IES PRS

Application Profile

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Organization Information

Organization Name: South Carolina Department of Education

Organization Unit: Technology

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Collaboration Organization(s)

Organization Name	Organization Type	State	Country	Key Personnel	Role on Project
Public Schools of North Carolina	State	NC	United States of America	Bellamy, Bob	Interstate Data Exchange Partner
National Transcript Center/ ESP Solutions	Private, Profit-Making Organization	TX	United States of America	Johnson, Mark	Contractor/Data Exchange
QlikTech	Private, Profit-Making Organization	NC	United States of America	Mahaney, Virginia	Reporting Software Consultant
Marlboro County School District	Local	SC	United States of America	Wimberley, Deborah	Pilot/Test District and Member of the Steering Committee
Horry County School District	Local	SC	United States of America	Nadeau, Richard	Technology Officer for Pilot/Test District and Member of the Steering Committee
Greenville County School District	Local	SC	United States of America	Luce, Lonnie	Pilot/Test District and Member of the Steering Committee
ICAP Solutions	Private, Profit-Making Organization	RI	United States of America	Newkirk, Barry	Technical Personnel Contractor
Advanced Automation Consulting	Private, Profit-Making Organization	SC	United States of America	Denise, John	Technical Personnel Contractor

Application Title

South Carolina Longitudinal Data System

State Identifier

Period of Performance **Project Begin Date:** 11/01/2005 **Project End Date:** 09/30/2008

Abstract

South Carolina Longitudinal Data System
Abstract

The South Carolina Department of Education (SDE) requests $5,950,253 over three years to design, develop, and implement a statewide longitudinal system. By collecting and promptly providing a range of current and valid data, this system—the South Carolina Longitudinal Data System (SC LDS)—will help the state's educators improve student achievement, teacher performance, school quality, and the P–16 educational system.

The SC LDS will enable our state to integrate the data that currently rest in multiple systems, expand the data that are included, meet federal and state reporting requirements, and help educators understand what is taking place in and across grade-level classrooms and schools. Most importantly, the SC LDS will enable our educational system to have the data needed to make changes in instruction and address the needs of all students. Using the data from SC LDS will help South Carolina close achievement gaps and address the needs of all types of learners, from English Language Learners to children with disabilities.

The following goals have been established for SC LDS:
• Build and implement a vertical reporting system (school to district to state) that will be based on a statewide implementation of SIF
• Extend SIF to transfer student data horizontally between South Carolina's public school districts, between state-level systems, and to other states and institutions of higher education
• Design and develop an enterprise-wide data architecture to include a data dictionary and a data model
• Expand our state-level data repository to include EDEN data elements and expedite federal reporting
• Implement a user-friendly reporting framework that provides researchers and stakeholders with access to the state-level data repository.

To design, implement, and sustain the SC LDS, the SDE will work with key stakeholders, including schools and districts, parents, business partners, and the U.S. Department of Education. By understanding the needs of various users and the uses of the data, we can design a system that offers current, valid, timely, and user-friendly reporting mechanisms. In addition to a steering committee and two co-managers, an applications architect and a trainer will ensure that the system is designed efficiently and used effectively. Training users and stakeholders in the SC LDS includes a variety of components, from entering clean data to understanding its meaning for instruction and teacher quality.

The SC LDS will enable South Carolina's educators and policymakers to "improve the dissemination of information" to parents and the community and "identify best educational practices based on scientifically based research" (Title VI, Part A, Section 6111). With SC LDS, South Carolina will create an infrastructure to allow a more seamless P–16 educational system and continue its advances in teacher reform and academic achievement for all students.

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

Exempt Narrative:

Non-Exempt Narrative:

Estimated Funding

Federal:	$5,950,253.00	**Local:**	$0.00		
Applicant:	(b)(4)	**Other:**	$0.00	**Total:**	(b)(4)
State:	$0.00	**Program Income:**	$0.00		

Federal Budget

Budget Categories	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1. Personnel	$180,000.00	$185,400.00	$190,962.00	$0.00	$0.00	$556,362.00
2. Fringe Benefits	$50,400.00	$51,912.00	$53,469.00	$0.00	$0.00	$155,781.00
3. Travel	$20,506.00	$20,506.00	$20,506.00	$0.00	$0.00	$61,518.00
4. Equipment	$223,073.00	$0.00	$0.00	$0.00	$0.00	$223,073.00
5. Supplies	$8,765.00	$4,915.00	$5,165.00	$0.00	$0.00	$18,845.00
6. Contractual	$2,697,680.00	$877,680.00	$352,840.00	$0.00	$0.00	$3,928,200.00
7. Construction	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
8. Other	$260,650.00	$286,810.00	$286,810.00	$0.00	$0.00	$834,270.00

The SC LDS will provide integrated, interoperable data systems to better allocate technology and data resources. The system will improve management on all levels. Because the SC LDS can yield significant information about effective and ineffective instructional programs, the project will ultimately enable the state to allocate state and federal funds more efficiently.

We can use the savings produced by the SC LDS to help the poorest districts acquire the hardware, software, and training needed to participate in the SC LDS. The savings can also help pay for the training and hardware required over time. To use the SC LDS wisely requires an understanding of how to analyze and understand data. We will partner with the South Carolina Association of School Administrators and the SDE's Offices of Assessment, Teacher Quality, Research, and School Quality in teaching educators across the state how to understand and use the data that will be at their fingertips.

5. Procedures to Ensure Safe Access and Confidentiality

The SDE has such procedures in place and will expand them as appropriate to include the SC LDS. Please see the Item #3 on page 3 and the Project Design section for more information.

6. Clear Evaluation Criteria

An executive steering committee will be created to monitor progress of the SC LDS and to address problems and issues as they arise. Every element of this proposal will be pilot tested with live data and with the participation of schools, districts, stakeholders, and the USED.

Ultimately, the SC LDS's success is determined by its usefulness in improving education. We currently track achievement and progress of groups of students at the school and district levels as required by the NCLB. With the SC LDS, we will be able to track individual student achievement across school years throughout their academic careers including cases where students transfer within South Carolina, to other states, and on to higher education. Additionally we will be able to link student and teacher information for evaluating the impact of having a highly qualified teacher in every classroom.

In addition to facilitating our capacity to meet the federal and state government reporting requirements, the SC LDS will make it easier for South Carolina to advance student achievement over the long-term by assisting educators in evaluating programs and policies, identifying and learning from best practices, and continuously improving schools. The SC LDS will empower educators to make instructional decisions based on current and relevant data.

2. PROJECT DESIGN

The South Carolina Longitudinal Data System (SC LDS) is based on emerging national standards and conforms to the Schools Interoperability Framework (SIF) Implementation Specification (SIF, 2004). The proposed system meets the mandatory requirements not only of the program guidelines but also the requirements the state must meet under the *No Child Left Behind (NCLB) Act of 2001.*

This proposal also aligns with the National Education Technology Plan, in particular, Action 7: Integrate Data Systems (http://nationaledtechplan.org/theplan/ Recommendations.asp). The SDE concurs with the report issued by the U.S. Department of Education (USED) that "[i]ntegrated, interoperable data systems are the key to better allocation of resources, greater management efficiency, and online and technology-based assessments of student performance that empower educators to transform teaching and personalize instruction." This action step urges states, districts, and schools to

- Establish a plan to integrate data systems so that administrators and educators have the information they need to increase efficiency and improve student learning
- Use data from both administrative and instructional systems to understand relationships between decisions, allocation of resources, and student achievement
- Ensure interoperability. For example, consider School Interoperability Framework (SIF) Compliance Certification as a requirement in all purchasing decisions
- Use assessment results to inform and differentiate instruction for every child.

To help South Carolina meet these recommendations, we have established the following goals:

- Build and implement a vertical reporting system (school to district to state) that will be based on a statewide implementation of SIF
- Extend SIF to transfer student data horizontally between South Carolina's public school districts, between state-level systems, and to other states and higher education education
- Design and develop an enterprise-wide data architecture to include a data dictionary and a data model
- Expand our state-level data repository to include EDEN data elements and expedite federal reporting
- Implement a user-friendly reporting framework that provides researchers and stakeholders with access to the state-level data repository.

The timeline in Appendix A provides a detailed plan of the design, implementation, and outcomes of the SC LDS. In summary, the benchmarks for each year are

<u>Year 1</u>
(1) Expand the data repository to include additional EDEN data elements
(2) Complete the enterprise-wide data dictionary
(3) Complete the pilot preparation of the Student Information System to transfer data from the school- to the state level, and complete SIF Agent customization for vertical report for all districts.
(4) Pursue alternate sources of funding to sustain the SC LDS

Year2 (1) Complete the data model for the data repository including all necessary Teacher Quality data elements
(2) Deliver reports and analyses to our state-level stakeholders using our new reporting and analysis tools
(3) Complete and implement vertical reporting application that transfers data from the school level to the state level using SIF
(4) Complete and implement the horizontal transfer of SASI student records from district to district
(5) Pursue alternate sources of funding to sustain the SC LDS.

Year 3 (1) Provide all required EDEN data elements that are available in electronic format to the federal government
(2) Transfer student transcripts to higher education institutions and between school districts in South Carolina
(3) Expand data repository to include all necessary Teacher Quality data
(4) Provide access to the data repository for stakeholders
(5) Disseminate project success through professional journals, conferences such as EdTech and SCITDA, and through the SDE Web site.

Vertical Reporting

A vertical reporting system that provides a mechanism for moving data from the school level to the state level is a key element in the SC LDS. As school personnel enter and modify student and teacher data in their student information system, it will be sent immediately to the SDE, making real-time data available.

An integral piece for transferring the student and teacher information between the schools and the SDE will be the Schools Interoperability Framework (SIF) that defines objects for many aspects of PK–12 data structures. These objects use a high level programming language (XML) to implement the methods for the data transfers between diverse applications such as student information, teacher information, lunchroom information, library information, and financial information. By using a few basic concepts, systems of arbitrary complexity can be built, expanded as necessary, and maintained much more easily than has ever been possible.

The SIF model not only specifies the objects that make up the framework, how those objects should be constructed and exchanged between school districts and the state departments of education (as well as the USED), but also provides a mechanism for gathering the information. A SIF-compliant infrastructure to automate all *vertical reporting* of SASI data from schools and districts to the SDE will resolve the lack of inter-system and vertical integration. This automatic vertical reporting will enable the SDE to receive "real-time" updates as they are made at the school level. We propose to use SIF agents at each school, district office, and the SDE to update the SDE's database in real-time.

Using SIF to automate the transfer of data will eliminate current file extract and transfer processes, greatly expand the number of data elements to be added to the data repository, and reduce the burden on local school and district personnel. Making the state level data systems such as teacher certification SIF-compliant will automate data exchanges between systems, allowing more current teacher data to be added to the data repository.

Another key concept in understanding our proposed SC LDS and SIF in general is the idea of an "agent." An agent is simply a go-between that facilitates information transfer between disparate systems. According to the SIF standard, the disparate information systems do not communicate directly with one another but through their agent. The agents then communicate with other agents to transform the data into defined objects and transmit those standard objects to the agent of the receiving organization (the SDE in this case).

Another interesting feature of the SIF model is that it may be implemented as a "push" or "pull" operation depending on the source of the objects involved. For example, school districts could allow the SDE to pull information from district servers for individual students. Likewise, the SDE could push standardized test scores down to the districts from a file furnished by the test scoring company. Currently, the test scoring company must furnish an individual file to each district and a statewide file to the state.

For each disparate application from which data will be pulled or pushed, an application SIF agent must be written. The SDE will be responsible for the customization of the SIF agents required to move the student and teacher information between schools and the SDE. Fortunately, an agent is available for SASI, the district-wide student records system, and we have installed this agent in all South Carolina's public schools as part of our student unique identifier project.

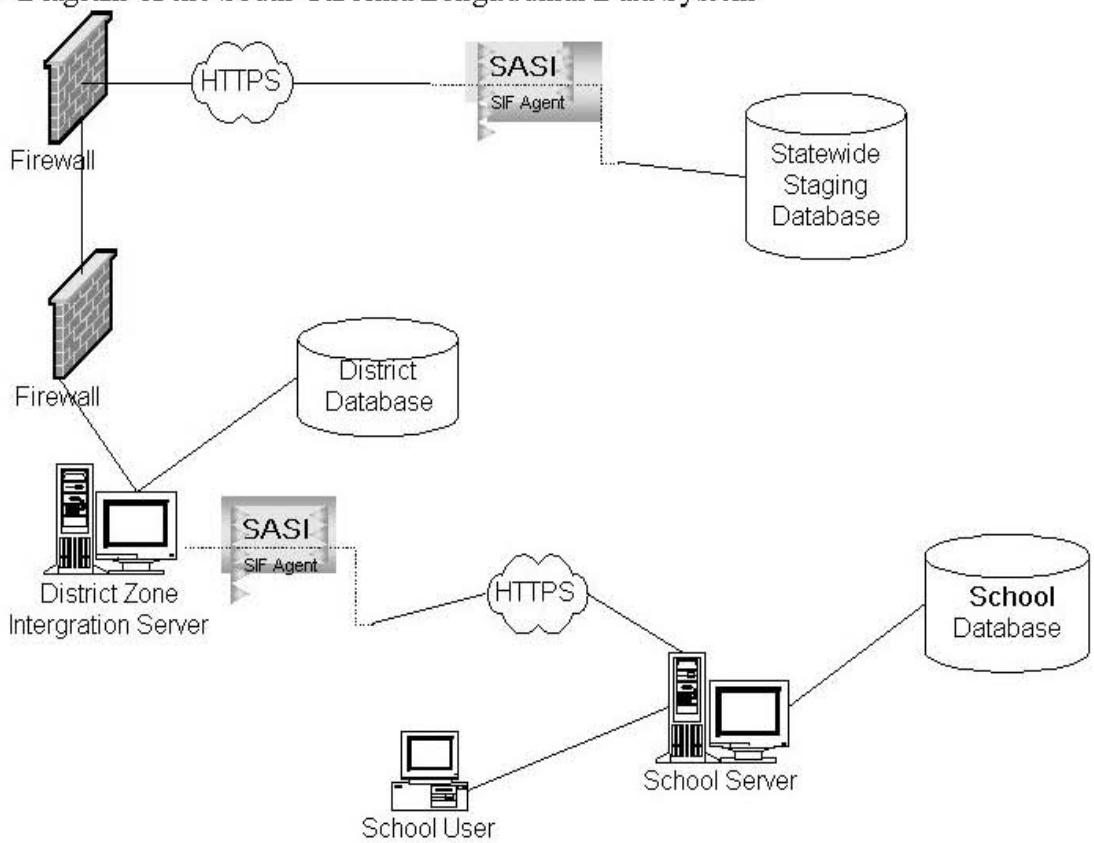
We propose to contract with ESP Solutions Group and Edustructures for modifications to this agent that will make it possible to capture many additional data elements from the student information system. South Carolina is the only state with a statewide deployment of a uniform student information system (SASI) that is certified SIF-compliant (certified February 24, 2005). We anticipate that additional agents will need to be written to capture South Carolina-specific data elements that are stored in the school-level student information systems.

We propose to use the same technique, on a much larger scale, to implement the SC LDS. Our state is already gaining experience with the SIF model and its implementation. As we point out in the Needs and Resources sections of this proposal, we are implementing a unique student ID system based on the SIF standards. This system will be available in July 2005 and used in the upcoming school year. We already have in place district-wide student records systems (SASI) in all 85 school districts in the state. The SC LDS project will reduce the burden on school district personnel by largely eliminating the manual processing and critical timing requirements for moving these data and much more into the longitudinal data system.

Individual schools are connected to their respective district offices using dedicated T1 circuits. This infrastructure for transmitting large volumes of data from schools to districts to the state has been in place since 1996 and is continually upgraded to support increased data volumes over time. Another state agency, the South Carolina Chief Information Office of the Budget and Control Board, maintains the Cascade switches and all routers for the more than 1,200 school and district sites. (Please see letter of support in Appendix B)

With this background, Figure 1 below, a diagram of the SC LDS, illustrates the existing architecture and data flow from schools to district offices to the SDE. The new features that will be implemented are zone integration servers (ZIS) and the application agents.

Figure 1: Diagram of the South Carolina Longitudinal Data System



The entire SIF specification is based on the generation of "events." An event is simply a request to do something. For example, a mouse click on a button on a screen generates an event to an application to perform some action. Likewise, the ZIS to be implemented at the SDE will issue events to agents at the district to cause the agents to provide data. Events generated by the application agents are also used to control the flow of this data to the state or school district.

For example, if a district application is unable to deliver data (e.g., the district server is off–line), an error event is generated to inform the ZIS of this situation. Likewise, when data are delivered an event is generated by the ZIS to the application agent informing it of this success. So, events not only control data flow to and from application agents, but also control data delivery (using acknowledgement [Ack] events). When an application makes a change in one of the SIF objects, its agent will generate a SIF-Event message containing the changes that were made. The ZIS will receive the SIF-Event and propagate it to all the other agents that are interested in updates to that particular object.

The SIF specification also addresses the concept of a "zone" which is key to the operation of SC LDS. A zone is simply a designation of which applications are available to the ZIS from which data may be transferred. In this case, the zone includes the ZIS and the applications at the district from which data may be exchanged (SASI student records system, special education, school lunch, library management, etc.). The ZIS manages all data exchanges between applications in the zone. The Zone uses a "publish and subscribe" model, which is

analogous to how a person would subscribe to a newspaper to be delivered to a home. Unless you register and subscribe with the newspaper publisher, you will not receive the newspaper. After subscribing, you will receive a copy of the paper whenever it is published.

Agents do the same thing in the SIF zone. Once a ZIS is set up, each SIF-enabled application "registers" so that it can communicate with the ZIS and other applications in the zone. An application can then act as a provider or subscriber to various data objects. For example, in SC LDS, our SASI student records system may act as the provider of the Student Personal Data Object and our special education application or food service application could subscribe to events for that same object. As each application is part of the zone, whenever there is a change to student information in the SASI system, that system's agent would publish an event that is relayed to the ZIS and to all subscribers. This event lets the subscribers know that a change has taken place. Because of the way the zone is configured, this notification happens automatically and instantly. This information is distributed to as many systems as are authorized to receive the event notice.

