IES PRS

Application Profile

Application Number: R372A05011

Competition: 84.372A05 **Date Entered:** 6/28/2005

Organization Information

Organization Name: Ohio Department of Education

Organization Unit: Office of Data Services

Organization Address: 25 South Front Street

Columbus, OH 43215-4183 **Country:** United States of America

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Application Title

Longitudinal Data System

State Identifier

Period of Performance

Project Begin Date: 11/01/2005 **Project End Date:** 10/31/2008

Abstract

Project Title: Longitudinal Data System
Funding amount requested: $6M in total funding for three years

The major focus of the proposed work: The Longitudinal Data System (LDS) is a key element in the Ohio Department of Education's (ODE) commitment to create and sustain a unified statewide data exchange system to address federal and state directives for timely and accurate data and to serve the agency's customers— students, teachers, school districts, researchers and regional information centers. Using the Schools Interoperability Framework (SIF), Ohio will have a common language for representing data and a reliable, secure and consistent protocol for sharing data vertically among local, State and Federal stakeholders. The expansion of value-added information will serve as a self-inquiry system for teachers and principals to determine the effects of schooling. Aligned to the No Child Left Behind Act of 2001, LDS is based on the four basic principles of stronger accountability, increased flexibility and local control, expanded options for parents and an emphasis on proven teaching and learning strategies.

This focus is a lever of change for the Ohio data system: Ohio is in the midst of a data system transition that began in 1998 when a change in state legislation authorized the reporting of personally unidentifiable student level data via the use of a unique data verification code. In 2002, through the use of a third-party administrator (IBM), Ohio implemented the Statewide Student Identification System (SSID) to assign unique permanent identification numbers to students. ODE began collecting unidentifiable individual student data in school year 2002-2003.

While changes were made to the Education Management Information System (EMIS) to support the collection of student level data, much of the system functionality remains unchanged from the 1990's system design. EMIS was designed to process and manage aggregated student data not to manage individual student level records over time. As a result, even though ODE now has student level data, ODE's ability to efficiently and effectively manage the data and its ability to perform or facilitate statewide longitudinal data analysis to improve student achievement is limited. While ODE has made significant investments in various technologies and development efforts, it has not been afforded the resources necessary to design and develop the necessary system components to fully realize the benefits of the data and ensure appropriate use of data.

Key strategies to align federal, state, regional, district, school and classroom levels: LDS will build upon a statewide data system by creating the following products:

- Data definition and format standards for shared data
- Standard transfer mechanism for data sharing
- Relational database to efficiently manage longitudinal data on student records assigned permanent unique identification numbers
- Comprehensive data dictionary to support reporting of quality data and appropriate, consistent use and representation of data
- Enterprise data warehouse for all program areas to facilitate longitudinal data analysis on student achievement and link students to teachers via courses.
- Appropriate and secure access to data by districts, legislators, general public, and researchers
- Decision support tools/applications to analyze the data

- Automated vertical reporting to the US Department of Education
- Professional development for educators on using data
- Evaluation of effectiveness of the LDS

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

Exempt Narrative:

Non-Exempt Narrative:

Estimated Funding

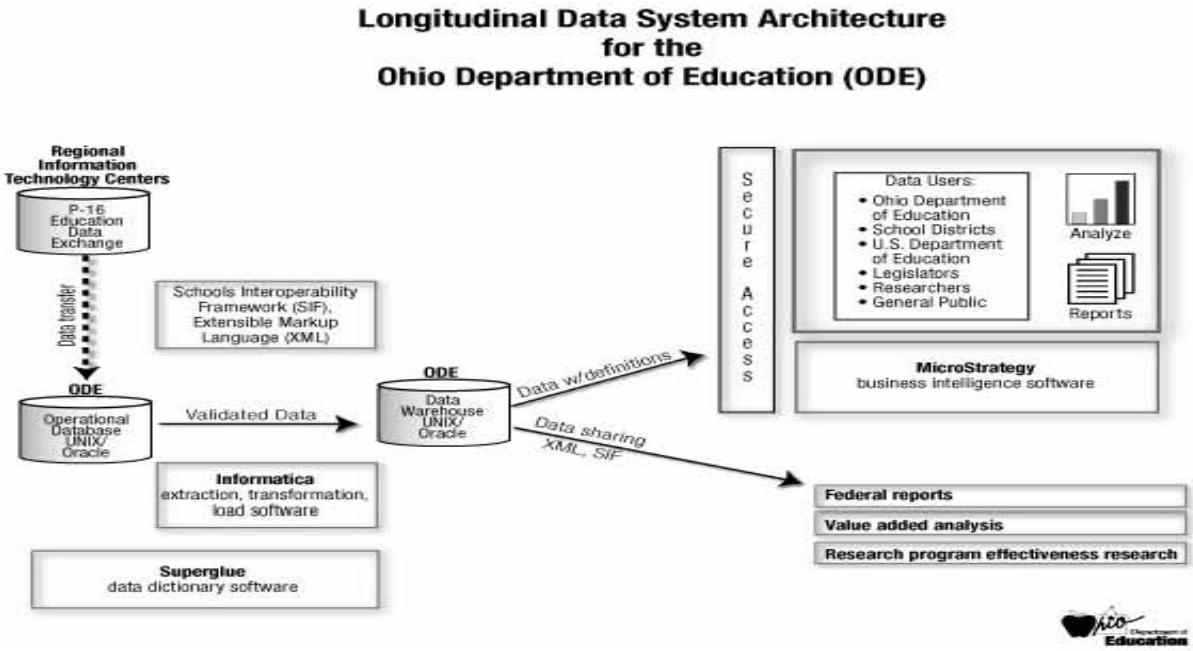
Federal:	$6,000,000.00	Local:	$0.00		
Applicant:	$0.00	Other:	$0.00	Total:	(b)(4)
State:	(b)(4)	Program Income:	$0.00		

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	$3,000.00	$3,000.00	$3,000.00	$0.00	$0.00	$9,000.00
4. Equipment	$655,000.00	$100,000.00	$10,000.00	$0.00	$0.00	$765,000.00
5. Supplies	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
6. Contractual	$1,016,250.00	$2,573,850.00	$1,635,900.00	$0.00	$0.00	$5,226,000.00
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	$1,674,250.00	$2,676,850.00	$1,648,900.00	$0.00	$0.00	$6,000,000.00
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	$1,674,250.00	$2,676,850.00	$1,648,900.00	$0.00	$0.00	$6,000,000.00

Non-Federal Budget

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



Key Terms of the Longitudinal Data System Architecture
Data Transfer utilizes of Extensible Markup Language (XML) to identify data and establish XML schemas for transferring required data, the system will adopt and implement standard formats and naming conventions based upon the Schools Interoperability Framework (SIF) specifications. Streamlined, automated processes will be implemented to share data for Federal reporting, value added analysis and research via XML. Data Warehouse is an electronic repository for final, validated longitudinal data for decision makers. When fully implemented, it will contain data from the operational database, on all program areas and will link students to teachers via courses. Informatica will be used to extract, validate and transform data and load it into the ODE Data Warehouse in Oracle. This enterprise-wide data integration strategy will provide access, categorize and leverage the data to drive operational efficiency, improve program performance, optimize fiscal responsibility and protect student information. MicroStrategy is the primary decision support/business intelligence tool to access and analyze data. Throughout the life of the system, the agency is committed to invest in additional licenses, functionality and training to maximize the benefits of the tool. Operational Database is the repository for individual student data with unique permanent identification numbers, financial data, staff data, course data and program participation data with the goal of being managed in a relational data structure for effective or efficient access/processing. Superglue is the software tool that is used to manage the data about the data or 'metadata'. The repository will contain both the automated metadata generated by other software (including the data model) and the critical detailed data definitions, calculations, business rules and legislation related to the data.

12. Total Costs

Application Details

D-U-N-S Number:	(b)(2)	T-I-N:	31-1334820	Duration (years):	3
Any Federal Debt:	No	Specify:			
Type of Applicant:	State	If Other, Specify:			

Authorized Representative Information

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Statewide Longitudinal Data System Grant

Ohio Project Narrative

To create and sustain an effective and efficient statewide data exchange system

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1. Need for the Project

Over the past five years, Ohio has built a standards-based educational system of aligned academic content standards, curricula, assessments, and accountability to drive higher achievement for all students and meet the goals of the *No Child Left Behind Act*.

To drive higher achievement, teachers must access and analyze data to inform and improve classroom instruction. Ohio has invested more than $30 million since 2003 to build a strong technical foundation that supports a longitudinal data system for education stakeholders.

In the 2006-2007 state budget, Ohio is committing $15 million each year to maintain this streamlined student-level data collection and reporting system. While limited state resources will sustain the current system, federal funding will enable Ohio to transform its data collection system to a longitudinal data system that will:

- Generate accurate and timely data to meet both Federal and State reporting requirements;
- Support decision-making at State, district, school, and classroom levels;
- Align resources to close achievement gaps and improve learning for all students;
- Serve as a model that other states can adopt.

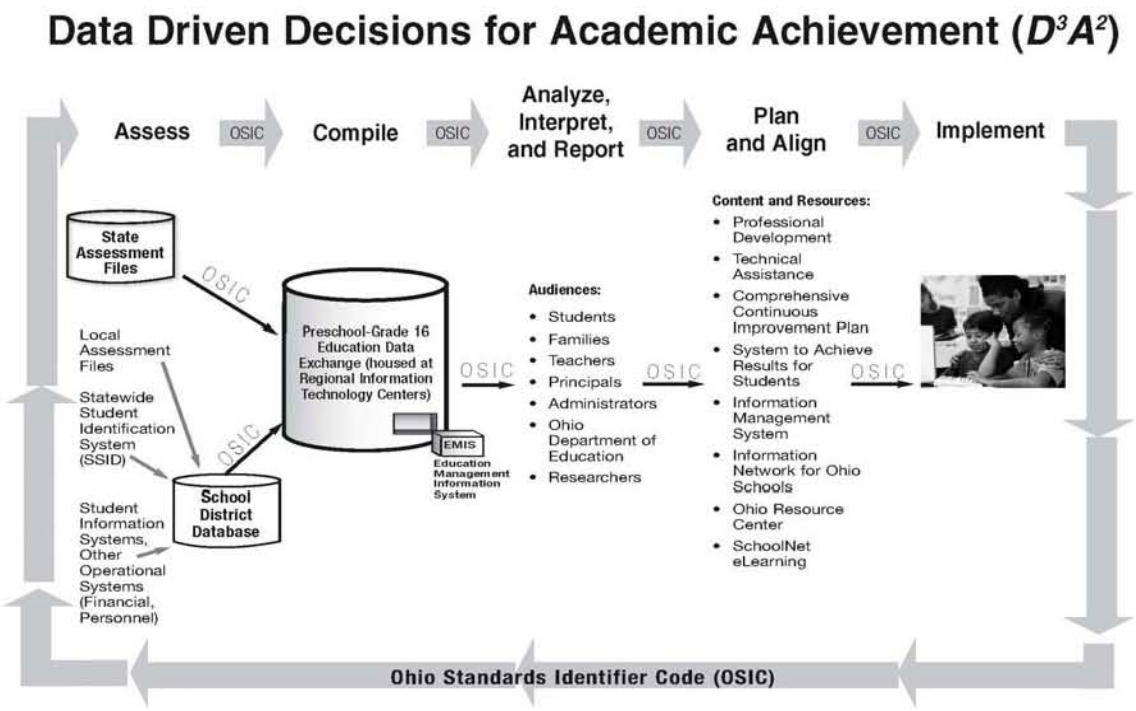
The proposed grant would enable ODE to

- Meet the 2013-14 performance target that *all students will reach high standards at a minimum at proficiency or better in reading, language arts and mathematics.*

- Meet goal set by the State Superintendent: *High Achievement For All Students*.
- Adopt and implement nationally recognized data definitions and format standards to ensure the consistency of shared data.
- Maximize the value of the system by providing professional development to education data users.
- Evaluate the system on a continual basis to meet the needs of the stakeholders.

The key success indicator is that educators, families and students acquire, analyze and use data to inform instruction and services. This proposal will expand the existing system to develop decision-support capabilities.

Ohio has the experience, capability, and track record of building tools that are being used by other states. By investing in Ohio, the U.S. Department of Education can maximize its return on investment across the country.



Data Driven Decisions for Academic Achievement (D3A2) is the Ohio long-term initiative focused on the creation of a comprehensive data exchange system – that provides access to both data and to aligned resources to improve instruction and student achievement. Resources include instructional content, professional development, technical assistance and planning tools. It is a collaborative effort of stakeholders, both data users and data providers, to develop an effective and efficient system that provides timely and accurate data to all users – from the teacher in the classroom customizing instruction based on the data to the researcher doing longitudinal analysis of student academic growth for improving student performance. Improving educators' comfort

and proficiency in analyzing data will inform instruction and practices. When quality educators use accurate data, they are able to make informed education decisions that increase achievement for all students.

Through a statewide education network, school districts, Regional Information Technology Centers (previously known as Data Acquisition Sites or DA-Sites), and contracted service providers are linked with the Ohio Department of Education (ODE) and provide data through the Education Management Information System (EMIS). Through EMIS, established in law by 1989, districts report student, staff, course, program and financial data to the ODE.

There are four major functions of the EMIS: 1) State and Federal reporting, 2) funding and distribution of payments, 3) academic accountability system, and 4) statewide reports. The chart below summarizes the status of Ohio's current statewide data system with respect to each of the required policy/implementation components, the existing limitations and what would be gained through work proposed for this grant program.

Status of the State's Current Statewide Data System

Policy/Implementation Component Capacity to support research on student academic growth and other factors associated with improving achievement of all students and reducing achievement gaps between different subgroups of students
Current Limitations Access to individual student records is necessary to support research on student academic growth. In 1998, a change in state legislation authorized the reporting of personally unidentifiable student level data via EMIS via the use of a unique data verification code. In 2002, through the use of a third-party administrator (IBM), Ohio implemented the Statewide Student Identification System (SSID) and ODE began collecting unidentifiable individual student data during the 2002-2003 school year. While changes were made to the EMIS to support the collection of student-level data, due to the lack of resources, much of the system functionality and structure remains unchanged from the 1990s system design which was designed to process and manage aggregated student data not to maintain and manage individual student level records over time. As a result, with the current system, ODE's ability to efficiently process and manage statewide student-level data and its ability to support statewide longitudinal data analysis on student academic growth is limited. Professional development is needed for educators who do not know how to interpret the available data or how to use this data to inform instruction and improve student achievement. Currently, the Ohio Department of Education is launching summer professional development focused on results from the Ohio Graduation Test. This four-module professional development designed for high school teachers will emphasize the need to discuss and use data, item analysis, analysis to action and uses technology to access data. This initial professional development is just a first step. In addition to this professional development for teachers, the Ohio SchoolNet Commission (as of July 1, 2005 to be named E Tech Ohio) has been conducting training for administrators (superintendents, assistant superintendents, principals and assistant principals) to envision what the effective use of instructional technology can look like in their schools and to help them lead their staff members to realize this vision. One module concentrates on data

sources that are available from the Ohio Department of Education and the Ohio SchoolNet Commission and how this data can be used in planning. The next step in data driven professional development will build off of these opportunities as well as lessons learned.
Gains with Proposed Grant Funding from this grant would be used to make the system and architectural enhancements necessary to support longitudinal analysis of student academic growth and other factors associated with improving achievement of all students and eliminating the achievement gaps between different subgroups of students. Specifically, funds would be used to design and develop a relational operational database to allow ODE to effectively and efficiently manage individual student data over time with a permanent unique identification number and would enable ODE to expand the contents of its data warehouse to encompass all education program data and to link teachers to students via courses. These activities support Ohio's standards to prepare our students for the demands of the new century. Professional development will help educators to develop the insights, knowledge and skills they need to become effective classroom and school leaders. A differentiated model for the design and delivery of professional development will be implemented to support the targeted needs of Ohio educators.

Policy/Implementation Component Capacity to exchange data across institutions within the State (e.g., between districts or between secondary and postsecondary institutions) and potentially among States (e.g., record transfer for students moving between States)
Current Limitations While data definition and format standards for submitting data to ODE exist, the format for data exchange is limited. It is based upon fixed length record structures specific to Ohio's reporting needs. Additionally, standards for electronically exchanging data between districts- such as for student transcripts- do not exist.
Gains with Proposed Grant This grant will be used to adopt and implement a national standard for data formats and definitions – the School Interoperability Framework (SIF)- which would facilitate efficient sharing /transfer of records between districts, between districts and ODE, between ODE and other states. The implementation of these standards would facilitate the exchange of consistently defined and formatted data among districts and states, including the potential electronic transfer of transcripts.

