- be based upon an analysis of current TNDOE data systems, to make the most possible use of existing systems such as EIS. It will also be designed to accommodate and guide data designs for all current and future system development and enhancements.
- include as a key component of its scope collecting and managing data for required federal reporting, using the EDEN structures and formats.
- be relational in nature and focus on linking records across information systems.
- include a data dictionary and accompanying policy to stipulate that there will be only one TNDOE data dictionary, and that the dictionary will be kept current by the designated data owners for all data elements of record in the TNDOE. The dictionary will contain the results of a phase I data inventory effort to identify and document all data collected and reported by the TNDOE.
- define standards and definitions for data elements in the data dictionary using as a key starting point the NCES data handbooks.

2. In accordance with the data architecture mentioned above, phase I will add summative assessment data to the EIS system. This will give the Agency an operational data store with a full set of student demographic and assessment data.
3. As a key component of phase I, the TNDOE will lay a solid framework for data management and governance to support the subsequent phases of the project. This includes the development of data policies; implementation of an agency-wide data dictionary and a data inventory to capture the types of data collected and reported by the Agency; designation of data owners for all data elements of record; formalizing the procedures of the Data Advisory Committee and the Data Policy Committee; and establishing a comprehensive data collection and release calendar for the agency.
4. Phase I will include at a minimum the following data elements as a part of EIS and its expansion to include student assessment data: unique and permanent student identifier; student demographic information; student enrollment; student truancy; student graduation and exit data; student data on summative assessments administered by the state; student attendance; student infractions; student disciplinary actions; student course enrollment.
5. This phase of the project has tremendous benefit to the TNDOE from the standpoint that it creates the necessary foundation for successfully managing data. This foundation includes policy, clearly defined responsibilities (data managers, Data Advisory Committee, Data Policy Committee), a single Agency-wide data dictionary, a data inventory, data standards, a logical design for a comprehensive data architecture and a first step toward expanding the existing operational data store to include student assessment data together with key student demographic data. This phase will help the Agency ensure the timely collection of data as well as data integrity and accuracy. It will

create a secure environment for data to be managed and released according to established policy and guidelines.

Phase II is an effort to acquire and implement a business intelligence reporting tool and to develop an initial set of reports that represent the highest demand for information by the Agency, legislature, community, schools and districts. Phase II will:

1. Select a business intelligence reporting tool for Agency-wide use.
2. Use this tool to draw data from EIS as well as other existing systems and systems currently under development, such as teacher certification, an online formative assessment system, an eGrant system (FACTS), EDEN data tables, and a professional development system.
3. Leverage the data dictionary with the reporting tools and the logical data model created in phase I above to combine data across relational tables to create reports and report structures for use by individuals at the state, district, school, and community level. The data dictionary will be constructed such that it will be a key Agency application used by ALL individuals (not just technicians) that wish to locate TNDOE data and reports and understand how the data is constructed and how it can and should be used and/or not used. As such, it is envisioned that the data dictionary will become one of the most important and often used applications of the Agency.
4. Phase II will have tremendous benefit to the Agency as well as to districts and schools as it begins to provide, in an easily accessible manner, the data that can be used to inform and guide instruction. It will allow the combination of student demographic data, assessment data, teacher certifications data, professional development information, and program data at the detailed student level to assess the effectiveness of programs, curriculums, teachers, schools, districts, and expenditures.

Phase III is an effort to acquire and implement a data warehouse and set of ETL and/or SIF tools to facilitate data extraction, translation, sharing, integration, and loading. The purpose of the data warehouse is to archive data from various TNDOE operational data stores and to further facilitate longitudinal data analyses. The data warehouse will also feed the phase II data reporting tools. Phase III will:

1. Build an Agency data warehouse using a star schema, dimensional modeling approach. The system will include:
   - Tools for integrating, extracting, sharing, translating, and loading data
   - A staging area for data cleansing.
   - Dimensional tables to define the categories of data.
   - Fact tables to contain the measures that exist for the relationships among the dimensions.
   - Reporting tables to streamline the reporting process.
   - Stored procedures to extract data, update tables, and to provide utilities for managing the data loading.
   - Indexes to help with performance.
   - Additional reports to build on those created in phase II.

2. Implement the data warehouse in phases (phase IIIA, IIIB, IIIC to differentiate from the phases above). Each phase will be large enough in scope to provide significant additional benefit, but small enough as to be completed in a six to twelve month window. Initially (phase IIIA), the project team will create a data warehouse built on the 2003-04 and 2004-05 data necessary to create file submissions to the federal Education Data Exchange Network (EDEN). It will also include historical district and school level data. In addition to archiving data, the data warehouse will provide web-based access for TNDOE staff, district and school personnel, parents, and researchers to utilize standard and custom queries to view and download data.
3. For phase IIIB, the data warehouse will be expanded to include data to support the Consolidated School Improvement Planning Process, 2005 Report Card, district-level Special Education reporting required by IDEA reauthorization, and 2004-05 NCLB AYP determinations (attendance and dropout rate).
4. For phase IIIC, School Approval/Electronic Information System (EIS) data, teacher data, student formative assessment data with subcategories and/or items; student after-school program participation; main course textbooks; teacher certifications; teacher education history; school days; staff attendance; staff certification scores; staff development program participation; staff employment history; financial systems data; and program-level finance data will be added to the data warehouse. This phase of the data warehouse work will involve the establishment and delivery of a SAS/TNDOE Warehouse data relationship.

B.1.0 Required System Components

This three-phase approach addresses three of the five system components. These include:

- an enterprise-wide data architecture,
- procedures and policies for protecting the security, confidentiality, accuracy, timeliness, and integrity of data
- a data warehouse.

The other two components, unique student ID and vertical integration of state and local data collections are already in place or are being implemented with EIS and SSMS.

This approach will also address the six policy and implementation components.

1. Phase II reporting tools will **support research** and **provide reports** to the state, LEAs, schools, and community.
2. The standards and unique student ID and the data architecture will foster **data exchange across institutions**, to include the university system.
3. The Data Advisory Council that is in place and that will be further defined and refined through Phase I efforts will be the guiding and support organization to ensure the **state-wide longitudinal system is sustained and continuously improved** and built to the data architecture design developed in Phase I.

4. The Data Advisory Council and Phase II reporting efforts will establish policies and procedures that support **access to the systems data structures by researchers**.
5. Lastly, the TNDOE has as its first goal in the Agency strategic plan to complete the implementation of the DSAC architecture. This goal has specific targets and **evaluation criteria** to ensure the successful implementation of the system. Furthermore, the TNDOE has established a Project Management Oversight Committee (PMOC) and accompanying project management process. The PMOC is chaired by the Deputy Commissioner and meets every other week to review the key TNDOE projects, of which this effort is one. This is a rigorous project management process that is adopted from the tools and techniques developed in the private sectors (Wachovia and Duke Energy). The process requires a well-defined project charter to initiate a project, detailed project schedules, clearly defined roles and accountability and regular status reports to the PMOC and the Commissioner and an issue management process. An example of a project charter (for SSMS) is included in Appendix B. The Data Warehouse project proposed herein is also a PMOC project.

The Diagram 1 in Appendix B shows a high-level depiction of the architecture to be developed with this three-phased approach.

B.2.0 Adherence to Standards and Guidelines

The TNDOE architecture will employ open source solutions wherever practicable, as well as the Student Interoperability Foundation (SIF) standards for data management and exchange. The components proposed here will adhere to this framework and its associated standards. Additionally, the data element definitions for the TNDOE data dictionary will leverage to the extent possible and practical the NCES Handbooks Online.

C. Project Personnel

State Project Personnel		
Role/Responsibility	**Qualifications**	**Assigned Person**
Project Sponsor – Has ultimate authority over and is responsible for a project and/or a program, its scope & deliverables. Serves as the State representative on project governance board as described in the collaboration sections of this proposal.	Dr. Webb has over 20 years of leadership experience. He is a retired military leader serving in a variety of leadership roles as both a non-commissioned and commissioner officer. Dr. Webb has served as a Superintendent of schools, and building administrator before assuming his current role as Assistant Commissioner. He is currently responsible for IT, Local Finance/Local Disbursements, School Nutrition, Human Resources/Personnel, Operations and Planning, Budget, and Business Services.	Dr. Timothy K. Webb, Assistant Commissioner **% of time devoted to the project (5%)**
Project Director - Guides the day-to-day implementation of the project from the State side, ensure State data steward and technical delivery as well as the overall delivery of State resources to the effort.	Mr. Rozzelle has over 27 years of experience in systems development and deployment. He has served as an executive manager in the private sector (Duke Energy) where he was responsible for the corporation's technical architecture, IT project management process and IT project managers, as well as large system development and deployment. Mr. Rozzelle has served as a CIO for a large urban school district where he helped select and deploy an ERP system. He also founded the Data Warehouse Consortium, a 501(c)3 corporation that developed a data warehouse for district use for 28 member school districts. Mr. Rozzelle is a member of the DSAC project team and is familiar with state systems. He also trains and mentors districts and state agencies in the use of measures for monitoring progress (Balanced Scorecards) and in project	Rick Rozzelle **% of time devoted to the project (40%)**

AR Name	AR Address	AR Phone	AR Fax	AR E-mail	Primary:
Ms. Deborah Davis	710 James Robertson Pkwy. 6th Floor, Andrew Johnson Tower Nashville, TN 37243-0375 United States of America	615-532-2838	615-532-3268	deborah.davis@state.tn.us	No
Dr. Timothy Webb	710 James Robertson Pkwy. 6th Floor, Andrew Johnson Tower Nashville, TN 37243-0375 United States of America	(615) 532-4983	(615) 532-3268	tim.webb@state.tn.us	Yes

Statewide Longitudinal Data Systems
Grant Application

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I. Project Narrative

A. Need for Project

In an effort to assist State Departments of Education (DOEs) with their compliance under the ***No Child left Behind (NCLB) Act***, the Council of Chief State School Officers (CCSSO) established in 2003 the Decision Support Architecture Consortium (DSAC). DSAC's mission is to enable State Education Agencies (SEAs) and their respective district school systems to engage in data-driven decision-making in support of local education program delivery and individual student learning experiences. Over the past two years, DSAC has worked with twenty-five States and the District of Columbia in this regard. The Tennessee Department of Education (TNDOE) has participated as an active member of DSAC, including our initial statewide study and subsequent face-to-face, Web and phone-based knowledge exchanges.

The detailed report that emerged from our DSAC studies provided an objective assessment and gap analysis of our current decision support capabilities as well as a roadmap for the prioritized deployment of information technologies (IT), process reengineering, and organizational change required to help realize our NCLB goals. Throughout the DSAC process, Tennessee and other consortium member States have worked collectively in the sharing of information, best practices, and IT systems. The knowledge and working experiences gathered during this effort has positioned Tennessee and other DSAC members to proceed (both collectively and individually) with the work laid out in our individual State studies. The work to implement the DSAC recommendations is work that directly relates to and guides the implementation of a statewide longitudinal data system. Much progress has been made to date. This progress is summarized below, in the context of the required system and policy and implementation components listed in the *Statewide Longitudinal Data System Requirements.*

A.1.0 Required System Components

A.1.1 Unique, Student Identifier

Since 1992, Tennessee has been maintaining a sophisticated longitudinal data set on each individual student as he or she is tested under the state's assessment program. By requiring a unique student identifier and using first name, last name, middle initial, birth date, gender and ethnicity codes, the state is able to track each individual student's performance over time. Originally housed at the University of Tennessee at Knoxville, this dataset currently resides at the SAS Institute, Inc. in Cary, NC. Only SAS personnel have access to the dataset, which is primarily used to draw statistics utilized in the Tennessee Value Added Assessment System (TVAAS).

In the early 1990's, Tennessee also embarked on a long-term project to create a state-level longitudinal student enrollment data system, the Education Information System (EIS). Like many other states, Tennessee has faced numerous obstacles while implementing such a statewide data system. Districts report to the EIS by extracting individual-level data from their student management systems and submitting the extracts electronically. Early on, however, the state decided to allow districts to utilize any local student management package they chose, and districts continue to utilize a variety of these packages. Many districts have faced severe

technical problems submitting extracts to the state. As a result, the state has yet to achieve full participation in EIS reporting.

In response to the continuing EIS implementation problems, the state developed a student management package, the Statewide Student Management System (SSMS), to be fully integrated with EIS. The state began offering this to districts at no cost in 2003-04. A total of 33 districts have used SSMS during the 2004-05 school year, and 39 additional districts will begin using it during the 2005-06 year. Currently, 113 of the state's 136 districts have committed to use SSMS with implementation being phased-in through the 2007-08 school year.

Although Tennessee has a long and successful history of maintaining a longitudinal dataset of individual student achievement data, the state has had severely limited ability to collect the individual student enrollment data necessary to calculate statistics such as attendance rates and graduation rates. The state has instead utilized aggregate data collections to calculate such statistics. Currently, the state collects aggregate data on school- and district-level student attendance, membership, enrollment, dropouts, graduates/completers, discipline, and promotion/retention through a variety of web-based forms and paper. Due to the numerous disadvantages inherent in such aggregate collections, the state has put an enormous amount of energy and resources into developing EIS to collect the same data from districts at the individual student level. After more than a decade of implementation, Tennessee's EIS is expected to be fully operational in the 2005-06 school year. For the first time, this implementation will include the use of a state assigned unique student identifier.