Note that the entire SIF is hardware- and operating system-neutral. This means that, because the SIF specification is a high-level specification, the state is free to implement it using whatever hardware, operating system, and database management system we wish. This feature will lower the cost of implementation because we can select off-the-shelf components from a number of vendors to satisfy each requirement.

The SDE proposes to implement the SC LDS on a Structured Query Language (SQL) database that is used in our existing data repository. Our staff's familiarity with SQL will speed development and cost efficiency. Once established, the SC LDS database will be extensible as new disparate systems are incorporated into the statewide data system.

Horizontal Transferability of Data to Other Entities

We propose to establish a partnership to use the ESP Solution Group's National Transcript Center technology as the agent for transfer of PK–12 student transcripts between school districts in South Carolina. This Center could also be used to facilitate transcript exchanges between South Carolina and other participating states such as Georgia and North Carolina. In addition, transcripts may be exchanged between South Carolina high schools and institutions of higher education nationwide.

Another of our goals with this three-year grant is to develop SIF agents that can be used to transmit data from the SDE's teacher certification database that resides in a satellite location and is maintained by a separate staff of developers and database administrators. The first step in this process will be to make the changes required to make this database SIF-compliant. These changes will be made at the same time that we design and code the teacher database SIF agents. A staging database will be built to store data transmitted from the teacher database before it is cleansed and transferred into the data repository.

Enterprise-wide Data Architecture

As we begin work on a vertical reporting system, the SDE plans to leverage our existing relationship with ESP Solutions Group, as a result of our joint development of the student unique

numbering system, to aid us in the design and implementation of an enterprise-wide data architecture. Early in the project, we will conduct an inventory of all data elements currently collected by all of the SDE's offices. We will use the results of this data inventory to expand the current data dictionary into an enterprise wide data dictionary with the help of ESP Solutions Group and the USED.

"The amount of information about schools presented to the general public is at an all-time high, but the information isn't always useful or accurate" (Snell, 2005). Because it creates a common ground and understanding among users and constituents, a consistent, valid data dictionary can prevent the confusion, misleading, and deception about data that has recently been discussed across the nation (Snell, June 2005): The data dictionary must also be user friendly so that a broad audience, with little or no technical knowledge, can understand the data and its ramifications.

The data inventory will also serve as another source of information contributing to the design of an enterprise-wide data model. Data models for our data repository and other existing systems will also be included in the new model. This management system will include the new data elements we plan to add for EDEN and NCLB data reporting requirements and will ensure the capability to link individual student records with those of their teachers.

SDE will clearly define which data elements are necessary for reporting to various entities. An annual survey of the SDE offices conducted by technology personnel identifies new data elements needed for program evaluation and any changes required for existing elements currently collected from schools. Because "having good data improves the capacity of a state to take a system-wide perspective of the issues" (Tafel & Eberhart, 1999:11), these data elements and their associated cleansing rules will be defined and employed by our technology staff to ensure that data integrity is preserved. These cleansing rules will be translated into guidelines to be distributed to school and district personnel responsible for SASI data entry and data integrity.

Federal Reporting

This grant will provide funding for the necessary analysis of the current student records and disparate data systems. Data from these systems will be added to the SC LDS over the course of the three-year project. Our goal is to include all required elements contained in the Elementary and Secondary Education Act (as amended by the NCLB). Once the required data elements have been gathered and added to the SC LDS, we plan to purchase and implement ESP's Federal Report Manager to help the SDE staff streamline the production and timely submission of annual reports for EDEN. We will then be able to supply many more file groups than are currently provided to the EDEN system. The table below indicates the file groups and tables we have already provided and the additional tables we will be able to provide for EDEN.

Table 1: SDE's Current and Projected Submission to EDEN

Current	Additional with SC LDS
• N29 Directory • N39 Grades Offered • N52 Membership • N74 Status Prior Year	• N75–N81 Student Performance • N02–N07 Children with Disabilities (IDEA) • N31, N32, N40, N41, N01 tables

• N35 Federal Programs • N34 Economically/Not Economically Disadvantaged • N33 Free and Reduced Price Lunch • N59 Staff FTE Tables • N60 Teacher Credentials Table	related to Graduates, Dropouts, and additional indicators such as Student Discipline, Student Participation in Title 1, Student Participation in Limited English Proficient Programs, and Teacher and Paraprofessional tables

Reporting Framework

Currently our technology staff uses a general-purpose report writer (Actuate) to produce reports from our SQL data repository. This tool can also be directly applied to the SC LDS. Because our staff is already familiar with this report generator, there will be no learning curve. We plan to significantly increase the number of timely school-level exception reports for school personnel to use in monitoring data quality issues for which they need to take action. These new reports will be invaluable in identifying and correcting incomplete student and teacher data. Empowering school-level users to maintain quality data will help ensure valid, effective, and accurate analysis by the users of the data.

The SC LDS will provide numerous opportunities for researchers in South Carolina. Our own research personnel have experimented with using the SQL databases in the data repository as input to the Statistical Analysis System (SAS), a commercially available research tool. SAS will offer a virtually unlimited opportunity for education researchers to analyze student achievement data contained in the SC LDS. Our existing SAS applications limit the research to the analysis of discrete files from each disparate system, but with the SQL database and LDS project, the researcher "joins" the tables of interest from the database and has instant access to anything in the database. Gone are all the technical details of defining the individual files to be analyzed, coding the beginning and ending columns for each data field in each record, definition of the data types of these fields (alphabetic, numeric, etc.). Simply knowing the names of the tables in the database and "joining" the tables of interest, any required view of the data is instantly available because the data dictionary already contains the required definitions of the fields.

To aid decision makers and stakeholders in understanding and interpreting the data stored in the data repository, a user-friendly, point-and-click analysis and reporting tool—Qlik View—with drill-down capability, will also be licensed. This tool places knowledge at their fingertips and gives the user various presentation interfaces (tabular as well as graphic) to suit the needs of particular circumstances. The trainer hired for this project will be responsible for developing multi-media, Web-based training materials for this product.

The aforementioned tools allow us to address ad hoc reporting and analyses requirements of our primary audiences to be served by the SC LDS: parents (through South Carolina's school and district report cards), teachers (through various student achievement measures such as PACT, SAT, end-of-course test scores, etc.), administrators (through numerous reports such as attendance and teacher certification information), and state and local officials (through summary reports produced "on demand"). Only the imagination limits the possible views of the database that may be constructed by any potential client community.

Protecting the Data

Security, confidentiality, and integrity of the data are guaranteed in several ways. First, district data are physically secured behind a district firewall at each district. Multiple firewalls are in place at the SDE to provide what is called "compartmentalization," a computer security term that describes how data are isolated on a local area network. By properly configuring (programming) firewalls, access is limited to only designated employees based on access control lists. Security can range from absolute (air gap), where the data are entirely isolated from the network, to any degree of permission desired.

A properly configured firewall can shut down access to sensitive data even when other components (i.e., routers) fail. Certain conditions should always be enforced by the firewall. For example, there should never be a case where a network user is allowed to enter the network from the outside world (the Internet) with an address assigned to a local area network user (jokingly called a "spoofer"). Likewise, the firewalls are configured to block unconditionally network activity from a network user's having an address not contained in the access control list of legitimate local area network users. In addition to these electronic defenses, the exchange of data between agents for each application in the zone of the zone integration server is carried out through a secure channel (https). This security feature is built into the SIF Specification. With no secure channel, no data exchange will occur. It's that simple.

Training

Because "[d]ata used to guide decisions must be accurate, systematically collected and analyzed, and consistent with the experience of individuals familiar with the system" (Brauen, 2004:2), sufficient training is crucial to the success of this project. As noted in the project's timeline (Appendix A), training is planned for the SDE and district-level staff and state-level stakeholders. Each business partner will be required to train the SDE technical staff. The business partners and vendors will work with the trainer hired through this grant to develop courseware to be used to train all stakeholders.

We will pursue different methods for delivering training, allowing us to reach a broad audience of potential stakeholders. The SDE also has eight technology specialists (with master's degrees in technology who are certified in instructional design and online facilitation) who will assist and support the trainer in developing and presenting Web-based interactive training and tutorials, and they can offer coursework online, face-to-face, or in a customized, hybrid fashion.

The SDE has the capacity to conduct instructor-led, hands-on classes in our on-site technology classroom and in classrooms of varying sizes available to the SDE in other state agencies and around the state, including the SDE's Regional Technology Centers. The SDE also has an enterprise license for Blackboard, software that allows the development and presentation of Web-based interactive training.

Sustainability and Maintenance of SC LDS

The SDE will be able to sustain the SC LDS by involving our employees at every stage of development, from the data dictionary to application agent design to security implementation. Funding of this project will enable the initial system design and implementation. Once the system is installed, we will be in a position to maintain and expand the system over time. Our

9. Total Direct Costs	$3,441,074.00	$1,427,223.00	$909,752.00	$0.00	$0.00	$5,778,049.00
10. Indirect Costs	$99,758.00	$44,244.00	$28,202.00	$0.00	$0.00	$172,204.00
11. Training Stipends	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
12. Total Costs	$3,540,832.00	$1,471,467.00	$937,954.00	$0.00	$0.00	$5,950,253.00

Non-Federal Budget

Budget Categories	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1. Personnel	(b)(4)					
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						
12. Total Costs						

Application Details

D-U-N-S Number:	(b)(2)	T-I-N:	57-6000286	Duration (years):	3
Any Federal Debt:	No	Specify:			
Type of Applicant:	State	If Other, Specify:			

Authorized Representative Information

AR Name	AR Address	AR Phone	AR Fax	AR E-mail	Primary:
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1. NEED FOR THE PROJECT

In 1999, the Education Oversight Committee (EOC), a committee established by the South Carolina General Assembly, announced its vision for education: "By 2010, South Carolina's student achievement will be ranked in the top half of states nationally. To achieve this goal, we must become one of the five fastest improving systems in the country" (EOC, 1999). While the South Carolina Department of Education (SDE) has made great strides in realizing this vision, a longitudinal data system is a critical key to reaching this goal by 2010.

The SDE's assessment revealed the need for an integrated longitudinal data system that can help educators research, assess, and promote student achievement, teacher quality, and school performance. Such a system will enable South Carolina to achieve maximum cost efficiency and comply more fully and more easily with federal and state reporting mandates.

Need to Improve Academic Achievement

South Carolina has garnered national attention for progress in education. The state leads the nation for the third year in teacher quality reform, and ranks third in the nation for with nearly 3,900 nationally-board certified teachers (National Board for Professional Teaching Standards, 2004). *Quality Counts 2005* ranked us 6th in the nation for raising academic standards, a feat recently recognized by *Education Next* and U.S. Secretary of Education Margaret Spellings. *The Princeton Review* ranked the state's accountability system as the nation's 11th best, and the *Education Trust* (May 2004) recognized our eighth-graders for the best improvement nationwide on NAEP math tests between 1996 and 2003.

Nonetheless, our educational system leaves far too many children behind:

- 32% of eighth graders do not graduate within five years, and 16,648 students drop out of school each year (Kid's Count State Report, 2003).
- 14% of children are not ready for first grade; minority males constitute 23% of this group (Kid's Count State Report, 2003).
- Special education placement increased to 16% (compared to 12% nationally).
- On the 2004 statewide assessment test, 27% of our eighth graders scored below basic on the English language arts portion, 33% scored below basic on the mathematics portion, and 41% scored below basic on the science portion.
- 24% of our 10th graders failed the 2004 high school exit exam on the first attempt.
- The South Carolina Department of Juvenile Justice processed 27,328 new juvenile cases for 2003–04; 56% of these cases involved black youths and the average age was 14.5 years. 51% of these youths have prior court history.

These alarming trends have made the need for the collection and appropriate analysis of data imperative for educators. With more than 40% of the state's 695,584 students attending Title I schools, and nearly 50% eligible for free or reduced-price lunch (United States Department of Education [USED], 2004a), the state must find effective strategies to boost achievement and instructional levels, close achievement gaps, and reduce drop-out rates.

Unfortunately, schools in South Carolina are "data rich, but information poor" (Salpeter, 2004). While U.S. Secretary of Education Spellings (2005) argues that "[d]ata is our best management tool", school and district educators in South Carolina find it difficult to access the data—such as student information, teacher certification, and special education—needed to make informed decisions because these systems are not integrated or linked.

Assessment of Required System Components

1. Unique, Permanent Student Identifier

South Carolina is developing a system for establishing permanent and unique student ID numbers. This system, referred to as the Student Unique Numbering System (SUNS), is on schedule for implementation by the start of the 2005–06 school year. SUNS will generate, store, assign, and locate unique, unchanged, and unduplicated identifiers for all public school students in grades PK–12 across the state. The SDE plans to use the Schools Interoperability Framework (SIF) to help automate the transfer of unique student identification numbers from the state-level database into the appropriate local student information system.

2. Enterprise-wide Data Architecture

The SDE currently collects many of the standard data elements identified by the National Center for Education Statistics (NCES) as being key components of an adequate statewide data system (http://nces.ed.gov/programs/quarterly/vol_2/2_2/q2-9.asp). We have made progress toward a unified state-level data model that incorporates data collected for every student, teacher, and classroom.

The SDE is mandated to collect teacher data to meet No Child Left Behind (NCLB) and other federal reporting requirements. These data are also a critical component for funding teacher salary supplements and for various state mandates (e.g. report cards and other studies).

The School Administration Student Information (SASI) system provides much valuable data on students in South Carolina's public schools, but its data about teachers is limited. Most of the agency's teacher data are housed solely in a satellite office that electronically transfers a subset of their data elements to our mainframe each night for updating other systems. The limited teacher data available make it difficult to perform longitudinal studies to track the impact of teacher education, experience, and professional development on student performance.

The SDE understands that data must have "definitional consistency and comprehensiveness" in order to be useful (Dougherty, 2003:2). The SDE's data element definitions conform to those in the guidelines established by the NCES.

Unfortunately, our efforts to date to build a data dictionary have not been successful. A limited data dictionary has been created but covers only a small portion of the data elements collected by the SDE's many offices. Limited resources and tools present an obstacle for cataloging all the data items collected and stored in the islands of information within the SDE.

3. Procedures for Protecting the Security, Confidentiality, and Integrity of Data

Our data protection procedures align with Family Educational Rights and Privacy Act (FERPA) and with the USED (2003) report, *Weaving a Secure Web around Education: A Guide to Technology Standards and Security*. The SDE contracts with a certified security consultant, Business Tech, Inc., to regularly assess and maintain the security of our infrastructure and data.

4. Lack of Inter-system and Vertical Integration

The SDE has made strides in implementing major information management systems for many years, using various technologies to support data driven decision-making at the school, district, and state levels. However, these systems are not integrated, so "linking together information from different sources [is] the next major step" (L'Orange and Vorhees, 2003:67).

The state's student information system provides data elements required by federal and state agencies. The SDE has adopted SASI as the uniform student information system in the 1185 public schools in its PK–12 system. This project has been more than three years in implementation and three years in full operation.

This SASI system operates as a client-server system with a file server at each of the 1,185 schools in the state and a district-wide database at each of the school district offices. Every 45 days, files are extracted from each district database and moved to the state using our custom SWEET tool. The data are then used to produce various reports for SDE offices to meet state and federal requirements for many programs, including NCLB and EDEN.

Each existing system has its problems. SASI lacks uniform rules for data entry and element level editing, allowing each school to decide how to enter student names, identification numbers and other vital information. This has presented problems at the state level when trying to cleanse the data collected from the schools. A data template developed by the SDE provides a method to standardize SASI data elements and codes statewide and is updated annually with elements required by new legislation or local school district need. This template has helped but not eliminated all the problems with data uniformity in SASI.

The SASI Web Extract and Export Tool (SWEET) is used to extract and transmit student and teacher data from each school district's SASI database to the SDE. Implemented just prior to the 2003–04 school year, SWEET is now executed quarterly, replacing a plethora of separate data collections, both manual and electronic. The data are uploaded to the SDE over the state's backbone network using a secure Web connection. The number of data elements extracted via SWEET expands each year as new reporting requirements emerge.

SWEET also has shortcomings. While providing a way to collect data from the SASI databases in each public school, SWEET requires significant manual intervention on the part of technical personnel at the state and district levels who must initiate SWEET transfers or the data will never reach the SDE. If they fail to initiate this task on schedule, any data received will be out of date, diminishing the value of reports and research. Currently, the SDE must also first cleanse the data received through SWEET and then move it manually into the data repository.

The SDE's Office of Technology was an original partner in the Education Data Exchange Network (EDEN) pilot project and its predecessor the Performance-Based Data management Initiative (PBDMI). The SDE began submitting some of the required file types for the 2002–03 school year, with additional file types submitted for 2003–04. Obstacles of varying nature have limited the data that the SDE has been able to transmit to EDEN. Once we have expanded our data repository, we will be able to transmit to EDEN more of the file types required by the USED without increasing the number of unique data collections imposed on local districts.

The SDE's participation in the Uniform Management Information Reporting System (UMIRS), a federal program to report information from the state to meet the NCLB legislative mandates, will begin in the 2005–06 school year. These reports include statistics about truancy rates as well as the frequency, seriousness, and incidence of violence and drug-related offenses resulting in student suspensions and expulsions. Also included are reports of the types of curricula, programs, and services offered to these at-risk students.

In 2003, a Professional Certified Staff (PCS) Web-based system was implemented for each district office to report to the SDE its staff and teacher employment information such as salary, position, days employed, and location. These data are added to the data repository at the end of each school year and are used by multiple SDE offices, including the Office of Finance, Office of School Quality (accreditation processes), Office of District Auditing, Office of Teacher Quality (teacher evaluation and paraprofessionals), and the Office of Research (district and school report cards, statistical publications, and research studies).