Policy/Implementation Component Capacity to provide reports or ad hoc analyses to a wide range of stakeholders such as parents, teachers, administrators, State and local officials, business community and the general public
Current Limitations Stakeholders have the ability to access reports and data for ad hoc analysis through the ODE website and the use of the Microstrategy business intelligence tool. However, the existing reports and data available are limited because the Data Warehouse does not currently contain data on all education programs nor does it link teachers to students.
Gains with Proposed Grant This grant will enable ODE to expand the contents of its Data Warehouse to include all education program data and to associate teachers to students. This grant will also enable ODE to invest in additional Microstrategy software licenses to increase its capacity to provide reports or ad hoc analysis to a wide range of stakeholders.

Policy/Implementation Component Capacity to implement and then sustain the statewide longitudinal data system over time (including staff, technical and monetary resources as well as training and technical assistance to local education agencies)
Current Limitations Ohio's substantial infrastructure investment and commitment to providing training to its technical staff provide a solid foundation for a longitudinal data system, but funding for additional development and enhancements is limited due to state budgetary constraints. (Refer to technical details of software and hardware in page 8.) In the state budget, there are financial resources provided to local education agencies to report data via EMIS, to Regional Information Technology Centers for data collection support and for the ongoing EMIS administration at ODE. State funding also exists for district connectivity to the Internet and to the Ohio Education Computer Network and for ODE operations related to data reporting and collection. However, funding is inadequate to make the necessary changes to align with new data format /exchange standards and to transition the system to one that facilitates longitudinal analysis.
Gains with Proposed Grant This grant will enable ODE to improve its existing system by providing funds to develop and implement data standards, to share data in a SIF compatible format, to design and develop additional system components and to upgrade current processes to improve the quality and timeliness of data. Additionally, this grant will enable ODE to increase its capacity to provide access to business intelligence tools for data analysis and to provide local education agency educators with professional development and training on how to use data

Policy/Implementation Component Procedures that support access to the longitudinal system's data base by researchers under conditions specified by the SEA and in compliance with Federal and State privacy regulation (including FERPA)
Comment Implementing formal standardized procedures and policies regarding access to data is a top priority as ODE strongly supports research to improve education and student achievement. There is a proposed change in state legislation ORC 3301.12 permitting the superintendent of public instruction to share the student SSID data – in compliance with FERPA- to conduct such studies and research projects as are necessary or desirable for the improvement of public school education in Ohio.
Current Limitations The existing system and data sharing procedures are vague and do not support easy access to a longitudinal database by researchers. Additionally, the current state legislation is restrictive in sharing and accessing to the permanent student unique identification code. It is frequently unclear as to the conditions that allow ODE to provide access to the individual student records tracked by unique permanent ID not name. Each request received by ODE is handled on a case-by-case basis that includes a legal review. If a request is approved, the use of confidentiality agreements indicate that the data will only be used for the agreed upon purposes, no raw data will be publicly displayed or shared, and any individually identifiable information in the data set will be destroyed at the completion of the research.
Gains with Proposed Grant This grant will enable ODE to provide a longitudinal system database encompassing all program area data and facilitating access by researchers with the purchase of additional licenses and functionality for its decision support environment. ODE will develop formal procedures, in compliance with State privacy regulations and FERPA, for providing and monitoring access, including confidentiality agreements.

Policy/Implementation Component Clear evaluation criteria for determining successful development/implementation of the statewide longitudinal data system, its quality and effectiveness in meeting the reporting and decision support needs of all of its key stakeholders (at minimum parents, classrooms, schools, districts, SEA and collaborating researchers) and eventually its effectiveness in catalyzing improvement in academic achievement of all students and in closing the achievement gaps
Current Limitations Key measures for evaluating the implementation and impact of the initiative will focus on access to and use of data across multiple stakeholder groups. We currently lack baseline data from these groups. The evaluation design will utilize a rigorous sampling plan to reflect diverse demographics across the state and assess variability in access to and use of data both within and across stakeholder groups. Two limitations of the ability to evaluate the initiative are the difficulty in determining attribution of change to the work specifically funded by this grant (i.e., the work is embedded within a larger systemic effort to increase data quality and access throughout the state) and the lack of comparison groups (i.e., access to the "intervention" will not be withheld from particular stakeholders).
Gains with Proposed The proposed evaluation by an independent third-party evaluator will determine: • Number of people served • Quality of services and products delivered • Customer satisfaction • Extent to which new skills and tools were used • Degree of change in using data to drive decision-making • Efficiency and effectiveness of the design, development and implementation of the statewide longitudinal data system • Unintended consequences

2. Project Design

The proposed Longitudinal Data System (LDS) project encompasses the vertical data sharing component of the D3A2 and is a redesign of the Education Management System (EMIS). EMIS is the current mechanism for local education agencies to report data to the State to meet both State and Federal reporting requirements. The primary goal for the LDS is the development of a system that processes and validates data efficiently and effectively so accurate statewide longitudinal data can be provided to stakeholders for timely decision making. Meeting that goal requires the development of a robust Data Warehouse and Data Dictionary. The Data Warehouse will cover all education program areas, link teachers to students via courses and enable longitudinal analysis on student performance while protecting confidentiality with the use of a permanent data verification code. *Note: The Ohio Department of Education is not allowed access to individually identifiable student data.*

Technical Specifications
System Architecture

Database Platform: Oracle
Oracle 9i Release 2 (version 9.2.0.6). Plan to upgrade to Oracle 10g release 2 by end of calendar year. Runs on Unix box described below. Oracle is licensed by CPU count of the server.
Hardware: HP SuperDome, Unix Operating System
• Two partitions (servers) in the SuperDome apply: one for the database server and one for the Informatica products. • The partitions are currently configured with a single 4-CPU cell. The SuperDome as a whole can be expanded to as many as 32 CPUs, implying that the two relevant partitions could be expanded to 8-CPUs each. (It could go to 64-CPUs if an expansion cabinet were added.) • The individual CPUs are PA-RISC, model PA8700+ operating at 875 MHz, with 768KB of instruction cache and 1536 KB of data cache on chip. • Each partition currently has 8GB of RAM. That can be expanded to 32GB on the existing cell, or 64MB if a second cell was added, i.e., if four more CPUs were added. • The current Informatica partition has 228GB of disk space reserved for it. The Oracle DW partition has 1.2 TB (terabytes). The system can handle 100 TB, if needed. • Storage attached with dual fiber channel in both partitions, with a 2 Gb/sec bandwidth each. • Network bandwidth is 2.8Gb/sec across 10 interfaces in each partition.
Decision Support (Business Intelligence) Software: Microstrategy
Microstrategy 8.0 running on Windows 2003; server has two AMD64 Opteron CPUs running at 2.4 GHz and 4 GB of RAM. Storage is minimal (around 40 GB), only used for software and cacheing reports. Planned second server will be in the same class as the current server and will be for named users only. Current server will be primarily for external consumption. Licensing: 1) One CPU @ 2.5 GHz license each of Intelligence Server, Web Analyst, and (in process) Report Services. Unlimited users, intended for iLRC, other external uses, and applications that need basic reporting without advanced OLAP functionality. 2) Named User licenses (for ODE use only) for Intelligence Server, Desktop, Web Professional (in process), OLAP Services (in process), and Report Services (in process). When all in-process purchasing is complete, ODE will have 40 licenses of this bundle (with each user having either Desktop or Web Professional, but not both). These are intended for ODE internal use by Data Managers and other analytical users.
Extraction, Transformation and Loading Software: Informatica
• Informatica PowerCenter 7.11 • Runs on the same Unix box described above • Licensed by CPU count of the server
Data Dictionary Software: Informatica SuperGlue
• Informatica SuperGlue 2.1 • Runs on the same Unix box described above • Licensed by CPU count of the server
Security Application : SAFE
SAFE (Security Application for Enterprise) serves as an online identification card, giving customers secure access to ODE programs and services with a single login. SAFE uses industry-standard security technologies for encryption of account names and passwords when transferred over the Internet.

Plans for Developing and Implementing the Statewide Longitudinal Data System
Details of the data systems components are listed in the chart below. *Italics indicate work to be accomplished with this grant.*

Required System Component A unique, permanent student identifier assigned by the State or through a process coordinated by the State.
A unique, permanent student identifier system (and the state funding to sustain the system) are mandated in the Ohio Revised Code. The system was fully implemented in 2002-2003.

Required System Component The architecture should be based upon analysis of current data systems, plans for future enhancements, and analysis of information needs across the SEA and districts' program offices, schools, classrooms and Federal reporting requirements.
The master plan for Ohio's Data Exchange System (D3A2 project) is using cross-functional committees to analyze the current data systems and information needs of districts' program offices, schools and classrooms. *This grant will enable ODE to establish data interoperability standards to facilitate integration with current and future systems. This grant will enable ODE to increase the capacity of its decision support environment to not only address current system needs of districts, schools, classrooms and Federal reporting requirements but to also plan and prepare for future enhancements and use.*

Required System Component Data types and items must at minimum include all data elements required for reporting under the Elementary and Secondary Education Act of 1965, be maintained in a longitudinal format (data linked cross years) and allow for meaningful longitudinal analysis of student academic growth within all subgroups specified by the No Child Behind Act of 2001 (NCLB).
The current system contains required Federal data elements and more. Data elements include: student demographic information, enrollment throughout the year, graduation and withdrawal data, statewide assessment data, student program participation, teacher qualifications, teacher subject and grade assignments, student attendance, student course enrollment – associating students with teachers (and their qualifications, experience and professional development) through courses, financial systems data, building and district information. *This grant will enable ODE to expand the contents of the Data Warehouse enabling access to all education program data across years, to connect students to teachers and to streamline Federal reporting. The enhancements will facilitate research to assess the effectiveness of educational programs and other central education policy issues.*

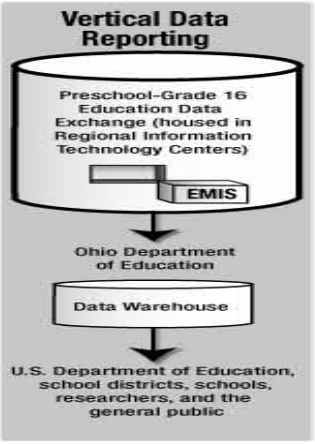
Required System Component The architecture must be relational in nature by assuring the capacity to link records across information systems (e.g., to associate students with their teachers).
This grant will allow ODE to design and develop a relational database structure for efficient data validation, maintenance, and retrieval. This relational architecture will replace the current flat file structures. Additionally, this grant will enable ODE to enhance the Data Warehouse structure to associate teachers to students via courses and to include additional information from other data sources , such as the Ohio Board of Regents' data on qualifications or educational background information on teachers.

Required System Component The enterprise wide data architecture should identify all of the data items to be included in the system.
This grant will allow the development of an enterprise wide architecture with aligned data standards, data models and a data dictionary containing information on the lifecycle of the data, both technical and business. All of the data in the system will be clearly identified and defined.

Required System Component Procedures for protecting the security, confidentiality and integrity of data and for ensuring the accuracy and timeliness of data.
Protecting the confidentiality of individuals and complying with Family Educational Rights to Privacy Act (FERPA) is a top priority. ODE is not allowed to have access to student records containing identifiable information such as name. ODE uses a permanent unique identification number (the SID) in a system hosted by a third-party vendor - to protect confidentiality. Per Ohio Revised Code (ORC) 3301.0714 (D), at no time shall a district release the crosswalk that matches the SID with other student level data (e.g., name, address, social security number). This information is protected by the FERPA and by ORC for the purpose of maintaining student confidentiality. Failure to follow Federal and State statutes will result in penalties. ORC requires districts to share this with districts in which the student subsequently enrolls. In situations in which – even without a student name- a group of data elements could potentially allow an individual to be personally identified, ODE does not publish or share the information. So, for data calculations that include a student subgroup containing less than 10 students, data elements are not displayed or shared. Additionally, the SAFE system, based upon secure user authentication, allows ODE to provide secure access and implement controls on access to data. (See Technical Specifications, page 8)

Required System Component Vertical integration of local and State data collections, including plans for requiring participation in the statewide data system and an electronic infrastructure to transfer large data files.
Currently the electronic infrastructure exists to transfer large data files. ORC 3301.0714 requires districts to participate in a statewide data system and authorizes ODE to develop data definitions and format standards to which districts must adhere. *This grant will be used to adopt nationally recognized data sharing standards, ensure that the software used by school districts in Ohio can provide data in a SIF compatible format and facilitate the reporting from the local level to the State level.*

Required System Component A data warehouse or comparable means for managing and storing longitudinally linked data and making it accessible and useful to key stakeholders, especially teachers, schools, and districts.
This grant will 1) allow the design and development of an Operational Database to process and return data for validation purposes and to facilitate access by other software applications that need these data for operational purposes such as performing calculations to determine state funding; and 2) enable ODE to expand the contents of the Data Warehouse to encompass all education program data and to link teachers to students via courses. This grant will allow ODE to expand the capacity of its business intelligence tool – Microstrategy – to ensure that teachers, schools and districts will have access to the Data Warehouse for decision making and analysis to improve student achievement. Through the larger D3 A2 initiative, teachers will also have access to resources – including content, professional development and technical assistance- to improve instruction.



In summary, the LDS will build upon the existing statewide data system by developing the following **products** and services using funds from this grant:

- Data definition and data format standards for shared data
- Standard transfer mechanism for data sharing
- Relational database to efficiently manage longitudinal data on student records assigned permanent unique identification numbers
- Comprehensive data dictionary to support reporting of quality data and appropriate, consistent use and representation of data
- Enterprise data warehouse for all program areas to facilitate longitudinal data analysis on student achievement and links students to teachers via courses.
- Appropriate and secure access to the data warehouse by districts, legislators, general public, and researchers
- Decision support tools/applications to analyze the data
- Automated vertical reporting to the US Department of Education, school districts, researchers and the general public
- Professional development for educators using data
- Evaluation effectiveness of LDS

The LDS project deliverables will enable vertical reporting integration from local to State to Federal levels (including the capacity to report data electronically via the Education Exchange Network (EDEN)) and enhance the existing current architecture to enable access to clearly defined, accurate and timely data – including, but not limited to unidentifiable student records for longitudinal analysis and research. The LDS products to be delivered with this grant are only a subset of the deliverables for the master plan for the D3A2 project to create a Data Exchange System that provides both data and aligned resources down to the classroom level.

Even if no further work was done on Ohio's D3A2 master plan, the LDS is useful in that it establishes the efficient and consistent mechanism for sharing and exchanging data vertically from the local to the State to the Federal level. The adoption of SIF specifications, the creation of a relational database to manage and validate data, the expansion of the decision support environment and the creation of a comprehensive data dictionary will provide stakeholders with access to clearly defined, timely, accurate longitudinal data to facilitate analysis and research to improve student achievement. The LDS will be integrated into the master plan for the Data Exchange System through the alignment with SIF data interoperability specifications.

The following clarifies the status of the core elements for establishing a statewide longitudinal data system, including whether the core elements have been completed, are in process of being completed, are planned for the future, or are not in the ODE's plan.

Ohio Department of Education (ODE)
Map of Core Elements for Establishing a Statewide Longitudinal Data System

Note: Italics indicate work to be accomplished with this grant.

Core Element Analysis of the business needs (multiple reporting and decision support needs) of key stakeholders, including the State, districts, school boards, schools, teachers, parents, students, the public, and other constituents
Status In 2003, ODE engaged MGT of America, Inc. (MGT) to gather and document requirements for a new data system. Interviews and focus groups with the following stakeholders gathered information about the existing system and documented the unmet needs of ODE, superintendents, school business managers, teachers, district data mangers, higher education, and researchers at the National Center for Education Accountability, Ohio Business Roundtable, Management Council of Ohio Education Computer Network, and Education Data Advisory Council. Based on MGT findings, the current D3A2 project includes the participation of cross-functional committees analyzing the educational environment, recommending opportunities and providing implementation approaches. The User Group Committee is composed of teachers, superintendents, principals, technology coordinators, parents, students, other ODE customers and ODE staff. In response to No Child Left Behind requirements, Ohio has developed an effective Comprehensive Continuous Improvement Planning (CCIP) application and payment system. The revolutionary electronic system is used to manage the full range of the state's Federal and state competitive and noncompetitive grant programs. The Supplemental Educational Services (SES) contracts are web-based from the selection of providers, posting the list of approved providers and the evaluation of the providers. This information is easily accessible for parents, potential providers, educators and the general public. This system has dramatically improved the quality of services to the schools by shortening turn around time for disseminating information, responding to customer needs and processing funds. This efficient process has served as a best practice model for other states and has shared with others seeking to improve their systems.