The TNDOE EIS generates a State-Assigned Unique Student Identifier (SASID) for each enrollment. Because Tennessee statute dictates the use of the social security number, the SASID has never been used. Due to the lack of a de-duplication process, manually or automated, Tennessee has averaged 80,000 duplicate enrollments per year in EIS. The TNDOE is mandating the use of the SASID effective July 1, 2005. All school districts, whether participating in the SSMS or using an approved student information system software package purchased independently, must submit extracts to the EIS Repository regularly in accordance with a published schedule. An automated de-duplication process has been developed and implemented. Refresher training for reporting to and use of the EIS and initial training for the SASID process has been completed through a series of training sessions across the state.
Tennessee's EIS contains student demographic and attendance data for all students in the State. EIS, however, is missing many key data elements that are required by the TNDOE in order to do the types of data analysis needed to inform instruction at all levels (i.e. at the state, district school, teacher, and student level). This includes teacher certification data, professional development data, grants data, financial data and most importantly formative and summative assessment data. This is a major obstacle to using data to inform and guide instruction and instructional improvements. Correcting this limitation is a major focus of the efforts proposed in this grant.

A.1.2 Enterprise-Wide Data Architecture

The DSAC/TNDOE approach to data management is holistic, encompassing all the moving parts of the system/service into a single architected view of information technologies, business processes, and educational policies from the LEA to the SEA and vice-versa. As a result of the

DSAC work, the TNDOE has incorporated the complete implementation of our published Decision Support Architecture Plan in to the TNDOE Strategic Plan as one of its five primary goals. TNDOE's Decision Support Architecture Plan was based upon a comprehensive analysis by DSAC consultants of our current data systems, plans, and needs across the TNDOE, local education agencies, and Federal reporting requirements. The Decision Support Architecture Plan (DSAP) is based upon six core processes and the related application architecture component(s) for each process.

Implementation of the DSAP is well underway. A centralized project management process has been implemented through a Project Management Oversight Committee (PMOC) to insure that the DSAP and other critical TNDOE projects are successfully completed. The PMOC is chaired by the Deputy Commissioner and includes a core of key Agency staff in twice-monthly meetings to review the top projects of the Agency. This is a rigorous project management process built upon private-sector best practices for project management and oversight.

Currently, the work in progress or planned for the DSAP includes the following, organized by the six core processes and their accompanying supporting technology systems:

DSAC Core Process #1: Set Academic Standards and Curriculum

Supporting technology systems:

- State Curriculum Infrastructure Management

There is no comprehensive state-wide curriculum management system for Tennessee. This is outside the scope of this proposal. However, work is progressing to provide a Virtual Academy Pilot that allows delivery of online instructional methodologies to raise core proficiency rates, provide additional regular/accelerated course work, and augment traditional and alternate learning environments. This is one of the TNDOE top priority projects, managed by the PMOC.

DSAC Core Process # 2: Administer Assessments

Supporting technology systems:

- State Assessment Results Management

SAS currently maintains the assessment data for the summative assessment results for Tennessee. This is a very robust system for keeping track of student performance as it relates to summative assessments. There are two very serious limitations to this system however. First, it does not contain formative assessment data. Such data is essential for tracking student progress during the course of the year. Second, it does not contain other important data (teacher certification, financials, program data, grant data, etc.) that are important for assessing the effectiveness of programs and expenditures. Correcting this issue by using the existing EIS system is a major focus for this grant.

While no work has been completed yet to combine formative and summative assessment data into EIS, TNDOE is providing an on-line formative assessment

tool to its LEAs. The Department is currently reviewing available tools that have automated its curriculum/instructional standards. A decision will be made to build or buy once this review is completed. During the 2004-2005 school year, the Department implemented a pilot program for on-line high stakes testing in nine LEAs. The TNDOE is planning to extend the pilot into the 2005-2006 school year with the ultimate object of administering all summative assessments (Gateway, End-of-Course, TCAP) on-line to LEAs chosing to do so.

In addition, the SASID will allow the TNDOE to provide "pre-slugged" answer documents for the LEAs choosing not to test on-line. This will expedite the processing time and provide a more efficient process. For those choosing to assess on-line, the SASID will expedite the processing also.

DSAC Core Process # 3: Certify Educators

Supporting technology systems:

- Educator Certification Management

The TNDOE is currently involved in a procurement for on-line teacher certification. The Department is participating in multi-agency procurement to automate the certification process. The TNDOE is scheduled for a January 1, 2006 implementation date. This work is critical to the Agency to speed up the process of teacher certification, but it outside the scope of this grant.

DSAC Core Process # 4: Collect and Report Data

Supporting technology systems:

- Staff Record Collection and Highly Qualified Educator Data Collection
- Enterprise Director and Administrator Security
- Student Identity Management and Record Collection
- Safety and Discipline Data Collection

Vertical integration of local and State data collections includes plans for requiring participation in the statewide data system and an electronic infrastructure to transfer large data files. The TNDOE has made very progress in this area. While much work remains to be done, it is not a major component of this grant application. The Office of Data Services and School Approval is charged with the responsibility of reviewing and maintaining a staff database for all public, private, and state educational agencies. Within this review process, a data process is being designed to ensure compliance with state laws and State Board of Education rules and regulations related to class-size standards, professional licensure, and employment standards. The staff database is housed in Oracle and updated through an online dot net program. The school approval program will verify compliance and identify deficiencies in staff licenses,

endorsements and employment standards by comparing course codes requirements with the "Correlations of Course and Endorsements Codes" data tables. Additional databases used for the verification process include Teacher Licensure, Personnel Information Reporting System (PIRS), Highly Qualified Educators Data Collection, special courses and training tables. School districts utilizing SSMS will have staff data automatically loaded into the school approval program. The process of continuous uploading of spreadsheets and downloading of text reports between the school districts and the TNDOE will be eliminated, therefore, improving data quality and reporting in a timely manner.

Safety and discipline data will be a standard report for EIS.

Student identification management and record collection have been addressed in the EIS/SASID comments previously.

Work has been done on an enterprise directory and administering security. A pilot project in a rural education consortium is underway for single sign-on authentication and role-defined access. While the TNDOE has a defined directory through the building principal-level, no role-based security nor single sign-on authentication structure have been established. An enterprise directory will be enforced in the coming months. This will make possible the role-based security with single sign-on authentication through a third generation portal for SEA/LEA applications.

Core Process # 5: Distribute Grants/Aid and Ensure Compliance

Supporting technology systems:

- Grant and Program Data Collection
- End-of-Year Finance Data Collection
- Facilities Information Data Collection

The TNDOE has accomplished a great deal in this area. The "Federal Application Consolidated Tracking System (FACTS)" is operational at this time (see figure 1, Appendix B). Through the current version of FACTS, LEAs are able to request Federal reimbursements on-line; track grant allocations; expenditures and balances; make allowable transfers between Federal projects; monitor any carry over limitations; and submit completion reports electronically. The general ledger portion of FACTS (see figure 2, Appendix B) provides LEAs with sufficient information to ensure that their books are reconciled with the State. The Department utilizes FACTS to ensure Federal funds are spent in a timely fashion and that reversions are kept to a minimum. Ultimately, through training and budgeting practices, the Department's Federal reversions should be zero.

For end-of-year finance data collection, the Department has begun an eReporting build out. This will allow LEAs to comply with state reporting laws via electronic data submissions. LEAs will be able to submit Annual Financial Reports, Annual Budget Documents, salary schedules, budget amendments,

	management (PMOC).	
Data Owners - Comprised of those parties primarily responsible for agency systems of record (a.k.a. source systems), including the student information, assessment, certification, financial, human resources, and other systems, to identify and work with the Project Team on the detailed design, features and services of the DSS project.	**Cindy Benefield** Director of Data Services, School Approval and Non-Public Schools; oversees the compliance of employment standards for teachers statewide. Monitors district compliance with state laws and State Board of Education rules and regulations related to class-size standards, required professional licensure and other school components indicative of a quality school program. Responds to ad hoc data requests for information from: parents; school district personnel; legislators; and other interested parties related to the interpretation and implementation of the laws, rules and regulations, and administrative policy concerning all aspects of school approval. Maintains teacher waiver files and related documentation. **Anna Kniazewycz** Anna Kniazewycz has over 34 years of experience in data collection design and statistical analysis. She also has 15 years of experience in educational database design and data query. She has served as Chairperson of the Department's Forms Committee, Data Advisor to the Student Management Information System (SMIS) and member of the SMIS Advisory Committee from 1991 to 2002. Currently, Anna is responsible for design and implementing a new web-based school approval program for validation of teacher licenses and teaching endorsements for class size, waivers and generating standard and ad hoc data queries and reports for staff, student and class course data in Discoverer, Access and Excel. She is also the Data Manager for the Data Warehouse Project, member of Data Warehouse Advisory Committee, Data Warehouse Storage Group, Data Warehouse Core Group and member of the Education Information System Advisory Committee.	Office of Data Services: Cindy Benefield Anna Kniazewycz **% of time devoted to the project (20%)** IT: Norton McDaniel **% of time devoted to the project (60%)** Data Advisory: Cory Curl **% of time devoted to the project (20%)**

	Norton McDaniel - IT Mr. McDaniel is a seasoned IT professional with over 31 years of experience in applications development and project management. Experienced in Amdahl and Honeywell mainframe systems, Client Server and Web Based Applications. Background includes 20 years of gathering and developing business requirements, designing, developing, deploying, and supporting systems. Mr. McDaniel also possesses 20 years experience in developing both relational and hierarchical databases, including constructing activity and process models, data models, and entity relationship diagrams. Skilled in developing and conducting presentations and have facilitated many small and large internal and external meetings. Exhibits strong ability to communicate effectively with all levels of staff and management personnel in both technical and non-technical capacities. **Cory Curl** Ms. Curl has five years of experience in policy analysis, research, and development. She has served as Senior Policy Analyst in the Office of the Deputy Commissioner for one year. She is primarily responsible for communicating timely and accurate information to State education decision makers to support policies designed to improve student academic achievement and educational attainment. In recognition of the need for widespread access high-quality data to drive continuous educational improvement at all levels, she is also responsible for supporting state policies designed to ensure that data is accessible, accurate, used and interpreted properly, and secure. Primary responsibilities include: research and policy analysis for TNDOE leadership; creating department-wide data policies and procedures as chair of the Data Advisory Council; coordinating state EDEN submissions; collaborating with national data initiatives such as the Education Data Partnership and Just for the Kids; and	

	responding to data and information requests.	
Technical Personnel - Database administrators, information security and directory services personnel, and any other State technical personnel engaged in the aforementioned undertaking.	**Lisa Howard** Ms. Howard has 20 years experience in systems development and deployment in State government. She has served as the Executive Director of Technology and Systems Support for the TNDOE for 5 years. She is director of a staff of 25 responsible for mainframe application support, network and desktop hardware/software support, web publishing, and development of web-based applications in support of the Department's business needs and objectives to better serve K-12 schools. Primary responsibilities include: assignment of staff and resources to projects involving the development of web-based applications utilizing IIS, Active Server Pages, Oracle 8i and Oracle 9i, Oracle Discoverer, Oracle Reports and Crystal Reports 8.5; prepare Information Systems Plan including Project Proposals and Cost Benefit Analysis for upper management on new projects being considered; project management utilizing the State of Tennessee IT Methodology (based on PMBOK) for the analysis, design, development, testing, and implementation phases; research and evaluate new technologies and software that meet business needs and goals; development and evaluation of Request For Proposals for technology related services such as software development and Internet service to K-12 schools; administration and management of technology related contracts. **David Blier** Mr. Blier has more than 12 years experience in systems development and deployment in State government. He has been with the TNDOE for over 3 years serving as an advanced Oracle developer and them most recently as data base administrator. He is database administrator of several databases within the department of Education including one Oracle 9i installation running on Windows NT/4 platform and two Oracle 9i installations running on Sun Solaris Unix servers and Windows NT/4 platform and	Office of Technology: Lisa Howard **% of time devoted to the project (10%)** David Blier **% of time devoted to the project (60%)** Lora Lape **% of time devoted to the project (60%)**

	two Oracle 9i installations running on Sun Solaris Unix servers. Primary responsibilities include: constantly monitor database and applications for optimum performance and poor response; design and revise data structures and database objects including physical and logical layout of database files; create tables, index, triggers, views, materialized views, schemas, users, synonyms and other objects as needed to support applications; create, schedule and maintain database jobs and procedures. Mr. Blier also provides technical assistance to other developers and database administrators; test and migrate database applications with patches and new versions of Oracle software; develop, maintain and enforce database and coding standards; research and test new database features and products to ensure the department is fully utilizing its technology resources. Maintain entity relationship and process flow diagrams; maintain nightly backups of database in the event that recovery is needed. **Lora Lape** Ms. Lape has over 21 years experience in systems development and deployment in both state/local government and private industry. She has been with the TNDOE for 1 year serving as an advanced Oracle developer. She is the lead Oracle developer on many of the department's largest and highest priority projects. Primary responsibilities include: design and revise data structures and database objects including physical and logical layout of database files; create tables, index, triggers, views, materialized views, schemas, users, synonyms and other objects as needed to support applications; provide technical assistance to other developers; develop and test and migrate database applications with patches and new versions of Oracle software; research and test new database features and products to ensure the department is fully utilizing its technology resources; Maintain entity relationship and process flow diagrams.	