The lack of a transmission mechanism has largely stymied the development of statewide student information systems. Across the nation, the data to prepare most types of reports related to education already exist in some automated system, and South Carolina is no exception. There is a statewide student records system and a special education system operating in all 85 school districts. There is a professional certified staff system operating at the state level that provides information about teacher certification to all districts. Another system provides financial information at the state level, while each district has its own financial information system. The data are contained in disparate systems that do not communicate with one another.

5. Warehouse for Statewide LDS

To consolidate data from the aforementioned and other systems, a state-level data repository was created in 2003 and is updated throughout each school year. The data repository, implemented using Microsoft SQL Server 2000™, is populated with data from SASI and other disparate systems making it possible for the SDE to begin meeting more federal reporting requirements such as UMIRS, EDEN, and NCLB.

Assessment of Required Policy and Implementation Components

1. Capacity to Support Research

> "Effective and comprehensive data systems share several common advantages. They inform stakeholders of the condition of education at various levels. They enable states to identify effective educational practices and diagnose problems. Effective data

systems also have the ability to identify programs, schools, and students that are successful, as well as those that need attention and assistance." (Dougherty, 2003:3)

These words underscore the importance of the South Carolina Longitudinal Data System (SC LDS). As Christopher Swanson (Urban Institute, 2005) explains, "[I]f we want to decrease the actual number of students dropping out, if we want to understand this problem better, we need different types of information."

To make data-driven decisions, we must be able to evaluate the effectiveness of schools and programs and to identify consistently high-performing schools, allowing other teachers and administrators in the state to learn from their successes. The data and reports generated with the SC LDS can help us address achievement gaps, subgroup performance, and improve instruction within a school and a grade. Most importantly, the collection of data through the SC LDS would promote early and timely intervention for students who are at-risk and who drop out of school.

2. Capacity to exchange data across state institutions and among states

The State Higher Education Executive Officers (SHEEO) summarizes part of the problem as, "The information available about students, states' K-12 systems, and the states' post-secondary systems is substantially greater than it was twenty years ago. However, these systems are not always linked together. Linking student data to create a valuable resource requires substantial cooperation between multiple agencies and state level education organizations" (Dougherty, 2003:3).

The SDE now furnishes student information to other South Carolina state agencies for compliance with state and federal programs. While we currently have no formal partnerships with other states for exchange of student data, we plan to partner with Georgia and North Carolina via a multi-state national transcript center to exchange student data for PK–16.

3. Capacity to Provide Reports to Key Stakeholders

The ultimate goal for the SC LDS is to enable key stakeholders—school improvement teams, administrators, teachers, governmental leaders, and parents—to gain fingertip access to data that will enable better decision-making. A user-friendly reporting tool will help us overcome our current inability to make the data in our repository available to policy makers, researchers, and other stakeholders.

4. Capacity to Implement and Sustain the SC SLDS

The SHEEO and the NCES explain that longitudinal data systems "can be designed to track student specific academic progress by collecting a wide range of demographic and performance information at regular intervals." (Dougherty, 2003:2) To provide this information, the system must be valid and consistent over fields of data, levels, and time. The SDE is committed to implementing and sustaining the SC LDS so that it can be the educational instrument it is designed to be.

staff currently develops, maintains, and modifies very complex information systems, some of which use SQL databases, general-purpose report generators, and statistical packages.

After the implementation of SC LDS, we plan to work with Georgia and North Carolina to establish a tracking system for students who move among our states. We know that Oregon, Washington, and Idaho have been collaborating on this initiative, and we intend to create a system that will make it "possible not only to track student transfers across districts, but also across states" (Snow-Renner & Torrence, 2002:8).

As the SC LDS becomes an integrated part of the educational infrastructure and policymaking, we know that more educators will need training, and the public will need consistent definitions and training in how to understand the data that are collected and reported. As Snow-Renner and Torrence (2002) found, "[M]ore needs to be done to help administrators, parents, and teachers use state accountability results to improve student achievement… . Reporting results is not enough. Educators and parents need models and assistance in learning how to use performance data to improve practice" (2002:8). The SDE will bring together the expertise in its divisions responsible for school quality and leadership, teacher quality, curriculum and assessment, research, and finance to help support educators as they become more reliant on using data to improve education. We will provide technical assistance to school leaders so that they can "create a school structure where data use is embedded in the daily schedule, and use staff expertise to continually develop data analysis skills" (Armstrong & Anthes, 2001:4).

Validity of SC LDS

At the heart of SC LDS is longitudinal student tracking, or the tracking of achievement by the same student over a period of time (PK–12). NCLB requires every state to participate in the National Assessment of Educational Progress (NAEP) testing program. This nationally standardized, norm-referenced test is given only to a small sample of students in each grade in each state. The test is not given to the same students over their educational careers. Each state is also able to 1) set its own academic standards, 2) develop/adopt test instruments to measure progress toward standards, and 3) define "adequate yearly progress" of its schools and districts.

South Carolina, among a handful of other states, set high academic standards for student achievement, which translated into high standards for "adequate yearly progress" for our schools. Consequently, the state has identified schools as not meeting "adequate yearly progress." We constructed our standards-based achievement measure, the Palmetto Achievement Challenge Test (PACT), to be rigorous and aligned to our academic achievement standards. As a consequence, when we correlate PACT scores at various grade levels to the NAEP, the scores are not only highly correlated, but approach congruence between the two tests. This is very satisfying from a test construction view, but politically very unpalatable.

South Carolina constructed its statewide achievement test to gauge student achievement at given grade levels at a point in time. The tests were designed to answer such questions as: "What should a third grade student know and be able to do in English?" and "What should a fifth grade student know and be able to do in Math?" The tests were scaled within—not across—grade levels. In fact, when the English and Math tests were scaled, the mean scale score was

simply the grade level x 100. In other words, for a third grade test, the mean scale score was set to 300. For a fifth grade test, the mean scale score was set at 500, etc. This scaling presents a problem when we wish to track individual student or cohort achievement over grade levels because the scale scores (or any other ratio measure) cannot be compared directly. This is in contrast to nationally norm-referenced, standardized tests that allow not only comparisons across grades, but also comparison (using Normal Curve Equivalent (NCE) scores) between different tests from different commercial testing companies.

Having scale scores on state tests not directly comparable across grades is only one problem of many of these state-constructed tests being used to meet NCLB requirements. In South Carolina, as in many other states, individual test scores are reported on an ordinal scale (below basic–1, below basic–2, basic–3, proficient–4, and advanced–5). Another concern is the fact that we will be collecting data from different tests on the same student (correlated measures). These constraints place extreme limits on the types of statistical procedures that may be used to directly analyze and report student achievement over time.

The evaluation measure we propose to use to demonstrate the validity of the SC LDS is the Wilcoxon Matched-Pairs Signed-Ranks Test. We plan to run this test to compare student achievement overall across grades for all students and to compare disaggregated groups of students (by race, economic status, etc.) across grades. The Wilcoxon Matched-Pairs Signed-Ranks Test is the nonparametric alternative to the t-test but for related samples. It is appropriate for both repeated measures (where the same individual is given all possible treatments) and for matched-pairs designs such as this where we have different measures taken on the same individual student on different occasions. The test requires data on only an ordinal scale, and it assumes that the underlying data are continuously distributed. In this case, the scale scores, from which the final measures of student achievement are derived (below basic–1, below basic–2, basic, proficient, and advanced), are continuous.

The drawbacks of using the Wilcoxon Matched-Pairs Signed-Ranks test are that the test is sensitive to tie scores. For example, large numbers of students showing no change in achievement from one year to the next (i.e., proficient students one year do not move to advanced the next) will cause the power of the test to be reduced. This can result in a Type-2 error in which we accept a hypothesis (there is no improvement in student achievement) that should be rejected (there was a significant improvement in student achievement, but we failed to detect it). Type-2 errors typically occur when dealing with very small sample sizes, and when the criterion for rejection (alpha) is set too rigorously. Neither situation will exist here as we will be including thousands of students, and we will run the test at alpha <= 0.05.

Operationally, we will run this test and perform our evaluation at the end of years two and three. At the end of year two of the project, a Wilcoxon Matched-Pairs Signed-Ranks test will be run for each grade level and for each sub-population required by NCLB, comparing year one and year two. At the end of year three, Wilcoxon Matched-Pairs Signed-Ranks tests will be run for each grade and for each sub-population for year one compared to year three, and a separate set of tests comparing year two to year three. These statistical tests are possible because we will have unique student identification numbers assigned to every student in the state, and we can "join" the database tables using student number as the matching key each year. PACT

achievement test scores will be extracted for each year and used as input to the Statistical Analysis System (SAS) to perform the calculations for the Wilcoxon Matched-Pairs Signed-Ranks test.

Based on our design, the SC LDS can help meet the "need for information that is both comprehensive and focused-capable of describing achievement across multiple sectors while also reporting educational performance in particular areas" (L'Orange and Voorhees, 2003:63). As we work with the USED to develop the SC LDS and as we train stakeholders in understanding how to use the data it provides, South Carolina will be able to align with the USED's and the NCES's premises about data and using it to improve education. Enabling every student to achieve at high levels requires "sound educational policies at all levels" that are evidence–, research-, and data-based (http://www.nces.ed.gov/programs/handbook/about.asp). Ultimately, the SC LDS will help South Carolina

- Evaluate the effectiveness of schools and programs
- Identify consistently high-performing schools so that educators and the public can learn from best practices
- Promote early and timely intervention
- Focus school systems on preparing a higher percentage of students to succeed in advanced high school courses and in college (Dougherty, 2003:7).

Through SC LDS, South Carolina can continue its progress toward high achievement at all levels, empowering each student to reach his or her academic and life potential. We openly welcome the U.S. Department of Education's active assistance in helping South Carolina develop an efficient, effective longitudinal data system that can propel our state's educational system to higher levels.

3. Personnel

Project Co-Managers

Tammy Mainwaring, the Team Leader for Instructional Technology Services, will serve as the Certified Project Director/Co-Project Manager for the SC LDS project. She will dedicate 50% of her time (19 hours per week) to SC LDS, and be responsible for monitoring project progress and reporting progress to stakeholders and filing required project documentation with the CIO's office. She will report to the State CIO as required by law using SC state government's Standard Project Management Methodology. She reports to the Director of the Office of Technology. Ms. Mainwaring currently manages many grant-related and statewide projects, such as Enhancing Education Through Technology, South Carolina Online Professional Development, and the State Teacher Technology Proficiency Program. She was the team leader and writer for The South Carolina State Technology Plan and the State Guidelines for Enhancing Education Through Technology Projects. She has also served as the coordinator and supervisor of SASI training and holds a master's degree in information technology management from the University of Wollongong in Australia.

Tom Olson, Interim Information Technology Manager I serving as Programming Services Team Leader, will serve as the Co-Manager for the SC LDS, spending 50% of his time

(19 hours per week) on the project. His duties will include identifying resource requirements, determining facility, infrastructure, and equipment needs, establishing project phasing and sequence of activities, identifying and managing project risks, executing the procurement plan and work with vendors to ensure proper delivery and services. He and Ms. Mainwaring will co-manage the scope and schedule, reviewing the project cycles and checkpoints and the progress toward achieving project goals. Mr. Olson will supervise the technical staff assigned to the project, oversee daily project activities, and hire any consultants and coordinate activities with business partners and other vendors.

Tom is currently serving as project manager for the Student Unique Numbering System for Testing (SUNS), a cross team project involving both the Programming Services and District Technology Services teams as well as three business partners and staffing companies. He makes job assignments for all team members, including consultants, evaluates progress toward completion of all projects and team member performance, recommends hardware and software purchases, and prepares and manages team budget. Mr. Olson has 24 years experience in applications development, and holds an associate's degree in computer programming from Midlands Technical College and a bachelor's degree in history from the University of South Carolina (USC). He will report to the Director of the Technology Office.

Key SDE Personnel

James Meetze, Database Administrator. Jim will design and set up the database tables, which will receive the transmitted data. As the database administrator for the Office of Technology, Jim designs and maintains the South Carolina Education Data System data warehouse and the SQL server databases for the South Carolina Department of Education. He is also the senior analyst for Finance, Purchasing, Project Accounting, and other SDE financial systems. Jim holds bachelor's degrees in accounting and in computer science from USC. Jim will report to the project managers for this project.

Thesa Briggs, Senior Applications Analyst, will serve as Applications Analyst for SC LDS, dedicating 50% of her time (19 hours per week) to the project. She will be responsible for coordinating and implementing the reporting and analysis tools for presenting reports and data to SDE users and other stakeholders. Ms. Briggs is currently responsible for management of the Actuate reporting software and data volume for the SDE. This reporting software is used to present Web-based reports for the SDE's web applications and to the districts. She also coordinates the integration of new systems with the reporting software. Ms. Briggs has responsibility of the professional certified staff Web-based application and the in-house diploma application, including maintenance, enhancements, and troubleshooting. She has 18 years of experience in the information technology industry, 12 years of which have been with the SDE. She holds a bachelor's degree in computer science from USC. She will report to Tom Olson, Co-manager of SC LDS.

Marta Burgin, Database Administrator, will spend 50% (19 hours) of her time on SC LDS serving as the project database administrator. She will oversee the development of the enterprise-wide Data Management System and also EDEN reporting. She is currently responsible for all EDEN reporting done by the SDE. She designs the data structures and directs other team members in the compilation of all data for EDEN. Ms. Burgin also oversees the agency's data management efforts as the team lead for the Data Registry Advisory Committee.

Ms. Burgin has 25 years of information technology experience, including six years as a database administrator. She holds a bachelor's degree in mathematics from Furman University. She will report to the project co-managers.

Leon Nelson, Information Technology Manager, will serve as the School District Technical Liaison. He will commit 53% (20 hours) of his time coordinating all projects requiring district participation and managing the help desk, the first line of support for the project. Mr. Nelson has 15 years' experience overseeing the implementation of and providing technical support for the statewide student information system. Mr. Nelson holds a bachelor's degree in Psychology and a master's degree in media arts, both of which he earned at USC. Mr. Nelson will report to the project co-managers.

Aleta Butler, Information Resource Consultant, will commit 27% (10 hours) of her time to the SC LDS project. She will serve as the School District Technology Support Specialist, and will provide direct support to the districts. She will provide technical support to the districts and will also manage the project's listerv. Ms. Butler has over 5 years' experience providing technical support for application supplied to the 85 districts by the SDE. She has earned a bachelor's degree in interdisciplinary studies and a master's degree in education from USC. Ms. Butler will report to Mr. Leon Nelson.

Contractors and Consultants

The SDE anticipates using three contractors, already familiar with our systems, to work on SC LDS. Ron Williams is seasoned DB2 and SQL developer with experience in database administration; he will be working closely with Marta Burgin on both EDEN expansion and the development of the enterprise-wide data management system. Linda Dreiling, a SQL programmer with experience with the SDE's data repository, will be assigned to all facets of the grant where SQL programming is required. The final contractor currently employed by the SDE is Nilanjan Kar. Mr. Kar is an experienced Actuate programmer, and he will be designing and programming the Actuate report programs to be developed for the vertical reporting system.

4. Adequacy of Resources

South Carolina brings to the table a number of resources, some fully implemented, that are integral parts of the statewide longitudinal data system proposed here, as well as resources to be allocated by the state to supplement funds provided by this grant.

SDE Commitment of Facilities, Equipment, and Staff to the SC LDS

Over the last two years, the state has dramatically improved our computer facility and infrastructure, resources that will be used to support the SC LDS. We have a modern computer facility (server farm) occupying 2,262 square feet within the SDE's headquarters in Columbia, South Carolina. The facility has raised flooring throughout. This past year, we upgraded the air conditioning system to improve efficiency and eliminate single points of failure by completely replacing mainframe-style air conditioning units with a distributed system consisting of 10 individual units. Electrical power to the computer facility was upgraded at the same time to provide more capacity and higher reliability. The total cost of the air conditioning and power upgrades was $330,000.

The SDE has invested more than $175,000 in a powerful file server and ancillary equipment that will be available for use in the project. We have proposed a large capacity disk upgrade in our grant budget to ensure that this server will be able to handle the anticipated storage volume. Using a System Attached Network Storage (SANS) device, we can achieve the mass storage and backup needed for a successful the SC LDS. We have secure storage on site that includes a fireproof vault. We will negotiate a reciprocal agreement with the state's Office of the State Chief Information Officer for offsite storage.

The other large-scale system that we have discussed in this writing, our data repository, is currently operating on a separate file server and SANS device. Both of these large servers are protected behind multiple firewalls to guarantee data confidentiality and integrity. We have hired commercial computer security companies to review (independently) our security measures, and their findings now guide our security measures, both physical and logical (HIPAA).

In the Office of Technology, 11 of 47 full-time SDE personnel will be involved in the project. The SC LDS will be one of the core programs for the agency, and all staff will be aware of and involved with the project to some degree. Our technology staff manages the hardware and software for the server farm and will continue to do so for the longitudinal data system.

Two of Technology's team leaders will be responsible for daily management. The team will include two database administrators, a senior applications analyst, three SQL programmers, a data architect, and two support specialists from District Technology Services to ensure that knowledge of the projects is retained once the grant expires.

We will also hire a full-time employee to oversee stakeholder training for this project. The trainer will be involved from the beginning of the grant to assist the business partners in developing training courseware. The SDE will provide the trainer with a laptop and a digital projector from funds budgeted for this project, in addition to office space equipped with network-attached desktop computers for the trainer and contractors.

Sufficient training is crucial to the success of this project. The SDE recognizes the importance of professional development and has created a strong training capacity at the district level through regional technology centers. Technology specialists with strong technical skills and curriculum expertise staff South Carolina's RegionalTechnology Centers. Each center has a multi-station, networked computer lab to provide professional development opportunities and technology support for the educators in the districts served by the center. The SDE's technology specialists also offer on-site trainings, as well as phone and email consultations. The specialists are the core of the South Carolina Online Professional Development Initiative that offers over 50 recertifiation and graduate courses to districts through the Blackboard online learning system. All specialists hold Masters degrees and are certified in instructional design and online facilitation. The instructional technology specialists will support the trainer in providing online, face-to-face, and hybrid trainings to the districts. The SDE also has a training lab within the building. Two technology training specialists are housed onsite to assist staff with training needs. Additionally, the SDE has access to other training venues such as South Carolina's Educational Television (ETV) network.