Core Element Cataloging current and planned local data collection methods and data structures
Status A statewide inventory of system elements is underway to identify candidates for integration with the statewide Data Exchange System, including local data collection methods. The inventory will help ODE plan for the integration of systems by providing information on the system functionality, database platform, application platform, data communication protocol, and the language in which the application was developed. The following inventories are being conducted: Assessment Inventory to identify current short-term and long-term assessments used in districts, including your local short-cycle and diagnostic assessments. Content/ Resource Inventory to identify current content and resource providers. Systems Inventory to identify current decision-support tools; student/parent Web portals; and classroom management tools systems used in districts.

Core Element Designing statewide longitudinal data systems architecture, i.e., business needs of key stakeholders, who are data providers and users, and whose needs determine the data types and items to be maintained in the system, years of data maintained, and data quality achieved.
Status The User Group committee of the D3A2 project will work closely with the Technology/Data User Group to design of the enterprise data model to determine both types of data and years of data to be maintained to ensure that the data required by the system is useful and adds value to local education agencies. *This grant will be used to address the vertical data reporting requirements which are a critical subset of the larger Data Exchange system. The funding will be used to design the data model necessary to efficiently and effectively manage the statewide longitudinal database that will contain the unidentifiable individual student data that meets the State and Federal requirements and the needs of researchers.*

Core Element Developing effective data quality assurance system, that contains: Data dictionary, with well-defined content and common definitions for data elements, to assure the same definitions, codes, and periodicity across all schools in the State at data entry points
Status In 2003, the ODE initiated a Data Dictionary Initiative with the following goals: • Improve internal Decision Support Systems user access to data and use of data by creating an interface to detailed information about the data, including access to historical changes in data definitions and calculations. • Reduce data redundancies and eliminate inconsistencies in ODE's data systems by establishing clear, consistent and institutionalized data definitions. • Establish structure and control around data practices to establish and maintain data integrity and quality. • Integration of credible, relevant and easy-to-understand ODE performance measures into ODE's decision support environment enabling analysis of the effectiveness of Ohio Data Exchange Dictionary. Upon completion of a detailed requirements gathering and research into industry standards/best practices, the ODE selected and purchased a software product, Informatica Superglue, to serve as the tool for our data dictionary to manage the data about our data –"metadata".

Currently, the metadata repository/data dictionary only contains the automated metadata generated by other software tools. *Funding from this grant would allow ODE to populate the Data Dictionary with the critical detailed data element definitions, calculations, business rules, and legislation related to the data.* While this information currently exists, it is located in disparate sources.

Core Element Business rules for data format, acceptable values, missing data options, and logical comparisons to prior data and automated data edit processes to verify data quality and to ensure that rules are met before allowing data into the State's data system
Status The published Education Management Information Services (EMIS) Guideline document provides local education agencies with the business rules for collecting and reporting data including the acceptable values for data elements and the appropriate formats of the data elements. Additionally, the ODE designs, develops and provides standard validation software that all districts are required to use to perform automated data edit checks on their data prior to data being submitted to the state for processing. Data are not accepted at the state if the most recent version of the software has not been used on the data. This ensures that uniform checks are done on all data prior to the data coming into the State's system. This automated edit process to verify data quality includes checks for valid options for data element (acceptable values, out of range checks) and referential integrity checks between related data elements. When the data are received at ODE, additional checks and logical comparisons are done, including comparison to prior year data. *This grant will enable the documentation on the business rules for data format, acceptable values, logical comparisons and validation checks to be stored and managed in a central repository (data dictionary).*

Core Element Systems and procedures to assure correct utilization of data by the users and providers
Status ODE is committed to establishing and maintaining systems and procedures to assure correct utilization of data by users and providers. Specifically, ODE has implemented an organizational structure in which there is a centralized Office of Data Services responsible for standardizing policies and procedures for the management, quality and release of data. This office is responsible for developing a cohesive agency-wide data strategy and provides each of the education program offices with a data manager resource who serves as the expert on the access and use of the program office's data. *This grant will be used to help develop the comprehensive data dictionary to contain all of the information about the data and serve as a tool to support reporting of quality data and appropriate, consistent representation of data.*

Core Element Developing an effective, statewide data model that defines and describes the logical and physical relationships between data items and systems, and system structure that allows efficient data maintenance and retrieval
Status *This grant would allow ODE to design and develop the relational database structure that would allow for efficient data validation, maintenance, and retrieval. The model would clearly describe the logical and physical relationships between data items and systems. Currently these data reside in flat file structures which make it tedious to maintain and to retrieve data. The relational database would contain both current and historical data.*

Core Element Assuring secure access to data and formal reports to protect the confidentiality of individuals, in compliance with FERPA and the statistical reliability of results
Status As per FERPA and Ohio legislation, ODE is not permitted to collect personally identifiable data (such as name) on a student. ODE uses a permanent unique identification number which the system to assign is hosted by a third party vendor to protect confidentiality. To protect confidentiality when an individual student could potentially be identified by a group of data elements, subgroup/ disaggregated data are not reported on public reports when there are less than 10 students in a subgroup. Additionally, to provide secure access to data and applications, ODE launched the Security Application For Enterprise (SAFE) Web portal in May, 2003. SAFE is a Web Portal and a "single sign on" software security solution for ODE customers. Account authentication or "identity validation" is required to obtain an account. SAFE allows ODE to limit access to secure Web applications and/or data to only authorized users.

Core Element Structured to enable efficient data extraction for time-based analyses
Status *This grant will allow the design and development of an Operational Database to process and return data for validation purposes and to facilitate access by other software applications that need these data for operational purposes, e.g., performing funding calculations.* ODE has a Data Warehouse in which both current and historical data are stored. The structure of the Data Warehouse enables users to easily drill down into the details of the data, analyze the data over the time and create reports for various audiences for decision making. *This grant will enable ODE to expand the contents of the Data Warehouse to encompass all education program data and to link teachers to students via courses. The creation of the relational operational database and the enhancements to the data warehouse will enable efficient data access and extraction for time-based analysis by our stakeholders.*

Core Element Allowing modifications and enhancements to the system's data and architecture, including system expansion over time
Status As State and Federal legislation continue to change rapidly, allowing modifications and enhancements to the system is critical. To accommodate this, ODE has designed and implemented a structured annual change process that allows data system modifications and enhancement recommendations to be brought forth by stakeholders, reviewed, analyzed and, if approved, implemented. *This grant will allow upgrades to the existing system and the adoption of SIF standards which will allow modifications and enhancements to the system's data and architecture to occur more efficiently and effectively.*

Core Element Creating, assigning, and tracking a unique, permanent student identifier assigned at state level and allowing the matching of individual student records across databases and years for every student enrolled in preK-12 state education system (using an automatic system creation of IDs or an individual creation through direct online interaction with ID system)
Status In 2002, through the use of a third party administrator (IBM), Ohio implemented the Statewide Student Identification System (SSID) to assign unique permanent identification numbers to students and ODE began collecting unidentifiable individual student data during the 2002-2003 school year.

The SID is a 9-digit alphanumeric identification code that is unique to each public school student in Ohio. Through an automated batch process or an individual creation online, the number is issued by the approved Application Service Provider (IBM) contracted by the Ohio Department of Education to maintain the SSID. Any district responsible for reporting data to the EMIS may access the SSID. Access to the SSID is and will remain open only to authorized personnel within the district for the purpose of enrolling new kindergarten or transfer students. All policies specified within the Ohio Revised Code pertaining to the protection of student privacy and the maintenance of confidential records are to be followed by districts as the SID is implemented in districts.

The SID allows student-level data to be reported via EMIS and facilitate statewide, longitudinal tracking of student progress without the Ohio Department of Education knowing sensitive student-level information such as name, address, or social security number. The SID is a mandatory EMIS element and all EMIS records are required to be submitted with the SID. In order for funding to flow appropriately, it is critical to report the SID accurately, as records submitted to ODE with invalid SID's are not be processed.

Core Element Allowing for program evaluation (including potential capacity to track students past the 12th grade)
Status While ODE currently collects data on program participation, the Data Warehouse does not contain all of these data. As a result, evaluations of programs and other analyses are not easily done. *Funding from this grant will help ODE expand its Data Warehouse to encompass data on all education programs and facilitate the evaluation of program effectiveness.* ODE supports the creation of a Data Exchange System encompassing Preschool to Grade 16. While state legislation does not currently permit the use of the SID to track students past grade 12, research and discussions on how this could be made possible through legislative changes are ongoing.

Core Element Allowing for student record transfers among States when students move across state borders
Status *ODE would use funding from this grant to adopt and implement a national standard for data formats and definitions – the School Interoperability Framework (SIF) - which would facilitate efficient sharing /transfer of records through consistent format between districts and potentially between states.*

Core Element Planning and implementing data collection from districts and/or schools so that the SEA can incorporate data in the system for all students, classrooms, and schools under the SEA's jurisdiction, including: development of collaboration among all parties within the SEA and between the SEA and school districts in data collection, reporting, and dissemination
Status Collaboration within ODE and with school districts is critical in planning and implementing a data system. To develop collaboration and ensure consistency in data systems planning within ODE, an organizational change was implemented in 2004 that provided each program office with a data manager. While these data managers are physically located with the program office, the data managers report up through a centralized office – the Office of Data

Services. The data managers meet weekly as a group to discuss and collaborate on data issues and/or to participate in training opportunities. The goal of this structure is a comprehensive, cohesive data vision for the agency. In Ohio, the Ohio Association of EMIS Professionals (OAEP) is composed of data collection and reporting professionals from districts and Regional Information Technology Centers across the state. The OAEP works closely and collaborates with ODE on planning and implementing data collection. Ohio is the only state in the nation where an association of professionals, such as the OAEP exists. Additionally, the D3A2 project is based upon collaboration with stakeholders. All of the subcommittees, including the technology and the user committees, include representation from school districts.

Core Element Provisions for the needs of districts that have limited ability to participate in technology systems
Status Having provisions for the needs of districts that have limited abilities to participate in technology systems is critical. Currently, subsidies are flowed to districts and to regional data sites to assist districts with collecting and reporting required data. Additionally, as part of the D3A2 initiative, there is a committee dedicated to assessing and finding resources to ensure that districts have the ability to participate in the system. *This grant would provide professional development to all districts to support them in participating in the use of data to improve student achievement.*

Core Element Conducting cost/benefit and sustainability analyses of dynamic vs. static data extraction systems
Status As part of the master plan for the D3A2 project, a cost/benefit analysis and sustainability analysis will be done to determine the most efficient and effective way to extract, share and exchange data. This will be done with the Data/Technology Subcommittee working in conjunction with the Resource committee.

Core Element Shortening reporting time, increasing the accuracy of student assessment data
Status Since the implementation of NCLB, ODE has been rapidly shortening the time period for which districts have to report data and is continually working to increase the accuracy of the data through the use of the SID for data verification. With the collection of the SID, ODE has been able to provide verification reports back to the districts that allow them to validate submitted data down to the individual student level. Previously, with only aggregate data, this was not possible. Additionally, in the future, ODE may be able to receive the student assessment data more quickly by receiving the data directly from the test scoring vendor rather than waiting for the districts to receive it and then submit to ODE. There is proposed legislation that would allow the SID to appear on the test booklet and would facilitate ODE getting the information directly and enable ODE to link the assessment data with the other data reported via EMIS.

Core Element Implementing Statewide longitudinal data system (warehouse) , development of the system according to the designed architecture, testing of the system and going live
Status *The funding from this grant would enable ODE to expand and enhance its current Data Warehouse architecture to include all program data and to automate the federal reporting component. Additionally, the grant will enable ODE to expand its business intelligence*

environment capacity including establishing the appropriate application access security processes to ensure appropriate access to the statewide longitudinal system. ODE's development process includes extensive testing, quality assurance prior to the application going live. Part of the quality assurance process, prior to going live, is providing access to the data to the providers and the users of the data to review the data.

Core Element Designing, using, and maintaining business intelligence tools and streamlining reporting capabilities to local, State, and Federal agencies, using pre-defined, automated reports
Status ODE has made a significant investment in designing, using and maintaining its primary business intelligence tool – MicroStrategy- for analyzing and reporting data. *This grant will be used to make additional investments in MicroStrategy and additional development in extraction, transformation and loading procedures in Informatica with the intent to streamline and automate ODE's reporting capabilities to local, state and federal agencies using automated reports.*

Core Element Supporting multiple reporting and analyses needs of different stakeholders high-level longitudinal analyses, required for data-driven decision-making by policymakers, educators, and members of the public
Status Through the combination of the operational data store, the data warehouse and the use of statistical tools (such as SAS and SPSS) and the decision support tool (Microstrategy), the planned longitudinal data system will support a wide range of reporting, analysis data-drive decision-making needs of stakeholders.

Core Element Providing timely, accurate, and user-friendly dissemination of the needed data, reports, and analyses results
Status Through the use of our website and Microstrategy, ODE is able to provide timely, accurate and user friendly data and reports to parents, teachers, schools, district administrators, state officials, universities and the public. *This grant will enable ODE to expand its Data Warehouse to include data for all education program areas and link students to teachers. These enhancements- coupled with the increased Microstrategy capacity - will ultimately allow us to provide additional information to our stakeholders.* As ODE moves forward with the Statewide Data Exchange System (D3A2 project), and data, relevant content aligned to Ohio's Academic Content Standards, will be made available directly to teachers to improve instruction.

Core Element Engaging in Longitudinal Education research to inform policy/decision-making
Status ODE supports research to support partnerships among institutions of higher education and high-need school districts to provide high quality professional development for elementary, middle and high school teachers. *This grant will enable the development of a Longitudinal Data System that supports longitudinal data analysis and research to inform school professional development programs. Those programs better enable teachers to continue to improve the quality of their teaching specific to the subjects and students they teach, and improve the retention rates of those teachers. The Longitudinal Data System enables school districts to better understand how assessment and accountability data can be used to enhance teacher quality within their districts, and enable school leadership teams to utilize knowledge of student performance and teacher quality data to devise a more strategic use of teachers within districts and buildings, and between subjects and grade levels.*

Core Element Leading the State, districts, and teachers in the development and use of innovative analytical tools and reports to inform policy and decision-making
Status D3A2 is ODE's long-term initiative focused on developing the capacity of educators to have systemic access to data and aligned resources to improve instruction and student achievement. This includes leading the State, districts and teachers in the development and use of innovative analytical tools and reports to inform policy and decision making. *With this grant, ODE will be able to provide analytical tools and reports that address all program areas and will provide training on the use of data.*

Core Element Establishing logistical capacity to create and maintain statewide longitudinal data system. Developing efficient administrative processes, infrastructure components, and policy commitments for effectively implementing the maintenance of the statewide longitudinal data system, and assuring sustainability and effectiveness of the system
Status ODE's significant state investments in a robust, scalable infrastructure, including networking capabilities, and its commitment to providing training to its technical staff provide a solid foundation for sustaining a statewide longitudinal data system. (See Technical Specifications page 8) *This grant will enable ODE to improve existing system components and to develop efficient processes, infrastructure, and policy commitments to implement a successful system that can be sustained.*

Core Element Developing a strong plan for the SEA and other stakeholders to continually evaluate and improve the effectiveness of the data system
Status *The proposed evaluation by an independent third-party evaluator will survey stakeholders to determine the number of people served, quality of services and products delivered, customer satisfaction, extent to which new skills and tools were used, degree of change in using data to drive decision-making, efficiency and effectiveness of the design, development and implementation of the statewide longitudinal data system and any unintended consequences.*

Core Element Involving and supporting stakeholders by establishing and/or facilitating the existence of a policy advisory committee
Status Education Data Advisory Council (EDAC) is Ohio's data policy advisory group and has representation from the business community, legislature, school districts, Management Council for the Education Computer Network, higher education and other stakeholders. Additionally, ODE involves in its planning two professional organizations focused on data collection and dissemination - the Ohio Education Data Systems Association (OEDSA) and the Ohio Association for EMIS Professionals (OAEP) data provider / collection group. Within ODE, a centralized Office of Data Services was created in 2004 with one of the goals being standardizing policies and procedures for the management, quality and release of data.