D. Resources

The following resources will be available to be used on this effort:

1. Data Managers
    - For each data element that is collected (from the TDOE or LEAs) and/or reported (to the USDOE, federal government, state agencies, LEAs, media, or community) a data manager will be assigned.
    - The data manager is responsible for defining how data is defined, collected (working with IT and the Data Advisory Council), quality assured and reported.
    - The data manager identifies and recommends solutions for data discrepancies and issues, and escalates data issues to the Data Advisory Council and/or Data Policy Committee (through the Data Advisory Council) when appropriate.
2. Data Advisory Council (the individual owners/care takers of the individual systems of record).
    - Reviews all assigned data owners to ensure appropriate coverage for all critical department data.
    - Provides tools, project support and strategy for data integration and management.
    - Establishes policies for the proper management and use of data (subgroup of the Data Advisory Council).
    - Is the sponsor organization and user group for the data dictionary.
    - Maintains a current data collection calendar and data inventory in the data dictionary. (subgroup of the Data Advisory Council)
    - Works with IT to establish a vision and architecture (standards, policies, processes and database structures) for the TNDOE. (subgroup of the Data Advisory Council)
    - Reviews all requests for new data structures and application systems and recommends their approval to the Data Policy Committee, in accordance with the data architecture.
    - Group makeup includes data managers, IT Director and CIO, data architect (or lead DBA), chairperson, LEA representatives.
3. Data Policy Committee (SEA executive management and LEA executive representatives).
    - Resolve data and process issues referred by the Data Advisory Council.
    - Approves policies and changes to the architecture.
4. TNDOE IT (the IT delivery team).
    - Establish the technical data architecture, define the projects to build the architecture (with the Data Advisory Council) and carry out the projects with appropriate sponsorship from the Data Advisory Council.
5. End Users (the personnel of the SEA and the LEAs).

6. DSAC team – DSAC team members have and will continue to support the TNDOE in researching best practices, facilitating the sharing of solutions across state agencies, and assisting with project oversight and guidance.

   Currently, there is a great deal of work ongoing to support a longitudinal data system. This includes the SSMS Project mentioned earlier, which will streamline vertical data collection and provide a unique student ID. Work has also begun and will continue to create the data policies, data inventory, data dictionary and continuous improvements to EIS.

E. Management Plan

Project Management Process and PMOC – The TNDOE has established a project management process and Project Management Oversight Committee (PMOC) as recommended and provided by the CCSSO. This is a rigorous process modeled after private-sector project management systems from Duke Energy and Wachovia Bank. The system has been in place for 7 months. The process is lead by the Deputy Commissioner, with regular updates to the Commissioner. The process tracks the top 20 – 25 projects of the TNDOE. It requires the designation of a Sponsor and Project Manager for each project. Each project is required to develop and obtain approval through the PMOC a comprehensive project charter before the effort begins. This charter defines the scope, deliverables, costs, project team members, risks and risk mitigation strategies and costs and budget sources for the project. Once a project is approved to begin, it produces monthly status reports to the PMOC and has a face-to-face review with the PMOC about every 6 weeks. The PMOC meets twice monthly to conduct these reviews. The data warehouse and DSAP projects are under the purview of the PMOC. Charters for the SSMS project and the data warehouse project are contained in Appendix B.

District collaboration – LEA representatives will participate in the development of the longitudinal data system to ensure feedback and continuous improvement in the quality and operation of the resulting system. Specifically, the representatives will participate in the Data Advisory Council which will be the key monitoring and oversight entity for the selection, implementation and use of the data dictionary, decision support tools and the data warehouse components. The districts also participate in the Connect/Ten Advisory Council (includes representative superintendents, principals, librarians, and legislators) and the Tennessee Education Technology Association (TETA).

Partnerships – The TNDOE will partner with the CCSSO/DSAC effort as it builds system components. The TNDOE will share data solution sets, policies, and best practices with other DSAC member states (such as Georgia). See Appendix B for letter of collaboration from Georgia. Tennessee also has as a key business partner ENA, who works closely with the TNDOE to help ensure such large projects are successfully deployed to the districts.

Plans for Collaborating with Districts to Collect and Clean Data – Through the work already well underway and largely completed with EIS, much work has been done to establish data collection and reporting techniques and policies. Just this year, the Agency established a policy that state aid to the districts is predicated on and calculated by the average daily attendance and membership (ADA/ADM) data reported to the EIS system. This is a tremendous incentive for data accuracy and timely reporting by districts in Tennessee.

II. Resumes of Key Personnel

CURRICULUM VITAE

of
Timothy Keith Webb
710 James Robertson Parkway
6th Floor, Andrew Johnson Tower
Nashville, TN 37243
(615) 532-4983
tim.webb@state.tn.us

Certification (Tennessee)

Administrator's License (480)
Teacher: Elementary (101); Psychology (080); General Science (014)

Education

Doctoral Degree, Nova Southeastern University, 2003
Masters Degree, Middle Tennessee State University, 1996
Bachelors Degree, Regents College, 1988
Associates Degree, Columbia State Community College, 1985

Area of Specialty by Topic

Doctoral Studies: Educational Leadership
Doctoral Dissertation: "Setting the Stage for High School Success"
Masters Degree: Educational Learning
Bachelors Degree: Liberal Studies

Academic and Professional Interests

Literacy
High School Dropout
Retention in Grade
Community and Parental Involvement (Creating Learning Communities)
Enterprise Planning (Decision Support Architecture Consortium)
Public School Finance
Technology Integration (Administration and Instruction)

Employment

Tennessee Department of Education (2003-Present)
Assistant Commissioner (Division of Resources and Support Services)

Administration (1997-2003)
Superintendent of Lewis County Schools
Lewis County Middle School Assistant Principal
Lewis County Middle School Athletic Director
Lewis County Schools System-wide Title II Coordinator

Teaching (1990-1997)
Middle School Mathematics and Social Studies

Military (Tennessee Army National Guard, Retired) (1980-2000)

Battalion Staff Officer (Operations and Logistics)
Detachment Commander
Platoon Leader
Platoon Sergeant

Professional Affiliations

Decision Support Architecture Consortium – Tennessee Representative
TNII Steering Committee – TNDOE Representative
ConnecTen Advisory Council – TNDOE Representative
TETA Board – TNDOE Representative
BEP Review Committee – TNDOE Representative
Tennessee Organization of School Superintendents
Middle Tennessee Superintendents' Study Council, Chairman
Tennessee Superintendents' Executive Council, Vice-Chairman
American Association of School Administrators, Advisory Council Member
American Association of School Administrators, Delegate Assembly Member
Dropout Prevention Network, Member
Association for Supervision and Curriculum Development, Member
Tennessee Academy for School Leaders Advisory Council, Member
Tennessee CEO Professional Development Advisory Council, Member
Tennessee Institute for School Leaders, Consultant
Phi Gamma Sigma International Professional Society, Member

Awards

District Administrator of the Year (Region 6) (2002)
Tennessee Secondary School Athletic Association

Presentations

Columbia State Community College Commencement (2003)
New Superintendent Orientation (2003)
15th Annual At-Risk Youth National FORUM (2003)
Columbia (TN) Kiwanis Club (2003)
South Central Tennessee Youth Summit (2002)
Marshall County Chamber of Commerce (2002)
Middle Tennessee Superintendents' Study Council (2001)
Tennessee Superintendents' Conference (2000)
Annual Lewis County Leadership Meeting (1999-2003)
Lewis County Chamber of Commerce (2000; 2002; 2003)

Service

American Cancer Society Relay for Life, Lewis County Chairman (2003)
Lewis County Education Foundation, Member (1999-Present)
Lewis County Health Council, Member (1999-Present)
Lewis County Youth Council, Chairman (2000-Present)
Lewis County Chamber of Commerce, Member (1999-Present)
Workforce Investment Board, Member (2000-Present)

Workforce Investment Board Strategic Planning Committee, Chairman (2003)

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PROFESSIONAL EXPERIENCE

1/98 – Present Independent consultant/President, Tech-Knowledge Consulting, Inc. Currently under part-time contract to Charlotte Mecklenburg Schools (CMS) to provide assistance to their Quality Management Department. This role includes managing the Balanced Scorecard process and participating in the Plan Management Oversight Committee (PMOC), which monitors all of the major projects for CMS. Established this process with CMS in June 1999 and have facilitated and/or participated in this with the Superintendent and staff each week since that time. Also developed the Balanced Scorecard process for CMS and continue to train new CMS project managers and senior managers on this process and toolset.

Also currently working under contract to the Council of Chief State School Officers (CCSSO) through the CELT Corporation. This involves working with state education departments to assess their processes and computer systems that are used to make data-driven decisions that affect student performance. Among the processes that we assist these states to implement are the Balanced Scorecard and Project Management.

4/1/01 – Present Co-founder and President of the Data Warehouse Consortium, a non-profit organization established to develop and distribute for implementation in school districts a data warehouse model for student data. Managed the project to build this Consortium from the ground up. This included marketing the idea to get member districts, collecting membership fees to fund the project, developing initial specifications, bidding the project, overseeing the application development, training and product rollout and the establishment of a non-profit 501(c)(3) corporation and board of directors to support the ongoing development of the product. A total of 26 school districts are members of the Consortium.

12/01 – Present Co-founder and Officer of IT*e*chrity First Company. IT*e*chrity First Company is a limited liability corporation that specializes in increasing the market value of small technology companies that enter into joint ownership (membership) agreements with our company. The purpose of the Company is to exchange equity with a carefully balanced portfolio of technology firms and provide consulting services to enhance the value of these member companies.

8/1/01 – 8/1/02 Management consultant to Richland One School District in Columbia, S.C. to provide an oversight role for key technology related projects. Performed the role of Interim Executive Director for the Information Technology Department from April through July, 2002, and assisted in selecting a permanent Director to fill the vacancy.

8/97 – 3/01 Chief Information Officer to Charlotte-Mecklenburg Schools (CMS), under contract through Duke Energy from 8/97 to 12/97 and as an independent consultant from 1/98 to 3/2001. CMS is the 23rd largest school district in the nation with over 117,000 students, 20,000 workstations and 145 schools. Responsibilities included managing the support resources for instructional and administrative technology for CMS. This included an IBM mainframe operations center, a help desk center, WAN/LAN and telecommunications

systems for the district and the business applications necessary to support the business functions of the district. Responsibilities also included managing the Instructional Technology organization and the integration of technology with the instructional process in the classroom, in cooperation with the Curriculum and Instruction Department.

5/97 – 8/97 Loaned Executive from Duke Energy to Charlotte-Mecklenburg School System, with responsibility to develop a technology plan for Charlotte-Mecklenburg Schools, reporting to the Vice President of Information Management for Duke Energy (Cecil Smith) and Chief Curriculum Officer for CMS (Dr. Susan Purser).

Other senior management positions held at Duke Energy included:

1/97 – 4/97 Manager, Technology Planning and Major Projects reporting to the Senior Vice President of Information Management (Cecil Smith). Responsibilities included technology planning, major projects, information architecture development, information security, customer account services and workstation installation services for Duke Energy Company.

6/95 – 1/97 Manager, Technology Integration Services reporting to the Vice President of Information Technology Services (Cecil Smith). Position was responsible for technology planning, information architecture development and workstation products for Duke Energy Company.

1/93 – 6/95 Manager, Power Generation Group I/T reporting to the Vice President of Electric Systems Services (Jim Grogan), with dotted-line responsibilities to the Vice President of Information Technology Services (Jim Hicks). This position was responsible for the I/T products and services for the power production departments and the nuclear and fossil power plants.

EDUCATION

University of North Carolina at Charlotte (December 1976) - Bachelors Degree in Math and Psychology.

PROFESSIONAL AND CIVIC ORGANIZATIONS

- Member, UNC Charlotte Institute for Quality and Technology in Education Advisory Committee
- Member, Board of Directors, Best-In-Tech, Inc.
- Member, Board of Advisors, Carolina Computer Access Center
- Steering Committee Member, Charlotte Chamber of Commerce Information Technology Council (1/2000 – 12/2002)
- Church Council President, A Mighty Fortress Lutheran Church (1/2000 – 12/2000)
- Boy Scout Leader, Troop 345 (1995-1999)
- Member, North Carolina School Technology Commission 1999-2000 (appointed by Governor Jim Hunt)
- President, Huntersville Lions Club (1990 - 1991)
- Huntersville Town Commissioner and Mayor Pro Tem (1987 - 1989)
- Member, Huntersville Planning Board (1985 – 1986)

References provided upon request.

