U.S. Department of Education

Washington, D.C. 20202-5335

APPLICATION FOR GRANTS UNDER THE

STATEWIDE LONGITUDINAL DATA SYSTEMS
CFDA # 84.372A
PR/Award # R372A070006
Grants.gov Tracking#: GRANT00232695

Closing Date: MAR 15, 2007

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

Application for Federal Assistance SF-424

Version 02

* 1. Type of Submission:	* 2. Type of Application:	* If Revision, select appropriate letter(s):
○ Preapplication	● New	
● Application	○ Continuation	* Other (Specify)
○ Changed/Corrected Application	○ Revision	

* 3. Date Received:	4. Applicant Identifier:
03/14/2007	

5a. Federal Entity Identifier:	* 5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:	7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:	North Carolina Department of Public Instruction

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
56-1492826	067195610

d. Address:

* Street1:	6326 Mail Service Center
Street2:	
* City:	Raleigh
County:	Wake
* State:	NC: North Carolina
Province:	
* Country:	USA: UNITED STATES
* Zip / Postal Code:	27699-6326

e. Organizational Unit:

Department Name:	Division Name:
Financial & Business Services	

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

Prefix:	Mr.	* First Name:	Philip
Middle Name:			
* Last Name:	Price		
Suffix:			

Title:	Assoc Supt for Financial & Business Services

Organizational Affiliation:

North Carolina Department of Public Instruction

* Telephone Number:	919-807-3600	Fax Number:	919-807-3604

* Email:	pprice@dpi.state.nc.us

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

Application for Federal Assistance SF-424

Version 02

9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

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

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.372

CFDA Title:

Statewide Data Systems

*** 12. Funding Opportunity Number:**

ED-GRANTS-121806-001

* Title:

Statewide Longitudinal Data Systems CFDA 84.372A

13. Competition Identification Number:

84-372A2007-1

Title:

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

All the public school students in North Carolina

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

North Carolina Common Education Data Analysis and Reporting System (NC CEDARS)

Attach supporting documents as specified in agency instructions.

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

* a. Applicant: NC-all

* b. Program/Project: NC-all

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

17. Proposed Project:

* a. Start Date: 08/01/2007

* b. End Date: 07/31/2010

18. Estimated Funding ($):

* a. Federal	6,000,000.00
* b. Applicant	(b)(4)
* c. State	
* d. Local	
* e. Other	
* f. Program Income	
* g. TOTAL	

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

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

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

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

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

○ Yes ● No

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

☑ **** I AGREE**

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

Authorized Representative:

Prefix: Mr. * First Name: Philip

Middle Name:

* Last Name: Price

Suffix:

* Title: Assoc Supt for Financial & Business Services

* Telephone Number: 919-807-3600 Fax Number: 919-807-3604

* Email: pprice@dpi.state.nc.us

* Signature of Authorized Representative: Jack Moyer * Date Signed: 03/14/2007

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

Application for Federal Assistance SF-424

Version 02

*** Applicant Federal Debt Delinquency Explanation**

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

Attachments

AdditionalCongressionalDistricts

File Name **Mime Type**

AdditionalProjectTitle

File Name **Mime Type**

U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

Name of Institution/Organization:
North Carolina Department of Pub...

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

SECTION A - BUDGET SUMMARY

U.S. DEPARTMENT OF EDUCATION FUNDS

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	S 0	S 0	S 0	S 0	S 0	S 0
2. Fringe Benefits	S 0	S 0	S 0	S 0	S 0	S 0
3. Travel	S 0	S 0	S 0	S 0	S 0	S 0
4. Equipment	S 631,058	S 295,742	S 345,636	S 0	S 0	S 1,272,436
5. Supplies	S 0	S 0	S 0	S 0	S 0	S 0
6. Contractual	S 1,673,361	S 1,520,313	S 1,533,890	S 0	S 0	S 4,727,564
7. Construction	S 0	S 0	S 0	S 0	S 0	S 0
8. Other	S 0	S 0	S 0	S 0	S 0	S 0
9. Total Direct Costs (lines 1-8)	S 2,304,419	S 1,816,055	S 1,879,526	S 0	S 0	S 6,000,000
10. Indirect Costs*	S 0	S 0	S 0	S 0	S 0	S 0
11. Training Stipends	S 0	S 0	S 0	S 0	S 0	S 0
12. Total Costs (lines 9-11)	S 2,304,419	S 1,816,055	S 1,879,526	S 0	S 0	S 6,000,000