Core Element Planning and funding initial and ongoing, efficient and effective training of key state and local data collectors and users, according to their functional needs
Status On an annual basis, the ODE collaborates with both the Ohio Association of EMIS Professionals and the Ohio Education Data System Association to provide ongoing and effective training to school districts and the regional information technology centers. Additionally, the

Regional Information Technology Centers train the local education agencies on the technical aspects of data entry, data extraction and data transfer. The third party vendor who hosts the unique student ID system also provides districts and the Regional Information Technology Centers with presentations and a customer service help desk. *This grant will enable the design and delivery of professional development to educators on using data.*

3. Project Personnel

Ohio Department of Education Personnel:
Steve Burigana, Chief Operating Officer (Project Executive Sponsor)
1% of time devoted to project

Amy Andres, Executive Director (Project Executive Sponsor)
5% of time devoted to project

Greg Davidson, Director (Information Systems Manager)
2% of time devoted to project

Beth Juillerat, Director (Project Director)
50% of time devoted to project

Brian Caldwell, Applications Manager (Application Development)
5% of time devoted to project

Mike Carmack, Database Administrator (Database Development/Decision Support)
50% of time devoted to project

Becky Roeder, IT Manager (Federal Reporting)
50% of time devoted to project

Nancy Haefeli, EMIS Project Manager (EMIS Data Elements/SIF Gap Analysis)
40% of time devoted to project

Jim Daubenmire, Data Strategist (Data Definitions)
40% of time devoted to project

Matthew Cohen, Director and Lucy Seabrook, Consultant (Evaluation)
10 % of time devoted to project

Cynthia Yoder, Senior Director and Jill Abbott, Consultant (Professional Development)
10 % of time devoted to project

4. Resources

In addition to the ODE personnel, the grant will allow ODE to contract for the following additional personnel resources necessary to design and develop the LDS outlined in this proposal: RFP Writer, SIF Gap Analysis Analyst, Informatica technical resources, Project Manager/Business Analyst, Database Design/Development Consultant, SIF Implementation and Integration Assistance and Consulting for large urban school districts, regional technology centers , an ODE Data Dictionary Consultant and professional development for various data user audiences.

While ODE has made significant financial investment in software and hardware to sustain a longitudinal data system, this grant will enable ODE to upgrade and expand licenses for Microstrategy and to procure the appropriate hardware (Zone Integration Servers) for vertical reporting in SIF compatible formats. **See Budget Justification for details.**

5. Management Plan

The project will be directed by Beth Juillerat who represents Ohio on the Education Information Management Advisory Consortium (EIMAC) and co-chair of the D3A2 Technology and Data Committee.

Timeline
The project will span over three years. The phases and key tasks for the project are as follows:

Phase I : November 2005-October 2006
Upon award of the grant, ODE will immediately move forward with the procurement of the following technical resources: a Request For Proposal writer, an Informatica consultant and a SIF data analyst.
Once this is complete, the following will occur in year 1 of the project:

- Development of an RFP for competitive bid for the following contracted services:
    - Design and development of the operational relational database
    - Populate of the Data Dictionary
    - SIF implementation and Student Information System Software integration
    - This will include a project manager to oversee the request for proposal process.

- Item-by-item analysis of over 500 EMIS data elements to assess alignment with existing SIF data objects
- Extraction, transformation and loading mappings in Informatica to streamline and automate reporting of Federal data
- Extraction, transformation and loading mappings in Informatica to expand the contents of ODE's data warehouse
- Procure of an evaluator and establishment of a baseline
- Implement a differential approach of providing professional development to educators on using data

Phase II: November 2006 – October 2007

- Design and develop an operational relational database
- Extraction, transformation and loading mappings in Informatica to load additional data into the data warehouse
- Extraction, transformation and loading mappings in Informatica automate the Federal reporting requirements
- Extraction, transformation and loading mappings for the operational database
- Data Warehouse continues
- Consulting and assistance to ODE, Regional Information Technology Centers and Large City School Districts on SIF implementation
- Consulting and assistance to the two major student information system vendors in the state to enable reporting of EMIS data in a SIF compatible format
- Provide professional development
- Continue evaluation

Phase III: November 2007 – October 2008

- EMIS data definition and data format standards are aligned with the SIF specifications.
- Quality assurance processes and business rules are implemented.
- Student information systems provide data in SIF compatible formats
- Zone Integration Servers (ZIS) in place at Regional Information Technology Centers, large city school districts and the ODE
- Relational database to efficiently manage longitudinal data on student records assigned permanent unique identification numbers
- Comprehensive data dictionary to support reporting of quality data and appropriate, consistent use and representation of data
- Enterprise data warehouse for all program areas, facilitates longitudinal data analysis on student achievement and links students to teachers via course.
- Appropriate and secure access to the data warehouse by districts, legislators, general public, and researchers
- Decision support tools/applications to analyze the data
- Automated vertical reporting to the US Department of Education

A detailed project timeline is provided in **Appendix A**.

Throughout the life-cycle of the project, and critical to the success of the LDS, procedures for gathering feedback for continuous system improvement, opportunities to collaborate with stakeholders , a commitment to professional development for educators and an emphasis on ensuring accurate and timely data will be prevalent.

Continuous Improvement

In addition to the formal ongoing evaluation of the LDS project, ODE will work closely with its user groups and its data advisory council, EDAC, to continuously improve the system to meet the needs of our customers. As part of the D3A2 master plan, all subcommittees are composed of

representation from districts and schools. In addition to focusing on the data and technology aspects of the system, these subcommittees address resources to support the system, the needs of various user groups, instructional content and professional development resources to provide to teachers.

ODE will continue to partner with the districts and schools to collect and clean data for the statewide data system. This will be done through continued collaboration with the Ohio Association of EMIS Professionals (OAEP). These data collection and reporting professionals are committed to reporting timely and accurate data. Several members from the organization participated in the development of a national paper *Forum Guide to Building a Culture of Quality Data.*

Collaboration

The letters of support in Appendix B, indicate the support of education stakeholders in Ohio for ODE, the LDS and the D3A2 project. They are eager to use the resulting longitudinal data and analysis for research and for utilizing the longitudinal student achievement data for value added analysis. The support comes from a wide range of stakeholders including

- U.S. Senator
  - The Honorable Mike DeWine
- Governor
  - The Honorable Bob Taft
- State Superintendent of Public Instruction
  - Susan Tave Zelman
- Battelle for Kids,
  - John Hussey, Director of Technology Services
- Teacher Quality Partnership
  - Sonja J. Smith, Director
- Wright State University, Gregory Bernhardt
  - Dean and Professor
  - Member, No Child Left Behind Ohio Committee of Practitioners
- Stark-Portage Information Technology Center
  - David Forman, Director of Operations
- SouthWest Ohio Information Technology Center
  - Michael Crumley, Executive Director
- Northern Ohio Educational Computer Association
  - Rita Rolf, Director

- Lake Erie Educational Computer Association
    - Lloyd Wright, Director

- InfOhio
    - Theresa Fredericka, Executive Director

- Management Council of the Ohio Computer Network
    - Bruce Hawkins, CEO

- Ohio SchoolNet
    - Julie Fox, Ph.D., Interim Executive Director

Professional Development and Training – Use of Data
Professional development and user awareness are critical to improving the local capacity to use data for decision-making and to improve instruction. A primary goal of the D3A2 project is to provide teachers with classroom level data and content and resources aligned to the academic content standards.

To raise expectations for students, build capacity in leadership and support and build capacity in school districts and improving results, Ohio educators need data to make decisions in their classrooms, schools and districts. With technology, this data can be collected, analyzed and displayed in real-time. Often educators do not know how to interpret this data or how to use this data to inform instruction and improve student achievement. A large, statewide professional development effort needs to occur.

Currently, the ODE is launching summer professional development focused on results from the Ohio Graduation Test. These four-module professional development opportunities designed for high schools teachers to address the need to discuss and use data, item analysis, analysis to action and technology use to access data.

In addition to this professional development for teachers, the Ohio SchoolNet Commission has been conducting training for administrators (superintendents, assistant superintendents, principals and assistant principals) to envision what the effective use of instructional technology can look like in their schools and to help them lead their staff members to realize this vision. One module concentrates on data sources that are available from the ODE and the Ohio SchoolNet Commission (to be named E Tech Ohio as of July 1, 2005) and how this data can be used in planning. The next step in data driven professional development will build upon these two opportunities as well as lessons learned.

This grant will provide effective professional development coupled with useful resources for teachers. We need to succeed in implementing Ohio's standards to prepare our students for the demands of the new century. The primary purpose of staff development is to help educators develop the insights, knowledge and skills they need to become effective classroom and school leaders who will be better able to increase student learning. A differentiated model for the design and delivery of professional development will be implemented so as to support the targeted needs of Ohio's educators

Accuracy and Timeliness of Data

ODE is committed to accurate and timely data. In FY2004, ODE participated in a project with the Center For Data Quality (C4DQ), under the auspices of Council of Chief State School Officers (CCSSO), to use their patented software for data quality assessment and to understand better the methodologies for data quality control. With the LDS, the adoption of SIF specifications will ensure consistency in data definitions and data format standards. The creation of the relational operational database will allow ODE to effectively and efficiently process and validate data. Then, through the use of secure logons, data can be reviewed by districts immediately via the web enabling them more time to correct their data. The data dictionary will provide a single repository to manage all business rules and quality assurance checks for the data.

While we can implement standards and data quality control measures, ODE recognizes that the accuracy and timeliness of data is dependent upon the data providers and their buy-in to the system. ODE is committed to developing a system beneficial to all stakeholders and all data users – including districts. If schools and districts can easily leverage the system and use the data for data analysis, research for decision-making and understanding of educational issues and of effective strategies to address them, then they will have a vested interest in ensuring the data they provide are accurate and timely. Buy-in and commitment to the system by both data providers and data users is critical to the accuracy and timeliness of the data and to the success of the LDS.

Summary

If funded, the Longitudinal Data System will be the centerpiece of the Ohio Department of Education's strategies that aim to meet the information needs for data-driven decision-making at State, district, school, classroom and student levels.

With the assistance of this grant, Ohio hopes to transform its existing data collection system to a statewide longitudinal data system that serves the needs of the education stakeholders and satisfies the Federal, State and local reporting requirements. The proposed improvements will provide timely and accurate data and analyses to teachers, schools, districts and other constituents in conformance with FERPA requirements.

Ohio is committed to providing leadership in effective and efficient compilation, maintenance, use and dissemination of data for evaluation programs, improving learning of all students and closing achievement gaps. Expanding partnerships among States, districts and schools will assure the highest quality of data are being imported into the statewide longitudinal data system and subsequently used for decision making at all levels.

Ohio has a proven track record of building tools, such as Ohio's Comprehensive Continuous Improvement Plan (CCIP) software application and process that is currently being implemented by other states. By investing in Ohio, the U.S. Department of Education can maximize its return on investment across the country.

Resumes of Key Personnel

BETH P. JUILLERAT

EDUCATION:

Miami University
Oxford, OH
Master of Art Degree in Economics
GPA 4.0, August 1990

Wake Forest University
Winston-Salem, NC
Bachelor of Science Degree in Mathematical Economics
Cum Laude Graduate, May 1989

WORK EXPERIENCE:

Ohio Department of Education (ODE), Columbus, Ohio

Director, Office of Data Services 2004- present

- Responsible for centralizing all ODE data initiatives, streamlining efforts to collect and report data, and developing a cohesive agency-wide data strategy
- Directs the ongoing support and development of all components of the Education Management Information System
- Represents Ohio on the Education Management Information Consortium (EIMAC)
- Directs the work of thirty five data management, database administration, project management and information technology professionals
- Responsible for developing and standardizing ODE policies and procedures for the management, quality and release of data;

Director, Education Management Information System 2003-2004

- Designed and managed the EMIS Tactical Initiative to collect individual student data – including the Statewide Student Identifier (SID)
- Implemented new reporting timelines, business rules and calculations necessary to meet the federal legislative requirements of No Child Left Behind (NCLB)
- Designed and implemented a comprehensive systems testing and data quality assurance process for NCLB.

- Developed Statement of Work (& procurred contractor) for Data Dictionary and Expansion of Data Warehouse Project for Performance Measures
- Develop and Manage of the 15 million dollar Education Management Information System Budget
- Supervised EMIS programming staff and EMIS customer service staff.

Associate Director, Database Services 1999-2003

- Managed ODE's initial conversion to use of Relational Database Technology (SQL Server and Oracle)
- Collaborated with Human Resources to develop an organizational structure and the appropriate classifications to support database management at ODE.
- Managed the tool selection process for Data Modeling Software
- Managed the software tool selection process for Extraction, Transformation and Loading Software
- Managed the transition of the Local Report Card System from SAS to Oracle and Informatica to streamline work and eliminate duplicate efforts
- Managed the transition from providing reports to school district in text format to Excel format
- Provided subject matter expertise in the form of testimony, affidavits and depositions for data systems litigation
- Managed the initial development of database management standards
- Served as the Data Architect to establish an enterprise wide Data Strategy for ODE
- Supervised ODE's Database Analysts and Database Administrators
- Managed contracted Database Administrators

Assistant Director, EMIS 1996-1999

- Managed the initial Requirements Definition Phase for Ohio's Continuous Improvement Plan application
- Managed the system design and development of Ohio's first Local Report Card
- Served as the team leader for statistical expertise for the School District Report Card Project including developing technical documentation.
- Serve as the Common Core of Data (CCD) coordinator to the National Center of Education Statistics (NCES)
- Developed and managed the implementation of the EMIS Data Accountability System required by 3301.0714 ORC
- Provided data expertise, leadership and quality assurance to ODE's first Data Warehouse initiative.

Consultant, EMIS 1990-1995

- Provided data reporting and statistical analysis expertise to the Ohio Department of Education.
- Served as project manager for the original design and implementation of the EMIS data profiles (required by 3301.0714 ORC) and statistical reference manuals for Ohio's public school districts and building
- Responsible for financial calculations and analysis for funding school districts and Data Acquisition Sites for EMIS.
- Responded to requests for statistical reports, technical assistance and research guidance from school administrators, legislative officials and other agencies.
- Reviewed and edited the technical specifications, business rules and validation routines for the state developed EMIS aggregation software.
- Provided customer service and documentation to school districts related to reporting of EMIS data, understanding the EMIS profile statistical calculations and correcting inaccurate data.

TRAINING:

Project Management and Supervisory

Foundations of Supervisory Success	2005
Microsoft Project	2004
Project Management Methodologies.	1999

Data Warehouse Design and Decision Support

Microstrategy	2002
Decision Support Software Training – Report Developer Track	
StarSoft Solutions	2000
Data Warehouse Dimensional Modeling Methodologies	

Statistical Software Programming

SAS Report Writing	1995
Basic Statistics Using SAS/STAT Software	1993
Advanced SAS Programming	1992
SAS	1990

Ohio Department of Education
25 South Front St.
Columbus, Ohio 43215

614-466-5440
Michael.Carmack@ode.state.oh.us

Michael Carmack

Summary of Qualifications

- Manage a team of database administrators responsible for maintaining multiple heterogeneous databases of varying size; formal data modeling of those databases; and maintaining enterprise tools supporting or accessing those databases.
- Manage and participate in the full life cycle of a database project, including analyzing sources; developing a data model; generating a physical database; creating ETL processes to populate the database; and training end users and application developers on how to access the database.
- Design and implement extraction, transformation, and load (ETL) processes using Informatica PowerCenter tool and/or custom programming.
- Design and implement business intelligence interfaces with the Microstrategy OLAP tool.
- Create standards compliant logical, physical, and/or dimensional data models with the Erwin data modeling tool and Visio diagramming tool.
- Experienced with a variety of desktop and server operating systems including OpenVMS, Unix, and all varieties of Microsoft Windows.
- Able to program in several languages, including Visual Basic, C/C++, PL/SQL, and COBOL.