Cindy Benefield

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PROFESSIONAL EXPERIENCE

Tennessee Department of Education November 2004-Present
Office of Resources and Support Services
Nashville, Tennessee
Director, School Approval, Data Services, and Non-Public Schools

Oversee the implementation of teacher employment standards and class size, coordinate ad hoc and required federal/state reports, provide support for non-public schools, and provide technical assistance to all three areas.

Tennessee Department of Education January, 2004- November, 2004
Office of the Commissioner
Nashville, Tennessee
Director, Special Projects

Implement Dolly Parton's Imagination Library statewide, represent the department on the Governor's Interagency Working Group on Air Quality, Interface with the Department of Environment and Conservation, coordinate with corporations and agencies for special projects and other responsibilities as defined by the Commissioner.

Tennessee Department of Education
Office of Professional Development for School Improvement February, 2001 –
Nashville, Tennessee December 2003
Executive Director

Manage legislatively mandated Principal and Superintendent training, including the Bill and Melinda Gates grant-supported Institute for School Leaders, Teacher Evaluation, School Improvement Planning and Educator Recognition Programs. Plan and execute major departmental conferences: Superintendents' Study Council, Tennessee Educational Leadership Conference, and Tennessee Education Technology Conference. Responsible for reading, rating, and providing feedback to all Tennessee Schools' Improvement Plans.

Tennessee Department of Education
Office of Curriculum and Instruction September, 1999 – February, 2001
Nashville, Tennessee
Director, Academic Support Programs

Manage eleven programs including Alternative Schools, Academic Decathlon, Advanced Placement, Blue Ribbon Schools, Extended Contracts, Senate Youth, Business Roundtable Summer Programs, and Governor's Schools.

Tennessee Certification Commission
Office of Accountability June, 1997 – September, 1999
Nashville, Tennessee
Executive Director

Represent the State in matters of Career Ladder certification; especially those certifications contested through the appeals process.

Tennessee Department of Education
Office of Accountability June, 1997 – September, 1999
Nashville, Tennessee
Assistant Director of Career Ladder

Coordinate upper-level Career Ladder evaluations from orientation to summary conference; hire evaluators and train them in evaluation procedures.

Tennessee Department of Education
Nashville, Tennessee August, 1999 – February, 2001
Career Ladder Evaluator

Rate teacher's performance appropriately in the areas of planning, teaching strategies, classroom management, professional development and communication.

Chattanooga City Schools
Brainerd High School
Chattanooga, Tennessee February, 1978 – June, 1990
Marketing Education Teacher

Teach three classes of Economics and two of Marketing; find appropriate employment placement for marketing students and coordinate their work responsibilities with curricular objectives.

EDUCATION

University of Tennessee
Knoxville, Tennessee
August, 1982

Master of Science with High Honors
MAJOR: Distributive Education
MINOR: Vocational Technical Education

University of Tennessee
Knoxville, Tennessee
June, 1976

Bachelor of Science in Home Economics with Honors
Textiles and Clothing Merchandising

PROFESSIONAL AFFILIATIONS

National Staff Development Council
Tennessee Staff Development Council -Board of Directors
Alpha Delta Kappa Educational Sorority
Association of Supervisors of Curriculum and Instruction

Anna Kniazewycz
710 James Robertson Pkwy.
6th Floor, Andrew Johnson Tower
Nashville, TN 37243
(615) 532-9671
anna.kniazewycz@state.tn.us

Tennessee State Department of Education, Data Services and School Approval – Statistical Analyst Supervisor

- Design, test and implement web-based data collection for Oracle-based database system to allow real-time data linkages to existing relational databases such as Teacher Licensing and EIS for validation of teacher licenses and teaching endorsements for class size and waivers for 136 districts and 1,693 schools. Generate deficiency reports for class size and teacher employment standards.
- Create a desk manual documenting district, school, staff, and course data collections and reporting requirements for the school approval process for public schools.
- Generate standard and ad hoc data queries and reports for staff, student and class course data in Discoverer, Access and Excel.
- Member of Data Warehouse Advisory Committee.
- Data Manager for Data Warehouse Project with major responsibility for the design, implementation and maintenance of a Report/Collection Calendar, Report Inventory, Data Collection Inventory, and Data Dictionary.
- Member of Data Warehouse Core Group with major responsibility for developing methodology for designing and maintaining an Educational data repository of all department data collection systems and existing education databases.
- Member of Data Warehouse Storage Group with responsibilities of incorporating historical data files into the data warehouse; creating a metadata repository; and designing a data retrieval system.
- Responsible for an array of student and staff data submissions to Education Data Exchange Network, National Center for Education Statistics—Common Core Data – Non-fiscal Reports and National Education Association.
- Responsible for the updates, program modification and maintenance of district and school web-based directory. Maintain a historical district and school database
- Designed web-based district and school level funding reporting and generated queries in Discoverer for linkage to the BEP funding spreadsheets.

Education: B.S. Business Administration

University of Tennessee 1981

Statewide Longitudinal Data Systems

Grant Application

Norton B. McDaniel
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EXPERIENCE

February 2000 – present

State of Tennessee, Department of Education
Information Systems Manager 3

- Supervise a staff of four responsible for web publishing, database administration, and development of web-based applications in support of the Department's business needs and objectives.

January 2000 – February 2005

Majestic Systems
Consultant at State of Tennessee, Department of Education

- Worked on the Education Information System (EIS). Worked on the project teams for developing the system requirements, program specifications, testing, acceptance, and installation.
- Worked on the Statewide Student Management System (SSMS). Worked on the project teams for developing the RFP, developing the system requirements, testing, acceptance, and installation.
- Managed the EIS/SSMS support desk.

May 1998 – January 2000

Srisoft Corporation
Manager

- Responsible for all IMDS/ADSO projects. Managed a distributed staff located in Tennessee, California, India, Venezuela, and Singapore.
- Coordinated third party IDMS/ADSO contract work quality assurance.
- Responsible for the IDMS/ADSO coding for the Venezuelan oil industry (Government Agency) and Mercedes Benz North America.
- Coordinated industry wide testing for the Stock Exchange of Singapore's Year 2000 compliance project. This consisted of defining and documentation business requirements, determining hardware requirements, creating test plan, testing documents, conducting test workshops, supervised industry testing, and compiling and documentation of test results. The environment consisted of mainframe, client server, and Web based technologies.
- Supervised the year 2000 compliance for Singapore Power. This was a mainframe environment with client server interfaces.

April 1985 – May 1998

Service Merchandise Co., Inc.
Senior Systems Project Coordinator

- Project manager for the development of the business needs and plan, systems design and development of a product class application,

which interfaced with stores POS applications and merchandising applications. Developed and documented user and operations instructions. This application automatically updated the stores systems, relieving the store staff of having to manually update their system at over 400 locations. This application was developed using ObjectStar. Environment was mainframe and client server. Staff of 4 analyst/programmers.

- Project manager for the design and development a supply purchasing application. This application used IDSII and IDSII/TP. Later converted the application to ObjectStar, relational database. This application interfaced with stores systems, warehouse system, and expense payable system. Staff of 2 analyst/programmers
- Designed and developed a purchase order query application using ObjectStar.
- Project manager for the design and development an in house credit card application to process polled data from the stores using COBOL. Staff of 3 analyst/programmers.
- Developed the stock balance application using IDSII/TP. This application interfaced with stores system, accounts payable system, inventory control system. Staff of 1 analyst/programmer.
- Project manager for the evaluation of purchased of packages to replace the in-house written purchasing and accounts payable applications. Staff of 4 analyst/programmers.
- Evaluated and tested fourth generation tools, ObjectStar (Huron). Served as internal consultant to three development teams for ObjectStar.
- Selected to participate as a member of the team developing a new development/maintenance methodology for the IT department.
- Responsible for the support and maintenance of the above systems along with several other systems.

SOFTWARE/LANGUAGES

Microsoft Project; Microsoft Office (Word, Excel, PowerPoint, Access); CA-Realia II Workbench: Remedy

COBOL; COBOL II; IMOS-COBOL; ObjectStar; HURON; IDSII; IDSII-TP; IDMS; ADS/O; CICS; NEAT-3; MVS JCL; MVS Utilities; ISPF/TSO

EDUCATION

May 1974 University of Southern Indiana Evansville, IN

BS

- Major – Management
- Minor – Business Administration

CORY CURL

(b)(6)

cory.curl@state.tn.us

PROFESSIONAL

June 2004 - present, Senior Policy Analyst, Office of the Deputy Commissioner, Tennessee Department of Education.

January 2004 – present, Research Assistant, Dr. Edward T. Jennings, Jr., Martin School of Public Policy and Administration, University of Kentucky.

May 2001 – May 2002, Research Assistant, Dr. Eugenia F. Toma, Martin School of Public Policy and Administration, University of Kentucky.

May 2000 – August 2000 and May 1999 – August 1999, Legislative Intern, Kentucky Legislative Research Commission, Program Review and Investigations Committee and Interim Joint Committee on Agriculture and Natural Resources.

EDUCATION

Ph.D. Candidate, Martin School of Public Policy and Administration, University of Kentucky.

Specialization: Policy analysis and public finance; Dissertation: *The Determinants of Bond-Financed School Infrastructure Investment in Illinois*; Eugenia F. Toma, Chair

Master of Public Administration, Martin School of Public Policy and Administration, University of Kentucky, earned at completion of doctoral qualifying examination, February 2003

B.A., Geology with Environmental Studies Concentration, Guilford College, 1998

TEACHING EXPERIENCE

Fall 2003, Instructor, PA 651: The Public Policy Process, Martin School of Public Policy and Administration, University of Kentucky.

PRESENTATIONS

The Centralization of School Facilities Finance, Annual Meeting of the American Education Research Association, Chicago, Illinois, April 2003.

Local Responses to State Aid for School Infrastructure Investment, Annual Meeting of the American Education Finance Association, Orlando, Florida, March 2003.

AWARDS, FELLOWSHIPS, AND MEMBERSHIPS

Commonwealth Research Award, 2003; Graduate School Academic Fellowship, 2002-2003 and 2000-2001; Daniel R. Reedy Quality Achievement Fellowship, 1998-1999; Kentucky Education, Arts, and Humanities Cabinet Service Award, 1994

Member: Association for Public Policy Analysis and Management, American Education Research Association, American Education Finance Association

Statewide Longitudinal Data Systems

Grant Application

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Nashville, TN 37243
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lisa.howard@state.tn.us

EXPERIENCE

November 2000 – present **State of Tennessee, Department of Education**
Executive Director of Technology and Systems Support

- Director of a staff of 25 responsible for mainframe application support, network and desktop hardware/software support, web publishing, and development of web-based applications in support of the Department's business needs and objectives.

  Primary responsibilities include:
  - assignment of staff and resources to projects involving the development of web-based applications utilizing IIS, Active Server Pages, Oracle 8i and Oracle 9i, Oracle Discoverer, Oracle Reports and Crystal Reports 8.5
  - prepare Information Systems Plan including Project Proposals and Cost Benefit Analysis for upper management on new projects being considered
  - project management utilizing the State of Tennessee IT Methodology (based on PMBOK) for the analysis, design, development, testing, and implementation phases
  - research and evaluate new technologies and software that meet business needs and goals
  - development and evaluation of Request For Proposals for technology related services such as software development and Internet service to K-12 schools
  - administration and management of technology related contracts

January 2000 – October 2000 **State of Tennessee, Department of Education**
Information Systems Manager of Technology and Systems Support

- Project Manager for web-based application development using Active Server Pages, ADO, JavaScript, Oracle, and Microsoft IIS web server on Windows NT 4.0. Involvement in project phases of assessment, analysis, design, testing, and implementation. Responsible for developing conceptual and physical data models, process models, and data dictionaries.

October 1997 – January 2000 **State of Tennessee, Department of Finance and Administration**
Information Systems Specialist IV

- Project Manager/Developer for web-based application development using NetDynamics, Java, JavaScript, Oracle, and Netscape Enterprise web server on Sun Solaris 2.6. Involvement in project phases of analysis, design development, testing, and implementation.

Responsible for developing conceptual and physical data models.

- Analyst/Developer for client-server based application development using PowerBuilder and Oracle. Maintained existing PowerBuilder applications.

May 1995 – October 1997

State of Tennessee, Comptroller of the Treasury
Systems Support Manager

- Manager of all client-server and mainframe application development and support. Client-server applications were on an AS/400 platform, DB2 database, and developed in RPG. Mainframe applications were on an IBM platform, DB2 and IMS databases, and developed in COBOL II. Batch jobs were processed using MVS/JCL. TSO was used for file transfer when needed. Ad-hoc queries and reports were developed with Easytrieve.

July 1985 – May 1995

State of Tennessee, Comptroller of the Treasury
Systems Analyst

- Lead Analyst for the support of all mainframe applications. Project manager for all new/upgrade application development projects. All applications were on an IBM mainframe platform, DB2 and IMS databases, and developed in COBOL II.