Our established relationships with human resources companies will make it easier for us to hire additional staff with the appropriate technical skills required for this project. These companies understand our staffing needs and have consistently provided high quality technical staff that fit into our work environment. The State of South Carolina also has in place a "Smart Person Contract" from which we may draw staff to fulfill our short-term needs.

The SDE's Office of Technology also helps schools and school districts, especially poor and rural districts that do not have the resources to provide the staff, to keep their local- and wide-area networks operating. With the South Carolina Budget and Control Board (SC BCB), a division of state government, we provide configuration and spare routers for school sites. By having centralized wide-area network planning and support, small, poor, rural school districts have equal access to the state backbone network that urban, wealthy districts receive. This is an important consideration when implementing systems such as we have proposed, because small districts cannot afford to hire technical support that would otherwise be required.

Current or Planned Work

Working with ESP Solutions Group (ESP), South Carolina is implementing a statewide Student Unique Numbering System (SUNS) that is scheduled for completion in July 2005 and will be used by schools throughout the state for the 2005–06 school year. We have established a long term, productive relationship with ESP, our primary business partner for this grant. This business partner is helping us forge partnerships with other states and private companies who are also working towards similar goals. Funds from this grant will allow us to supplement the work begun with SUNS by expanding our use of SIF in the schools and districts.

The Schools Interoperability Framework (SIF) will be used to automate and transfer unique student identification information between the state level database and local student information systems. The state has invested $788,000 in this system, which will be a key component of our proposed longitudinal data system. Because this system is built using the SIF framework, it will serve as the model for expansion into other record types and data objects that we propose to implement in order to provide management information to our many stakeholders.

Ensuring the Future of the SC LDS

We will request funding from the K–12 School Technology Initiative to sustain the work of the SC LSD. Established by the South Carolina General Assembly in 1995, this initiative is guided by a unique public/private partnership that includes the SDE, ETV Network, the SC BCB, the State Library and the private sector telecommunications providers in the state. With the help of the K–12 School Technology Initiative, South Carolina is fostering the effective use of technology to support teaching and learning throughout the state. Federal funds for the SC LDS will be used to leverage K–12 school technology funds as well as other state resources to enhance and sustain products developed by this project.

Beginning in 1995, the state embarked on an ambitious project to wire every school building in the state (all 1,185 school buildings and 85 district offices). The state legislature provided funds to connect all schools and public libraries to a high-speed backbone network.

Unlike many other states, South Carolina chose not to establish a separate network for education. With only $10 million to establish the wide area network for education and provide high-speed Internet access to all locations, the state decided to build upon an existing network that served approximately 40 state agencies at the time. By expanding the existing backbone network, we not only provided wide-band Internet access for all of PK–12 education, but simultaneously enhanced bandwidth for all other state agencies.

This cost-effective approach has also allowed us to implement large-scale systems (i.e., Student Unique Number System and our statewide student records system [SASI]). Other states took the opposite approach and chose to build a separate network just for education, a much more costly endeavor, and until recently, not realized in many other states. We propose to use this wide-band network to transmit and receive all data generated by the proposed project at no additional cost. Furthermore, we monitor the volume of data traffic on the various nodes of wide area network, and upgrade to higher speed bandwidth as needed.

The state also files E-rate discount applications for these wide bandwidth circuits and Internet access for the public schools. South Carolina was among the first states to provide high-speed data communications and Internet access to all its schools and public libraries.

Dissemination and Collaboration Among States

South Carolina participates actively in federal data acquisition and standardization initiatives. The SDE's Technology director attends the Management Information Systems (MIS) conference, and the EDEN and the Education Information Advisory Consortium meetings hosted by the Council of Chief State School Officers (CCSSO). The Technology director is also an active member of State Educational Technology Director's Association (SETDA) and the Southern Regional Education Board (SREB). One of our proposed project managers is a member of SETDA, SREB, and the International Society for Technology in Education (ISTE).

The SDE is a founding partner of South Carolina EdTech, an annual conference for business technology leaders and local school and district technology personnel to exchange information and best practices. The SDE is also an active participant in the South Carolina Information Technology Director's Association (SCITDA). This group brings together local and state government technology professional for information exchange and continuing education. These organizations provide forums and professional journals that we can use to report the progress and success of the SC LDS, generate wider support, and inform a broad constituency.

South Carolina has already taken the initiative to promote collaborations with North Carolina and Georgia to create common solutions for exchanging student transcripts. Letters from these and other stakeholders and business partners illustrating their enthusiastic support of the SC LDS are included in the Appendix B.

5. Project Management Plan

The SDE will manage the SC LDS system through internal and external strategies. Key stakeholders will be involved throughout the project as both participants and users of the system. The Office of Technology's team leaders for Instructional Technology and Programming

Services will serve as co-Project Managers for this grant. The decision to appoint fulltime SDE staff as co-project managers was made to ensure sustainability of the SC LDS once the three-year grant has expired.

South Carolina's project management methodology requires the development of a detailed project plan as the starting point for project development and oversight. The co-project manager from the Instructional Technology team has been certified by the South Carolina Chief Information Officer as meeting all of South Carolina's project management methodologies. This co-project manager, who also holds a Masters Degree in Information Technology Management, will report project status to the federal government, the state CIO, and all other stakeholders. A trainer will be hired to coordinate all training and will report to this co-project manager. The team leader of Programming Services will be responsible for the daily management of resources assigned to the grant. This co-project manager will also be responsible for maintaining communication with business partners and other contractors. This will include monitoring their adherence to project timelines and tracking deliverables. Both project managers oversee the building, testing, implementation, and evaluation of the longitudinal data system.

Each phase of the project life cycle will be closely monitored by the project managers and project team. During the three-year project implementation, the project managers will be responsible for managing changes to the project plan, entering schedule updates, tracking project progress, and communicating project information to staff and stakeholders. Using the timeline (Appendix A) and the Gantt chart in the project plan, the project managers will ensure that each team member performs defined tasks within the project scope.

The SDE will conduct regular meetings with business partners, who are expected to adhere to agreed-upon schedules and to remain on budget. Any contracts with vendors will contain references to the Gantt chart in the project plan that indicate the critical path of work activities along with earliest start dates and latest finish dates. All contracts with vendors will be approved by the South Carolina Chief Information Officer.

Timeline (Appendix A)

As the timeline details, we have established the critical milestones and key personnel and responsibilities for all activities to ensure progress toward achieving project goals and objectives. This timeline will guide the project work plan, include the key stakeholders, and frame the evaluation of the project.

The South Carolina State Chief Information Officer requires that enterprise projects such as the SC LDS be reported on a frequent basis using the Project Management Dashboard. This dashboard requires reports on tangible and intangible costs and benefits, outcomes, earned value at specific points in the project, quality metrics, and estimated cost to completion. The timeline will be used as high-level checkpoints to measure the progress of system implementation. Progress toward these outcomes will be monitored by the co-project managers and updated in our project plan as the project proceeds. These measures are technical, easily monitored, and the project plan can be shifted in time to accommodate unexpected events as the project progresses.

Year 1

- Expanded data repository to include additional EDEN data elements
- Completed enterprise-wide data dictionary
- Completion of pilot preparation of Student Information System that transfers data from the school level to the state level. SIF Agent customization for vertical report for all districts has been completed
- Exploration of alternate sources of funding to sustain the SC LDS.

Year 2

- Data model completed for data repository to include all necessary Teacher Quality data
- Reports/analysis delivered to state-level stakeholders via new reporting/analysis tools
- Vertical reporting application that transfers data from the school level to the state level using SIF is completed and implemented
- Horizontal transfer of SASI student records from district to district is completed and implemented
- Exploration of alternate sources of funding to sustain the SC LDS.

Year 3

- All required EDEN data are provided to federal government
- Transfer student transcripts to higher education institutions and between school districts in South Carolina
- Data repository will be expanded to include all necessary Teacher Quality data
- Access to the data repository provided to stakeholders
- Dissemination of project success through professional journals, conferences such as EdTech and SCITDA, and through the SDE Web site

Procedures for Ensuring Feedback and Continuous Improvement

Upon notification of funding, the SDE will establish a steering committee of representatives from all stakeholder groups, including students, parent, teachers, schools, districts, the State CIO's office, researchers, institutions of higher education, the business community, state officials, and representatives from the U.S. Department of Education. Stakeholders have indicated their support for this project as evidenced by the attached letters of support (Appendix B). By including a wide range of stakeholders, we will not only provide for the usefulness of the SC LDS but also its sustainability. A major priority of the steering committee and project managers will be securing funding to sustain the project beyond the grant.

To ensure continuous improvement, the steering committee will meet twice a year to review progress and to discuss critical issues. The SDE will also establish a listserv for the steering committee so that continuous, open communication among members and the project team can be maintained. Through reports from the project managers, the steering committee will assess progress toward meeting the State's goals for using data to increase student achievement, facilitate district planning and optimize operations. The project trainer will also be required to report to the project managers and the steering committee on the success of all training classes.

Class participants will be asked to complete evaluations, and the SDE will modify training courseware and methods as necessary.

While designing and implementing the SC LDS, the steering committee and the project managers will adhere to the following guiding principles:

- Communication is vital. Weekly meetings will be held with business partners to assure the project is on schedule.
- The student always comes first. All data included in the repository will be targeted at revealing data that will directly or indirectly increase student achievement.
- Stakeholder feedback and buy-in is essential. Bi-monthly meetings and/or conference calls will be held with the stakeholders/steering committee to update and obtain feedback.
- Emphasis will be placed on quality and effective management of the project.
- Comprehensive and on-going training will be provided at both state and district levels.
- Data security is paramount in safeguarding individual privacy.

Collaboration with District and Schools to Ensure collection of clean data

The SDE provide ongoing support to school and district staff to ensure that they are able to use system data to improve student, teacher, and school performance. Within the SDE, the Office of Technology will partner with the Offices of Assessment, Teacher Quality, Research, and School Quality in training educators across the state how to access, understand and use the data to improve education.

The SDE is committed to providing data collection and technical assistance to school districts. In 2004, the SDE formed the Data Registry Advisory Committee (DRAC) to register and publish a catalog of current and planned data collections and collection media. This effort has significantly reduced redundant data collections required of districts. Additionally, the SDE provides help desk support and assistance to school districts for various disparate systems including the student information system. The project managers will ensure that this service is expanded to include the SC LDS. Quality assurance tests and pilot testing of the system (Appendix A) are planned before live implementation.

Dissemination of Project Work and Results

At the close of the project, the director will resolve any final problems and ensure that the stakeholders are satisfied with the system. The project managers will conduct a session with various stakeholder groups to record information about areas for improvement and best practices. South Carolina would welcome the opportunity to share longitudinal data system project successes and lessons learned at professional conferences and national meetings, and through submitting articles for publication in national journals.

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6. VITAE

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Education

2005 University of South Carolina Columbia, SC
Ph.D., Instructional Technology
South Carolina Project Management Certification

2001 University of Wollongong Wollongong, Australia
M.I.T., Information Technology Management
4.0 GPA

1997 University of South Carolina Columbia, SC
30 hours graduate credit in Special Education
4.0 GPA

1994 University of North Carolina Pembroke, NC
M.Ed., Elementary Education
Graduated Summa Cum Laude
9

1989 University of North Carolina Pembroke, NC
B.S., Education
Graduated Cum Laude

Certifications
South Carolina Teaching Certification in Middle Grades Science, Social Studies, Language Arts, Elementary K-8 (all subjects)
30+ hours in Special Education
IC3 Certified
PBS Online Facilitator
EDC Online Course Developer and Facilitator

Professional Experience
2001–Present State Department of Education Columbia, SC
Education Associate, Office of Technology

- Serve as grant administrator and evaluator for South Carolina's Enhancing Education Through Technology grants
- Chair executive writing committee for the evaluation of South Carolina's State Technology Plan
- Oversee implementation, monitoring and reporting of the South Carolina Teacher Technology Proficiency Proviso
- Supervise the professional development and instructional technology training of South Carolina Teachers via regional technology centers offering online, traditional and hybrid courses
- Coordinate the online course development initiative in South Carolina
- Implement and evaluate a statewide technology coaching professional development program

2000–2001 University of Wollongong Wollongong, Australia
Graduate School Assignment Evaluator

1989–2000 Chesterfield County Schools Chesterfield, SC

1995–1999 Chesterfield/Marlboro Employment Opportunity Commission Chesterfield, SC
Summer Program Administrator

Managerial Accomplishments

- Converted Regional Technology Program from an ad hoc professional development system to a consistent statewide system with a catalog of offerings.
- Worked with a reduced staff to offer more courses using innovative delivery methods.
- Developed an EPMS rubric to aid staff in knowing expectations and attaining job goals.

Relevant Publications

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Professional Affiliations

International Society for Technology in Education (ISTE)
Association for Supervision and Curriculum Development (ASCD)
Southeast Initiatives Regional Technology in Education Consortium (SEIR*TEC)
Southern Regional Education Board (SREB)
State Educational Technology Directors Association (SETDA) – Professional Growth Committee
National Staff Development Council (NSDC)

THESA BRIGGS

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Office of Technology
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Columbia, South Carolina 29201
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Education

1986 University of South Carolina Columbia, SC
B.A., Computer Science

Professional Experience

2000–Present State Department of Education Columbia, SC
Senior Applications Analyst, Office of Technology

- Analyze, design, and maintain the web-based certified staff system and the PC-based diploma system.
- Manage development of these systems including program specifications, review, and testing.
- Responsible for implementation, support, and on-going maintenance of these systems.
- Administrator responsible for deployment of web applications.
- Administrator for the Actuate reporting system including the management of users, roles, directories, and reports.
- Provide assistance with software evaluation, conference presentations, and strategy planning sessions.

1999–2000 Metro Information Services Columbia, SC
Programmer/Analyst

- Assigned to the South Carolina Department of Education to perform Year 2000 analysis, modifications, testing, and release of five FoxPro PC-based systems and the certified staff mainframe system.
- Programmed and tested batch and online payroll programs and jobs.
- Assisted with technical support calls from school districts for FoxPro PC-based systems.
- Performed analysis and developed requirements document for a new diploma system.

1998–1999 Metro Information Services Columbia, SC
Programmer/Analyst

- Assigned to Weyerhaeuser for the Year 2000 project of Container Board Packaging applications.
- Researched vendors and products to assist in finding a remediation tool.
- Team player in developing and refining the work breakdown structure and formal deliverables.
- Key player in understanding interrelationships and external interfaces with other containerboard applications.
- Remediated and tested AS/400 programs to meet Year 2000 standards.

- Assisted in quality assurance testing and production implementation of modified programs.

1988–1998 Metro information Services Columbia, SC
Technical Business Analyst

- Assigned to Wachovia Mortgage on the GEARS project to assist in defining requirements for interfaces between new mortgage computer software and internal and external interfaces.
- Created field level mapping documents and formal requirements documents for several interfaces.
- Supported business team members in defining detailed requirements for gaps and issues found in new software.

1996–1997 Metro Information Services Columbia, SC
Programmer

- Assigned to the North Carolina Department of Human Resources, Division of Information Resource Management, as a primary developer for the Willie M. DHHS case management project.
- Developed and tested CICS applications using Visual Gen on a personal computer.
- Assisted with and coordinated production moves of completed applications to the mainframe.
- Assisted users during the user acceptance phase and via help desk.
- Performed maintenance tasks and bug fixes for the new system.

1995–1996 Metro Information Services Columbia, SC
Programmer/Analyst

- Assigned to NORTEL, Inc. as sole developer responsible for the Global Operations Planning Database system.
- Continued design and development of this executive information system by creating several reports and a metrics capability.
- The metrics included comparison reports manufacturing locations and graphing of various data elements using Microsoft Graph.
- Several metrics for combining multiple locations' data were also developed.
- Major changes were made to the entire system to break down the data by product for each location and also to incorporate this design into various types of metrics.

1993–1995 Metro Information Services Columbia, SC
Programmer/Analyst

- Assigned to GE Capital Mortgage Insurance Company for sole maintenance and production support of the Information Network for Field and Operations system used by the sales force.
- Assisted users with special reports, unique system errors, and problem determination and resolution.

- Converted nightly update process to minimize the complexity of the hardware configuration and to reduce the run time, thereby allowing more time for problem resolution.
- As lead analyst, assisted in the design and analysis of the RATES+ system to allow the sales force to produce customized rate cards for customers.
- Worked closely with the business team to assimilate user requirements. Coordinated systems staff and software development in Visual Basic.
- Worked with a technical writer to produce a user manual.
- As team member of the Sales Force Automation project, assisted in vendor selection, requirements definition, and coordination of link with the legacy system.
- Duties also included secondary technical support to the sales force.

1993–1993 Metro Information Services Columbia, SC
Programmer

- Assigned to GE Capital Mortgage Insurance Company on the Information Network for Field and Operations system used by the sales force to manage accounts and track customer business.
- Programming included custom task functions, letter generation, and zoom features.
- Assisted in development of critical nightly transaction update process and production problem determination and resolution.

1987–1992 South Carolina Department of Education Columbia, SC
Programmer/Analyst

- Maintained and enhanced systems for textbook inventory, pupil accounting, student accountability, school lunch, and refund applications.
- Developed Chapter One system for federal reporting and enhanced the audiovisual library mainframe application.
- Developed programming specifications and conducted feasibility studies of proposed applications.
- Trained statewide personnel in PC applications.
- Developed user documentation and conducted internal training classes.
- Evaluated potential software development tools.

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Education

1961 Furman University Greenville, SC
B. A., Mathematics
Graduated Cum Laude

1959 Mars Hill College Mars Hill, NC
Associate of Arts

Professional Experience

1998–Present State Department of Education
Columbia, SC
Database Administrator, Office of Technology

- Serve as the South Carolina Department of Education's (SDE) coordinator for the U. S. Department of Education's EDEN (Education Data Exchange Network) project.
- Responsible for the DB2 database maintenance of the Professional Certified Staff web-based system.
- Assist in the SQL Server 2000 database maintenance of the SDE data repository.
- Review internal and external requests for student- and teacher-level data stored in the repository, and write SQL queries to provide the data when approved.
- Coordinate SDE's data collection registration effort.