Experience

Jan. 2003 – present Ohio Department of Education

Database Services Manager

- Supervise a team of DBAs responsible for maintaining existing and designing new enterprise databases, the DBMS software, and other related technologies (ETL and OLAP servers).
- Supervise programmers responsible for maintaining and operating the Education Management Information System (EMIS), the legacy statewide system for collecting and analyzing information from school districts throughout Ohio. Designing processes to replace outdated and difficult to manage process (e.g. COBOL on OpenVMS) with modern technologies (ETL, web-based reporting, XML, etc.).
- Architect and implement changes in the data warehouse and business intelligence systems to 1) maintain compliance with reporting requirements, e.g. changes to No Child Left Behind; and 2) expand or enhance available data in response to the needs of the agency's internal and external customers.
- Design, maintain, and enforce agency standards for formal data modeling, database implementation, and data access methods.

- Research new data technologies, developing and executing plans to integrate them into the agency's infrastructure where appropriate. Negotiate software licensing with vendors. Make purchasing recommendations to the office Director.

Nov. 1998 – Dec.2002 HP/Compaq

Technology Consultant

- Designed and implemented an Oracle data warehouse for the Ohio Department of Education to power their Interactive Local Report Card (iLRC) web site. Refined and expanded their data model each year to meet the changing reporting needs of ODE. Instructed end-users, programmers, and consultants in how to perform analysis using the data warehouse.
- Building on the success of the iLRC data warehouse, created a process that replaced many separate legacy systems with the data warehouse as a single data source. Informatica processes collate multiple disparate reports into a format easy to extract, and a Visual Basic program then generates dynamic Excel and Adobe Acrobat reports for transmission via FTP to over 4000 school districts and buildings throughout Ohio (Local Report Card and ESEA reports).
- Created a new Microstrategy project layer for internal use and on which future versions of the iLRC will be based, including architecting the new project; creating new metrics; creating a new set of LRC reports; and validating all new report results against known correct results.
- Designed and built an Oracle data mart to capture ODE's financial data coming out of the Ohio Central Accounting System (CAS).
- Oracle database administration and support for ODE and other clients (including Ohio Rehabilitation Services Commission and Ohio Division of Wildlife) as needed, including performance tuning; designing backup and restore procedures; diagnosing and resolving problems with existing systems; and PL/SQL database programming.
- Contributed to selection of an agency ETL tool by screening potential vendors; scheduling demonstrations for ODE personnel; and making a recommendation based on observations.

May – Nov. 1998 Utek, Inc.

Technical Consultant

- Contracted as an application DBA for Nationwide Financial Services
- Worked with programmers to implement database objects needed by new applications and to improve database access by applications.
- Monitored and improved batch jobs performing bulk data loads and reporting.
- Migrated all batch scripts off of the Unix cron scheduler into a more robust third party scheduler (Maestro).
- Reorganized storage of several large databases (over 500 GB) to better optimize disk I/O.

Aug. 1997 – May 1998 Ohio Rehabilitation Services Commission

Database Analyst 4

- Promoted to Database Analyst 4 to better align with actual job activities (more emphasis on database work, less emphasis on programming) and organizational changes in the department.

- Continued to be responsible for all aspects of administering Oracle and Supra enterprise databases. This includes maintaining existing and creating new database objects (tables, views, and indexes); storage capacity planning; performance monitoring and tuning; and backup and recovery.
- Continued to be primarily responsible for all aspects (database and programming) of the agency's existing financial accounting system.

Sep. 1994 –Aug. 1997 Ohio Rehabilitation Services Commission

Minicomputer Systems Programmer

- Promoted to Minicomputer Systems Programmer to take over all database administration tasks.
- Responsible for all aspects of administering Oracle and Supra enterprise databases accessed by hundreds of users throughout the state of Ohio. This includes maintaining existing and creating new database objects (tables, views, and indexes); storage capacity planning; performance monitoring and tuning; and backup and recovery.
- Installed the first Oracle server software and created the first enterprise Oracle databases used by the agency. Later migrated these databases from a VAX to an Alpha platform.
- Designed and implemented the first functional client-server application in the agency, a Visual Basic program that created an Excel report based on monthly financial data. This effectively demonstrated the potential use of the new technology to the agency.
- Rescued other struggling client-server projects from failure by incorporating Oracle database support. Of note, a consulting firm designed the agency's Human Resources system as a Microsoft Access database and application. The project was a total failure, but by porting the Access tables to Oracle I was able to get the application working to agency specifications.
- Designed and implemented several OpenVMS applications using Cincom's Supra database and Mantis programming language.
- Solely responsible for all aspects (Supra database and Mantis programming) of the agency's financial accounting system.

Jan. – Sep. 1994 Ohio Rehabilitation Services Commission

Programmer Analyst 2

- COBOL programming to create and update reports for end users.
- Mantis programming against Supra database to support the in-house developed financial accounting system.

Technical Skill Summary

- General: Database and data warehouse design and implementation. ETL design and implementation. OLAP design and implementation.
- Platforms: Windows 9x/NT/2000/2003/XP on Intel/AMD; HP-UX Unix on PA-RISC; OpenVMS on Alpha/VAX
- Databases: Oracle 7.3 through 10g
- Programming Languages: SQL and PL/SQL; C/C++; Visual Basic; COBOL; XML
- Tools: Informatica 7.1; Microstrategy 8; Erwin 4.1; TOAD 8.5; Microsoft Office, Visio, and FrontPage

Education

B.S. Computer Science, Ohio State University, Columbus, OH

Jim Daubenmire

Objective

Provide customer service for an organization that values its customers

Experience

2002- Present Ohio Department of Education Columbus, OH

Data Strategist

Design data files and aggregation routines for Education Management Information System (EMIS)

Subject Matter Expert for EMIS

Interim CCD Coordinator

1990- 2002 Ohio Department of Education Columbus, OH

Program/System Manager

Managed data collection process

Co-designed and implemented EMIS

Managed Ohio School District Administrative Software Project for ODE

1978- 1990 Ohio Department of Education Columbus, OH

Systems Analyst/Data Systems Manager/Program Analyst Supervisor

Supervised programming staff

Coordinated administrative functions of division

Collected, analyzed and distributed school district data to department and legislative staff and the general public

2 Years Ohio Department of Education Columbus, OH

Interim Division Director

Functioned as Director of IT Division three different times for a total of two years

Managed staff of 35 employees, including hiring decisions

Developed division budgets

Education

1973–1977 The Ohio State University Columbus, OH

Bachelor of Science - Statistics

Interests

Coached adult softball, youth baseball, basketball and soccer. Taught adult classes parenting and finances.

Skills

Microsoft Word, Excel, Outlook

(b)(6)

Experience

Department of Education; Columbus, Ohio. Information Technology Supervisor 3, Programmer/Analyst 4. July 2003 to Present. Supervise technical and contract staff involved in the development of Extract/Transform/Load (ETL) and database software related to processing and compiling Education Management Information System (EMIS) data.

- Enhance and maintain the Operational Data Store (ODS). Design, maintain, execute, and monitor weekly Informatica processes to populate the ODS database. Design new Oracle tables and update existing tables to conform to EMIS source files. Improve data quality by initiating creation of spreadsheets detailing errors occurring during ODS loads for analysis by EMIS staff.
- Create and coordinate Ohio's Common Core of Data (CCD) and Performance Based Data Management Initiative (PBDMI) data submissions. Review files specifications, design database, create and test Informatica components to retrieve extract information from various sources and to generate extracts.
- Create and maintain Informatica processes to identify the "Where Kids Count" IRN for the EMIS system, which is a pivotal component of the state accountability system and federal AYP determinations.
- Create, maintain, and execute graduation rate verification workbooks for districts and buildings. These workbooks increase the accuracy of graduate, dropout, and return data reported by districts.
- Create, maintain, and execute Informatica processes to calculate October Count Week dates for all districts and buildings using waivers received from School Finance.

Bureau of Workers' Compensation; Columbus, Ohio. Systems Analyst I. June 2002 to July 2003. Coordinate projects for employer insurance, human resources, and financial systems. Identify business requirements; analyze and design solutions; create documentation, estimates, and work plans; plan and execute system testing; provide end user training.

- Distribute Intentional Tort Fund refunds to over 305,000 employers.
- Provide real-time update of employer group definitions and relationships from a remote application.
- Retrieve employer representatives from a remote database.
- Collect employer service office assignments and send to data warehouse.
- Create an Equal Employment Opportunity complaint tracking module. Named to BWC Honor Roll for efforts.
- Capture Continuing Education Units within training module.
- Report turnaround statistics for requisitions within Finance.

Qwest Communications; Dublin, Ohio. Software Development Engineer II. September 1996 to June 2002. Utilize software engineering skills to coordinate, analyze, design, implement, and support automated solutions for network provisioning, toll-free services, and order entry information systems.

- Define, develop, and test software enhancements to support Next Generation Switch routing of domestic long distance calls over the Qwest IP network.
- Define requirements for middle-tier services to create and query long distance customers for internal web sites and implement as J2EE modules.
- Define requirements for automating creation of dedicated Internet orders from internal web sites and implement middle-tier software to provide this functionality.
- Analyze existing toll-free functionality provided by a non-Y2K compliant system. Design, document, and implement replacement functionality.
- Develop database packages, procedures, and functions to extract international call routing configurations and transmit them to the switch network.
- Create a graphical user interface to query the transmission and status of Project Accounting Code network provisioning requests.
- Analyze a batch-oriented toll-free provisioning system, design and implement a replacement that transmits information to the network switches in real-time.

Advanced Programming Resources (APR), Inc.; Columbus, Ohio. Senior Consultant. January 1996 to September 1996. Work closely with clients to provide cost-effective business solutions using information technology. Utilize software engineering skills to successfully execute all aspects of the software life cycle including analysis, design, programming, testing, and implementation.

- Implement the ClaimFacts Resource Based Relative Value Scale (RBRVS) provider reimbursement module for a medical insurance company.
- Design, develop, and implement new software and enhancements for Cost Simulation and Unit Cost applications within an automotive manufacturing environment.

St. Vincent Medical Center; Toledo, Ohio. Assistant Director, Project Manager, Project Team Leader, Programmer/Analyst. December 1988 to December 1995. Manage Information Services personnel in the planning, evaluating, selecting, testing, implementing, operating, and maintaining of application systems.

- Manage the day-to-day activities associated with the Medical Center's selection and implementation of an integrated patient management and clinical hospital information system.
- Develop a Medical Records Abstracting system to provide entry and reporting of inpatient and outpatient information including attending physicians, consultants, diagnoses, procedures, demographics, insurance, charges, and reimbursements.
- Develop an on-line Physician Access system to provide physicians and their offices remote access to patient registration, demographic, clinical, and financial information.
- Actively participate on several key hospital committees, including Information Services (I/S) Strategic Plan Systems Selection and Implementation Committees, the Physician I/S Steering Committee, and the Clinical Data Base Committee.
- Develop a Quality Assurance/Utilization Review reporting system to quantify diagnoses and procedures performed at the institution. Effectiveness of Continuous Quality Improvements (CQI) are monitored by comparing results against this baseline of physician, department, and institution practice pattern information.
- Assess computer needs within Accounts Payable and Social Work departments, including departmental workflow analysis, requirements specification, and system recommendation.

Unisys Corporation; Detroit, Michigan/Holland, Ohio. June 1984 to December 1988. Senior Systems Analyst, Systems Analyst, Associate Systems Analyst. Provide leadership, coordination, analysis, definition, design, development, implementation, and support of distribution, manufacturing, and customer service application systems.

- Develop and implement a distributed parts distribution system to provide automatic parts replenishment within eight corporate regions.
- Coordinate all activities and personnel associated with major parts distribution system enhancements. Upgrades included scrap identification and recovery, inventory leveling, and inventory auditing.
- Administer the distributed parts distribution DMSII database, and provide B1955 system software support for regional customer service centers.
- Create user, operational, and technical documentation, and provide user education focused on system usage.
- Analyze business workflow and system feature and function to determine changes necessary to implement a manufacturing package within a parts rework environment.

NCR Corporation; Dayton, Ohio. May 1983 to June 1984. Graduate Systems Analyst. Responsible for the installation and support of financial and retail customers on an NCR Automatic Teller Machine (ATM) network.

- Coordinate software, terminal, and network acceptance testing between NCR and remote ATM networks.
- Identify, isolate, route, and verify resolution of reported problems.
- Provide customer training on screen maintenance and report usage.
- Member of a departmental task force focused on documenting network policies and procedures.

Master of Science in Computer Science from Bowling Green State University, May 1993. Accumulative GPA: 3.90/4.00.
Bachelor of Science in Education from Bowling Green State University, May 1983. Major: Computer Science. Minor: Music. Accumulative GPA: 3.35/4.00.

Technical Summary

Languages and Development Environments	**Object-Oriented:** Java 1.2, EJB, JDBC, Swing, JBuilder3, HTML, XML, JDOM, XML Spy, PowerBuilder, C++, VBA. **2nd/3rd-Generation:** C, Cobol, RPGII, ALGOL, Basic, MPL. **4th-Generation:** Informatica, LINC, Mapper.
Databases, Transaction Processors and Servers	**Databases:** Oracle 7-9, PL/SQL, SQL, DB2, DMSII, dBase. **Processors/Servers:** WebLogic, TomCat, CICS.

Brian Caldwell

Experience

Dec. 04 – Present | Ohio Department of Education | Columbus, OH

Applications Development Manager

- Promoted to oversee all application development in the department's Office of Information Systems Management
- Manage staff of 40 employees consisting of application architects, developers and business analysts (varying from managers, full-time bargaining unit employees and external contracted resources)
- Responsible for mainframe application migrations to web-based, relational systems
- Ensure all application development initiatives align with agency's strategic goals
- Serve as department enterprise architect - ensure that critical business processes are exposed as consumable services for other applications and agencies
- Work with internal and state-level auditors on application development compliance and IT process standardization
- Work with agency executives on business process improvement (BPI/BPM) for reducing systems' total cost of ownership (TCO) and improved return on investment (ROI)
- Manage Internal Operations-driven software development projects

Dec. 01 – Dec. 04 | Ohio Department of Education | Columbus, OH

IT Consultant

- Worked in the ODE Web Services division on internal web development projects using Microsoft .NET technologies, SQL Server and Oracle
- Led ODE Application Standards Team and served as a technical lead for ODE Project Management Office's outsourced projects
- Other duties included project management, web infrastructure support, customer support, internal user training and served as a peer for Junior Programmers and Interns
- Participated in ODE Web Standards creation and enterprise application architecture redesign project including the introduction of multi-tier, service-oriented practices
- Participated in the design and construction of an enterprise application component framework
- Designed build and configuration management processes and procedures

Dec. 99 – Dec. 01 | PB Technologies / ecFactory, Inc. | Columbus, OH

Consultant

- Worked on various web development projects with database-driven Inter/Intranet sites - specialized in E-commerce solutions with client accessible administration functionality using HTML, CGI, PHP and ASP
- Other duties included 24/7/365 client web support, customer support, hardware upgrading, networking support, and project management

Feb. 99 – Dec. 99 | Advanced Programming Resources | Dublin, OH

Internet Specialist

- Worked in the Internet Services Division. Used Visual Basic, HTML (hard coding), SQL, and MS Access to develop and maintain database driven, CGI enable web sites for clients
- Other duties included maintaining 10-user network (NT) and client web, and e-mail servers

Education

Ohio Dominican University — Columbus, OH

Master of Business Administration

- Expected completion – Fall 2006
- Current GPA – 3.75

DeVry University — Columbus, OH

Bachelor of Business Administration

- Overall GPA - 3.67

Bachelor of Science Computer Information Systems

- Overall GPA - 3.82

Skills

Development Languages	Development Approaches
ASP/ASP.NET C# VB.NET XML Visual Basic/VBScript JavaScript SQL ADO/ADO.NET .NET Remoting Web Services	Rational Unified Process (RUP) Test-Driven Development (TDD) Xtreme Programming (XP) Component-Based Development
Development Tools	**Miscellaneous**
Visual Studio.NET Visual Source Safe NAnt NDoc NUnit CruiseControl.NET	PMBOK Project Management Distributed Application Architectures Windows 2000/2003 IIS 5.0/6.0 EMC Documentum

NANCY B. HAEFELI
(b)(6)
(W) 614-995-4005; (b)(6)

EDUCATION

Masters of Science Degree, Business Administration, Central Michigan University, Columbus, Ohio - May 1997
Bachelor of Arts Degree, Business Administration, Ohio Dominican College, Columbus, Ohio - December 1984

PROFESSIONAL EXPERENCE

OHIO DEPARTMENT OF EDUCATION, COLUMBUS, OHIO.