***Indirect Cost Information *(To Be Completed by Your Business Office)*:**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

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

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

Period Covered by the Indirect Cost Rate Agreement: From: __/__/____ To: __/__/____ (mm/dd/yyyy)

Approving Federal agency: [] ED [] Other (please specify): _____

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

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

ED Form No. 524

U.S. DEPARTMENT OF EDUCATION BUDGET INFORMATION NON-CONSTRUCTION PROGRAMS	OMB Control Number: 1890-0004 Expiration Date: 06/30/2005
Name of Institution/Organization: North Carolina Department of Pub...	Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS

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

ASSURANCES - NON-CONSTRUCTION PROGRAMS

OMB Approval No. 4040-0007
Expiration Date 04/30/2008

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis- Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327- 333), regarding labor standards for federally-assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93- 205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL Jack Moyer	* TITLE Assoc Supt for Financial & Business Services
* APPLICANT ORGANIZATION North Carolina Department of Public Instruction	* DATE SUBMITTED 03-14-2007

Standard Form 424B (Rev. 7-97) Back

Tracking Number: GRANT00232695

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

Approved by OMB

0348-0046

1. * Type of Federal Action:	2. * Status of Federal Action:	3. * Report Type:
_a. contract	_a. bid/offer/application	●a. initial filing
●b. grant	●b. initial award	_b. material change
_c. cooperative agreement	_c. post-award	For Material Change Only:
_d. loan		year quarter
_e. loan guarantee		date of last report
_f. loan insurance		

4. Name and Address of Reporting Entity:	5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:
●Prime _SubAwardee Tier if known: * Name: North Carolina Department of Public Instruction * Address: 6326 Mail Service Center Raleigh NC: North Carolina 27699-6326 Congressional District, if known:	
6. * Federal Department/Agency: USED, Institute of Education Sciences	7. * Federal Program Name/Description: Statewide Data Systems CFDA Number, if applicable: 84.372
8. Federal Action Number, if known: RFA-NCES-07-02	9. Award Amount, if known:
10. a. Name and Address of Lobbying Registrant (if individual, complete name): * Name: none N/A * Address:	b. Individual Performing Services (including address if different from No. 10a): * Name: none N/A
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	* Signature: Jack Moyer * Name: Mr. Philip Price Title: Assoc Supt for Financial & Business Service

	Telephone No.: Date: 03-14-2007
Federal Use Only:	Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)

Public Burden Disclosure Statement

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CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

* APPLICANT'S ORGANIZATION North Carolina Department of Public Instruction
* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE Prefix: Mr. * First Name: Philip Middle Name: * Last Name: Price Suffix: * Title: Assoc Supt for Financial & Business Services
* SIGNATURE: Jack Moyer * DATE: 03/14/2007

SUPPLEMENTAL INFORMATION REQUIRED FOR DEPARTMENT OF EDUCATION GRANTS

1. Project Director

*** Name:**
Mr.

Philip

Price

*** Address:**
North Carolina Department of Public Instruction

6326 Mail Service Center

Wake
County

Raleigh

NC: North Carolina

27699-6326

USA: UNITED STATES

*** Phone Number:**
919-807-3600

Fax Number:
919-807-3604

Email:

2. Applicant Experience:

_Yes _No • Not applicable to this program

3. Human Subjects Research

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

_Yes • No

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

Yes Provide Exemption(s) #:

No Provide Assurance #, if available:

Please attach an explanation Narrative:

FileName MimeType

Project Narrative

Abstract Narrative

Attachment 1:
Title: Pages: Uploaded File: **1461-03-13-07_NC_LDS_Abstract.pdf**

Abstract

The North Carolina Department of Public Instruction (NCDPI) proposes to use the US Department of Education (USED) longitudinal data system (LDS) grant to accelerate its transition to a data-driven decision-making environment primarily to help improve student learning. This new environment, known as the NC Common Education Data Analysis and Reporting System (NC CEDARS), will extract data from many business line systems to produce a secure, quality controlled data repository that teachers, principals, researchers and other educators can analyze with easy to use intelligence tools to meet their needs. NCDPI is requesting $6 million to fund this effort and will supplement this funding with $6.1 million in State and other funds.