1986–1998 State Department of Education
Columbia, SC
Senior Systems Analyst, Office of Technology

- Served as SDE Project Manager for development of data warehouse funded by IBM Reinventing Education 2 grant.
- Responsible for modification and maintenance of four major mainframe computer systems, including Teacher Certification, GED, PCS and BEDS Data Collection.
- Coordinated the design and development of the PCS district-based microcomputer system and the Apple Tag data collection system.
- Jointly recruited and trained 51 computer programmers.
- Supervised one to six programmers and programmer analysts.

1980–1986 State Department of Education
Columbia, SC
Programmer Analyst I-III, Computer I III

LINDA DREILING

Education

1989 University of New Mexico Albuquerque, NM
B.S. Education

Professional Experience

2001–Present State of Georgia, General Assembly Atlanta, GA
Applications Analyst / DBA

- Identified database requirements, recommended solutions
- Created and managed jobs, triggers, views, and stored procedures
- Wrote SQL queries in DTS packages to move data from the database to XML files
- Managed database security, logins, users, roles, and object permissions
- Monitored systems details within the database to resolve performance issues
- Analyzed and resolved database and data processing incidents and failures in on-line and batch processing
- Implemented and maintained a database change control and testing process for modifications to the production database
- Designed and implemented a backup plan and offsite systems for disaster recovery.
- Created reports in Crystal Reports using SQL queries and views
- Supervised Visual Basic and XML application development
- Developed Help files for Visual Basic application.
- Recommended modifications of the application to adhere to business processes
- Edited and recommended changes for technical training manual
- Provided change specifications to technical team
- Assisted users of VB Application (Legislation Management System)

1999–2001 INSpire Insurance Solutions Columbia, SC
Application Analyst / Programmer

- Wrote technical specifications and coded P&C Visual Rater software for auto, homeowner, and other coverages.
- Converted designs and specifications into SQL GUPTA code/compiled code
- Created and modified tables in an Oracle database. Imported, exported and updated data using embedded SQL statements.
- Developed SQL GUPTA code to handle change requests to correct errors in DMV reports.
- QA tested eINSpire e-commerce web application and reported results to analysts.
- Analyzed and debugged SQL GUPTA code to find causes of errors and revised WPC modules.
- Wrote and maintained documentation to describe program development, logic, coding, testing, changes, and corrections as needed.

1997–1999 Policy Management Systems Corp. Blythewood, SC
Programmer/Analyst I

- Analyzed Visual Basic and C++ code and estimated feasibility, costs, time, and compatibility with hardware and other programs, for proposals.
- Team lead: Organized and set up the environment for a team of business analysts and programmers for a testing project. Provided technical assistance
- Team lead: Developed C++ functions in DLLs and modified VB code for functionality of financial software application for client change requests.
- Participated in a code conversion project: VB 5.0 application to VB 6.0.
- Developed and maintained C code.
- Developed code for data mapping variable fields from an extract file.

1990–1997 St. Paul's Child Care Ministry & Kindergarten Columbia, SC
Manager

- Increased enrollment 300% by developing parent evaluation program that increased parent awareness and satisfaction.
- Conceptualized and wrote policy handbook improving employee awareness and satisfaction.
- Implemented computerized financial accounting system (invoicing, posting accounts, payrolls and financial reports)]
- Organized and orchestrated board meetings, programs and luncheons.
- Assured compliance with regulatory authorities (DSS, DHEC, etc.).
- Hired, trained, and motivated a staff of 18.
- Reviewed and selected vendors for curriculum and developed in house curriculum to meet student educational goals in accordance with South Carolina guidelines.
- Coordinated and hosted the SCELEA 1997 Early Childhood Conference.

1989–1990 Lexington/Richland School District Five Ballentine, SC
Substitute Teacher
Taught all grades, Kindergarten through ninth grade

1982–1985 Fidelity Union Life Insurance Company
Albuquerque, NM
Sales Representative
Increased business by developing a marketing niche for life insurance sales

Languages and Technologies: Windows 95/98/2000/NT, SQL, Visual Basic 5 & 6, Visual C++, C, JCL and TSO, SQLServer, DB2, Access, Crystal Reports, XML, Cobol

NILANJAN KAR

Education

Stevens Institute of Technology Hoboken, NJ
M.S., Computer Science

Regional Engineering College Assam, India
B.E. (Engineering), Electronics and Telecommunications

Certification

ACTUATE Certified Developer
Earned Certification in the ACTUATE e.Report Designer, Professional Release 7

Training

ACTUATE e.Designer Professional
Training features include:

- Designing reports with report parameters
- Creating SQL queries and using the stored procedure builder
- Understanding and using aggregate functions
- Creating and understanding charts, hyperlinks and page-level security
- Customization of configuration files

ACTUATE Customizing e.Reports
Training Features include:

- Custom Coding of e.Reports
- Understanding and Customizing Data Flow
- Use of Requester API
- Customization of controls, sub reports, pages and DataStream and SQL query

Professional Experience

Aug.–Dec. 2004 Wachovia Philadelphia, PA
ACTUATE Developer

- Designed, developed, implemented & deployed reports for the Evergreen Investments group involving design of complex Actuate reports using Customized Actuate libraries.
- Written Actuate BAS files for creating classes, executing stored procedures and for error reporting to create log files.
- Wrote complex SQL queries and stored procedures for the reports, including optimization of the procedures as and when required.
- Exported reports automatically, on generation, to excel, using AcVisitor and other classes.
- Use of Actuate methods to work with dynamic data access and dynamic content (frames, control, etc.) generation.
- Involved in maintenance of Active Portal and deployment of reports to the portal.

Apr. –Aug. 2004 Metlife Greenville, SC
ACTUATE Developer
Reporting for Long Term Care Insurance

- Designed, developed, implemented & deployed reports for the Management Information System involving design of complex Actuate reports using Customized Actuate libraries.
- Written Actuate BAS files for creating classes, executing stored procedures and for error reporting to create log files.
- Developed various Complex Actuate reports, using Actuate Libraries. Designed and developed various stored procedures.
- Exported reports automatically, on generation, to excel, using AcVisitor and other classes.
- Converting the reports to .dbf format using Browser Scripting Controls, ASP and ADO.
- Wrote complex SQL queries and stored procedures to get data for reports.
- Use of Actuate methods to work with SQL procedures
- Exporting of reports to excel and text on demand as well as on a scheduled basis.

Dec. 2003–Mar. 2004 Altech Star Inc. Princeton, NJ
ACTUATE Developer

- Designed, developed, implemented & deployed reports for the Management Information System involving design of complex Actuate reports using Customized Actuate libraries.
- Written Actuate BAS files for executing stored procedures and for error handling to create log files.
- Developed various Complex Actuate reports, using Actuate Libraries. Designed and developed various stored procedures.
- Wrote complex SQL queries and stored procedures to get data for reports.

Jun 2000–Oct. 2003 Eurorscg Mvbms Partners New York City, NY
Lead Developer/Web Developer/Actuate Developer

- Involved in design, development and deployment of web-based reports in Actuate e.Report Server Using Actuate E. Report Designer Professional version 5 SP2 / 6.0.
- Design and development of complex reports in Actuate e.Report Designer Professional using SQL Server.
- Develop and maintain component libraries in Actuate e.Report Designer Professional.
- Debugging, testing and enhancement of reports.
- Made extensive use of Data Adapters and Filters (Single Input Filters, Multiple Input Filters, Memory Data Sorter / Memory Buffers)
- Reports made to support on-demand basis.
- Creation of a web-based tree-menu tool for generating access rights to Actuate reports based on the users, their department and their designation.
- Wrote complex SQL queries and stored procedures to get data for reports.
- Implemented Page Level Security in the reports for multi-level hierarchy of the agency.
- Integrate various databases of the agencies for generating reports, viz. the workflow database, the human resources database, the financial database, etc.

- Analysis of system requirement and designing the database schema.
- Client Side using JavaScript/CSS and COM component generation using Visual Basic 6.0
- Creating and scheduling DTS packages using SQL Server for refreshing the database from the Human Resources system.
- The permissions are stored in a centralized database from where the **Actuate** picks up the permissions before running the reports for various users.
- Analysis of System requirement and designing the database schema.
- COM component generation using Visual Basic 6.0 used for data storage and retrieval and execution of DTS package.
- Analysis of System requirement and designing the database schema.
- Creating and scheduling DTS packages using SQL Server.
- Client Side using JavaScript/CSS
- COM component generation using Visual Basic 6.0 used for data storage and retrieval and execution of DTS package.

Nov. 1998–May 2000 Alumnus Software Calcutta, India
Senior Engineer

- Analysis of system requirement and designing the database schema.
- Client Side using JavaScript/CSS
- Business logic was fully implemented in COM components using Visual Basic 6.0
- Jobs, estimates, purchase orders creation and revisions; allocating team members to a job
- A time entry interface for employees to enter their timesheets
- Event creation and management, where each event had its own set of emails defined, to be fired to the team members, based on the event and the responsibility of the team member in the job's life-cycle
- An administration section, for employee access to the system based on their roles and departments. It also manages events, schedule items templates, clients, charge codes

Jan. 1998–Oct. 1998 Cognizant Technology Solutions Calcutta, India
Programmer Analyst / Team Leader

- Small Enhancements
- Bug Fixing
- Technical Clarifications
- Unit and system testing suing SQL Robot 5.2
- Releasing newer versions of the product

Technical Skills

Languages: Visual Basic 6.0, Actuate, ASP, C, C++, SQL, IIS 4.0/5.0, VBScript , JavaScript, JAVA, RDBMS: SQL Server 2000/ 7.0, DB2 ,Oracle 8i, MySQL, MS-Access
Web Server: IIS 4.0/5.0
Technology: COM, ADO, ODBC, ASP, MS DTS,AFC
Tools: Advanced Query Tool 6.0 (for DB2), Toad(for Oracle), StarTeam 5.2, Actuate e.Reporting Suite 5.2/ 6.0 / 7.0, Visual Source Safe, BugZero, Visio, Visual InterDev, SQL Server 7.0/2000, Timbuktu Pro, SQA Suite 5.2, Lotus Notes, Actuate Active Portal

JAMES MEETZE

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Education

1972 University of South Carolina Columbia, SC
B.S., Business Administration (Accounting)

1980 University of South Carolina Columbia, SC
B.S., Computer Science

Professional Experience

1998–present State Department of Education
Columbia, SC
Database Administrator, Office of Technology

- Responsible for the design, maintenance, and loading of the South Carolina Education Data System data warehouse.
- Responsible for the loading of additional data received by the agency destined for SQL Server Databases and exporting data in non-SQL formats as needed.
- Responsible for the operation and maintenance of nine servers running Windows NT, Windows 2000, and Windows 2003 operating systems.
- Responsible for backup operations for these servers.
- Responsible for the operation and maintenance of six instances of Microsoft SQL server.
- Senior Analyst responsible for maintenance of the State Department of Education's Financial Accounting, Purchasing, Project Accounting, Education Finance Act processing, Education Improvement Act processing, LAN Budget Reporting, and Finance History Extract systems.
- Assist in the selection and acquisition of hardware and software for the agency.

1981–1998 State Department of Education Columbia, SC
Systems Analyst, Office of Technology

- Participated in the design, coding, and implementation of the Financial Accounting system.
- Designed, coded, and implemented the Procurement system, the Project Accounting system, the Education Finance Act system, the Education Improvement Act system, the LAN Budget Reporting system, and the Finance History Extract system.

1976–1978 United States Navy Various
Lieutenant, Naval Tactical Data System Maintenance Officer
USS Harry E. Yarnell (CG-17)

- Responsible for operation and maintenance of the ship's tactical data systems.

- Auxiliary duties included: Force Weapons Coordinator, Ship Weapons Coordinator, Combat Information Center Watch Officer, Bridge Watch Officer.

19730–1976 United States Navy Various
Air Transportation Officer
USS America (CV-66)

- Coordinated and supervised the airborne transfer of personnel, mail, and cargo among units of a carrier task group and between these units and shore installations.
- Auxiliary duties included Air Traffic Control Center Watch Officer and Bridge Watch Officer

Information Technology Skills
COBOL, CICS, MVS JCL, FOXPRO, SQL, SQL Server 2000 DTS

DALLAS LEON NELSON, JR

South Carolina Department of Education
Office of Technology
1429 Senate Street, Suite 513-E
Columbia, South Carolina 29201
803/734-8826
lnelson@sde.state.sc.us

Education

1982 University of South Carolina Columbia, SC
M.A., Media Arts,

1974 University of South Carolina Columbia, SC
B.A., Psychology

Certifications

SASIxp Software Certification, Pearson Technology
Communications Network Management Certification, Midlands Tech. 380 hours of study.
South Carolina Teaching Certifications: Special Education, Social Studies.

Professional Experience

1996–Present State Department of Education Columbia, SC
Information Resource Manager, Office of Technology

- Manage statewide Student Administration software and training contracts
- Identify system requirements, functional specifications, coordinate technical reviews and development of a state system template and provide project status reports
- Oversee project revisions, monitor progress on key milestones and provide implementation instructions for local school districts. Management of state technical support on school administrative software, Web Applications and other state supported software applications.

1988–1995 State Department of Education Columbia, SC
Information Resource Consultant, I-II

- Supervised the operation of a technical support staff providing support for both hardware and software to school district personnel statewide (The Pathways System).
- Designed and implemented support programs for new software.
- Worked with school district users to define and implement modifications to system software.
- Prepared and delivered presentations on aspects of the Pathways System, including software demonstrations and project overviews to school district personnel and administrative bodies.
- Assisted the chief supervisor in the interview and selection process for technical staff vacancies. Conduct employee evaluation and assigned job responsibilities to staff.

1986–1988 State Department of Education Columbia, SC
Operations Manager II

- Supervised a multi-shift mainframe computer system and staff
- Oversaw operation of a large mainframe computer system and related peripheral equipment, telecommunications equipment, diagnostic procedures for corrective action.
- Directed staff of operators in the installation and maintenance of telecommunication equipment and the daily operation of the agency computer system
- Routine planning and development of procedures regarding system and network enhancements
- Coordinated and managed a statewide telecommunication network for the Department of Education and the State Board for Technical and Comprehensive Education
- Served as the prime contact with equipment vendors.

1984–1986 State Department of Education Columbia, SC
Operations Manager I

- Shift Supervisor for the DOE/TEC computer system
- Supervised computer operations personnel, scheduling of maintenance, ordering supplies, maintenance of records and logs, preparation of activity and performance reports, preparation and maintenance of operating budgets and insure all accounts are properly paid
- Provided user assistance in evaluation and solving hardware problems, monitors and maintains in working order all telecommunications equipment
- Provided operational leadership to insure that personnel and equipment were utilized in an effective manner.

1980–1984 State Department of Education Columbia, SC
Computer Operator I & II

- Supervised operation, operated and trained in the operation of the agency's mainframe computer system
- Working knowledge of TSO and CICS operations
- Communicated with engineers, system and application programmers on system functions and monitored and maintained thirty (30) RJE circuits of the DOE/TEC network
- Installation of communication equipment (modems, terminals, controllers).

1978–1980 Babcock Center Columbia, SC
Assistant Coordinator

- This position involved the direction and supervision of personnel and development regarding all aspects of a private government funded school program
- Responsible for planning, organizing, and communication with a professional staff
- Planned IEP meetings with parents and teachers. Program Development for mentally retarded students varying in age and capability. Scheduling transportation for students to and from school.

1976–1978 Babcock Center Columbia, SC
Developmental Specialist

- Responsible for a wide variety of instructional activities and guidance for the mentally handicapped
- Involved in supervision and training of other specialist
- Required written and verbal communication skills, and ability to interact with a professional staff
- Taught basic skills and vocational training.

1974–1976 Lexington School District 1 Lexington, SC
Teacher

- Taught mentally handicapped 9-16 year old students
- Prepared lesson plans on daily, weekly and yearly basis
- Prepared Individual Evaluation Plans (IEP) on an annual basis and met with parents to discuss student needs.

THOMAS M. OLSON

South Carolina Department of Education
Office of Technology
1429 Senate Street, Suite 410
Columbia, SC 29201

Education

1973–1977 University of South Carolina Columbia, SC
B.S., History

1979–1981 Midlands Technical College Columbia, SC
A. A., Data Processing

Hardware: IBM mainframes, IBM Personal Computers

Languages: COBOL, IBM JCL, CICS, VSAM, Syncsort, FoxPro, SQL, HTML
Other software: XPediter, FileAid, ISPF, Intertest, Filemaster

Experience

2005–Present SC Department of Education Columbia, SC
Information Technology Manager (interim)

- Manage the Department of Education's Programming Services Team
- Serve as Project Manager for the Student Unique Numbering System
- Assign and oversee the work assignments of all Programming Services staff
- Manage Programming Services budget
- Interview and hire consultants as needed

1986–2005 SC Department of Education Columbia, SC
Senior Systems Analyst

- Serve as acting team leader whenever team leader is absent
- Served as lead analyst on project to migrate 2000 COBOL programs from SP operating system to ESA operating system

1984–1986 SC Department of Education Columbia, SC
Programmer Analyst III

- Same duties as Programmer Analyst III
- Assist team leader with the design of a training course for new programmers
- Served as lead analyst on project to purchase and install a human resources management system

1983–1984 SC Department of Education Columbia, SC
Programmer Analyst II

- Write mainframe COBOL application programs
- Design mainframe application systems
- Monitor the work of programmers assigned to my projects

1983 SC Department of Education Columbia, SC
Programmer Analyst I
- Write mainframe COBOL application programs
- Responsible for maintenance and enhancement of several systems

1982–1983 SC Department of Education Columbia, SC
Computer Programmer III
- Write mainframe COBOL application programs
- Design and program the Decode System

1981–1982 SC Department of Education Columbia, SC
Computer Programmer II
- Write mainframe COBOL application programs
- Responsible for maintenance and enhancement of the Food Distribution System

RICHARD A. HIGLEY

Education

University Of South Carolina Columbia, SC
Management education programs.