Project Manager – Office of Data Services
March 2005 – Present

- Develop and implement project plan which encompasses all phases of reporting for Ohio's Education Management Information System (EMIS)
- Supervise a team of EMIS Data Administration Managers who provide reporting entities guidance and documentation for EMIS reporting requirements
- Define, implement and coordinate specific activities to be performed to produce project deliverables
- Collaborate with internal and external customers to determine federal and state data requirements and their incorporation into the EMIS data collection process
- Evaluate and identify risks associated with change requirements and the effect on the success of each project phase
- Monitor and evaluate the effectiveness of reporting documentation as related to the success of accurate data submissions

Associate Director – Office of Assessment
August 2002 – March 2005

- Supervise consultants and support personnel who manage multiple state assessment projects with focus on assessment development
- Provide assistance related to state assessment through cross-office initiatives and regional and organizational presentations
- Directs the preparation and approval of multiple-authored documents related to state assessments
- Oversee on-going performance of outside contractors in meeting deadlines, appropriately completing or facilitating processes, and/or preparing deliverables in accordance with contracts
- Make recommendations to the Office Directorship for final dispensation of multi-million dollar contractual obligations
- Develop and implement professional development workshops in coordination with contract and department staff
- Provide leadership with regards to budget requirements as related to contractual changes and obligations

Education Consultant 3 - Team Leader – Office of Assessment
July 2001 – August 2002

- Oversee the operations contracts involving the printing, distribution, scoring and reporting for all Ohio Proficiency Testing Programs
- Assign work to team members to ensure tasks are completed in a timely manner
- Develop procedures for the Assessment Center's Operations Team to ensure operations and district requirements are met in a timely and accurate manner
- Coordinate with the Ohio Department of Education Information Technology Office by communicating proficiency test requirements for the Educational Management Information System used by districts and the Ohio Department of Education for reporting student information

Education Consultant 3 – Office of Assessment
March 1999 – August 2001

- Monitor operation's contracts for the Ohio Ninth- and Twelfth-Grade Proficiency Test programs to ensure timely delivery of test materials and scoring results to school district
- Review proposed items for the Ohio proficiency tests from item development contractor to ensure required specifications are met in the development of these tests
- Monitor the contracts with companies contracted to product special editions of the Ohio proficiency tests
- Assist in the development of materials for school districts to aide them in managing district level proficiency testing programs such as fact sheets, information guides, rules book, district and building coordinator manuals

121ST AIR REFUELING WING, COLUMBUS, OHIO

Training Manager, Master Sergeant
May 1988 – March1999

- Originate directives for the administration and control of the Command Post training program
- Using manuals and directives develop and write course materials for presentation to personnel, which include job performance requirement list, course outlines, lesson plans, and task guides for personnel use
- Develop and conduct formal classroom training for assigned personnel to meet certification requirements to include presentations, exercises and team scenario training
- Identify problem areas and determine course of action required to the Superintendent of the Command Post
- Design, write and produce operational handbooks containing reporting procedures applicable to the unit's mission

ACCOMPLISHMENTS/AWARDS

- Developed Initial Training Plan and Trainer's Handbook, which were selected to be disseminated to seventeen Air National Guard bases for the purpose of standardizing training programs within the Air National Guard. 1998
- Air National Guard Representative in the designing of the Air Mobility Command Control School curriculum and the Air Mobility Command Job Performance Requirements List. 1994

Barbara H. Andrepont

Experience

2005 to current ESP Solutions Group Austin, TX

Role: Senior Data Management Architect

Provide education data management analysis services for federal, state, and local clients. Support clients in documenting data management plans, development of data dictionaries, and analysis relating to data standards, including SIF, EDEN, and the NCES Handbooks.

Participate in the Schools Interoperability Framework Association (SIFA), serving in various work groups, Technical Board, and SIF Board of Directors. Serve as co-lead of SIFA ETranscript Task Force.

2003-2004 Self-Employed Baton Rouge, LA

Role: Consultant (Education Data Therapist)

Contracted through CELT to CCSSO to support Decision Support Architecture Consortium work, participating in site visits to several states, and documenting findings in state reports.

As NCES liaison to the Schools Interoperability Framework Association (SIFA), participated in various work groups, Technical Board. Served on SIF Board of Directors.

Served as US Dept of Education Performance-Based Data Management Initiative (EDEN) team leader and consultant for state site visits in 2003 and 2004. Participated development of EDEN Workbook, in training EDEN Partner Support Center (Help Desk) staff (Fall 2004), and design of EDEN FAQ document.

2000-2003 Louisiana Dept of Education Baton Rouge, LA

Role: Consultant/Planning Analyst

Assisted the Director of Planning, Analysis and Information Resources (PAIR) in information technology, policy, personnel, and budget matters for unit and Department of Education. Planned and developed responses to information and technology issues. Assisted with strategies for aligning IT efforts with agency strategic plan. Represented unit in national education information technology efforts, including: CCSSO Education Information Advisory Committee (EIAC), and NCES FORUM.

Represented National Center for Education Statistics (NCES) in education data standards organizations:

- Schools Interoperability Framework (SIF) - co-chair Customer Involvement (CIRCA) Work Group, and participant in Instructional Management, Data Analysis/Reporting (Warehousing), HR/Finance, Marketing Work Groups
- ASC X12 - Chair Education Administration Human Resources Task Group

Participated in EIAC Standing Committee to inform US Department of Education Chief Information Officer on education data standards initiatives and issues, and assist in resolutions.

Louisiana Computer Using Educators (LACUE) - President (2000-2002) and Board member (1995-present).

1990-2000 Louisiana Dept of Education Baton Rouge, LA

Role: Information Technology Director

Directed 3 units of 55 total staff members supporting Louisiana Department of Education agency operations; and networking and data collections from 67 public school districts; managed personnel

and $4.5 million budget. Led and supported State Department of Education technology planning.

Implemented agency computer and network access and technical support for agency staff, implementing desktop hardware and software standards, and providing initial help-desk support.

Oversaw implementation of statewide education data collection systems - individual student records, individual staff records, district financial data - providing auditable basis for state funding of $3.5 billion to school districts. Led transition of statewide K-12 Education telecommunications to Internet.

Chaired state Education Technology Advisory Committee, a representative group of school district Information Technology leaders. Participated in statewide technology planning.

Collaborated on statewide education technology projects.

Participated in Council of Information Services Directors (CISD)- the state agency Information Technology directors' organization as 1999 Vice President and Chair of CISD Conference.

1979-1990 Information Systems Assistant Director, Management Consultant Supervisor, and Application Project Manager - Louisiana Department of Education, Baton Rouge LA

1972-1979 Application Programmer/Analyst at 2 universities

Education AND OTHER CREDENTIALS

1972	University of Southwestern Louisiana, Lafayette, LA	B.A., Computer Science
1979	University of Southwestern Louisiana, Lafayette, LA	Masters in Business Administration
1978	Institute for Certification of Computer Professionals	Certificate in Data Processing

Budget Request and Justification

CATEGORY	EXPLANATION	Year 1	Year 2	Year 3	TOTAL
Salaries/Benefits		$0	$0	$0	
Maintenance		$0	$0	$0	
Purchased Services	RFP Writer	$150,000	$25,000		$175,000
	SIF Data Element Gap Analysis	$185,000	$121,600	$78,650	$385,250
	Informatica Translations	$140,000	$210,000	$210,000	$560,000
	Project Manager/Business Process Analyst		$250,000	$225,000	$475,000
	Database Requirements/Design		$325,000	$125,000	$450,000
	SIF Implementation Assistance to ODE		$175,000	$75,000	$250,000
	SIF Implementation Assistance Regional Information Technology Centers		$525,000	$275,000	$800,000
* DASL and eSIS are the two major student information systems (SIS) utilized by Ohio's school districts.	SIS Integration and Compliance Consulting (DASL*)		$200,000	$75,000	$275,000
	SIS Integration and Compliance Consulting (eSIS*)		$70,000	$20,000	$90,000
	Data Dictionary Consultant		$175,000	$150,000	$325,000
	Travel	$3,000	$3,000	$3,000	$9,000
	Training for Staff	$15,000	$15,000	$10,000	$40,000
	Professional Development for Educators	$216,250	$492,250	$242,250	$950,750
	Evaluation	$150,000	$150,000	$150,000	$450,000
Supplies/Software	Microstrategy Upgrades	$100,000	$100,000	$10,000	$210,000
Hardware	Server	$10,000			$10,000
	SIF ZIS Servers (at each of the 31 Regional Information Technology Centers)	$465,000	$0	$0	$465,000
	SIF ZIS Server at ODE	$80,000	$0	$0	$80,000
Capital Outlay		$0	$0	$0	
TOTAL		$1,514,250	$2,836,850	$1,648,900	**$6,000,000**

As detailed in the above table, the Ohio Department of Education (ODE) is requesting, over a three-year period, a total of **$6,000,000** for its proposed Longitudinal Data System (LDS) project. The following tables outline the project activities planned for each of the three years and provide a justification for each of the planned expenditures.

Year 1: $1,514,250

Longitudinal Data System Project Activities

- Procure Technical Resources including an RFP Writer, Informatica Consultant, SIF Analyst to work on the following Year 1 Project Activities: Item-by-item analysis of over 500 EMIS data elements to assess alignment with existing SIF data objects, Extraction, transformation and loading mappings in Informatica to streamline and automate reporting of federal data and to expand the Data Warehouse.
- Procure Zone Integration Servers
- Develop and award a competitive bid RFP for the: Design and develop the operational relational database, Population of the Data Dictionary, SIF vertical reporting implementation and Student Information System Software integration
- Procure project evaluator and establishment of a system baseline
- Professional Development for educators
- Training of ODE staff
- Travel to annual meeting
- Invest in additional Microstrategy Licenses and increase server to capacity in ODE's Decision Support environment

Procure Technical Resources $475,000 (Year 1)

Upon award of the proposed grant, ODE would immediately, through the appropriate state procurement processes, obtain the following three contracted staff resources for a total dollar amount of $1,120,250 over the three-year life of the project – an RFP Writer, Informatica Consultant and SIF Data Element Analyst.

RFP Writer: Due to the magnitude and scope of the LDS project, ODE would be required to competitively bid the project through the state RFP process. The average time frame for an information technology RFP to be written, released and awarded is around ten months. ODE does not have a resource available to perform this critical work and is requesting funding to procure an RFP writer.

While the majority of the activities for the LDS will be procured through the RFP, there are certain key activities in the critical path of the project that ODE needs to and is positioned to initiate immediately if provided the appropriate qualified resources, specifically, an Informatica Consultant and a SIF Data Analyst **Informatica Consultant:** ODE currently has staff with Informatica expertise but they are at capacity. With the addition of an Informatica Consultant , ODE could immediately begin developing the appropriate Informatica mappings to extract, transform and load data from one source to another for purposes of expanding the Data Warehouse to contain data on all education program areas and to associate teachers with students via courses and streamlining and automating the reporting of data from the state level to the federal level

The proposed budget includes an Informatica consultant at $70 per hour, comparable to what

Year 1: $1,514,250
ODE is currently paying for the equivalent contracted skill-set. The first year would encompass a 1.0 FTE with the second and third year including a 1.5 FTE as this would also include the extraction, transformation and loading into the relational operational database being designed and developed in Phase II and Phase III of the project. **SIF Analyst:** A detailed item-by-item analysis of the current EMIS data elements must be conducted to assess alignment with the SIF data standards and specifications. If a standard does not already exist for a data element, in collaboration with SIF, a standard would be created. This is a critical first step towards achieving integrated vertical reporting compatible with SIF specifications. Upon completion of the EMIS SIF analysis, SIF analysis effort would then extend from the EMIS data elements (vertical reporting from the locals to the state) into the vertical reporting requirements of ODE to the United States Department of Education. Based upon ODE's research, to obtain a qualified, experienced SIF consultant to perform this type of work, the rate is approximately $190 per hour. We estimate the need for approximately 2100 hours over the next three years with the majority of the work occurring in the first year of the project and decreasing over the next two. [See a sample attached resume from Barbara Andrepont, ESP Solutions] **Procure Zone Integration Servers** $545,000 A key objective of the LDS is to develop hierarchical SIF-based reporting capabilities for the 31 Regional Information Technology Centers and Large urban districts capable of publishing data back to a SIF –based Zone Integration Server (ZIS) located at ODE. This would be a hierarchical model whereby data from multiple districts would be secured within a single Information Technology Center ZIS and subscribed to an ODE-managed ZIS. This is a decentralized approach for hierarchical SIF-based reporting as districts would continue going through their respective Regional Information Technology Centers rather than ODE forcing the creation of a single reporting site. The cost estimate for the ODE ZIS is $80,000 and the estimated cost of each of the 31 regional ZIS is $15,000 each. The cost of the ODE ZIS is significantly more as it must be capable of talking to multiple remote zone integration servers (up to 31) which will require multi-threaded processors and a significant amount of memory. It must have the ability to store a full submission of all data to be transferred in a single SIF report publishing request. This would be all data from all 688 districts for a given EMIS data reporting period. **Procure Project Evaluator** $150,000 (Year 1) ODE will issue an RFP to select an independent third-party project evaluator to determine over the three years: number of people served, quality of services and products, customer satisfaction, extent to which new skills and tools are used, degree of change in using data to drive decision-making, efficiency and effectiveness of the design, development and implementation of the Longitudinal Data System (LDS) and unintended consequences.

Year 1: $1,514,250

Professional Development $216,250 (Year 1)
Ongoing professional growth for educators will be implemented to support the targeted needs of Ohio's educators.

Audience Type and Number	Level of Training	Method of Delivery	Estimated Cost
• School Based Technology Coordinators (N = 1000)	Advanced	• Face-to-face (workshops, distance learning)	• Design and development ($15,000) • Delivery ($100,000)
• Regional Liaisons - who will train teachers N = 650	Advanced	• Face-to-face (workshops, distance learning) • Teacher Networks	• Design and development ($15,000) • Delivery ($65,000)
• School Leadership N = 650 • Higher Education N = 200	Awareness	• One-day conferences	• $21,250
Total			$216,250

Training $15,000(Year 1)
The budget includes $15,000 to train 3-5 ODE staff members to update their technical skills to include SIF and XML expertise and to continue enhancing staff expertise on both the Informatica and Microstrategy software.

Travel $3,000 (Year 1)
$3,000 will cover required travel to grant-related annual meetings.

Invest in additional Microstrategy Licenses $110,000 (Year 1)
Requesting $100,000 to purchase additional Microstrategy licenses and $10,000 for a server so that ODE can expand capacity in its Decision Support environment enabling additional internal and external users efficient access to analytical and reporting capabilities of the LDS.

Year 2 ($2,836,850) and Year 3 ($1,648,900)

Longitudinal Data System Project Activities

- RFP Awarded Vendor will perform the following:
  - Develop a detailed project plan
  - Design and develop of an operational relational database
  - Populate the Data Dictionary
  - Develop extraction, transformation and loading mappings in Informatica to load the Operational Database
  - Consult and assist ODE, Regional Information Technology Centers and Large City School Districts on SIF implementation
  - Consult and assist to the two major student information system vendors in the state to enable EMIS data reporting in a SIF-compatible format
- Activities Continued from Phase I:
  - Finalize item-by-item analysis of EMIS elements and the adoption of SIF specifications [SIF Analyst]
  - Extraction, transformation and loading mappings in Informatica to streamline and automate reporting of federal data [Informatica Consultant]
  - Extraction, transformation and loading mappings in Informatica to expand Data Warehouse [Informatica Consultant]
  - Professional Development for educators
  - Evaluation
  - Training of ODE staff
  - Travel
  - Continue to invest in Microstrategy licenses to build capacity to support a wide variety of stakeholders

Year 3: Longitudinal Data System Project Activities and Final Deliverables

- 2007-2008 School Year EMIS Data will be shared with ODE via the Regional Information Technology Centers according to adopted SIF specifications
- Operational Relational Database in place to efficiently and effectively manage longitudinal student records
- Comprehensive Data Dictionary to be operational for Federally Reported Data – including Performance Based Data Management Initiative (PBDMI) and No Child Left Behind (NCLB)
- Automated federal reporting
- Enterprise Data Warehouse encompassing all program areas, longitudinal analysis of student achievement and linking students to teachers via courses

RFP Vendor $1,720,000 (Year 2) $945 ,000 (Year 3)

The LDS RFP awarded at the end of Year 1 would include the requirement for the following services/resources in a total dollar amount of **$2,665,000** for Year 2 and Year 3 of the LDS project:

- Project Manager

Year 2 ($2,836,850) and Year 3 ($1,648,900)

- Database Design and Development Consultant
- Data Dictionary Consultant
- SIF Implementation Consulting Services to ODE
- SIF Implementation Consulting Services and Assistance to the Regional Information Technology Centers and the Large Urban School Districts that act as their own [31 total entities]
- Integration Services for the two major student information software systems to assist in making the necessary changes to their software so that the system can provide the EMIS required data in a format that is compatible with SIF specifications

The **project manager** would manage the activities of the project team, including the development and ongoing management of a detailed statement of work, task level project plan, a project risk assessment and mitigation strategy, a structured change process, an issues and resolution log, and conduct weekly status meetings. Cost estimates were based upon the current per hourly rate of project managers recently contracted with by ODE.