SOFTWARE/LANGUAGES

Microsoft Project; Microsoft Office (Word, Excel, PowerPoint, Access); Visio; Microsoft Visual Studio; Power Designer–Data Architect;

Java; JavaScript; HTML; SQL; Oracle PL/SQL; Oracle 8i; Oracle 9i; Oracle 9i Application Server; Crystal Reports

EDUCATION

May 1985 Middle Tennessee State University Murfreesboro, TN BBA

- Major – Information Systems
- Minor – Business Administration

Statewide Longitudinal Data Systems

Grant Application

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david.blier@state.tn.us

EXPERIENCE

Oct. 2004 – present **State of Tennessee, Department of Education**
Database Administrator III

- Database Administrator of several databases within the department of Education including one Oracle 9i installation running on Windows NT/4 platform and two Oracle 9i installations running on Sun Solaris Unix servers.

  Primary responsibilities include:
  - Constantly monitor database and applications for optimum performance and poor response.
  - Design and revise data structures and database objects including physical and logical layout of database files.
  - Create tables, index, triggers, views, materialized views, schemas, users, synonyms and other objects as needed to support applications.
  - Create, schedule and maintain database jobs and procedures.
  - Provide technical assistance to other developers and database administrators.
  - Test and migrate database applications with patches and new versions of Oracle software.
  - Develop, maintain and enforce database and coding standards.
  - Research and test new database features and products to ensure the department is fully utilizing its technology resources.
  - Maintain entity relationship and process flow diagrams.
  - Maintain nightly backups of database in the event that recovery is needed.

Apr. 2003 – Sep. 2004 **State of Tennessee, Department of Education**
Information Systems Manager III

- Project Manager for web-based application development using Active Server Pages, ADO, JavaScript, Oracle, and Microsoft IIS web server on Windows NT 4.0. Involvement in project phases of assessment, analysis, design, testing, and implementation. Responsible for developing conceptual and physical data models, process models, and data dictionaries.

Dec. 2001 – Mar. 2003 **State of Tennessee, Department of Education**
Information Systems Analyst IV

- Responsible for all development, maintenance and enhancements on many ASP applications connecting to an Oracle 9i database. These applications are used for state reporting from the school systems across the state of TN

and then to produce reports for the Federal government for the No Child Left Behind guidelines.

Jul. 1992 – Nov. 2001 **State of Tennessee, Comptroller of the Treasury**
Information Systems Analyst I - IV

- Responsible for developing and maintaining many client server applications using Visual Basic connecting to an Oracle 8i database. Also maintained several mainframe legacy systems used across the state of Tennessee by both the Assessor and Trustee offices in 91 of the 95 counties in the state. Provided many reports on an as needed basis from our mainframe databases. Responsible for defining enhancements and working with OIR COBOL programmer to implement these enhancements to various mainframe systems.

SOFTWARE/LANGUAGES

Microsoft Project; Microsoft Office (Word, Excel, PowerPoint, Access); Microsoft Visual Studio; Power Designer–Data Architect;

Java; JavaScript; HTML; SQL; Oracle PL/SQL; Oracle 8i; Oracle 9i; Oracle 9i, Oracle Reports; Oracle Portal; Oracle Discoverer; Application Server; Crystal Reports; Visual Basic; PASCAL; COBOL; C ++; Active Server Pages

EDUCATION

May 1985 Tennessee Technological University Cookeville, TN
BSBA

- Major – Management Information Systems
- Minor – Business Administration

Statewide Longitudinal Data Systems

Grant Application

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WORK EXPERIENCE

September 2004 - Present — **State of Tennessee**

Distributed Programmer Analyst

- Oracle PL/SQL development for Department of education applications.

February 2004 – July 2004 — **Prizm Technologies**

Programmer Analyst

- MS SQL development migrating data into a law firm application.

September 2002 – February 2004 — **InPhact**

Senior Developer

- Oracle PL/SQL development for radiology Imaging system, along with front and back office application development.

November 1998 – April 2001 — **Independent consulting**

- Converted commercial mortgage to **SQLServer** and **Sybase** databases using **C++ Builder** in a windows environment. The data was migrated from legacy btrieve files. Migration involved mapping data from legacy system to new application using SQLServer tools for importing, exporting and data cleansing. Also generated custom reports for the migration process. Much of this work was done from home.
- System development and support of a Credit Card validation system using **C++, TCL, Sybase** and **Access**. Required extensive travel customizing, installing and training of software.

April 1992 – November 1998 — **Metro Information Services**

Information Systems Consultant and Client Service Coordinator

- As a Client Service Coordinator, worked with Metro clients gathering technical skill requirements that were needed and placed consultants and permanent employees in those positions. We hired over one hundred employees in 1997.
- As a consultant with Metro, placed on several projects around the Nashville area. All projects were in the C programming language. These projects were on various platforms including, **Dos, Windows, Unix**, and **OS/2.** Several databases were also used, including **Oracle, DB2** and **btrieve**. The projects that I have been involved with while at Metro were System compiler development, Point of Sale, Utility Dispatch Contact system, Customs Exportation Documentation system, Supply Management Data Warehouse, and Fleet Management system.

September 1991- April 1992	**Compco** *Programmer / Analyst* ▪ Involved in the development of Compco's Telephone Management Systems. These systems were written in **C** on a Unix platform using the **Raima** database.
July 1986 – April 1991	**Schering-Plough** *Programmer / Analyst* ▪ Worked in the Quality Assurance department developing software for the chemistry, packaging, and manufacturing processes. Compared test data to specifications stored in **Image** and **Informix** databases. These systems were developed in **DOS, HP1000** and **HP3000** environments. Also responsible for System Management and Data Base management of these systems.
January 1984 – July 1986	**RCA Cylix** *Programmer* ▪ Developed Communication software for the RCA Cylix Satelite Network using **C** in the **Unix** environment.

EDUCATION

September 1981 – May 1985	**University of Memphis** ***Bachelor of Science Engineering Technology*** ▪ BSET - Computer Systems Engineering

III. Section C of Form 524 – Other Budget Information

Budget Narrative

The section that follows includes a detailed breakdown of the major deliverables and components for the project. The following information is provided for each deliverable:

- the scheduled start and completion date;
- the days required to produce the deliverable/component, broken down by internal personnel and by contract staff;
- a total cost estimate for the component/deliverable that includes the following:
    - personnel costs (assuming $271 per day average);
    - contract costs (assuming $975 per day average);
    - fringe benefits;
    - travel costs;
    - equipment costs;
    - supplies;
    - software costs (under "Other");
    - training costs.

Also provided is a summary of the costs by category by project year, built from the detailed information mentioned above.

Also provided is a table that shows the percent effort by project personnel. The percentage amounts correspond to the number of days estimated in the plan.

Lastly, a breakdown of the equipment costs is provided.

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#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
					PHASE I – Establish a data architecture, enhance existing operational data store (EIS) to include assessment data and lay the groundwork for a data warehouse (data dictionary, data policy, data inventory).		
1	Project Definitions, Goals & Charter	5	1	(b)(4)	Definitions of key terms related to managing data and the project (e.g., data steward, data owner, project charter, etc.). Project goals and project charter to define the scope, schedule, risk mitigation strategies, roles, deliverables and assumptions.	7/1/2005	7/15/2005
2	Data Management Vision and Strategy	5	2	(b)(4)	Data management vision and strategy (i.e. strategies for when data is centralized vs. when it is decentralized).	7/1/2005	7/31/2005

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Grant Application

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
3	Data Governance Process	10	3	(b)(4)	Data governance process (to include data policy committee of SEA/LEA management, data managers working group made up of the caretakers of the data, data management roles and responsibilities including job descriptions for data managers, business analysts and data stewards).	8/1/2005	10/15/2005
4	Data Policies	20	3	(b)(4)	Data policies, to address data ownership, data quality, data collection, data storage, data publication / dissemination and the role of an enterprise data architecture.	7/1/2005	10/15/2005
5	Metadata Directory Development	20	4	(b)(4	Metadata management tool selection, acquisition, implementation and training for internal staff (*to start data dictionary*).		

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
6	Data and System Inventory	35	2	(b)(4)	Inventory of SEA systems of record identifying ownership of data, data managers/stewards, as well as applications and tools used to read and manage the current data files. Associated data definitions for each element of those systems as an ongoing effort beginning with high priority, high use data collections.	7/1/2005	10/1/2005
7	Data Management Plan	25	2	(b)(4)	Annual data management plan for each system of record - to include data collection and release, a data acquisition (collection) calendar and a master schedule of recurring annual data requests (data releases) that must be met by SEA.	8/1/2005	11/1/2005

Statewide Longitudinal Data Systems

Grant Application

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
8	Data Guidelines and Procedures	30	5	(b)(4	Data guidelines and procedures to include procedures for verification of data and data requests, procedures for requesting and providing data through a single SEA process and/or point of responsibility (this process/position distributes requests to the proper group and ensures timely handling of requests), procedures for tracking data requests, procedures for capturing and resolving data issues, guidelines to ensure SEA requests for data are justifiable and purposeful while at the same time being responsive to data requests.	9/1/2005	12/1/2005
9	Inventory of Local, State and Federal Commitments for Data Sharing	15		(b)(4 $0	Inventory of memoranda of understanding regarding data sharing and a process for periodically reviewing and revising as appropriate.	7/1/2005	10/1/2005

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#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
10	Logical design of data architecture for TDOE & Data Naming Standards	35	5	(b)(4)	Logical Design of the data architecture to be used to guide all future database development efforts as the physical designs are done. Data naming standards to insure clear, accurate and unique names for all data elements.	8/1/2005	11/1/2005
11	EIS Business Requirements	10	2		Establish business requirements for adding assessment data into EIS (data loading, retention and reporting).	11/1/2005	12/1/2005
12	EIS Technical Requirements	12	5		Establish technical and infrastructure requirements for adding assessment data into EIS.	1/1/2006	3/1/2006
13	EIS Design	20	5		Physical design of the EIS table revisions, data loading routines and reports.	3/1/2006	5/1/2006
14	Develop	20	10		Develop the data tables, load routines and reports.	5/1/2006	8/1/2006
15	QA Test	5	5		QA Test the loading and reporting.	8/1/2006	8/21/2006
16	Production Load	5	2		Load assessment data into production system.	8/21/2006	9/7/2006

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
17	Training	10	1	(b)(4)	Train users on the reports and the use of the assessment data	9/1/2006	9/21/2006
18	Project Management		96		Manage and direct all of the efforts for the project for year 1	7/1/2005	6/30/2006
	Subtotal Phase I				**$437,400**		
					PHASE II – Select and implement a business intelligence reporting tool that creates and develop a set of reports for general use.		
1	Business Requirements for Reporting Tools	20	4		Establish business requirements for the types of reports to be created, as well as the reporting tools.	5/1/2006	7/1/2006
2	Technical Requirements for reporting Tools	5	1		Establish technical and infrastructure requirements for reporting tools.	7/1/2006	9/1/2006
3	RFP for Reporting tools and Production Environment	20	5		Develop specs and RFP for the data reporting tools and for the production hardware environment.	7/1/2006	10/15/2006

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
4	Data Map	15	4	(b)(4)	Determine definition of sources for the data and how it will be accessed.	7/1/2006	11/1/2006
5	Select and Purchase Reporting Tool	15	5		Select the winning vendor and purchase the software products	10/15/2006	12/15/2006
6	Install reporting software and attend training	15	2		Acquire the hardware and install the software.	12/15/2006	2/15/2007
7	Develop technical specs for reports	25	4		Develop the technical specifications for the desired reports (note than 7.0 through 12.0 may be done in iterations, as new sets of reports are defined).	2/15/2007	5/15/2007
8	Develop Design specs for reports	60	1		Develop the design specifications for the reports.	5/15/2007	8/15/2007
9	Develop reports	60	1		Develop reports.	8/15/2007	11/15/2007
10	QA Reports	20	1		Test reports.	11/15/2007	12/15/2007
11	Place reports into production	10	0.5		Implement reports into production.	12/15/2007	1/1/2008
12	Train on reports and reporting	10	2		Train agency staff in the use of the reports and tool (remainder of	1/1/2008	2/15/2008

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
	tool				training to follow in phase III)		
13	Project Management		96	(b)(4)	Manage and direct all of the efforts for the project for year 2	7/1/2006	6/30/2007
	Subtotal Phase II				**$1,883,062**		
					PHASE III-A – Acquire and implement a data warehouse		
1	Data Warehouse Scope Document	20	5		Establish the scope of a properly sized first phase (A) of a data warehouse project, to include data elements and definitions. This scope should also include a list of data users and the types of questions to be answered by the data.	7/1/2006	9/1/2006
2	Business Processes	150	25		Develop the business processes to deliver and maintain these services for the selected data elements for phase I of the data warehouse:	7/1/2006	11/15/2006
				$0	a. to enable data cleansing		
				$0	b. to identify and resolve data inconsistencies		