Dale Carnegie
American Management Association project management curriculum.

IBM technical training courses.

Crandall College Macon, GA
Associates Degree, Information Technology.

Professional Experience

2000–Present Antheum Corporation Atlanta, GA
Architect/Project Manager

- Responsible for leading a team of 12 developers with a mission to design, deliver and implement an extensible Application Integration/Deployment Server Framework enabling developers to focus on providing business solutions without the overhead selecting internet/intranet technologies.
- Skills include: OOD, Multi-Threading, DB design, **Java**, Servlets, JSP, JDBC, XML, HTML, Encryption, networking, DB2, Oracle, MySQL, **Websphere**, Jrun, ServletExec, Apache, IIS and more.

1999–2000 IBM Interactive Media Atlanta, GA
Solutions Architect

- Led a project team with a mission to deliver a Web Based Booking Engine for Starwood Hotels utilizing the Travel Objects framework.
- Skills include OOD/OOA, Weblogic 4.5, EJB's, JSP 1.1, **Java**, JDBC, Netscape Enterprise Server, Oracle 8, XML, Rational Rose/UML and the integration of these technologies with a legacy system. (**OS/390**, DB2) Additional platforms include NT and Unix.

1997–1999 IOS Capital Macon, GA
Applications Manager

- Managed the Application Development Team, Project Management Team and Quality Assurance Team, our mission, "To deliver quality products, on time and within budget utilizing best practice development methodologies and best practice application architectures.
- Maintained 99.99% availability for all core business applications.
- Provided stellar second and third level support.
- Accountable for a budget of $10 million

- Designed application architecture for web enabling AIX, Progress 4gl application using Open App Server, Apache Web Server, Servlets, HTML, Java and Applets.
- Designed and implemented application architecture for web enabling OS/390 legacy application with CICS Transaction Server, Java Gateway, Servlets, HTML, Java, Applets, IBM Secure Internet Server and DB2.
- Deployed a 50+ user Intranet application in the NT environment using Java Servlets, Applets, Java, IIS, Servlets and HTML.
- Deployed a company wide web site to store unstructured information using IIS, HTML and Javascript.
- Completed Y2K Certification.
- Established Project Management best practices.

1995–1997 IOS Capital Macon, GA
Senior Architect

- Designed and implemented a competitive advantage leasing application.
- IKONICS, an online transaction processing system (OLTP) written in COBOL and SAPIENS (4GL), runs on the OS/390 platform with a DB2 database backend.
- Required skills included hardware topology selection, project management, C and COBOL programming, SQL, relational database design, lease accounting, numerical analysis and financial calculations, and statistics.

1989–1995 IOS Capital Macon, GA
Project Coordinator

- Coached an application development team of outside contractors and in-house staff. Our charter included modifying the existing system to accommodate new marketing demands and sustain a thirty-five percent annual growth rate.
- Coordinated a team responsible for the selection and implementation of leasing application required to conduct business.
- Selected the ALAS Leasing system, a host terminal application running on IBM VSE.
- Skills include COBOL, JCL, VSE OS and associated client knowledge. Functional skills include lease accounting, collections, sales and property tax, depreciation and asset tracking.

1985–1989 Great Southern Company Macon, GA
Systems Analyst

- Lead a team of people responsible for designing and building a remote PC application that would automate show settlements, maintain inventory and communicate information to central office. Technical skills include, DbaseIII, Clipper and C.
- Assisted in the design of a back office best practice application with the objective of automating GL, AP, inventory and payroll.
- Skills included RPG3, IBM System36 OS, IBM Query Language. Functional skills included accounting, inventory, show settlements and retail sales. Application was successfully implemented in 1986.

1983–1985 Great Southern Company Macon, GA
Merchandising Accountant

- Toured with Billy Joel, Bon Jovi, etc. responsible for multi-million dollar novelty sales, royalties, show reconciliation's and settlements

1979–1983 US Navy Yokuska, Japan
Crash Salvage Petty Officer

- Lead a team of ten people responsible for fight deck safety aboard the USS Midway.
- Over Six years of rich experience in Design, Development & Project Management, Expertise in Java, JSP, EJB1.1, J2EE, Swings, JDBC, CICS Transaction server, Servlets, MS-Windows NT 4.0,Unix, Linux.
- Thorough working knowledge of in JSP, HTML, EJB 1.1, JavaScript, Java Swing, JDBC, Servlets, XML, Websphere, Weblogic, Netscape Enterprise, Apache, IIS.
- Excellent team player with good communication and interpersonal skills.
- Able to work well under extreme pressure, often meeting tight deadlines and able to effectively handle on going projects.
- Willing to learn and adapt to new challenges. Self-motivated, quick learner and team player. Excellent work ethics, and is team oriented with strong analytical and leadership qualities.
- Honorably discharged.

Technical Skills
Hardware: IBM OS/390, AS/400, UNIX based minicomputers and Pentium based PCs
Operating Systems: Windows 98/95/, NT, Unix, Linux, MVS OS 390, and VSE
Object Oriented: OOD, UML, Applets, Servlets, Rational Rose
RDBMS: Oracle, DB2, and MySQL
Languages: Java, C, JSP, HTML, SQL, Cobol
Other S/W: EJB1.1, J2EE, Servlets, JDBC, JSP, XML, Jrun CICS Transaction Server
Web servers: Apache, Netscape Enterprise, IIS, WebSphere

RON WILLIAMS

Education

1977–1979 Midlands Technical College Columbia, SC

Career Summary

Mr. Williams is an Information Technology professional with over 22 years of experience. He has extensive experience as a Programmer Analyst, with systems analysis, design and development experience. Mr. Williams possesses excellent communication skills, both oral and written. He has worked in the Banking, Health Care, and Insurance Industries.

Environments

IBM OS/MVS; COBOL II/370; Assembler; Ezplus; OS/DOS JCL; Intertest; Xpeditor; TMON; Data Xpert; CICS command/Macro; Micro Focus COBOL; Roscoe; TSO;Librarian; Panvelet; TELON; APS; ADAbase; VSAM; DB2; IMS; BSAM; Platnium; Window 95; Endeavor; ChangeMan; FileAid; Omegamon

Professional Experience

Jan.–Nov. 2001 Keane, Inc. Columbia, SC

Consultant, Bank of America

- Handled developments of the Move Money Engine (MME) settlement transaction process
- Handled the analysis and design of batch Cobol/DB2 system to process ATM WEB, VRU transactions for transfers and payments of customer account transactions
- Acted as the Business Analyst and Programmer/Analyst for the team.

May 1999–Nov. 2000 Blue Cross/Blue Shield Columbia, SC

Programmer Analyst

- As a member of the NCS group, utilized CICS/Batch APS, DB2/IMS
- As a member in the PIMS area (Provider Information Management System), modified and developed CICS/Batch APS system
- As a member of the EMC EDI area, modified and developed claims processing systems

Jan. 1998–March 1999 Spring Industries Fort Mill, SC

System Consultant

- Member of Y2K team
- Tested applications to verify and document remedied code functioned into next millennium
- Set up applications on isolated 1par, established baseline execution and repeated baseline with system set at further dates
- Utilized CICS/Batch, COBOL, DB2

Aug. 1997–Jan. 1998 Mecklenburg County Charlotte, NC

Consultant/Programmer Analyst

- Responsible for re-write of jail inmate booking system

- Researched, recommended and purchased vendor software product for BUI front-end on mainframe CICS/IMS applications
- Utilized CICS/VSAM

Aug. 1996–Aug. 1997 South Carolina Electric & Gas Columbia, SC
Programmer Analyst

- Member of the Production Support team
- Responsible for current production system while system rewrite was in process
- Utilized CICS/VSAM and DB2 command level/Macro level assembler, as well as Batch assembler

Mar. 1993–Aug. 1996 Keane, Inc. Columbia, SC
Consultant/Programmer Analyst

For First Union National Bank, 3/93 –8/96

- For the Advanced Technology group, performed design, coding and testing of CICS transactions used as serving application to PC workstations using lu6.2 communications
- Utilized APS CICS/VSAM/DB2
- For the Commercial Business Solutions group, performed design, coding and testing of CICS transactions used as serving application to PC workstations using lu6.2 communications
- Performed design, coding and testing of CICS transactions used as serving application to PC workstations using lu6.2 communications
- Wrote numerous CICS transaction for existing system

For NationsBank Corporation, 8/91–3/93

- For the Commercial Banking group, performed design, coding and testing of CICS transactions used to post inter-state account balances
- For the DICS-IRS group, performed design, coding and testing of Interfaces for GL conversion of DISC-IRS system on transition project of CVN and NCNB to NationsBank for four-state area
- Utilized COBOL CICS/VSAM/batch

Feb.–Jun. 1991 Federal Land Bank Columbia, SC
Programmer Analyst

- Designed, coded and tested file conversion programs for major system reform per federal requirements
- Performed new CICS transactions
- Wrote and modified existing transactions
- Utilized COBOL CICS/VSAM/batch

Oct. 1990–Feb. 1991 University Hospital Charleston, SC
Programmer Analyst

- Designed, coded and tested CICS transactions used for state reporting
- Performed Security audits of on-line systems

Jun.–Oct. 1990 Total Systems Columbus, GA
Programmer Analyst

- Member of the New Systems Development group
- Designed, coded and tested CICS transactions used for processing credit card transactions
- Utilized COBOL CICS/VSAM, Assembler

Jun. 1989–Feb. 1990 Department of Social Services Columbia, SC
Programmer Analyst

- Member of the Child Support Enforcement group
- Designed, coded and tested management and federal reporting programs
- Utilized Natural/ADAbase, IBM Display 370

May 1988–Jun. 1989 South Carolina Electric & Gas Columbia, SC
Programmer Analyst

- Member of the ISD group
- Designed, coded and tested major systems enhancements for new customer credit applications
- Utilized CICS Assembler Macro, CICS COBOL command, Batch COBOL/Assembler

1986–1987 Department of Social Services Columbia, SC
Programmer Analyst

- Member of the Food Stamp/Welfare System group
- Modified CHIPS system to meet South Carolina requirements and performance considerations
- Utilized COBOL CICS/ADAbase

1985–1986 Royal Insurance Charlotte, NC

- Member of the New Systems Development group
- Coded and tested CICS transactions used for processing Property/Casualty commercial lines
- Developed TELON claims processing system
- Utilized COBOL CICS/VSAM, TELON

1986–1986 Blue Cross/Blue Shield Columbia, SC

- Member of the AMMS group
- Modified and supported a major medical claims processing system

1983–1984 Policy Management Systems, Inc. Columbia, SC
Programmer Analyst

- Performed version migration of on-line system, applied customer modifications to new release of on-line system and installed at customer site

1982–1983 American Bankers Insurance Group Columbia, SC
Senior Programmer

- Member of the Conversion group

- Responsible for DOS to MVS conversion of PMS systems
- Handled ISAM to VSAM conversion
- Trained in-house personnel to MVS and production support

1979–1982 Policy Management Systems, Inc. Columbia, SC
Programmer Analyst

- Member of the Existing Program Development group
- Developed customer reported problems; applied corrections and forwarded corrections to customer

Aleta Combré

(b)(6)

EDUCATION *UNIVERSITY OF SOUTH CAROLINA*, Columbia, SC

August 1996 Master of Education
Community and Occupational Programs in Education

May 1994 Bachelor of Arts
Interdisciplinary Studies

COMPUTER SKILLS ***MOUS Authorized Instructor,*** June 2000
MOUS Certifications (Expert): Word 97, PowerPoint 97, and Excel 97

Classes Taught: Microsoft Windows 3.1, 95, 98 & NT, Microsoft Word, Excel, PowerPoint, Access, Project, Publisher, and Outlook, WordPerfect, Novell GroupWise, WordPro, Lotus 1-2-3, Lotus Notes, Internet Explorer and Netscape Navigator.

Training In: A+ Certification, Networking Essentials, Lotus Notes Application Development I, and Novell NetWare

EMPLOYMENT *EXECUTRAIN*, Columbia, SC

Jan '00 - Present **Training Manager**
Recruit, hire, train and manage Technical and Standard Desktop Applications Instructors. Schedule classes and assign instructors to classes, audit classes for evaluation purposes. Order and maintain inventory for all class manuals. Teach multiple levels of desktop applications on-site and off-site. Respond to support calls on desktop applications. Create, maintain, and submit monthly reports to company owner and corporate office. Keep abreast of the changes in the technology field.

Apr '99 – Jan '00 **Instructor – Standard Desktop Applications**
Teach multiple levels of desktop applications, including word-processing, spreadsheets, e-mail, presentations, databases, and Internet. Provide on-site education for executives, managers, corporate trainers, and clerical staff. Respond to support calls.

NEW HORIZONS COMPUTER LEARNING CENTER, Charlotte, NC

Feb '99 - Mar '99 **Training Supervisor**
Recruit, hire and train new instructors, Schedule and assign classes for instructors, audit classes for evaluation purposes, and organize team-building activities for instructors.

July '98 - Feb '99 **Instructor -- Desktop Applications**
Teach multiple levels of desktop applications, including word-processing, spreadsheets, e-mail, presentations, databases, and Internet. Provide on-site education for executives, managers, corporate trainers, and clerical staff.

UNIVERSITY OF NORTH CAROLINA CHARLOTTE, Charlotte, NC

June '97- July '98 **Assistant to the Associate Dean for Research -- College of Nursing & Health Professions**
Assist professors with grant preparation and maintain the budgets for funded grants. Maintain database of proposal/grant activity in the College. Assist in the preparation of the Office of Nursing and Health Research (ONHR) Newsletter. Maintain the ONHR homepage. Create and maintain brochures for the Department and ONHR. Assist with formation of policies and procedures for the ONHR. Type class handouts, syllabi, exams, correspondence, and committee reports for faculty in the Department of Family & Community Nursing. Create & maintaining official departmental files. Supervise work-study and graduate students.

Aleta Combré

(b)(6)

UNIVERSITY OF SOUTH CAROLINA, Columbia, SC

June '94 - July '97 **Administrative Assistant II -- Regional Campuses & Continuing Education**
Assisted the Network Administrator in troubleshooting hardware, software, and network problems for the division and five regional campuses. Provided software user support for department employees. Assisted in the preparation, the design and style of special projects, forms and publications, both institutional and divisional. Planned and organized various special events for the Division. Coordinated the tenure and promotion process for the Regional Campuses, i.e., monitors committee appointment system, insures committee provides and receives appropriate and timely information, and channels that information accordingly. Assisted the Director for Adult, Academic and Student Support Services with the preparation and organization of orientation programs for transfer students. Supervised five to seven student assistants. Traveled to the Regional Campuses.

Fall 1996 **Instructor -- University 101**
Developed and implemented the class syllabus. Prepared and presented class lectures. Administered and graded all class assignments. Served as a counselor, mentor, resource, and support person for the students.

Nov'93 - June '94 **Administrative Specialist -- Regional Campuses & Continuing Education**
Ensured effective office operation. Assisted in credential review for adjunct faculty. Assisted in coordination of tenure & promotion review process. Determined appropriate accounting information and maintained accurate records of expenditures. Distributed monthly budget reports to the department heads in the Division. Traveled to the Regional Campuses. Supervised four to six student assistants. Kept abreast of modern office procedures and technologies.

Aug '90 - Nov '93 **Student Assistant -- Regional Campuses & Continuing Education**
Performed general office duties that included answering phones, filing documents, drafting correspondences, directing incoming visitor traffic, and scheduling appointments.