Based upon the EMIS data elements, a database requirement, design and development resource(s) is needed to create the **EMIS operational relational database model**. This activity may take multiple individuals due to the complexity and scope. Additionally work to coordinate and compile information from disparate metadata sources and to migrate it to the **Data Dictionary** single metadata repository is going to be needed. Both of these estimates were based upon current hourly rates being paid to vendors.

The adoption and **implementation of data definition and format standards** for sharing data is a major change for ODE, for Ohio's Regional Information Technology Centers, and for Ohio's large urban districts that act as their own Information Technology Center. The SIF specification is based on the W3C endorsed standard Extensible Markup Language (XML) and defines the common data format. Currently data are shared in fixed-length, text-formatted file structures that require the purchase of Zone Integration Servers for both the Regional Information Technology Centers. As a result, much expertise and consulting is required.

Continued Activities from Phase I and associated costs

Project Evaluation $150,000 (Year 2) $150,000 (Year 3)
ODE will issue an RFP for an independent third-party project evaluator to determine over the three years: number of people served, quality of services and products, customer satisfaction, extent to which new skills and tools are used, degree of change in using data to drive decision-making, efficiency and effectiveness of the design, development and implementation of the LDS and unintended consequences.
Technical Resources $356,600 (Year 2) $288,650 (Year 3)
SIF Analyst $121,600 (Year 2) $78,650 (Year 3)
RFP Writer $25,000 (Year 2) To assist with working with the awarded vendor.
Informatica Consultant $210,000 (Year 2) $210,000 (Year 3)
Note: These increased from $140,000 to $210,000 in Years 2 and 3, to add an additional .5 FT

Year 2 ($2,836,850) and Year 3 ($1,648,900)

each year for the ETL to the Operational Database

Professional Development $ 492,250 (Year 2) $242,250 (Year 3)

Audience Type and Number	Level of Training	Method of Delivery	**YEAR 2** Estimated Cost
School Based Technology Coordinators (N = 1000)	Advanced	Face to face (workshops, distance learning)	Design and development ($15,000) Delivery ($100,000)
Regional Liaisons - who will train teachers (N = 650)	Advanced	Face to face (workshops, distance learning) Teacher Networks	Design and development ($15,000) Delivery ($65,000)
School Leadership N = 650 Higher Education N = 200	Awareness	One day conferences	- $21,250
Online course development and delivery	Awareness and Advanced	Online	- Design and Development $250,000 * - Delivery $26,000
Total			$492, 250

Year 2 ($2,836,850) and Year 3 ($1,648,900)

Audience Type and Number	Level of Training	Method of Delivery	**YEAR 3** Estimated Cost
School Based Technology Coordinators (N = 1000)	Advanced	Face to face (workshops, distance learning)	Design and development ($15,000) Delivery ($100,000)
Regional Liaisons - who will train teachers N = 650	Advanced	Face to face (workshops, distance learning) Teacher Networks	Design and development ($15,000) Delivery ($65,000)
School Leadership N = 650 Higher Education N = 200	Awarenes s	One day conferences	$21,250
Online course delivery	Awarenes s and Advanced	Online	Delivery $26,000
Total			$242,250

Training $15,000 (Year 2) $10,000 (Year 3)
Continue to build the capacity and expertise of ODE staff's technical staff. This includes training on SIF, XML, Microstrategy and Informatica.

Travel $3,000(Year 2) $3,000 (Year 3)
Requesting $3,000 in each year to cover required travel to annual meetings related to the grant.

Invest in additional Microstrategy Licenses $100,000 (Year 2) $10,000 (Year 3)
As the LDS is built, the volume of stakeholders accessing and using the system will increase. ODE is requesting these funds to ensure that as the LDS is deployed, there is adequate capacity to support efficient access- for both internal users and external users- to the tools that allow them to analyze the data for decision-making and improve student achievement.

EDUCATION MANAGEMENT INFORMATION SYSTEM $15,674,805

The foregoing appropriation item 200-446, Education Management Information System, shall be used by the Department of Education to improve the Education Management Information System (EMIS).

Of the foregoing appropriation item 200-446, Education Management Information System, up to $1,295,857 in each fiscal year shall be distributed to designated data acquisition sites for costs relating to processing, storing, and transferring data for the effective operation of the EMIS. These costs may include, but are not limited to, personnel, hardware, software development, communications connectivity, professional development, and support services, and to provide services to participate in the State Education Technology Plan pursuant to section 3301.07 of the Revised Code.

Of the foregoing appropriation item 200-446, Education Management Information System, up to $8,055,189 in each fiscal year shall be distributed on a per-pupil basis to school districts, community schools established under Chapter 3314. of the Revised Code, educational service centers, joint vocational school districts, and any other education entity that reports data through EMIS. From this funding, each school district or community school established under Chapter 3314. of the Revised Code with enrollment greater than 100 students and each vocational school district shall receive a minimum of $5,000 in each fiscal year. Each school district or community school established under Chapter 3314. of the Revised Code with enrollment between one and one hundred and each educational service center and each county board of MR/DD that submits data through EMIS shall receive $3,000 in each fiscal year. This subsidy shall be used for costs relating to reporting, processing, storing, transferring, and exchanging data necessary to meet requirements of the Department of Education's data system.

The remainder of appropriation item 200-446, Education Management Information System, shall be used to develop and support a common core of data definitions and standards as adopted by the Education Data Advisory Council, including the ongoing development and maintenance of the data dictionary and data warehouse. In addition, such funds shall be used to support the development and implementation of data standards and the design, development, and implementation of a new data exchange system.

Any provider of software meeting the standards approved by the Education Data Advisory Council shall be designated as an approved vendor and may enter into contracts with local school districts, community schools, data acquisition centers, or other educational entities for the purpose of collecting and managing data required under Ohio's education management information system (EMIS) laws. On an annual basis, the Department of Education shall convene an advisory group of school districts, community schools, and other education-related entities to review the Education Management Information System data definitions and data format standards. The advisory group shall recommend changes and enhancements based upon surveys of its members, education agencies in other states, and current industry practices, to reflect best practices, align with federal initiatives, and meet the needs of school districts. School districts and community schools not implementing a common and uniform set of data definitions and data format standards for Education Management Information System purposes shall have all EMIS funding withheld until they are in compliance.

APPENDIX A: TIMELINE

Longitudinal Data System :Phase I
Year 1: November 2005 - October 2006

November 2005 — **Proposed Grant Awarded**

December 2005 — **Procure Technical Resources:** RFP Writer, Informatica Consultant, Schools Interoperability Framework (SIF) Analyst

January 2006 — **Procure Hardware:** Zone Integration Servers (ZIS) for Large Urban Districts Regional Information Technology Centers and Ohio Department of Education (ODE)

February 2006

March 2006

April 2006

May 2006

June 2006

July 2006

August 2006

The following activities will span from January 2006 to October 2006:

Request for Proposal (RFP) development and release for competitive did: Design and development of operational database, population of data dictionary, SIF implementation and Student Information System integration - This includes a project manager. *Resource: RFP Writer & Beth Juillerat (ODE)*

Item by item analysis of over 500 Education Management Information System (EMIS) data elements: Gap analysis of alignment with SIF data objects *Resource: SIF Analyst, Jim Daubenmire & Nancy Haefeli (ODE)*

Extraction, transformation and loading mappings in Informatica: To streamline and automate reporting of federal data *Resource: Informatica Consultant & Becky Roeder(ODE)*

Extraction, transformation and loading mappings in Informatica: To load additional program data into the Data Warehouse *Resource: Informatica Consultant & Mike Carmack (ODE)*

Procurement of evaluator and initiation of evaluation: Establish baseline *Resource: Matthew Cohen,Ph.D. and Lucy Seabrook,Ph.D. (ODE)*

Professional Development
Advanced Training for School Based Technology Coordinators
Advanced Training to Regional Liaisons to train teachers
Awareness Training for School Leadership and Higher Education

Other Activities: Training of ODE staff , travel

September 2006 — **Procure additional Microstrategy licenses and server**

October 2006 — **Award RFP for**: Design and develop of operational database, populate data dictionary, SIF implementation and Student Information System integration - This includes a project manager *Resource: RFP Review Team*

Longitudinal Data System :Phase II
Year 2: November 2006 - October 2007

November 2006

December 2006

January 2007

February 2007

March 2007

April 2007

May 2007

June 2007

July 2007

August 2007

September 2007

October 2007

Upon award of the RFP, the selected vendor will begin the following tasks that will span over the course of the year:

- Develop a detailed project plan *Resource: Project Manager, RFP Writer and Beth Juillerat*
- Design and develop an operational database *Resource .Database requirements/design consultant and Mike Carmack*
- Populate the data dictionary *Resource: Data Dictionary consultant & Office of Data Services*
- SIF implementation consulting *Resource: SIF implementation consultants in collaboration with Regional Information Technology Centers and ODE staff*
- Student Information System integration consulting *Resource: SIF implementation consultants in collaboration with Regional Information Technology Centers, eSIS and DASL experts and ODE staff*
- Develop the extraction, transformation and loading to the operational database : *Resource: Informatica Consultant & Mike Carmack*

The following activities will continue from Phase I and will span the year:

- Finalize item-by-item analysis of EMIS elements: Creation of standards for data elements for which a SIF data object may not exist. *Resource: SIF analyst, Beth Juillerat, Jim Daubenmire, & Nancy Haefeli*
- Develop business rules and quality assurance procedures. *Resource: SIF analyst, Beth Juillerat, Jim Daubenmire, & Nancy Haefeli*
- Assistance to meet SIF specifications for vertical reporting to USDOE: *SIF analyst*
- Extraction, transformation and loading mappings in Informatica: To streamline and automate reporting of federal data *Resource: Informatica Consultant & Becky Roeder*
- Extraction, transformation and loading mappings in Informatica: To load additional program data into the Data Warehouse *Resource: Informatica Consultant & Mike Carmack*
- Professional Development
- Evaluation
- Other Activities: Training of ODE staff , travel, Microstrategy

Data Warehouse to contain data associating teachers to students and additional program data and enhanced reporting and analytical capabilities available to stakeholders

Longitudinal Data System :Phase III
Year 3: November 2007 - October 2008

November 2007

December 2007

January 2008

February 2008

March 2008

April 2008

May 2008

June 2008

July 2008

August 2008

September 2008

October 2008

2007-2008 School Year EMIS data will be shared with ODE via the Regional Information Technology Sites according to adopted SIF specifications:

- EMIS data definition and data format standards are aligned with the SIF specifications.
- Quality assurance processes and business rules are implemented.
- Student information systems provide data in SIF compatible formats
- Zone Integration Servers (ZIS) in place at Regional Information Technology Centers, large city school districts and the ODE

Relational database in place to effectively and efficiently manage longitudinal data and individual student data:

- EMIS data are being loaded into the operational relational database
- Operational database is used to validate data in a timely manner

The following activities will continue from Phase II and will span the year:

- Extraction, transformation and loading mappings in Informatica: To streamline and automate reporting of federal data *Resource: Informatica consultant & Becky Roeder*
- Extraction, transformation and loading mappings in Informatica: To load additional program data into the Data Warehouse *Resource: Informatica consultant & Mike Carmack*
- Additional SIF Analysis to accommodate changes in data collection/reporting requirements: SIF Analyst
- Professional Development
- Evaluation
- Other Activities: Training , Microstrategy,travel

Comprehensive Data Dictionary to be operational for Federal Reporting Requirements including Performance Based Data Management Initiative/Education Data Exchange Network (PBDMI/EDEN) and No Child Left Behind (NCLB)

Automated Federal Reporting

Enterprise Data Warehouse for all program areas, that facilitates longitudinal analysis on student achievement and links students to teachers via courses.

Appendix B

MIKE DeWINE
OHIO
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(202) 224-2315
TDD (202) 224-9921

http://dewine.senate.gov

United States Senate

WASHINGTON, DC 20510-3503

COMMITTEES:

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APPROPRIATIONS
CHAIRMAN, SUBCOMMITTEE ON DISTRICT OF COLUMBIA

HEALTH
CHAIRMAN, SUBCOMMITTEE ON SUBSTANCE ABUSE AND MENTAL HEALTH SERVICES

INTELLIGENCE

June 21, 2005

The Honorable Margaret Spellings
Secretary
U.S. Department of Education
400 Maryland Avenue SW
Washington, DC 20202

Dear Secretary Spellings:

It has come to my attention that the officials at the Ohio Department of Education (ODE) are submitting an application for funding to the Institute of Education Sciences, under the U.S. Department of Education.

The Ohio Department of Education seeks to design, develop and implement statewide longitudinal data systems. It is my understanding that the Ohio Department of Education's proposal, titled **"Ohio Longitudinal Data System"** will efficiently and accurately respond to federal and state mandates and meet the multiple information needs of the education stakeholders. Students, teachers, families, schools and researchers will be able to rely on secure and consistent data to assure that all children reach their highest potential.

I would appreciate your office giving their proposal your consideration. Please feel free to contact me or my Director of Grants, Lelia Burke, at (513) 763-8260 if you require any additional information.

Very respectfully yours,

Mike DeWine

MIKE DeWINE
United States Senator

cc: Dr. Kashka Kubzdela, Institute of Education Sciences

RMD/seb

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100 WEST MAIN STREET
2ND FLOOR
XENIA, OH 45385
(937) 376-3080

BOB TAFT
GOVERNOR
STATE OF OHIO

June 27, 2005

The Honorable Margaret Spellings
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Spellings:

I appreciate the opportunity to submit the enclosed Longitudinal Data System proposal to the U.S. Department of Education, Institute for Education Sciences. This grant will assist Ohio in developing a statewide longitudinal data system, which is the cornerstone of the accountability provisions of the No Child Left Behind Act.

On behalf of the state of Ohio, I am writing to express support for the Ohio proposal. It has been prepared by informed and dedicated educators and data specialists through an extensive, collaborative process. Their work has resulted in a plan for creating and sustaining a statewide data exchange system that will allow educators to fully realize the benefits of student data, assure the appropriate use of that data and allow for analysis of many factors that will help Ohio improve education throughout the pipeline.

We are committed to the goals and strategies outlined in this proposal and will implement this project if awarded. The proposed system will efficiently and accurately respond to Federal and State mandates and meet the multiple information needs of education stakeholders. Students, teachers, families, schools and researchers will be able to rely on secure and consistent data to assure that all children reach their highest potential.

I am proud of the collaborative leadership that Dr. Susan Zelman, State Superintendent of Public Instruction, has modeled with this work. Ohio is committed to improving the statewide data collection system that will improve the education of our nation's children.

Sincerely,

Bob Taft

Bob Taft
Governor of Ohio

77 SOUTH HIGH STREET • 30TH FLOOR • COLUMBUS, OHIO 43215-6117 • 614.466.3555 • FAX: 614.466.9354

Department of
Education

Susan Tave Zelman

Superintendent of Public Instruction

June 27, 2005

The Honorable Margaret Spellings
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Spellings:

It is with great pleasure that Ohio submits this Longitudinal Data System grant proposal to the U.S. Department of Education. Our proposal focuses on upgrading and expanding Ohio's vertical data exchange system to meet stakeholder information needs and address federal and state directives in a timely and efficient manner.

Ohio recognizes that technology solutions are critical to school improvement efforts. We continue to improve our data collection, analysis, and business processes so that educators, community members, and policymakers throughout the state can use longitudinal data to improve student achievement. In addition, our legislators are committed to improving data systems in our schools, including new funding in the state budget for educator training in data-driven decision making. Support from you at the federal level would help our state develop a more integrated system and ultimately, reach our goal of higher achievement for all students.

We have the willingness and experience to support other states' longitudinal data systems. Our system is being developed in a manner that other states could adapt to improve their data systems by using one or more components at a reasonable cost – without completely revamping their systems.