Problem: The large number of NCDPI applications, each with its own stand-alone point-to-point interface, results in perpetuating silos of redundant and inconsistent data. Databases frequently contain completely different database structures for storing the same type of information, as information technology (IT) staff, convention, and methods change over time. North Carolina education data is currently buried in a large number of disparate data silos which use various applications/proprietary data manipulation software, thus effectively precluding enterprise-wide data analysis. Data generated in one silo must be re-entered for inclusion in the programmed report of another.

Solution: Transparent and easy access to historical and current data from a variety of sources is critical for effective decision making. NCDPI data systems must be reconstituted to provide a single, enterprise-wide view, in accordance with the standards identified below. Significant IT cost savings (in the millions of dollars) are achievable when data-centric organizations, such as NCDPI, are relieved of the burden of costly in-house database programmers and developers who must perform manual queries, program reports, and develop the IT work-arounds required to accommodate data silos and system incompatibilities and redundancies.

The NC CEDARS LDS project will provide, for the first time, fully developed relational database integration coupled with metadata management, reporting, ad-hoc query, and user-friendly web-based functionality including state-of-the-art user-generated data storage, querying and reporting capabilities. In addition, this all-in-one solution will incorporate embedded analytics as well as SAS analytic tools. Analytical capabilities will be enhanced via Microsoft Office integration, enhanced visual development (dashboards), along with real-time updates and write-back capabilities.

NC CEDARS will incorporate Extensible Markup Language (XML)-enablement and web services in support of next-generation Service Oriented Architecture (SOA) enterprise implementation. SOA reduces the complications of self-contained silo systems and data through extreme decoupling: no application depends on any other but serves as a component within a network of modularized, interconnected services. Key to the success of this emerging network architecture paradigm is data integration, which must look beyond developer-centric needs and include data-centric approaches.

Project Narrative

Project Narrative

Attachment 1:
Title: Pages: Uploaded File: **6943-Mandatory_03-13-07_Technical_Proposal_-_all_combined.pdf**

Project Narrative
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Project Narrative

1 The Need for the Longitudinal Data System Project

North Carolina has a long history of successfully developing statewide information management systems for improving public education. In 1987, the State Board of Education implemented the legislatively mandated Uniform Education Reporting System (UERS) for collecting, processing, and reporting fiscal, personnel, and student data, by means of electronic transfer of data files from local school systems to the State education agency though the state data network. It was one of the first such efforts in the nation. Over the past 20 years this reporting system has evolved and continues to be the backbone for education program information for local, State and Federal reporting.

In 1996 the State Board adopted the ABC's of Public Education as enacted by the General Assembly, which necessarily depended on a strong information reporting system. In 2002, North Carolina's ABC's program was expanded to incorporate the new statutory accountability requirements of the Federal No Child Left Behind Act (NCLB) and the demands for reliable information continued to grow.

The North Carolina Department of Public Instruction (NCDPI) is currently implementing the North Carolina Window of Information on Student Education (NC WISE), a statewide internet-based student accounting system that provides student and school information management capabilities. NC WISE helps local educators make better instructional and business decisions in their schools. It is being deployed in multiple phases, the first began October 2004. An enhanced feature of this is the Ad Hoc Reporting System for the local schools to be operational this year.

NCDPI also provides an annual School Report Card online designed for parents that includes information about student performance, class size, school safety, and teacher quality.

The State Board of Education clearly recognizes that having 21st century information management systems in place is critical to accomplishing its mission for improved instruction and opportunities for students. One of its five primary goals is that "NC Public Schools will be governed and supported by 21st century systems". An objective under that goal is: Information and fiscal accountability systems are capable of collecting relevant data and reporting strategic and operational results. The Board fully appreciates that a user friendly, comprehensive information system that provides meaningful, timely and accurate performance analyses of data is essential to State and local improvement efforts. This functionality is the core of its accountability system. Unfortunately the current systems are falling short.

A longitudinal data system (LDS) that enables educators to turn "data" into value-added "information" is vital for North Carolina's continued educational progress. In addition, an LDS is critical to facilitating more effective and efficient processes for complying with Federal and State reporting requirements, particularly those associated with the Education Data Exchange Network (EDEN), now known as ED*Facts*. Current systems are simply inadequate for meeting all the needs for information.