6. THREE-YEAR BUDGET NARRATIVE (524 C)
South Carolina Longitudinal Data System

	Year 1	Y1 In-kind	Year 2	Y2 In-kind	Year 3	Y3 In-kind	Total In-kind	Total Requested
Personnel (with 3% annual cost-of-living increase)								
The SDE must be in a position in three years to support, expand, and maintain the applications and communications software that will be developed. To achieve this, our experienced technology staff must be involved in designing, developing, and installing the software we are proposing. Consequently, our existing staff will participate in every aspect of SC LDS, with the long-term view of being able to maintain and expand the SC LDS when grant funds expire. To this end, we will dedicate (b)(4) in-kind personnel support to SC LDS. An application architect is critical to the success of the project from the very beginning. Developing a solid foundation for the system architecture and ensuring all the pieces are built appropriately. A full-time trainer is essential to preparing district and school staff and other stakeholders to effectively use the longitudinal data system. The trainer will be involved from the inception to implementation in order to fully grasp all aspects of the project.								
Project Co-Manager (T. Mainwaring) (b)(4) time and salary	$0	$33,876	$0	$34,892	$0	$35,939	$104,707	$0
Project Co-Manager (T. Olson) (b)(4) of time and salary	$0	$35,702	$0	$36,773	$0	$37,876	$110,351	$0
Applications Architect (R. Higley) (b)(4) me and salary	$120,000	$0	$123,600	$0	$127,308	$0	$0	$370,908
Trainer; 100% of time and salary; full-time position to be hired	$60,000	$0	$61,800	$0	$63,654	$0	$0	$185,454
District Technical Coordinator (L. Nelson) 50% of time and salary	$0	$31,084	$0	$32,017	$0	$32,977	$96,078	$0
Applications Analyst (T. Briggs) (b)(4) time and salary	$0	$32,136	$0	$33,100	$0	$34,093	$99,329	$0
SQL Database Administrator (J. Meetze) (b)(4) time and salary	$0	$25,965	$0	$26,744	$0	$27,546	$80,255	$0

School District Support Specialist (A. Butler) (b)(4) of time and salary	$0	$12,353	$0	$12,724	$0	$13,105	$38,182	$0
Database Administrator (M. Burgin) (b)(4) of time and salary	$0	$32,136	$0	$33,100	$0	$34,093	$99,329	$0
Personnel Subtotal	$180,000	$203,252	$185,400	$209,350	$190,962	$215,629	$628,231	$556,362
Fringe Benefits-The SDE uses (b)(4) calculate fringe benefits, which covers workers compensation, unemployment insurance, health and life insurance, retirement, and social security. We will provide (b)(4) in-kind support from apportioned salary to SC LDS. We request $155,781 for fringe benefits for the Applications Architect and the Trainer.								
Co-Project Manager (T. Mainwaring)	$0	$9,485	$0	$9,770	$0	$10,063	$29,318	$0
Co-Project Manager (T. Olson)	$0	$9,997	$0	$10,296	$0	$10,605	$30,898	$0
Applications Architect (R. Higley)	$33,600	$0	$34,608	$0	$35,646	$0	$0	$103,854
Trainer (to be hired)	$16,800	$0	$17,304	$0	$17,823	$0	$0	$51,927
District Technical Coordinator (L. Nelson)	$0	$8,704	$0	$8,965	$0	$9,234	$26,902	$0
Applications Analyst (T. Briggs)	$0	$8,998	$0	$9,268	$0	$9,546	$27,812	$0
SQL Database Administrator (J. Meetze)	$0	$7,270	$0	$7,488	$0	$7,713	$22,471	$0
School District Support Specialist (A. Butler)	$0	$3,459	$0	$3,563	$0	$3,669	$10,691	$0
Database Administrator (M. Burgin)	$0	$8,998	$0	$9,268	$0	$9,546	$27,812	$0
Fringe Benefits Subtotal	$50,400	$56,911	$51,912	$58,618	$53,469	$60,376	$175,905	$155,781

Travel-The SDE is centrally located in a geographically compact state. Within three hours, the trainer can reach any district. Technology staff and/or contractor staff will need to travel to district offices to install software and test the operation of local file servers. The project trainer will facilitate district training at each Regional Technology Center each year. The co-managers will participate in the annual meeting in Washington, DC, to discuss accomplishments, problems encountered, and possible solutions/improvements. Staff members from each district will travel to Columbia to attend a one-day project status meeting each year. The steering committee (including representatives from 10 districts) will meet twice a year in Columbia.								
Travel to 85 districts and 4 special schools (DJJ, Deaf and Blind, Corrections, Felton Lab) to install, test, and upgrade software and operation of local file servers. (Average round trip of 200 miles x .345/mile=$69 per trip x 89 trips)	$6,141	$0	$6,141	$0	$6,141	$0	$0	$18,423
Trainer. 1 trip to each of 5 Regional Technology Center/yr w/ overnight stay at 2 RTCs (Average round trip of 200 miles x .345 per mile and per diem ($25/day for 2 days) + Hotel @ $75/night	$970	$0	$970	$0	$970	$0	$0	$2,910
Project Co-Managers travel to conference in Washington DC. (airfare ($730/person), hotel ($182/night/person), and meals per person ($51/day/person), cab ($14/person/trip)	$2,450	$0	$2,450	$0	$2,450	$0	$0	$7,350
2 Staff from 89 districts (including special schools) to Columbia for annual training/meetings. Per Diem (lunch only) of $8 per person = $1,424. Mileage average round trip of 200 miles x .345 x 89 = $6,141	$7,565	$0	$7,565	$0	$7,565	$0	$0	$22,695

Steering Committee - 2 meetings/yr 10 district representatives. Average round trip of 200 miles x .345 = $69; per diem of $25 per day; Hotel ($75 per night) = $69+$25+$75=$169 x 10 = $1690 x 2 meetings = $3,380	$3,380	$0	$3,380	$0	$3,380	$0	$0	$10,140
Travel Subtotal	$20,506	$0	$20,506	$0	$20,506	$0	$0	$61,518
Equipment-We will provide a file server from state funds for this project, including the server CPU, RAM memory, connectivity (firewalls, routers, switches, and connectivity to the state backbone network) as in-kind contributions. An additional file server will be necessary to mirror the existing file in the event of failure. The system attached network disk system will be the primary storage location for all data and related files. Tape backups of this storage area will be performed daily. The trainer will be provided with a multi-media laptop and projector for developing training courseware and conducting training statewide.								
2 File Servers - 1 new and 1 in-kind	$37,000	$37,000	$0	$0	$0	$0	$37,000	$37,000
Racks/UPS/ Electrical services	$4,500	$4,500	$0	$0	$0	$0	$4,500	$4,500
System Attached Network (SAN) disk system	$123,448	$0	$0	$0	$0	$0	$0	$123,448
Tape Back-up unit for SAN	$58,125	$0	$0	$0	$0	$0	$0	$58,125
Equipment Subtotal	$223,073	$41,500	$0	$0	$0	$0	$41,500	$223,073
Supplies								
Office supplies (including paper and printing costs for training materials)	$750	$0	$1,000	$0	$1,250	$0	$0	$3,000
Printer/toner cartridges (for trainer and contractors)	$800	$0	$800	$0	$800	$0	$0	$2,400
Tape cartridges for backup of SAN @ $89 each (35/yr)	$3,115	$0	$3,115	$0	$3,115	$0	$0	$9,345
Laptop for trainer	$2,300	$0	$0	$0	$0	$0	$0	$2,300
LCD Projector for trainer	$1,800	$0	$0	$0	$0	$0	$0	$1,800
Supplies Subtotal	$8,765	$0	$4,915	$0	$5,165	$0	$0	$18,845

Contractual Costs - We propose to contract for most software development, implementation, and training for the SDE. The individual products we propose to offer for contract are:								
Data Inventory: Create a comprehensive metadata repository for all data elements (collections, repositories, and reports)								
Data Dictionary: Establish a definitive set of metadata by element as SDE standards and map to SIF, NCES								
Enterprise data architecture: Create a high-level schema for identity management, portal/presentation vertical reporting, data persistence views								
Data Access Rules by Element (enterprise data architecture)								
SIF infrastructure programming: Provide each district with full horizontal SIF capacity ($0.35/student + $2,000 per district for full Zone Integration Server and SASIxp agent statewide								
State report manager: Deploy an integrated solution for SIF-enabled transmission of data from districts to SDE								
EDEN federal report manager: Includes setup and license								

(b)(4)

Data repository use (DRU) Case #1: Document the types and needs of users for each user group								
DRU Case #2: Establish prototypical view/report types for each user type and a high-level design for each								
DRU Case #3: Document mapping of data inventory and data access rules to the level design								
DRU Case #4: Establish data model and engineering specifications for data repository additions and modifications								
DRU Case #5: Implement phase one data repository additions and modifications								
DRU Case #6: Load data after application of cleansing rules into data repository								
Provide professional development and technical training for SDE staff								
Create and deploy SC LDS training courseware for districts and SDE								
Link South Carolina into multi-state national transcript center								
SQL programming services								
Actuate programming services								
Application/programming services								
SIF agent development								

(b)(4)

Qlik View implementation and training @ $1500 x 30 days	$0	$0	$45,000	$0	$0	$0	$0	$45,000
Contractual Costs Subtotal	$2,697,680	$0	$877,680	$0	$352,840	$0	$0	$3,928,200
Other								
Facility rental for district training/meetings in Columbia	$300	$0	$300	$0	$300	$0	$0	$900
SQL Processor Licenses for 2 file servers, 4 processors each ($7100 per license)	$28,400	$28,400	$0	$0	$0	$0	$28,400	$28,400
Software Service support and licensing for SIF	$0	$0	$72,000	$0	$72,000	$0	$0	$144,000
License National Transcript Center	$0	$0	$150,000	$0	$150,000	$0	$0	$300,000
License for EDEN software	$0	$0	$20,000	$0	$20,000	$0	$0	$40,000
Citrix license - Yr1 (new licenses): 100 users x $279 each; Yr 2 and 3: license renewal	$27,900	$0	$3,700	$0	$3,700	$0	$0	$35,300
Qlik View license for interactive report generator	$183,000	$0	$0	$0	$0	$0	$0	$183,000
Qlik View end user license (Enterpise x64) - 3 licenses	$14,550	$0	$0	$0	$0	$0	$0	$14,550
Qlik View license (Professional) 5 licenses	$6,500	$0	$0	$0	$0	$0	$0	$6,500
Qlik View annual software license fee	$0	$0	$40,810	$0	$40,810	$0	$0	$81,620
Subtotal Other	$260,650	$28,400	$286,810	$0	$286,810	$0	$28,400	$834,270
Total Direct Costs	$3,441,074	$330,063	$1,427,223	$267,968	$909,752	$276,005	$874,036	$5,778,049
3.1% negotiated indirect cost rate	$99,758		$44,244		$28,202			$172,204
Total Requested Funds	$3,540,832		$1,471,467		$937,954			$5,950,253

7. APPENDIX A: TIMELINE

Begin	End	Activity	Entity Responsible
Nov-05	Sep-08	Bi-monthly meetings/conference calls with stakeholders/steering committee	
Nov-05	Sep-08	Weekly status calls with business partners	SDE/Bus. Partner
Nov-05		Installation of SAS on CITRIX server to provide data repository access to the EOC	SDE/EOC/Consultant
Nov-05	Dec-05	Contract with business partner to: *Create an enterprise data management system *Provide a data report manager for EDEN *Enable SIF infrastructure	SDE
Nov-05	Nov-07	Contract with consultants	SDE
Nov-05	Nov-08	Project Manager attends annual grant meeting	Project Manager
Dec-05	Jan-06	Pilot EOC access to data repository via Citrix	SDE/EOC
Dec-05		Begin planning for transfer of records via the National Transcript Center	SDE/Districts/Bus. Partner/Higher Ed
Dec-05	May-06	Develop enterprise data management architecture	SDE/Bus. Partner
Jan-06	Apr-06	Identify additional EDEN data elements for inclusion in data dictionary and repository	SDE/Bus. Partner
Jan-06	Jun-06	Program SIF agent(s) for vertical reporting	SDE/Bus. Partner
Jan-06	Jun-06	Survey of data needs (for state template) from SDE offices	SDE
Jan-06	Aug-06	Define data access rules by element (customer groups)	SDE/Bus. Partner
Jan-06	May-08	Collaborate with other states on K-12 data transfer procedures	SDE/Collaborating States/Bus. Partner/Districts
Jan-06		Meet with other state collaborators to plan for K-12 data transfer	Project Manager, Collaborating States
Jan-06	Mar-06	Analysis for initial loading of student data into staging database	SDE
Jan-06	Apr-06	Perform analysis for managing multiple SASI versions	SDE
Jan-06	Jun-06	Perform data inventory	SDE/Bus. Partner
Feb-06		License the transcript system	SDE/Districts/Bus. Partner
Feb-06	Mar-06	Purchase hardware for longitudinal data system	SDE

Feb-06	Mar-06	Purchase O/S software and additional SQL Server licenses	SDE
Mar-06	Jun-06	Define and test data cleansing rules for SASI	SDE
Mar-06	Jun-06	Construct staging databases for SASI	SDE
Mar-06		Database modifications for additional EDEN data elements	SDE
Apr-06	May-06	Customize SIF installation for vertical transfer of student records	SDE/Districts/Bus. Partner
Apr-06		Define process for annually adding and deleting SASI elements to be transferred using SIF vertical reporting	SDE
May-06	Jul-06	RFP for reporting/analysis tools	SDE
May-06		SDE Training on SIF for vertical reporting	SDE/Bus. Partner
May-06		License and install report manager for EDEN	SDE
Jun-06	Nov-06	Build enterprise data dictionary	SDE/Bus. Partner
Jun-06	Aug-08	Load additional data elements for EDEN	SDE
Jun-06	Aug-06	Define pilot test for vertical reporting	SDE/Pilot Districts/Bus. Partner
Aug-06	Oct-06	Evaluate reporting/analysis tools	SDE
Aug-06	Dec-06	Develop data views for state-level stakeholders	SDE
Sep-06	Oct-06	Districts install SIF vertical reporting agent for SASI	SDE/Pilot Districts/Bus. Partner
Sep-06		SIF Training for pilot districts vertical reporting	SDE/Pilot Districts/Bus. Partner
Sep-06	Feb-07	Pilot of SIF vertical reporting	SDE/Pilot Districts/Bus. Partner
Sep-06		SDE training on EDEN report manager	SDE/Bus. Partner
Sep-06		YEAR 1 BENCHMARK: Expanded data repository to include additional EDEN data elements	Documented and Reported by Project Manager
Sep-06		YEAR 1 BENCHMARK: Completed enterprise-wide data dictionary	Documented and Reported by Project Manager
Sep-06		YEAR 1 BENCHMARK: Completion of pilot preparation of Student Information System that transfers data from the school level to the state level. SIF Agent customization for vertical report for all districts has been completed.	Documented and Reported by Project Manager

Sep-06		YEAR 1 BENCHMARK: Exploration of alternate sources of funding to sustain the SC LDS.	Documented and Reported by Project Manager
Oct-06	Nov-06	Planning for horizontal data transfer of student records from district to district	SDE/Districts/Bus. Partner
Oct-06		SIF training for remainder of districts for vertical reporting	SDE/Districts/Bus. Partner
Oct-06		Select pilot districts for horizontal data transfer test	SDE/Districts
Nov-06	Dec-06	SDE training on enterprise data management system	SDE/Bus. Partner
Nov-06	Feb-07	Program SIF agent for horizontal data transfer	SDE/Bus. Partner
Nov-06	Aug-08	Report EDEN data via EDEN report manager	SDE
Nov-06		Purchase Reporting/Analysis Tool	SDE
Dec-06	Mar-07	Develop views for reporting of data to additional stakeholders	SDE
Jan-07	Feb-07	SDE training on Reporting/Analysis Tool	Bus. Partner
Jan-07	Jun-07	Pilot enterprise data management system	SDE
Jan-07	Dec-08	Weekly status meetings with Teacher Quality technology staff	Project Manager
Feb-07	Jul-07	Design SIF agent(s) for Teacher Quality database	SDE/Bus. Partner
Mar-07	Apr-07	District install of horizontal SIF agent	SDE/Districts/Bus. Partner
Mar-07	May-07	Define data cleansing rules for Teacher Quality data	SDE
Mar-07	Jul-07	Develop and publish initial state level reports using reporting/analysis tool	SDE
Mar-07		Implementation of vertical reporting state-wide	SDE/Districts/Bus. Partner
Mar-07		Train SDE staff in transcript system	SDE/Bus. Partner
Mar-07		System testing of transcript system	SDE/Districts/Bus. Partner/Higher Ed
Apr-07		District training on horizontal SIF agent	SDE/Districts/Bus. Partner
May-07	Jun-07	Train state-level stakeholders on using reporting/analysis tool	SDE/Bus. Partner
May-07	Jul-07	Pilot of district-to-district horizontal SIF agent	SDE/Districts/Bus. Partner

May-07	Aug-07	Build staging database for Teacher Quality data	SDE
Jun-07	Jul-07	Obtain feedback and evaluate pilot of enterprise data management system	SDE
Jul-07	Mar-08	Pilot test transcript system	SDE/Districts/Bus. Partner/Higher Ed
Jul-07		Train district staff on transcript system	SDE/Districts/Bus. Partner
Aug-07	Dec-07	Program and test SIF agent(s) for Teacher Quality database	SDE/Bus. Partner
Sep-07	Oct-07	Train districts on reporting/analysis tool	SDE/Districts/Bus. Partner
Sep-07		Go live with district-to-district SIF horizontal data transfer	SDE/Districts/Bus. Partner
Sep-07		YEAR 2 BENCHMARK: Data model completed for data repository to include all necessary Teacher Quality data.	Documented and Reported by Project Manager
Sep-07		YEAR 2 BENCHMARK: Deliver reports/analysis to state-level stakeholders via new reporting/analysis tools	Documented and Reported by Project Manager
Sep-07		YEAR 2 BENCHMARK: Completion and implementation of horizontal transfer of SASI student records from district to district.	Documented and Reported by Project Manager
Sep-07		YEAR 2 BENCHMARK: Completion and implementation of vertical reporting application that transfers data from the school level to the state level using SIF.	Documented and Reported by Project Manager
Sep-07		YEAR 2 BENCHMARK: Exploration of alternate sources of funding to sustain the SC LDS.	Documented and Reported by Project Manager
Oct-07	Dec-07	Make reporting/analysis tool available statewide	SDE/Districts/Bus. Partner
Jan-08	Feb-08	Plan pilot of SIF for Teacher Quality data	SDE
Mar-08	May-08	Pilot Teacher Quality SIF agent	SDE/Districts/Bus. Partner
Mar-08		Implement the transcript system	SDE/Districts/Bus. Partner
Jun-08	Jul-08	Evaluate results of Teacher Quality SIF agent pilot	SDE/Bus. Partner
Aug-08		Implement Teacher Quality SIF agent	SDE/Bus. Partner
Sep-08		YEAR 3 BENCHMARK: All required EDEN data is provided to federal government	Documented and Reported by Project Manager
Sep-08		YEAR 3 BENCHMARK: Processes for	Documented and Reported

		transfer of transcripts to higher education and between SC school Districts are completed	by Project Manager
Sep-08		YEAR 3 BENCHMARK: Data repository will be expanded to include all necessary Teacher Quality data	Documented and Reported by Project Manager
Sep-08		YEAR 3 BENCHMARK: Data repository will be made available to decision makers and the public.	Documented and Reported by Project Manager
Sep-08		YEAR 3 BENCHMARK: Dissemination of project success through professional journals, conferences such as EdTech and SCITDA, and through the SDE web site.	Documented and Reported by Project Manager
Sep-08		YEAR 3 BENCHMARK: Exploration of alternate sources of funding to sustain the SC LDS.	Documented and Reported by Project Manager
Oct-08	ongoing	Sustain project through other state funds and activities	SDE

8. APPENDIX B: LETTERS OF SUPPORT AND COMMITMENT

COMMITTEE MEMBERS

Robert E. Staton
Chairman

Alex Martin
Vice Chairman

Traci Young Cooper
Robert C. Daniel
Dennis Drew
Mike Fair
Wallace A. Hall
Robert W. Harrell, Jr.