On behalf of the Ohio Department of Education, I am writing to request support for Ohio's Longitudinal Data System grant proposal. We are committed to the strategies that build upon our current system and align at the federal, state, regional and local levels as outlined in the proposal. Thank you for your consideration.

Sincerely,

Susan Tave Zelman

Susan Tave Zelman
State Superintendent of Public Instruction
Cc: Dr. Kashka Kubzdela

Battelle for Kids

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Room 9067
Washington, D.C. 20006

John C. Hussey
Battelle for Kids
Director of Technology
1160 Dublin Rd., Ste.100
Columbus, OH. 43215

Dr. Kubzdela:

I am pleased to have the opportunity to write this letter in support of the Ohio Department of Education proposal to improve the statewide longitudinal data systems grant. Battelle for Kids is a not for profit organization supported by the Ohio business community and specifically Battelle Memorial Institute. We were created in 2001 with the singular mission of raising student achievement in Ohio. Battelle for Kids appreciates the potential support the National Center of Education Statistics could provide in accomplishing our mission.

From the beginning Battelle for Kids understood the importance of longitudinal data. Because the Ohio Department of Education did not have the ability to collect and link student identifiable data, Battelle for Kids began to collect longitudinal data from 42 volunteer pilot school districts in Ohio. Those original districts found the longitudinal data we collected and the value-added analysis we were able to provide as a to be a powerful tool in school improvement. The pilot group has grown from 42 to 110 school districts this year, which represents approximately 1/3 of the students in grades 3-8 in the state. That may help you understand the demand for longitudinal data on Ohio. Unfortunately we are still collecting that data district by district, and year by year, and then attempting to merge it accurately ourselves. As you know, this is a very difficult process without common data standards or state systems for cleaning, merging, and archiving data. We have a large research initiative planned that we have delayed until we can efficiently gather the required data and be assured of the reliability of that data.

Ohio has made a commitment to this effort of improving data in Ohio including gathering experts in the field including corporate technology leaders, to serve on an the Educational Data Advisory Committee. I have served on that committee for two years and have witnessed ODE's commitment to improving educational data for the purpose of improving achievement for all the students in Ohio.

Sincerely,

John Hussey

Director of Technology Services

Teacher Quality Partnership

Meeting the Teacher Education Accountability Challenge

June 18, 2005

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Partnership Director
Sonja J. Smith
Professor of Education
Mount Vernon Nazarene University

Associate Director
Stephanie Gilbertson
Director, Center for Research in Teacher Education
University of Cincinnati

Administrative Center
Mount Vernon Nazarene University
800 Martinsburg Road
Mount Vernon, Ohio 43050

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Room 9067
Washington, D.C. 20006

Dear Dr. Kubzdela:

On behalf of the Teacher Quality Partnership (TQP), I am writing this letter to express support for the *Data Driven Decision-Making for Academic Achievement* initiative proposed by the Ohio Department of Education (ODE). Members of the TQP leadership team are serving on ODE committees to create and implement the system. This ambitious project to integrate multiple data systems into a design that will permit access to information on achievement related to standards will be a valuable resource for administrators, PK-12 teachers, and teacher educators alike.

The Teacher Quality Partnership, a consortium of Ohio's 50 educator preparation institutions, ODE, the Ohio Board of Regents (OBR) and other stakeholders, is conducting longitudinal qualitative and quantitative studies with pre-service, experienced and novice teachers. This multi-faceted, five-year research effort is developing a database that will examine the interaction of multiple program, context, and personal variables to determine those that have the most significant impact on student academic growth, as measured by value-added assessment. Results will inform teacher preparation and professional development, so that all students will have more effective teachers.

The D^3A^2 initiative has brought together representatives from across Ohio to identify existing databases, create a system to integrate these, and connect assessment results with instructional resources. This valuable database has the potential for data-driven decisions that will result in higher student achievement. While it is being developed to serve Ohio students, it can serve as a model for other states who have not yet begun this level of collaboration and integration.

Support through this Institute of Education Sciences grant is very important so that all aspects of the proposal will be implemented in the near future.

Sincerely,

Sonja J. Smith

Sonja J. Smith, Director
Teacher Quality Partnership

Phone: 740/392-6868, ext. 3491	

WRIGHT STATE
UNIVERSITY

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Office of the Dean
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Dayton, OH 45435-0001
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http://www.ed.wright.edu

June 20, 2005

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Room 9067
Washington, D.C. 2006

Dear Dr. Kubzdela:

I am pleased to be able to lend my support to the Ohio Department of Education's proposal to improve the statewide longitudinal data systems grant. The College of Education and Human Services at Wright State University prepares teachers and administrators mainly for employment with one of the more than 600 Ohio school districts. While it is our college's desire to be able to demonstrate that our graduates have a positive impact on the learning of the Ohioans that they teach and interact with after they graduate, it is often difficult without a state-of-the art data system. Clearly it is a desirable goad to be able to have data drive decisions that lead to outstanding academic achievement for all of the students Ohio serves.

The Ohio Department of Education, while committed to data based decision-making for student achievement, needs assistance to accomplish this goal. This grant will allow Ohio agencies to design, develop and implement longitudinal data systems to allow educators to manage, analyze, and break out individual student data. No Child Left Behind requirements necessitate educational institutions at the local, district, and state levels to generate and use data to comply with the data reporting requirements in an accurate and efficient manner. This grant will help to assure the validity, reliability and accessibility of statewide cross sectional and longitudinal data which will not only strengthen individual educational decision making but will assist analysis and the promotion of rigorous research on what is working and what needs to be changed in Ohio schools and classrooms.

Ohio is committed to the improvement of student achievement through the use of accurate data to make sound educational decisions. These actions should assist in closing the achievement gap between our highest and lowest learners and will lead to an overall improvement in student learning in Ohio for all students.

I would be pleased to offer additional support if you would contact me at 937-775-2822, or at gregory.bernhardt@wright.edu.

Sincerely,

G. R. Bernhardt

Gregory R. Bernhardt
Dean and Professor

SPARCC Stark-Portage Area Computer Consortium
2100 38th Street N.W., Canton, Ohio 44709 Telephone 330.492.8136 FAX 330.492.6175

June 17, 2005

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Room 9067
Washington, D.C. 20006

Dear Dr. Kubzdela;

We are writing this letter in support of the Ohio Department of Education's grant proposal to improve the state-wide longitudinal data systems. Our organization is dedicated to the improvement of student achievement. The availability of data and the ability to analyze that data is a crucial component of this effort. This grant proposal is very much in line with our thoughts on this matter. We appreciate the efforts of your office to support this valuable work.

As mentioned earlier, we believe that data analysis is central to the improvement of student achievement. It is a given that the quality of the analysis is only as good as the quality of the data on which it is based and the tools used to perform the analysis. Therefore, it is imperative that a comprehensive system be developed which is both easy to use and sufficiently powerful to perform the necessary data analysis. The system must be able to accept data from multiple sources and provide the analysis to many stakeholders in a timely fashion. It must work on many levels ranging from a state-wide perspective down to the more narrow view of an individual student. It is our hope that this grant will allow the development of such a system.

Within our state, there is a strong desire to establish a collaborative effort in order to achieve our common goals. We share the belief that access to data is necessary in order to improve student achievement. Your consideration of our proposal is appreciated.

Sincerely yours,
David Forman
David Forman,
Director of Operations

SWOCA

SouthWest Ohio Computer Association

3607 Hamilton-Middletown Road ◊ Hamilton Ohio 45011-2241 ◊ voice 513.867.1028 ◊ fax 513.867.0754 ◊ www.swoca.net

June 15, 2005

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Room 9067
Washington, D.C. 20006

I am pleased to submit this letter to support for the Ohio Department of Education proposal to improve the statewide longitudinal data systems grant. As an Ohio Data Acquisition Site, SWOCA is deeply involved in the accumulation and proper use of student related data. We have been committed to the ideals of this grant program for many years and are extremely happy to witness the commitment of the National Center of Education Statistics support of this important work.

It is our understanding that this grant is intended to enable state education agencies to design, develop and implement statewide longitudinal data systems to efficiently and accurately manage, analyze, disaggregate and use individual student data; ensure technical quality of data; maximize the validity, reliability and accessibility of statewide cross sectional and longitudinal data; promote timely and accurate data and linkages across the state; and facilitate analysis and rigorous research. This is a perfect fit with the recent efforts of ODE and the Ohio DASites through software that we have both developed and purchased. Financial assistance in the development of these tools will greatly accelerate our timeline to put even better tools into the hands of teachers, administrators and parents.

SWOCA and its 31 member Ohio school districts are committed to greatly improved access to and use of student data for the improvement of student learning. We vigorously support this grant and look forward to working with the Ohio Department of Education in the fulfillment of its objectives.

Sincerely,

Michael Crumley

Michael Crumley, Executive Director

Northern Ohio Educational Computer Association
219 Howard Drive, Sandusky, OH 44870
419.627.1439 Fax 419.627.5608
www.noeca.net

June 15, 2005

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Room 9067
Washington, D.C. 20006

Dear Dr. Kubzdela,

As one of the twenty-three regional data centers in Ohio, I am very pleased to submit this letter in support of the Ohio Department of Education's (ODE) proposal to improve the statewide longitudinal data systems by applying for this grant. My organization, Northern Ohio Educational Computer Association (NOECA), has been committed to providing data to our educational partners for the last 25 years. NOECA's mission is it to identify and deliver high quality educational management services and provide access to diverse educational resources to assist partners in maintaining effective learning environments. We at NOECA believe that the grant proposal submitted by ODE will assist us in our mission.

I believe you will see that Ohio can become a leader and visionary to other states in its pursuit of designing and implementing a statewide data system, which will provide an efficient and effective system to accurately manage and analyze student data with the ultimate goal of improving student learning. Much of the data already exists through statewide data systems available to all Ohio educators, parents, and other stakeholders. Through this proposal, ODE and state educational agencies will be able to further develop and implement a system that will provide essential data required to improve student achievement.

NOECA, the other regional data centers in Ohio, other educational agencies, and ODE are committed to providing a product that will improve achievement and student learning for the Ohio learning community.

Sincerely,

Rita Rohlf

Rita Rohlf
Director

Lake Erie Educational Computer Association
1885 Lake Avenue • Elyria, Ohio 44035

Elyria (440) 324-5777
Lorain (440) 244-1659
Fax (440) 324-7355

Linking Education Everywhere Creating Achievement

June 16, 2005

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Room 9067
Washington, D.C. 20006

Lloyd Wright
Director
Lake Erie Educational Computer Association

Dear Dr. Kubzkdela,

On behalf of the Lake Erie Educational Computer Association and the thirty-one public school districts we represent, please accept this letter of support for the Ohio Department of Educations proposal for improving statewide longitudinal data systems. Serving as the data center for our schools gives us a unique insight to the data needs of the districts we serve. Thus, we appreciate the National Center of Education Statistics support for this type of project.

For some time now our districts have been in need of a data system, which provides a unique view of historical student data. We believe such a system will provide our schools with the ability to research and analyze data across a broad student population never before possible.

The result of these efforts will hopefully prove to be improved instruction, learning and achievement by our children.

Thank you for consideration,

Lloyd Wright

Lloyd Wright
Director

INFOhio
THE INFORMATION NETWORK FOR OHIO SCHOOLS

June 17, 2005

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Room 9067
Washington, D.C. 20006

Dear Dr. Kubzdela:

On behalf of all school libraries in the state of Ohio we are honored to have this opportunity to support the Ohio Department of Education proposal to improve the statewide longitudinal data systems grant. INFOhio, a statewide cooperative school library and information network, uses technology to ensure information literacy for all PreK-12 students by providing equity of access to education resources through the following components: electronic resources, instructional development for teachers, library automation, media content and a statewide Curriculum Resource Catalog.

INFOhio admires the commitment of the National Center of Education Statistics to support this important work. We understand the purpose of this grant is to enable state education agencies to design, develop and implement statewide longitudinal data systems to efficiently and accurately manage, analyze, disaggregate and use individual student data. Such systems are intended to allow states to generate and use the data needed to comply with reporting requirements in an accurate and timely manner, to facilitate research to improve student learning and close achievement gaps, and to promote linkages across states and protect student privacy.

We enthusiastically support this grant proposal for several reasons because it will:

- ensure the technical quality of data,
- maximize the validity, reliability and accessibility of statewide cross sectional and longitudinal data,
- promote timely and accurate data and linkages across the state,
- and facilitate analysis and rigorous research.

INFOhio is an active participant in Ohio's commitment to provide timely and accurate data to improve achievement for all students, closing the achievement gap, and improving student learning. As representatives of various school districts and the Data Acquisition Sites who serve all PreK-12 schools both pubic and private we enthusiastically add our support for this grant.

Sincerely,

Theresa M. Fredericka

Theresa M. Fredericka
INFOhio Executive Director

274 E. 1st Avenue, Suite 100 · Columbus, OH 43201 · 614/752-2941 *phone* · 614/752-2940 *fax* · www.infohio.org

June 16, 2005

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Rm 9067
Washington D.C. 20006

Dear Dr. Kabuzdela:

On behalf of the Management Council of the Ohio Education Computer Network, I am writing this letter in support for the Ohio Department of Education's proposal to improve the statewide longitudinal data system grant. The Management Council of the Ohio Education Computer Network provides leadership for effective and efficient information technology for the learning community in Ohio. We provide services to over 675 school districts, educational service centers, and joint vocational schools in Ohio. Our organization sincerely appreciates the National Center of Education Statistics' commitment to this project. For the past six years, we have been working with districts to analyze existing data for student improvement.

The longitudinal data system the Ohio Department of Education is proposing will greatly support these efforts to efficiently and accurately manage, analyze, disaggregate, and use individual student data. With the advent of new federal and state reporting requirements, this grant proposal is very timely in assisting districts to address data requirements and to gain information in improving student achievement. Both teachers and administrators have been asking for increased data to analyze student needs and this statewide effort will provide a timely and accurate linkage to all of Ohio school districts.

The Ohio Department of Education has recently conducted several meetings in which they are sharing their plans for Data Driven Decision making for Academic Achievement ($D3A^2$). This initiative is to improve academic achievement for all students, close the achievement gap, and to improve student learning. This grant proposal will greatly assist the Ohio Department of Education by expanding their current efforts to improve student instruction in the state of Ohio.

Sincerely,

Bruce E. Hawkins, CEO
Management Council of the OECN

vw/bh

Ohio SchoolNet

Schools on the move

Dr. Kashka Kubzdela
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Room 9067
Washington, D.C. 20006

June 16, 2005

Dear Dr. Kubzdela:

On behalf of the Ohio SchoolNet Commission, I am pleased to submit this letter of support for the Ohio Department of Education's proposal to improve the statewide longitudinal data systems grant. I commend the National Center of Education Statistics support of this important work.

The Ohio SchoolNet Commission is an independent state agency that is legislatively charged with administering Ohio's educational technology programs. Our mission is to provide leadership, coordination and accountability in the use of technology to improve schools and raise student achievement. Our vision is that Ohio schools will be recognized for technology leadership, preparing students for postsecondary education and the 21st Century workforce. To date, 1.8 million students and 95,000 teachers in 661 Ohio public and joint vocational school districts have benefited from Ohio SchoolNet's educational technology programs, products and services.

The Ohio SchoolNet Commission strongly endorses the Ohio Department of Education's grant submission, as the purpose of the grant is to enable state education agencies to design, develop and implement statewide longitudinal data systems to efficiently and accurately manage, analyze, disaggregate and use individual student data. Such systems will allow our state to generate and use the data needed to comply with reporting requirements in an accurate and timely manner, facilitate research to improve student learning and close achievement gaps, promote linkages across states, allow easy access to data for educators to base instructional decisions with accurate, timely information and protect student privacy. It will also ensure technical quality of our data; maximize the validity, reliability and accessibility of statewide cross sectional and longitudinal data; promote timely and accurate data and linkages across the state; and facilitate analysis and rigorous research.

The State of Ohio is committed to timely and accurate data. We have worked diligently to improve achievement for all students, to close the achievement gap and improve student learning. I am confident that Ohio teachers and students will benefit from the grant proposal submitted to you by the Ohio Department of Education. Thank you in advance for your consideration.

Sincerely,

Julie A. Fox, Ph.D.
Interim Executive Director
The Ohio SchoolNet Commission

OHIO SCHOOLNET COMMISSION
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