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
				$0	c. to provide access controls		
				$0	d. to resolve timing issues		
				$0	e. to reduce manual intervention		
				$0	f. to allow for architected solutions		
				$0	g. data integration		
				$0	h. extraction, transformation, and load (ETL) routines		
				$0	i. data affinity diagramming		
				$0	j. data attribute definitions		
3	Data Warehouse	25	5	(b)(4)	Create requirements, specifications and RFP(s) for the data warehouse, ETL tools, hardware and system software procurement.	9/1/2006	1/7/2007
4	Metadata Tool – Update Fields	30	5	(b)(4)	Conduct an enterprise-wide (SEA/USED) metadata directory update to capture all of the data element definitions, attributes, valid values, and rules governing the data.	7/1/2006	10/1/2006

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
5	Training	50	3	(b)(4)	Provide training for the metadata directory, and business intelligence tools, to remainder of Phase I users (LEA and SEA).	10/1/2006	1/1/2007
6	Select Vendor(s)and Install Data Warehouse Components	50	25		Select the vendor(s) for the data model, ETL tools, system software and hardware. Install the system hardware and software. Load the data model and ETL tools for the warehouse.	1/1/2007	6/1/2007
7	Implement the Data Warehouse and Load Data	80	80		All data which has been collected and is to make its way into the Data Warehouse will need to be screened and transformed before being loaded into the Data Warehouse. This process will identify the data "transformation" rules, if any, and document the results of the transformation. This document will be part of the User Data Dictionary, which will help Users understand the data elements, the sources, the meanings, the timing and the use of the data, thus ensuring quality	6/1/2007	8/1/2007

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
					reporting.		
8	Load Plans	60	60	(b)(4)	Once the ODS, data model, and transformation plans are ready, we need to design and develop the load plans. These plans will take the transformed data and load it into the Data Warehouse, based on the structure as defined in the data model. These load plans can also help to identify missing data, bridge gaps, and validate the quality as it is loading. Once the load plans are in place, and the data is loaded, we can then plan the reporting and querying of the data.	8/1/2007	9/15/2007

#	Component and/or Deliverable Title	Personnel Time - days	Contractor Time -days	Cost Estimate	Component and/or Deliverable Description	Start Date	Completion Date
9	Project Management		60	(b)(4)	Manage and direct all of the efforts for the project for year 3	7/1/2007	2/15/2008
	Subtotal Phase III				**$1,787,457**		
	Total Cost All Phases	**1022**	**547.5**	(b)(4)			

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#	Component and/or Deliverable Title	Personnel Costs	Fringe Benefits Costs	Travel Costs	Equipment Costs	Supplies Costs	Contractual Costs	Construction Costs	Other (S-W) Costs	Total Direct Costs	Indirect Costs	Training Stipends Costs	Total Costs
1	Project Definitions, Goals & Charter	$1,355	$203				$975						$2,533
2	Data Management Vision and Strategy	$1,355	$203				$1,950						$3,508
3	Data Governance Process	$2,710	$407	$1,800			$2,925						$7,842
4	Data Policies	$5,420	$813	$2,520			$2,925						$11,678
5	Metadata Directory Development	$5,420	$813	$2,520			$3,900		$85,000			$12,500	$110,153

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#	Component and/or Deliverable Title	Personnel Costs	Fringe Benefits Costs	Travel Costs	Equipment Costs	Supplies Costs	Contractual Costs	Construction Costs	Other (S-W) Costs	Total Direct Costs	Indirect Costs	Training Stipends Costs	Total Costs
6	Data and System Inventory	$9,485	$1,423				$1,950						$12,858
7	Data Management Plan	$6,775	$1,016	$1,800			$1,950						$11,541
8	Data Guidelines and Procedures	$8,130	$1,220	$1,800			$4,875						$16,025
9	Inventory of Local, State and Federal Commitments for Data Sharing	$4,065	$610				$0						$4,675
		$0	$0				$0						

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#	Component and/or Deliverable Title	Personnel Costs	Fringe Benefits	Travel Costs	Equipment Costs	Supplies Costs	Contractual Costs	Construction Costs	Other (S-W) Costs	Total Direct Costs	Indirect Costs	Training Stipends Costs	Total Costs
10	Logical design of data architecture for TDOE & Data Naming Standards	$9,485	$1,423	$1,800			$4,875						$17,583
11	EIS Business Requirements	$2,710	$407	$1,800			$1,950						$6,867
12	EIS Technical Requirements	$3,252	$488				$4,875						$8,615
13	EIS Design	$5,420	$813				$4,875						$11,108
14	Develop	$5,420	$813				$9,750						$15,983
15	QA Test	$1,355	$203				$4,875						$6,433
16	Production Load	$1,355	$203				$1,950						$3,508
17	Training	$2,710	$407	$14,400			$975					$60,000	$78,492
18	Project Management	$0	$0	$14,400			$93,600						$108,000
	Subtotal Phase I	$0	$0				$0						

Statewide Longitudinal Data Systems

Grant Application

#	Component and/or Deliverable Title	Personnel Costs	Fringe Benefits	Travel Costs	Equipment Costs	Supplies Costs	Contractual Costs	Construction Costs	Other (S-W) Costs	Total Direct Costs	Indirect Costs	Training Stipends Costs	Total Costs
		$0	$0				$0						
1	Business Requirements for Reporting Tools	$5,420	$813	$3,240			$3,900						$13,373
2	Technical Requirements for reporting Tools	$1,355	$203				$975						$2,533
3	RFP for Reporting tools and Production Environment	$5,420	$813	$3,240			$4,875						$14,348
4	Data Map	$4,065	$610				$3,900						$8,575
5	Select and Purchase Reporting Tool	$4,065	$610	$3,240			$4,875		$1,000,000				$1,012,790
6	Install reporting software and attend training	$4,065	$610		$192,500		$1,950						$199,125

Statewide Longitudinal Data Systems

Grant Application

#	Component and/or Deliverable Title	Personnel Costs	Fringe Benefits	Travel Costs	Equipment Costs	Supplies Costs	Contractual Costs	Construction Costs	Other (S-W) Costs	Total Direct Costs	Indirect Costs	Training Stipends Costs	Total Costs
7	Develop technical specs for reports	$6,775	$1,016				$3,900						$11,691
8	Develop Design specs for reports	$16,260	$2,439				$975						$19,674
9	Develop reports	$16,260	$2,439				$975						$19,674
10	QA Reports	$5,420	$813				$975						$7,208
11	Place reports into production	$2,710	$407				$488						$3,604
12	Train on reports and reporting tool	$2,710	$407				$1,950					$20,000	$25,067
13	Project Management	$0	$0	$14,400			$93,600						$108,000
	Subtotal Phase II	$0	$0				$0						
		$0	$0				$0						

Statewide Longitudinal Data Systems

Grant Application

#	Component and/or Deliverable Title	Personnel Costs	Fringe Benefits	Travel Costs	Equipment Costs	Supplies Costs	Contractual Costs	Construction Costs	Other (S-W) Costs	Total Direct Costs	Indirect Costs	Training Stipends Costs	Total Costs
1	Data Warehouse Scope Document	$5,420	$813	$3,240			$4,875						$14,348
2	Business Processes	$40,650	$6,098	$5,400			$24,375						$76,523
		$0	$0				$0						$0
		$0	$0				$0						$0
		$0	$0				$0						$0
		$0	$0				$0						$0
		$0	$0				$0						$0
		$0	$0				$0						$0
		$0	$0				$0						$0
		$0	$0				$0						$0
		$0	$0				$0						$0
		$0	$0				$0						$0
3	Data Warehouse	$6,775	$1,016	$5,400			$4,875						$18,066

Statewide Longitudinal Data Systems

Grant Application

#	Component and/or Deliverable Title	Personnel Costs	Fringe Benefits	Travel Costs	Equipment Costs	Supplies Costs	Contractual Costs	Construction Costs	Other (S-W) Costs	Total Direct Costs	Indirect Costs	Training Stipends Costs	Total Costs
4	Metadata Tool – Update Fields	$8,130	$1,220				$4,875						$14,225
5	Training	$13,550	$2,033	$14,400			$2,925					$100,000	$132,908
6	Select Vendor(s)and Install Data Warehouse Components	$13,550	$2,033	$5,400	$202,500		$24,375		$900,000			$120,000	$1,267,858
		$0	$0				$0						
7	Implement the Data Warehouse and Load Data	$21,680	$3,252	$14,400			$78,000						$117,332

Statewide Longitudinal Data Systems

Grant Application

#	Component and/or Deliverable Title	Personnel Costs	Fringe Benefits	Travel Costs	Equipment Costs	Supplies Costs	Contractual Costs	Construction Costs	Other (S-W) Costs	Total Direct Costs	Indirect Costs	Training Stipends Costs	Total Costs
8	Load Plans	$16,260	$2,439				$58,500						$77,199
9	Project Management	$0	$0	$10,500			$58,500						$69,000
	Subtotal Phase III	$276,962	$41,544	$125,700	$395,000	$0	$533,813	$0	$1,985,000	$0	$0	$312,500	$3,670,519
	Total Cost All Phases												

Statewide Longitudinal Data Systems

Grant Application

Cost Categories	year 1	year 2	year 3
1. Personnel	$ 65,582	$ 130,080	$ 81,300
2. Fringe Benefits	$ 9,837	$ 19,512	$ 12,195
3. Travel	$ 28,440	$ 72,360	$ 24,900
4. Equipment	$ -	$ 395,000	$ -
5. Supplies	$ -	$ -	$ -
6. Contractual	$ 131,625	$ 201,825	$200,363
7. Construction	$ -	$ -	$ -
8. Other (including software costs)	$ 85,000	$ 1,900,000	$ -
9. Total Direct Costs	$ 320,484	$ 2,718,777	$318,758
10. Indirect Costs	$ -	$ -	$ -
11. Training Costs	$ 12,500	$ 280,000	$ 20,000
12. Total Annual Costs	**$ 332,984**	**$ 2,998,777**	**$338,758**
Project total	**$3,670,519**		

personnel costs (average)	$ 271.00	per day - w/o benefits
contractor costs (average)	$ 975.00	per day

Percent Effort by Personnel	year 1	year 2	year 3
Dr. Timothy K. Webb	5%	5%	5%
Rick Rozzelle	40%	40%	40%
Cindy Benefield	20%	25%	15%
Anna Kniazewycz	20%	25%	15%
IT: Norton McDaniel	20%	80%	60%
Data Advisory: Cory Curl	20%	20%	10%
Lisa Howard	10%	10%	10%
David Blier	20%	80%	60%
Total Person Years	**1.55**	**2.85**	**2.15**

Detailed Hardware Costs	Hardware/ Software	Quantity	Total
Web/Portal Servers	$18,000.00	4	$72,000.00
Addt'l Processors for Database	$86,500.00	2	$173,000.00
Addt'l Storage Space on SAN	$10,000.00	1	$10,000.00
Oracle Database Licenses	$28,000.00	2	$56,000.00
Oracle RAC Licenses	$14,000.00	2	$28,000.00
Oracle 10g Application Server	$14,000.00	4	$56,000.00
Total	$170,500	$15	$395,000

IV. Budget Justification

The budget information for section C contains a table outlining the detailed costs for each of the major deliverables and components for the project. For the purpose of saving space, the table will not be duplicated here. These costs are itemized in the same breakdown as is contained in Form ED 524-Section C. These costs include all personnel, contractor, travel, software (other), hardware, supplies, training and fringe benefit costs. The time commitments for each person on the project are also described for each of the three years in the budget information section C. The responsibilities of each person are contained in the project narrative, under project personnel.

The number of days expected for consultants is 547.5 days over the course of the three-year project. These days are detailed out by deliverable/component in the budget information section C. The average expected rate of compensation for consultants is $975 per day. The total cost for consultants is expected to be $533,813. The travel/expenses for consultants are also outlined in section C, by deliverable/component and are expected to be $39,300. The following budget spreadsheet covers the contract costs by year expected for the project.

	year 1	year 2	year 3	total
Contractor	$131,625	$201,825	$200,363	$533,813
Expenses	$ 14,400	$ 14,400	$ 10,500	$ 39,300
total	$146,025	$216,225	$210,863	$573,113

The equipment costs are shown by hardware type in section C. There will be two major hardware acquisitions. One acquisition is for the decision support software. The second acquisition is to house the data warehouse. Both expenditures occur in the second year of the project.

Statewide Longitudinal Data Systems

Grant Application

Appendix A—Timelines (5 Pages)

Data Architecture, Warehouse and Reporting

Implementation Steps and Costs

Following is the schedule for the major components and deliverables to be delivered through this grant.