Compliance with all Federal and State reporting requirements is increasingly cumbersome and very labor intensive. Far too much manual effort is currently being expended to integrate data from various data collection systems to accommodate the numerous requests for student, teacher, school, and program data.

NCDPI proposes to use the US Department of Education (USED) LDS grant to accelerate its transition to a data-driven decision-making environment. This new environment, known as the NC Common Education Data Analysis and Reporting System (NC CEDARS), will extract data

from many business line systems to produce a secure, quality controlled data repository that stakeholders can analyze with standard business intelligence tools to produce finished information products. State funding is already supporting certain elements of NC CEDARS.

Currently, North Carolina collects and manages data via numerous commercial and internally developed applications, using a variety of platforms, languages and methodologies. Each application was designed to meet only the needs of the originating user; little consideration was given to leveraging other applications or the potential multiple uses of the single system's data. The technology used in the development of the applications was typically the cutting edge at the time of the request; however, no long-term strategic plan was in place for how the application would interface with existing or planned applications. Although North Carolina has student and teacher-level data for most programs, the ability to combine data automatically does not exist.

To facilitate the linking of student or staff data across applications, NC CEDARS will include a system for assigning unique, permanent individual identifiers for teachers and students. NC CEDARS will also develop a broker-based messaging infrastructure among the applications for data sharing. To the extent possible, the message format will align with the Schools Interoperability Framework (SIF). This infrastructure will populate the longitudinal repositories. NC CEDARS will link student historical performance to program data. Tracking of student performance across schools, programs, Local Education Agencies (LEAs), and grades will assist researchers to identify the impact of educational initiatives. NC CEDARS will also facilitate data sharing among LEAs in the State and among other State agencies and institutions of higher education. In addition, NC CEDARS will interface with the National Transcript Center (NTC) allowing for the exchange of student records with LEAs and higher education entities in other states.

1.1 System Components

The following sections describe North Carolina's current status in terms of required system components.

1.1.1 A State Assigned Unique Identifier

North Carolina does not have a unique student identifier. The State's ability to link student data with data that describe various education inputs, such as teacher data, staff development, tutoring, facilities, extracurricular activities, and early childhood experiences is limited by the lack of a unique student identifier. The unique identifier is a key to the integration of the various systems. These systems collect both pertinent data for specific requirements and data collected by other systems in order to comply with each program area's reporting requirements. These numerous collections leave the State and, consequentially, the Federal government, vulnerable to inaccurate, incomplete and inadequate reporting of similar types of data. These inconsistencies can result in erroneous conclusions and poor decisions. The funds from this grant will assist NCDPI in developing the unique identifier system so critical to the success of the LDS.

1.1.2 An Enterprise-wide Data Architecture

The current NCDPI data architecture is an ad hoc developed solution based on individual user needs. At present NCDPI has designed an enterprise-wide data architecture for acquiring both state-level and local-level data; however, the enterprise-wide architecture design has not been put into operation. Using the enterprise-wide data architecture, NCDPI intends to implement the NC CEDARS system as designed, and intends to continue the on-going collaboration to ensure that the system and the enterprise-wide architecture will meet the needs of the State.

1.1.2.1 Information to Serve Local, State and Federal Needs

The current ad hoc developed architecture design is ineffective and inefficient in its ability to collect and share information. For NC CEDARS, the data collection that serves the needs of teachers, principals, parents, students, state-level officials and Federal reporting requirements will be developed through a collaboration of local and State agency representatives. Through collaborative efforts and enterprise architecture design, the new architecture will effectively collect and distribute information to support the needs of all LEA, State and Federal users.

1.1.2.2 ESEA and ED*Facts Reporting*

North Carolina currently collects data at the individual detail level, which enables NCDPI to report data at a very granular level. The core elements for NC CEDARS will be the elements required for ED*Facts* submission. These elements are currently collected manually and from multiple systems, which is a time-consuming effort. Today, many applications function independently and interact only occasionally via largely undocumented file transfers between people that massage the files according to their understanding of the data. This introduces data quality problems from several perspectives:

- Student level records between systems often fail to match due to data inconsistency in key fields;
- Systems, and the people that operate them, often grow up focusing on a program's related data. The non-program related data captured in these systems is often given less attention than target program related data;
- Data captured by different systems that is meant to represent the same business element may use different data formats. For instance, a zip code in one system might be a number data type, while in another system it is captured as a character string;
- Data validation rules for the same data elements often vary across systems;
- Data elements duplicated across systems may have different values, making the accuracy of any value suspect; and
- Differences in the timing of data capture of like elements across systems can affect both the consistency of data and its availability for reporting.