The State of South Carolina
EDUCATION OVERSIGHT COMMITTEE

COMMITTEE MEMBERS

Robert W. Hayes, Jr.
Hugh K. Leatherman, Sr.
Susan Marlowe
Joseph H. Neal
Neil C. Robinson, Jr.
Harold C. Stowe
Inez M. Tenenbaum
Robert E. Walker
Judy H. Williams
G. Larry Wilson

EXECUTIVE DIRECTOR

Jo Anne Anderson

P. O. Box 11867
Room 227 · Blatt Building
Columbia, South Carolina 29211
(803) 734-6148
Fax (803) 734-6167

June 13, 2005

The Honorable Inez Moore Tenenbaum
State Superintendent of Education
1429 Senate Street
Columbia, South Carolina 29201

Dear Superintendent Tenenbaum:

I am writing in support of the application to develop a longitudinal data system submitted by the South Carolina State Department of Education (SDE). The Education Oversight Committee (EOC) bears statutory responsibility to conduct studies of South Carolina's public education system and to recommend changes in funding, policies and practices that promote higher levels of achievement. The inclusion of the EOC and its responsibilities in the development of the system supports the following interests critical to good decision-making by EOC members and the General Assembly whom it serves:

- Increased precision in student records - Repeatedly we are confounded by gaps or inaccuracies in student records. Such gaps diminish acceptance of findings and, all too often, lead to discounting the urgency of change. A recent records analysis at six strong high schools identified a mean of 27 percent of students lost from the records system and therefore, lost from studies of program impact.
- Increased facility to determine the impact of different practices on student achievement and long-term success - Currently we expend extraordinary efforts matching student data from year to year; however, we have not yet been able to link student data to programs and practices.
- Longitudinal views of student academic experiences and accomplishments - Historically, South Carolina students have performed less well against school expectations as they progress through school. To reverse this pattern, we must be able---quickly and accurately---to make policy, program and practice changes.
- Consistent and complementary planning across agencies - All too often each agency uses individual agency data sets to inform decisions without the benefit of other data sets or perspectives. Shared data bases afford the opportunity for consistent policies and impact characterized by synergy rather than isolated contributions.

The EOC is committed to working with the use of SAS statistical packages on the CITRIX server as outlined in the proposal submitted by the State Department of Education. The EOC further commits to participate in decision-making through formal advisory groups or informal collegial interactions. The joint and longitudinal data system presented in this proposal is in the best interests of South Carolina---and we are committed to serving those interests.

Thanking you for your leadership, I remain

Very truly yours,

Jo Anne Anderson

Jo Anne Anderson

Senate Education Committee

JOHN COURSON
CHAIRMAN

SUITE 412
GRESSETTE OFFICE BUILDING
TELEPHONE: (803) 212-6250

THE SENATE OF SOUTH CAROLINA
P. O. BOX 142
COLUMBIA, SOUTH CAROLINA 29202

CLARA HEINSOHN
RESEARCH DIRECTOR
K-12

ROBIN MOSELEY
RESEARCH DIRECTOR
HIGHER EDUCATION

June 14, 2005

The Honorable Inez M.Tenenbaum
State Superintendent of Education
206 Rutledge Building
1429 Senate Street
Columbia, S.C. 29201

Dear Inez,

I am delighted to write a recommendation for the State Department of Education's application to the Institute of Education Services for a grant to help fund the development of a longitudinal data system. I understand this system will include the unique student identifier currently being implemented with funds appropriated by the Legislature. Other components of this system will include the instant transfer of SASI data from the schools to your department, the transfer of student transcripts between school districts and other states, and the transfer of teacher data between the Teacher Quality system and other State Department of Education systems in your building.

Having this system will facilitate analysis and rigorous research to evaluate the effectiveness of programs, improve student learning, and close the achievement gap. Possessing the student identifier for each PK-12 student beginning with the 2005-2006 school year will help us track individual students throughout their educational career in our state's public schools. This longitudinal data system will greatly enhance the current informational system at the State Department of Education and will provide important data to the educational community.

I wish you much success in the pursuit of this grant. Whenever I may be of assistance, please do not hesitate to contact me.

With kindest regards, I am

Sincerely,

John Courson
S.C. Senator

GREENVILLE COUNTY
SCHOOLS
Where enlightening strikes

Dr. Lonnie Luce
Deputy Superintendent of Schools

June 20, 2005

To Whom It May Concern:

Please accept this letter as support for the Federal Longitudinal Data System (L.S.) grant request submitted by the State of South Carolina Department of Education.

Greenville County School District is the largest district in South Carolina and has been both a participant as a pilot district and user of the Student Unique Numbering System (SUNS) project through the State Department of Education. This has allowed utilization of the School Interoperability Framework (SIF) architecture to create a unique ID number for each student within our state. We fully support the expansion of this architecture to include data necessary to implement a statewide longitudinal data system. It will prove to be advantageous by using both the vertical and horizontal SIF data transfer capabilities.

Expanding the SIF would benefit by generating and using accurate and timely data to meet state reporting requirements and support decision making by the state, district, schools, and classroom levels. This system would increase efficiency, reduce maintenance, limit redundancy, and reduce the burden on both the State and the districts. We are attempting to find district funds to support the expansion of SIF because of the tremendous benefits that this new level of integration will bring to our district.

Thank you very much for your consideration of this grant request. We are excited that the state is so committed to improving the process of educating our students.

Sincerely,

301 Camperdown Way · P.O. Box 2848
Greenville, South Carolina 29602
864.241.3456 · 864.3112 fax
greenville.k12.sc.us

Accountabilities - Technology
1605 Horry St., Conway, SC 29527
(843488-6813 Fax (843) 488-6811
June 21, 2005

Dear Jake,

Horry County Schools is very interested in the possibilities which would be available if we had a SIF compliant interface for our many applications within the district. Smooth data transition from one application to another would increase the accuracy of our various data stores and improve the data exchange between applications such as student information system, state PACT test data, district test scores, class grades, lunch information, personalized academic plans, special education due process compliance software, library/media information, teacher certification, staff development, etc.

Such a system would allow us to better track student retention and drop-out factors and to provide us with information for effective remediation and placement.

Utilizing SIF would reduce the tremendous effort and duplicate entry now required to keep all these databases synchronized. This would permit administrators and teachers to focus on the use of the data to improve instruction rather than on the mechanics of fulfilling data entry requirements as well as state and federal reporting needs.

Linking these various distinct data sources through SIF would allow us to better track student progress and analyze the factors that influence teaching and learning. Tracking longitudinal student data is extremely difficult if not impossible without reliable data links between the various independent applications which we must use.

The SIF implementation proposed by the SDE will allow us to easily provide data to the state and to track students across districts. Horry County Schools is enthusiastic about the potential for this implementation and request that we be allowed to be an early adopter or part of any pilot implementation.

Richard Nadeau

Richard Nadeau
Executive Director - Technology
Horry County Schools

The School District of Marlboro County

P.O. Box 947 • 122 Broad Street
Bennettsville, South Carolina 29512-0947
(843) 479-4016 Fax (843) 479-5944

Dr. David A. Sherbine, Superintendent

Ronald B. Henegan, Chairman
Chuck Barfield, Vice-Chairman
Wilbur Hodge, Secretary
Beatrice DuPree
John Lane

Valerie McClain
Barbara Ohanesian
Billy Joe Quick
Mike Winburn

June 16, 2005

Mr. Jake Jacobs
Interim Director
Department of Technology
South Carolina Department of Education
1429 Senate Street
Columbia, South Carolina 29201

Dear Jake:

The School District of Marlboro County is interested in participating in the South Carolina Longitudinal Data System, and we fully endorse the South Carolina Department of Education's application for a grant from the U.S. Department of Education to support this statewide system.

Because this project can help us take our district to the next level of technology, we would like to serve as a pilot and test district for the grant. Applying the SIF technology to all the various applications we have running in our district would open areas of communication which would assist everyone in providing better services to our clients and ultimately our students. To enable SASI to communicate with such programs as SNACK, used by our Child Nutrition Department, our Library Media Center Circulation programs, and, hopefully, the adult education program's student information system will create a more efficient system, yielding more comprehensive information and reducing the duplication of effort on the district and school level.

We look forward to partnering with the State Department of Education on this initiative to help improve access to data that can advance education in our state.

Sincerely,

Deborah D. Wimberly
Executive Director of Technology and Communications

June 27, 2005

Mr. Jake Jacobs
Interim Director
Office of Technology
South Carolina Department of Education
1429 Senate Street
Columbia, SC 29201

Re: Longitudinal Data System for South Carolina State Department of Education

Dear Jake:

It has come to my attention that the South Carolina Department of Education is pursuing a grant from the US Department of Education's Institute of Education Sciences which will allow **the development of a longitudinal data system to track student and school progress across multiple years.**

ICAP is in a unique position to offer our support for this critical effort. As you know, South Carolina is in the midst of a monumental paradigm shift in its economic development activities. Our state is moving quickly from a low tech/low wage manufacturing economy to a high tech/high wage knowledge based economy. ICAP is in the midst of these activities as we work with high tech professionals from around the nation to attract them into South Carolina as well as working with a myriad of organizations to grow local talent within the Palmetto State.

In working with politicians, economic developers, educators, administrators, technologists, senior executives and venture capitalists across the southeastern United States, **the #1 issue that is focused on is education.** We, as South Carolinians, must continue to grow our knowledge based workforce of tomorrow. Without systems in place, like the Longitudinal Data System, all the other accompanying efforts of countless thousands within our state will produce no verifiable and life changing results.

The public school system of South Carolina is a key factor in attracting highly skilled knowledge workers to move to this state. Public education is the foundation for moving forward boldly into the 21st century for South Carolina.

The ability of our South Carolina's Department of Education, and the supporting school district administrators, teachers and staff to accurately track educational progress is paramount to the vision of South Carolina.

ICAP is pleased to fully an unconditionally support the SC SDE's effort to develop a Longitudian Data System Grant.

- **My children will benefit from it.**
- **My business will benefit from it.**
- **My school district will benefit from it.**
- **My state will benefit from it.**
- **My nation will benefit from it.**

Please help us to further our mission.

All The Best,

Barry G. Newkirk
Vice President
ICAP Solutions, Inc.
205 Colony Road
Suite B
Taylors, SC 29687

Office: (864) 278-0427
Mobile: (864) 275-8218
Email: bnewkirk@icapsolutions.net

National Transcript Center

June 15, 2005

Statewide Longitudinal Data System Grant Committee
Institute of Education Sciences
National Center for Educational Statistics
1900 K Street NW
Washington, DC 20006

Re: Letter of Agreement from Partner

To IES Evaluation Committee Members:

The National Transcript Center (NTC) is pleased to partner with the **South Carolina Department of Education** on the creation of a statewide electronic transcript portal. NTC fully understands the nature of this assignment and is ready to commit the appropriate time, space, and resources.

The state and NTC jointly feel that electronic transcripts are the quintessential longitudinal student record. Transcripts are an extremely practical way for improving data quality, effecting the automation of education information systems at the school and district levels, training local staff to use longitudinal data in their data-driven decision making, and creating a data resource for research.

Moreover, NTC is a part of ESP Solutions Group, one of the most respected and experienced firms in advising state education agencies on education data system design, analysis, management, and reporting. We are very familiar with what it takes to put in place these kinds of systems.

NTC stands ready to support the South Carolina Department of Education in this effort.

Best regards,

Mark D. Johnson
Chief Operating Officer, ESP Solutions Group
General Manager, National Transcript Center

(512) 458-8364 x107 direct
mark.johnson@transcriptcenter.org

cc: South Carolina Department of Education

AAC
ADVANCED AUTOMATION CONSULTING

June 27, 2005

Mr. Jake Jacobs, Director of Technology
South Carolina Department of Education
1429 Senate Street
Columbia, SC 29201

Dear Mr. Jacobs:

Advanced Automation Consulting, Inc. is pleased to support the South Carolina Department of Education in its application for the longitudinal data systems grant offered by the Institute of Education Sciences. We have found that the Department of Education is one of the best run IT organizations that we have had the pleasure of dealing with in the public or private sector. As a taxpayer it is reassuring to see first hand that our tax dollars are used wisely.

Through the years we have developed a strong working partnership with the SC DOE's Office of Technology. AAC is confident of our ability to continue to supply high-quality technical consultants and project managers to support work on the longitudinal data system. Our project management methodology has recently been approved by the State CIO's Project Management Office and we have recently added another professional staff recruiter with extensive experience in the SC IT staffing market.

As a business leader and a parent of two children in South Carolina public schools, I recognize the need for being able to track academic progress through a child's career in South Carolina's public schools. I strongly support the SDE's grant proposal, and AAC is committed to making every effort to insure the success of this effort.

If you have any questions please feel free to contact me.

Sincerely,

John Denise, President

Advanced Automation Consulting, Inc.
Improving Business Performance Through the Innovative Application of Technology
1136 Washington Street – Suite 605 ♦ Columbia, SC 29201

STATE OF SOUTH CAROLINA
DEPARTMENT OF EDUCATION

INEZ MOORE TENENBAUM
STATE SUPERINTENDENT OF EDUCATION

June 21, 2005

Jake Jacobs, Director
Office of Technology
South Carolina Department of Education
1429 Senate Street
Columbia, South Carolina 29201

Dear Jake:

On behalf of the Office of Research, I am pleased to endorse the Office of Technology's proposal to the U.S. Department of Education to develop a longitudinal data system for South Carolina public education.

The process of obtaining data from the districts and from the Office of Teacher Quality is an on-going difficulty. Although the data collection process has been greatly improved in the last two years, data are still available at a few specific times during the year. The implementation of the School Interoperabilty Framework will enable real-time transfer of data between the districts and the State Department of Education. This smooth, prompt transfer will improve our ability to collect data and make it possible for us to use the most current information in our data analyses and reporting.

Sincerely,

David W. Burnett, Ph.D.
Director, Office of Research

1429 SENATE STREET COLUMBIA, SOUTH CAROLINA 29201 803-734-8492 FAX 803-734-3389
WWW.MYSCSCHOOLS.COM

STATE OF SOUTH CAROLINA
DEPARTMENT OF EDUCATION

INEZ MOORE TENENBAUM
STATE SUPERINTENDENT OF EDUCATION

June 24, 2005

Mr. Jake Jacobs
Interim Director
Office of Technology
604C Rutledge Building
1429 Senate Street
Columbia, South Carolina 29201

Dear Jake:

As a major stakeholder for longitudinal data systems for South Carolina students, on behalf of the Office of Assessment I wholeheartedly support your efforts to improve our capacity to evaluate the effectiveness of programs, improve student learning and academic achievement, and close achievement gaps. I also pledge my assistance in your endeavors to carry out the work that you have outlined.

The following initiatives will be of utmost importance to the Office of Assessment

- The unique student identifier that is currently being implemented will permit us to more accurately match test records within a year and across years.
- Employing School Interoperability Framework (SIF) technology will enable the transfer of SASI data from the schools to SDE real-time so that pre-identification of test documents will be as up-to-date and accurate as possible.
- Enabling the transfer of student transcripts between districts and states will be beneficial to us in our endeavors to validate test results.
- Our office is a major user of SAS so installation on the Citrix server would be welcomed and allow us to share data with other stakeholders more easily and efficiently.
- A user-friendly reporting/analysis tool with point-and-click capabilities has been a constant refrain from the districts.

I have a firm belief that the field can be moved closer to meaningful assessment by development of a longitudinal data system and that we can more effectively communicate results for school, district, state and federal accountability requirements.

Sincerely,

Theresa G. Siskind, Director
Office of Assessment

TGS/jsh

PUBLIC SCHOOLS OF NORTH CAROLINA

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DEPARTMENT OF PUBLIC INSTRUCTION :: Janice O. Davis, *Interim Officer*

June 7, 2005

Dr. Inez M. Tenenbaum, Superintendent of Education
South Carolina Department of Education
1429 Senate Street
Columbia, South Carolina 29201

Dear Dr. Tenenbaum:

Thank you for your May 9, 2005, invitation to join South Carolina in applying to the US Department of Education for the "Grant to Support Statewide Longitudinal Data Systems for FY 2005." We are pleased that you considered us for partnership in this endeavor.

It is our understanding that each state is limited to one application for this grant. The North Carolina Department of Public Instruction has already submitted a letter of intent to apply, in partnership with the North Carolina Community Colleges System and the University of North Carolina, for a grant specific to North Carolina. However, we would be pleased to join in your application, along with Georgia and Tennessee, as a collaborative partner, should the grant regulations permit.

Please let us know how we can be of assistance. Dr. Bob Bellamy, our Associate Superintendent for Technology Services, will be happy to work with Mr. Jacobs on your staff in this regard.

Sincerely,

Janice O. Davis

JOD:tpr

c Bob Bellamy
Priscilla Maynor

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OFFICE OF THE STATE SUPERINTENDENT
JANICE O. DAVIS, Ph.D., Interim Officer :: EMAIL jdavis@dpi.state.nc.us
6301 Mail Service Center :: Raleigh, North Carolina 27699-6301 :: 919.807.3430 :: Fax 919.807.3445

GEORGIA
DEPARTMENT OF
EDUCATION

Office of the State Superintendent of Schools

Kathy Cox, State Superintendent of Schools

June 30, 2005

The Honorable Inez M. Tenenbaum
State Superintendent of Education
South Carolina Department of Education
1429 Senate Street
Columbia, South Carolina 29201

Dear Superintendent Tenenbaum:

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

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

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

Yours truly,

Kathy Cox

Kathy Cox
KC/sg

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June 29, 2005

The Honorable Inez M. Tenenbaum
State Superintendent of Education
South Carolina Department of Education
1429 Senate Street, Suite 1005
Columbia, South Carolina 29201

Dear Inez,

On behalf of the South Carolina State Chief Information Officer (CIO), I am writing to endorse the proposal from the South Carolina Department of Education for a Statewide Longitudinal Data System grant. This grant will enable South Carolina's educational system to become more integrated and efficient.

The Division of the State CIO, South Carolina Budget and Control Board, supports the Department of Education's vision for developing a longitudinal data system. The capacity to track student achievement and school improvement across multiple years will provide decision makers at every level of South Carolina education with improved capacity to enhance the quality of public education in our state.

As managers of the state data network, we will continue to provide technical support to the Department of Education and the local school districts.

Our agency remains committed to assist with ensuring the success of this effort.

Sincerely,

Barbara Teusink

Barbara J. Teusink
Deputy Chief Information Officer

BT/bsd