#	Component/ Deliverable Title	Component/Deliverable Description	Start Date	Completion Date
		PHASE I – Establish a data architecture, enhance existing operational data store (EIS) to include assessment data and lay the groundwork for a data warehouse (data dictionary, data policy, data inventory).		
1	Project Definitions, Goals & Charter	Definitions of key terms related to managing data and the project (e.g., data steward, data owner, project charter, etc.). Project goals and project charter to define the scope, schedule, risk mitigation strategies, roles, deliverables and assumptions.	7/1/2005	7/15/2005
2	Data Management Vision and Strategy	Data management vision and strategy (i.e. strategies for when data is centralized vs. when it is decentralized).	7/1/2005	7/31/2005
3	Data Governance Process	Data governance process (to include data policy committee of SEA/LEA management, data managers working group made up of the caretakers of the data, data management roles and responsibilities including job descriptions for data managers, business analysts and data stewards).	8/1/2005	10/15/2005
4	Data Policies	Data policies, to address data ownership, data quality, data collection, data storage, data publication / dissemination and the role of an enterprise data architecture.	7/1/2005	10/15/2005
5	Metadata Directory Development	Metadata management tool selection, acquisition, implementation and training for internal staff (*to start data dictionary*).		

6	Data and System Inventory	Inventory of SEA systems of record identifying ownership of data, data managers/stewards, as well as applications and tools used to read and manage the current data files. Associated data definitions for each element of those systems as an ongoing effort beginning with high priority, high use data collections.	7/1/2005	10/1/2005
7	Data Management Plan	Annual data management plan for each system of record - to include data collection and release, a data acquisition (collection) calendar and a master schedule of recurring annual data requests (data releases) that must be met by SEA.	8/1/2005	11/1/2005
8	Data Guidelines and Procedures	Data guidelines and procedures to include procedures for verification of data and data requests, procedures for requesting and providing data through a single SEA process and/or point of responsibility (this process/position distributes requests to the proper group and ensures timely handling of requests), procedures for tracking data requests, procedures for capturing and resolving data issues, guidelines to ensure SEA requests for data are justifiable and purposeful while at the same time being responsive to data requests.	9/1/2005	12/1/2005
9	Inventory of Local, State and Federal Commitments for Data Sharing	Inventory of memoranda of understanding regarding data sharing and a process for periodically reviewing and revising as appropriate.	7/1/2005	10/1/2005
10	Logical design of data architecture for TDOE & Data Naming Standards	Logical Design of the data architecture to be used to guide all future database development efforts as the physical designs are done. Data naming standards to insure clear, accurate and unique names for all data elements.	8/1/2005	11/1/2005
11	EIS Business Requirements	Establish business requirements for adding assessment data into EIS (data loading, retention and reporting).	11/1/2005	12/1/2005
12	EIS Technical Requirements	Establish technical and infrastructure requirements for adding assessment data into EIS.	1/1/2006	3/1/2006

13	EIS Design	Physical design of the EIS table revisions, data loading routines and reports.	3/1/2006	5/1/2006
14	Develop	Develop the data tables, load routines and reports.	5/1/2006	8/1/2006
15	QA Test	QA Test the loading and reporting.	8/1/2006	8/21/2006
16	Production Load	Load assessment data into production system.	8/21/2006	9/7/2006
17	Training	Train users on the reports and the use of the assessment data	9/1/2006	9/21/2006
PHASE II – Select and implement a business intelligence reporting tool that creates and develop a set of reports for general use.				
1	Business Requirements for Reporting Tools	Establish business requirements for the types of reports to be created, as well as the reporting tools.	5/1/2006	7/1/2006
2	Technical Requirements for reporting Tools	Establish technical and infrastructure requirements for reporting tools.	7/1/2006	9/1/2006
3	RFP for Reporting tools and Production Environment	Develop specs and RFP for the data reporting tools and for the production hardware environment.	7/1/2006	10/15/2006
4	Data Map	Determine definition of sources for the data and how it will be accessed.	7/1/2006	11/1/2006
5	Select and Purchase Reporting Tool	Select the winning vendor and purchase the software products	10/15/2006	12/15/2006
6	Install reporting software and attend training	Acquire the hardware and install the software.	12/15/2006	2/15/2007
7	Develop technical specs for reports	Develop the technical specifications for the desired reports (note than 7.0 through 12.0 may be done in iterations, as new sets of reports are defined).	2/15/2007	5/15/2007
8	Develop Design specs for reports	Develop the design specifications for the reports.	5/15/2007	8/15/2007

9	Develop reports	Develop reports.	8/15/2007	11/15/2007
10	QA Reports	Test reports.	11/15/2007	12/15/2007
11	Place reports into production	Implement reports into production.	12/15/2007	1/1/2008
12	Train on reports and reporting tool	Train agency staff in the use of the reports and tool (remainder of training to follow in phase III)	1/1/2008	2/15/2008
PHASE III-A – Acquire and implement a data warehouse				
1	Data Warehouse Scope Document	Establish the scope of a properly sized first phase (A) of a data warehouse project, to include data elements and definitions. This scope should also include a list of data users and the types of questions to be answered by the data.	7/1/2006	9/1/2006
2	Business Processes	Develop the business processes to deliver and maintain these services for the selected data elements for phase I of the data warehouse:	7/1/2006	11/15/2006
		a. to enable data cleansing		
		b. to identify and resolve data inconsistencies		
		c. to provide access controls		
		d. to resolve timing issues		
		e. to reduce manual intervention		
		f. to allow for architected solutions		
		g. data integration		
		h. extraction, transformation, and load (ETL) routines		
		i. data affinity diagramming		
		j. data attribute definitions		
3	Data Warehouse	Create requirements, specifications and RFP(s) for the data warehouse, ETL tools, hardware and system software procurement.	9/1/2006	1/7/2007

4	Metadata Tool – Update Fields	Conduct an enterprise-wide (SEA/USED) metadata directory update to capture all of the data element definitions, attributes, valid values, and rules governing the data.	7/1/2006	10/1/2006
5	Training	Provide training for the metadata directory, and business intelligence tools, to remainder of Phase I users (LEA and SEA).	10/1/2006	1/1/2007
6	Select Vendor(s)and Install Data Warehouse Components	Select the vendor(s) for the data model, ETL tools, system software and hardware. Install the system hardware and software. Load the data model and ETL tools for the warehouse.	1/1/2007	6/1/2007
7	Implement the Data Warehouse and Load Data	All data which has been collected and is to make its way into the Data Warehouse will need to be screened and transformed before being loaded into the Data Warehouse. This process will identify the data "transformation" rules, if any, and document the results of the transformation. This document will be part of the User Data Dictionary, which will help Users understand the data elements, the sources, the meanings, the timing and the use of the data, thus ensuring quality reporting.	6/1/2007	8/1/2007
8	Load Plans	Once the ODS, data model, and transformation plans are ready, we need to design and develop the load plans. These plans will take the transformed data and load it into the Data Warehouse, based on the structure as defined in the data model. These load plans can also help to identify missing data, bridge gaps, and validate the quality as it is loading. Once the load plans are in place, and the data is loaded, we can then plan the reporting and querying of the data.	8/1/2007	9/15/2007

Appendix B—Optional Attachments (15 pages) –

1. SEA Collaboration Commitment Letter
2. CCSSO/DSAC Commitment Letter
3. Project Charters

FIGURE 1. FEDERAL APPLICATION CONSOLIDATED TRACKING SYSTEM

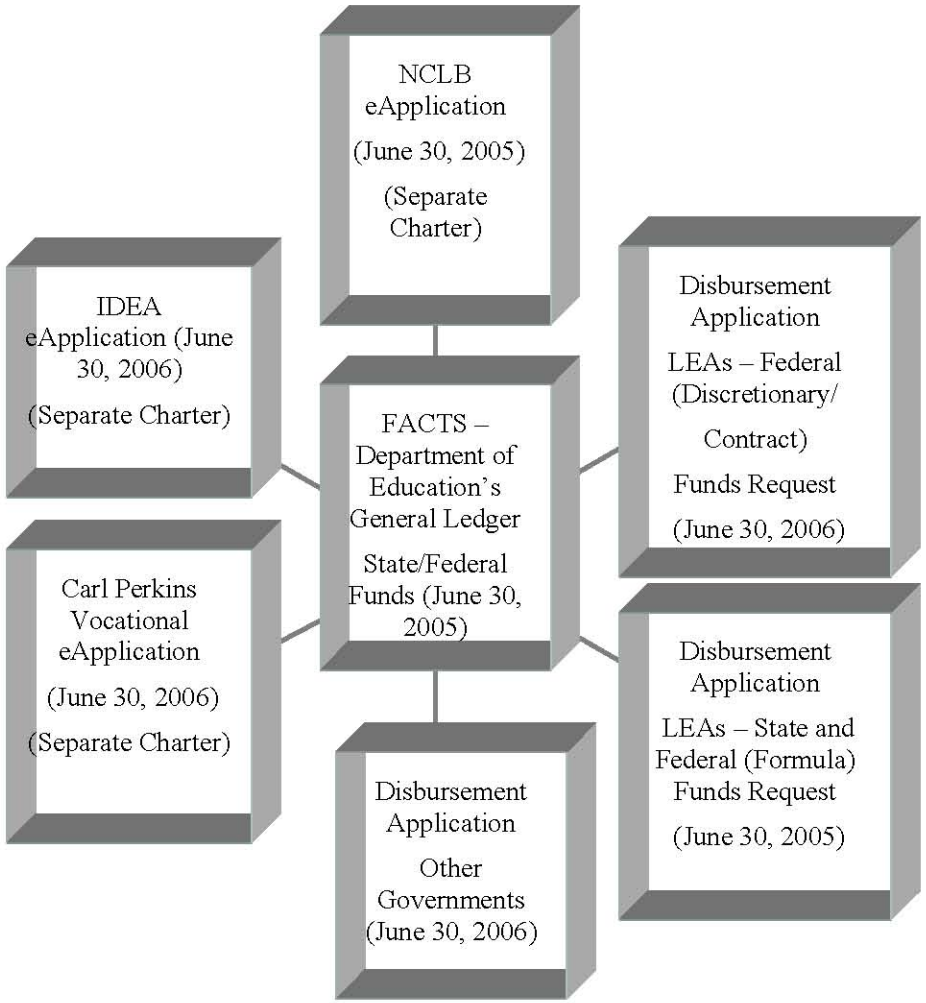

FIGURE 2 **DEPARTMENT OF EDUCATION ACCOUNTING AND BUDGETING SYSTEM**

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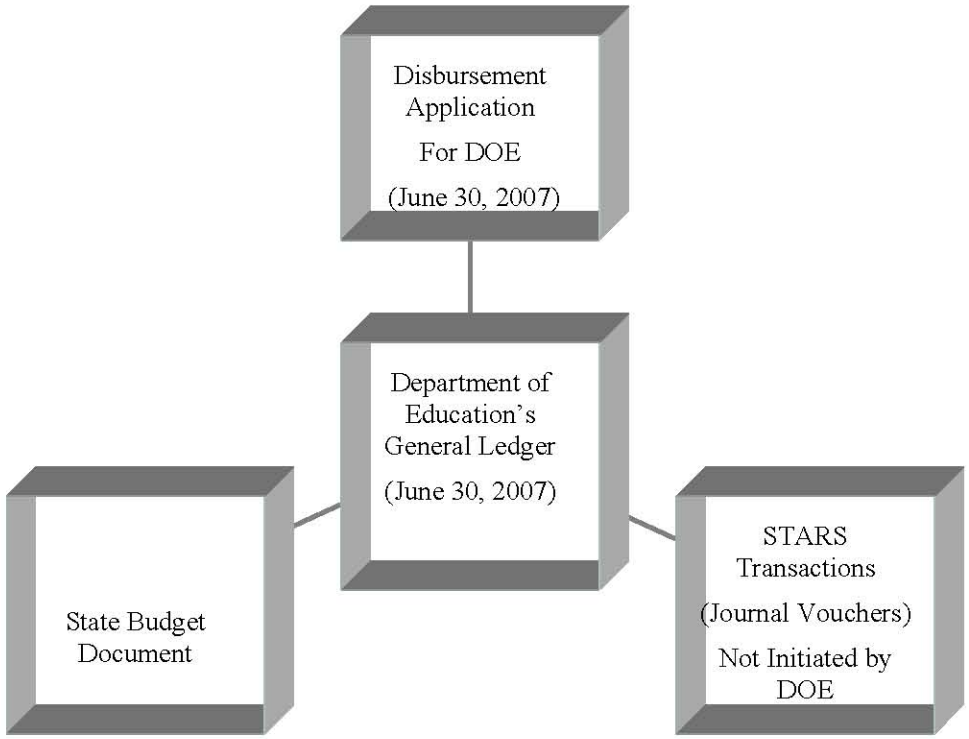

TABLE 1

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% Complete	Weight	Value	Recommendations
			STATE CURRICULUM INFORMATION MANAGEMENT - SET ACADEMIC STANDARDS AND CURRICULUM
0%	50%	-	1. Convert Tennessee performance indicators to SIF-conforming data stream. Publish standards as browseable html and downloadable .pdf documents.
0%	25%	-	2. Manage standards development and review as projects through a central project management office.
0%	25%	-	3. Continue to improve articulation between curriculum and assessment staff to ensure alignment.
	subtotal	-	
			STATE ASSESSMENT RESULTS MANAGEMENT - ADMINISTER ASSESSMENTS
25%	20%	0.05	1. Use unique student ID to pre-code assessment answer sheets to increase efficiency of test processing, and build the foundation for longitudinal data management.
0%	5%	-	2. Establish protocols for archiving assessment results in a retrievable format.
10%	20%	0.02	3. Create a data warehouse to store results.
0%	5%	-	4. Provide TDOE staff with access to assessment results data.
0%	5%	-	5. Synchronize online assessment roll out plans with portal directory plans (see three-year plan in Section V).
50%	20%	0.10	6. Create formative online assessment with released test items to support ongoing, low stakes classroom-based assessments.
0%	5%	-	7. Integrate formative and summative assessment data with SSMS gradebook.
10%	20%	0.02	8. Deploy e-Learning tools to support standards-based instruction.
	subtotal	0.19	
			EDUCATOR CERTIFICATION MANAGEMENT - CERTIFY EDUCATORS
5%	45%	0.02	1. Replace archaic certification systems with a modern system that eliminates paper, expedites the process, and creates retrievable data.
15%	5%	0.01	2. Consider using the Delaware or Massachusetts system as a basis.