NCDPI intends to develop an LDS, NC CEDARS, to reduce the manual effort and eliminate the information "silos". The State will also ensure that the LDS will automatically collect and refresh all data elements required for reporting under the Elementary and Secondary Education Act of 1965 (ESEA), including all data elements required for the ED*Facts* reporting system.

1.1.2.3 Longitudinal Data Analysis

It is very cumbersome for North Carolina to measure a student's performance over his or her career since historical data is limited and the ability to identify the student from year to year is difficult. Although NCDPI does and is capable of completing some data analysis without an LDS, this effort is very challenging, and the burden falls to the LEAs to ensure that the historical data has followed the student over time. Teacher data, though slightly more stable, cannot be attached to specific students. A unique identifier system and a central collection point for data which have been verified and compiled will improve the quality of the data. North Carolina will then be able to more accurately anticipate future needs based on historic trends over specific time periods, and ultimately project a student's career, facility requirements, teacher needs and program performance and planning.

The current architecture is not conducive to longitudinal analysis of student achievement growth and program evaluations. Evaluations concerning schools and their learning achievement can be effective only if the data on which those decisions are based are accurate, pertinent and timely. The effectiveness of each program's charge should be and will be evaluated based on performance. This accountability will determine the continuation, change or elimination of each specific program.

NCDPI intends to create the unique identifier system and the data repository to allow for longitudinal analysis of student achievement growth and program evaluations with the funds from this LDS grant. The integration of external requirements will be addressed by collaborating with users in order to ensure the linking of elementary and secondary education data with post-secondary databases such as Common Follow-up which is monitored by the North Carolina Employment Security Commission (NCESC).

1.1.2.4 Relational Databases and Records

At present, NCDPI does not have a relational database that links records across all information systems. The State's ability to link student data with data that describe various education inputs, such as teacher data, staff development, tutoring, facilities, extracurricular activities, and early childhood experiences is limited by the lack of a unique student identifier. NCDPI intends to develop this relational database as a part of the NC CEDARS project.

1.1.2.5 Specific Data System Deliverables

The creation of NC CEDARS requires a more thorough and consistent definition of data elements than presently exists. This major effort will ultimately bring a uniform understanding of the data collected and reported statewide. In addition to specific state definitions, the incorporation of the *National Center for Education Statistics (NCES) Online Handbooks* and the *Financial Accounting for Local and State School Systems: 2003 Edition* will be a large portion of the definition database. The NC CEDARS handbook of definitions will be placed on the NCDPI web page for easy access.

NCDPI has also begun the task of establishing standards and guidelines for data, security, infrastructure and the surrounding technology. These efforts have evolved over time; however as the requirements of the agency have grown, the guidance has not kept pace. As a result, there are varying levels of guidance for these areas. When complete, these standards and guidelines will be published and available on the web. This will enable areas that are not directly responsible for specific data elements to better understand the standards and guidelines surrounding the data and will alleviate individual interpretation of Federal definitions and guidelines.

Key deliverables of NC CEDARS will include a data model, a data dictionary that includes documentation of the necessary business rules as well as standards and guidelines for data, security, infrastructure and quality assurance procedures.

1.1.3 Procedures for Security, Confidentiality, and Data Integrity

NCDPI has a data confidentiality guide which incorporates State legislative mandates and is an evolving document driven by best practices. In addition, there is a formal application process to obtain data from NCDPI. A memorandum of agreement must be signed by both the NCDPI and the recipient to ensure confidentiality and adhere to Family Education Rights and Privacy Act (FERPA). NCDPI also regularly verifies that its processes are in compliance with the data confidentiality guide of the National Forum on Education Statistics (NFES).