% Complete	Weight	Value	Recommendations
	30%	-	3. Explore alternative certification routes with condensed training options and financial incentives to attract the best and brightest to the profession.
	10%	-	4. Provide additional support for first-year teachers through an enhanced induction year program.
10%	10%	0.01	5. Use data (value-added) to drive professional development offerings from the SEA.
	subtotal	0.04	
			CONDUCT DATA DRIVEN ANALYSIS AND INTERVENTIONS - DECISION SUPPORT TOOLS AND DATA WAREHOUSE
10%	50%	0.05	1. Provide districts with online school improvement planning tools.
	10%	-	2. Improve communications between Exemplary Educators in the AYP schools – video conferencing and list serves.
10%	10%	0.01	3. Use online tools to support school improvement planning.
0%	10%	-	4. Use annual district technology plan approval process to collect basic inventory data.
5%	20%	0.01	5. Create data warehouse with decision support tools closely guided by educational priorities.
	subtotal	0.07	
			DISTRIBUTE GRANTS/AID & ENSURE COMPLIANCE - FACILITIES, FINANCE & GRANT DATA COLLECTION
60%	100%	0.60	1. Need full grant management system.
	subtotal	0.60	
			COLLECT & REPORT DATA - STAFF RECORD COLLECTION, DIRECTORY, STUDENT ID & RECORD COLLECTION, SAFETY & DISCIPLINE
50%	10%	0.05	1. Reorganize staff and create a CIO position to implement enterprise-wide systems.

% Complete	Weight	Value	Recommendations
20%	10%	0.02	2. Enforce an enterprise directory and create a statewide education portal.
90%	10%	0.09	3. Accelerate elimination of paper-based aggregate reports by 2005-06.
25%	10%	0.03	4. Create a statewide system to register each student with a unique ID.
30%	10%	0.03	5. Begin development of a data warehouse and decision support infrastructure.
5%	10%	0.01	6. Continue to increase TDOE IT staffing to offset outside contractor costs.
100%	10%	0.10	7. Implement a Project Management Office.
100%	10%	0.10	8. Hire an independent auditor to assess the SSMS project on a regular basis
35%	10%	0.04	9. Continue to use the Advisory Group and form a User Group as the system goes into production.
35%	10%	0.04	10. Report periodically to the Board the status of the SSMS system.
	subtotal	0.49	
Total potential points =		6.00	
Total points to date=		1.39	

Tennessee Department of Education

Statewide Student Management System (SSMS)

Project Charter

[October 22, 2004]

Updated: February 28, 2005

THIS PROJECT SUPPORTS THE FOLLOWING GOALS (check all that apply):

By fiscal year 2009:

√ Implement 100% of the Decision Support Architecture Consortium (DSAC) plan. Primary & Middle School Education

☐ Raise adequate yearly progress (AYP) in assessed areas to 85% proficiency or above.

☐ 100% of the academic state standards of learning will be aligned with national standards, communicated and implemented.

☐ Improve teacher retention rate to 75% (after the first five years of teaching) by developing programs for attracting, supporting and maintaining highly qualified individuals.

☐ Develop comprehensive early childhood education programs in 100% of the elementary schools to address the educational, health, and social service needs of at-risk pre-school children.

Priority

X High (Critical for [Enterprise]'s continuation, legal or legislative mandate, health or safety issue)

_ **Medium** (Broad-based economic or performance benefit to [Enterprise])

_ **Low** (Clear benefit to departments/divisions within [Enterprise])

Introduction

The purpose of the Statewide Student Management Software is to provide:

- A centrally managed system that can be supported by Department personnel
- The Local Education Agencies with the basic functionality required to generate calendar, student, staff, and class data for their schools including attendance, gradebook, special education census, scheduling, and discipline
- The Local Education Agencies with a standardized, electronic method for meeting the Department's reporting requirements.
- The capability for Local Education Agencies to have on-line access, updates, and query to their respective information.
- The capability for Local Education Agencies to produce export files for the purpose of importing into EIS and into other applications.
- A flexible system that can respond to constantly changing legislative mandates

The Statewide Student Management Software System will provide required data to EIS to satisfy State legislative mandates and reporting obligations and No Child Left Behind requirements, and ensure effective oversight of Local Education Agencies in accordance with the Tennessee Education Improvement Act of 1992.

Project Organization

Role	Description	Assignment
Executive Sponsor	Has ultimate authority over and is responsible for a project and/or a program, its scope & deliverables.	Commissioner
Project Sponsor	Assists in developing the project charter and project plans, executes project reviews, & disposes of issues and change requests.	Tim Webb
Project Manager	Develops and maintains project charter and project schedules, executes project reviews, tracks & disposes of issues & change requests, manages the budget, and is responsible for overall quality of the deliverables.	Lisa Cothron
Project Team	Is responsible for performing the activities necessary for implementation of the project.	SDE – Norton McDaniel, Debbie Gilliam, Rita Davis, Darien Cordell, David Blier, Lora Lape, Lanny Owen, Linda Fuqua, Terry Long; OIR Data Center staff; PCG; Century; ENA

Key Customer(s)	Provides expert business understanding of the organization, and represents area for which the project is intended to support/serve.	LEAs, Attendance Supervisors, Technology Coordinators, Principals, Teachers, Clerks

Value Statements

Improvement Area	**Major**	**Minor**	**None**	**Value Statement** (in support of the improvement)
1. Meet strategic objective(s)		X		Accurate and timely student data will be available for decision making.
2 Increase Student Achievement		X		Tracking of student test scores with their day to day classroom grades will provide teacher's with daily feedback of student performance.
3. Increase Efficiency	X			Department and LEA staff will have online, real time access to data as needed.
4. Increase Productivity				
5. Improve Responsiveness	X			LEAs will be able to meet state reporting requirements on time. Department will be able to meet federal reporting requirements on time.
6. Improve Customer Service/Value	X			Department will be able to support District's student management issues. Department will be able to quickly respond to data requests.
7. Decrease Cost				
8. Reduce Risk		X		Department's risk of losing federal funds due to inaccurate and late reporting is minimized.
9. Improve Quality	X			Data is validated through a single application and therefore ensures all student data statewide is validated to meet State requirements.
10. Other (Describe)				

Project Scope

Desired Results (or Project Objectives)	Deliverables
Contract for SSMS	• Define technical requirements for RFP • Release RFP and Evaluate Proposals • Award Contract
Implement Phase 1 Districts - 34	• Define data mapping requirements from existing sms package to Star Student • Acquire Hardware and Software for setup of Production Host site • Implement Production Host site • Train Districts on Star Student and EasyIEP • Convert Data for the 34 pilot districts • Begin 2004-2005 school year on SSMS • Provide support/helpdesk to 34 districts
Rollout of Discoverer Adhoc Query Tool	• Define End User Layer for school districts data view • Develop training guide • Train school districts
Create Oracle Certified High Availability Host site	• Define High Availability requirements • Acquire Additional Hardware • Implement Staging Host site • Migrate Production Host site to Oracle High Availability
D&A Census Replacement	• Define minimum data entry requirements in EasyIEP to meet Census reporting.
Implement Phase 2 Districts – 38	• Evaluate Phase 2 End site bandwidth and define upgrade plan • Define data mapping requirements from existing sms package to Star Student • Refine Training Materials • Train Districts on Star Student and EasyIEP • Convert Data for the 38 districts • Begin 2005-2006 school year on SSMS • Provide support/helpdesk for 72 districts
Parent Portal	• Define Parent Portal architecture • Define hardware and software requirements • Acquire hardware and software • Determine cost per student • Implement Parent Portal Host site
Implement Phase 3 Districts – 34	• Evaluate Phase 3 End site bandwidth and define upgrade plan • Train Districts on Star Student and EasyIEP

	• Convert Data for the 34 districts • Begin 2006-2007 school year on SSMS • Provide support/helpdesk for 106 districts
Implement Phase 4 Districts - 8	• Evaluate Phase 4 End site bandwidth and define upgrade plan • Train Districts on Star Student and EasyIEP • Convert Data for the 8 districts • Begin 2007-2008 school year on SSMS • Provide support/helpdesk for 114 districts

Project Risk

Risk Management Matrix (updates to this continue throughout life of Project.)

Potential Risk	Description of Risk	Resolution
Technology	Complexity of Host site Architecture and lack of expertise with the Oracle High Availability Architecture.	Improve relationship with OIR Data center staff by understanding their role and responsibilities for all state systems.
Financial	Older pc's and OS in LEAs. Funds to upgrade End sites to T1 lines.	LEAs can redirect the funds previously paid to support their local student information system. Request budget improvement to fully fund existing contract.
Security		
Political	LEAs perception of problems with SSMS.	Monthly newsletter to address any problems/concerns.
Staffing	Current staffing is insufficient to support 112 school districts using this product.	Fill vacant technology positions.
Regulatory		
Skills	LEAs capabilities and skills.	Improve training materials and courses to ensure LEA staff has basic skills for using SSMS.
Operational Readiness	Staging host site to allow testing of new releases of software or Oracle patches.	Implementation plan in process.
Other (explain)		

Project Assumptions/Dependencies

[Document any assumptions and dependencies that could significantly affect the project depending on their outcome.]

Assumption	Description
OIR data center staff is available.	OIR data center staff is a necessity for the Oracle High Availability staging and production host site.

Project Work Plan Summary

Milestone Date	Deliverable to be Provided
October 2003	RFP to F&A/Comptroller for Review/Approval
November 2003	RFP Released
January 2004	Contract Awarded
February 2004	Data Conversion Begins for Pilot LEAs; 97,000 students
NLT July 2004	Basic Program Available to All LEAs
November 2004	Oracle Discoverer ad-hoc query tool available to LEAs
March 2005	Implement Tier 1 Helpdesk utilizing OIR; Department is Tier 2; Century/PCG is Tier 3
April 2005	Oracle High Availability Staging Host site implemented
June 2005	Oracle High Availability Production Host site implemented
Jan 2005 – June 2005	Data Conversion/Training for additional LEAs; 189,000 students
June 2005	D&A replaced with EasyIEP for all Districts.
July 2005	Implement State Assigned Unique Student Identified process
July 2005 (on Hold)	Parent Portal available to LEAs
Jan 2006 – June 2006	Data Conversion/Training for additional LEAs; 189,000 students
July 2006 – June 2007	Data Conversion/Training for additional LEAs; 189,000 students
July 2007 – June 2008	Support and Maintenance of all districts

Project Budget Summary

See Cost Benefit Analysis submitted to OIR for project approval.

Project Budget Summary	
Budget Categories	***Amount***
Internal Resource Labor (see table below)	$ XXX (assuming average of $ X/hr.)
External (Contract) Resource Labor (see table below)	$ XXX (assuming average of $ X/hr.)
Materials and Supplies	$ XXX (assuming average of $ X/hr.)
Direct Purchases	$ XXX
Employee Expenses	$ XXX
Training	$ XXX
Contract FY 03-04	$2,612,210
Contract FY 04-05	$4,426,550
Contract FY 05-06	$4,166,320
Contract FY 06-07	$3,323,020
Contract FY 07-08	$1,361,200
TOTAL	$15,889,300

Approved by Executive Sponsor:_____ ***date:*** _____

GEORGIA
DEPARTMENT OF
EDUCATION

Office of the State Superintendent of Schools

Kathy Cox, State Superintendent of Schools

June 30, 2005

The Honorable Lana C. Seivers
Commissioner of Education
Tennessee Department of Education
6th Floor Andrew Johnson Tower
710 James Robertson Parkway
Nashville, Tennessee 37243-0375

Dear Commissioner Seivers:

This letter is to express our support for and commitment to the Tennessee application for grant funding under CFDS No. 84.372 published in the Federal Register April 15, 2005, entitled "Notice Inviting Applications for Grants to Support Statewide Longitudinal Data Systems for Fiscal Year (FY) 2005."

Georgia proposes to exchange student transcript data with Tennessee, using the multi-state National Transcript Center as outlined in the grant specifications should both our states receive grant awards.

We look forward to working with the Tennessee Department of Education on this most worthwhile and innovative project.

Yours truly,

Kathy Cox

Kathy Cox
KC/sg

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