NCDPI has a set of security policies that follow the NC Information Technology Services (NCITS) *Statewide Information Security Manual*. This manual is based on the International Organization for Standardization's (ISO) security standard (ISO 17799:2005). North Carolina will also comply with the technology security standards of the NFES. The cornerstone of these security policies will be the USED's *National Educational Technology Plan*. NCDPI's security policies will remain current with all acceptable security standards.

1.1.4 Automated Reporting & ED*Facts* Requirements

A collection calendar called the Annual Data Plan has been in effect in North Carolina for many years; however, it lists only the collection dates from the LEAs to NCDPI. The State will have ad hoc reporting capability for the LEAs in June 2007. NCDPI, however, does not currently offer automated reporting for ED*Facts*. Implementing an automated system will alleviate the burden of collection, creation and submission of data, for local and State personnel. NCDPI is committed to developing the capability to automatically report all ED*Facts* data groups by the completion of the grant, as well as creating automated reporting formats and automated scheduled data submissions. This capability will consolidate various reports from inside individual systems, to improve data reporting visibility, integrity and efficiency.

1.1.5 Data Warehouse Requirements

NCDPI does not currently have a data warehouse or comparable means for managing and storing longitudinally linked data and making them accessible to teachers, schools, districts and researchers. The new system will provide for this collection and storage.

Through the LDS grant, NCDPI will develop and implement an LDS that will permit the use of robust, timely performance data at the core of decision and policymaking in North Carolina. It is with these data that planning, policy and management at the state and local levels can begin to move forward, address areas of concern, and emulate areas of success. Detailed data at the student and teacher level will lead to a more effective decision-making process and ensure a sound system of educational accountability. With more efficient data collection, the submission of data to the Federal government will become more timely, accurate and consistent.

1.1.6 Data Exchange and FERPA

NCDPI currently has the capacity to electronically transfer transcripts to the NC Community College System (NCCCS) and the University of North Carolina System (UNCS). These transmissions and any other dissemination of information to other institutions comply with both FERPA and NCDPI's policies and procedures for the sharing of data.

NCDPI intends to utilize the funds from this LDS grant to create a data system that adheres to several data exchange conformance standards, including SIF, that will facilitate data exchanges and electronic records transfers to any other educational institutions.

1.1.7 Secure-Access Data Marts

Currently, there are various web applications designed to deliver high-level data to parents and schools. They do not have the ability to drill down for more analytical purposes. These systems collect both pertinent data for specific requirements and data collected by other systems in order to comply with each program area's reporting requirements. These numerous collections leave the State and, consequentially, the Federal government, vulnerable to inaccurate, incomplete and inadequate reporting of similar types of data. These inconsistencies can result in erro-

neous conclusions and poorly informed decisions. The current systems do not allow for various levels of access based on role. Thus all stakeholders are kept to the highest level of granularity, and these restrictions are not conducive to detailed analytical research. The ability to allow authorized personnel system access to more detail by role will enhance the decision making process based on data. As part of NC CEDARS, NCDPI plans to develop a system that permits secure access to all data, data marts and reports.

1.1.8 Ability to Support Analyses and Research

Accurate and complete information is critical to the processes and outcomes of a high-performing education system. School improvement must be guided by changes to policies that produce positive results in student performance. Reliable longitudinal data is needed to inform such policy changes at the school, district and state levels.

Currently, historical data at NCDPI resides in a variety of file formats in several different computer systems that were developed using different computer languages. These systems are accessible only through the various data stewards throughout the agency. The separation and inaccessibility of the data impedes the ability of both internal and external researchers to study particular areas of interest. The lack of research, in turn, lessens the output of "actionable" data that informs school improvement.

Through this grant, NCDPI proposes to develop an LDS that supports national, state and local research on the effectiveness of educational programs. In addition, the LDS will allow the agency to do its part in providing accurate information for analysis of higher education issues, national research studies on public schools, and any other analyses related to public policy. The capabilities of the LDS will facilitate the proper use and sharing of data through the creation of various levels of access and responsibility for different groups and units within the organization. Therefore, an LDS will result in data that is more accessible and secure.

NCDPI would welcome the collaboration with and analysis by other entities of its LDS. The exchange of experiences, constructive advice and teamwork can only help make the effort stronger. These evaluations would, in turn, make the data contained in the LDS more on point and, as a result, make the data provided to outside entities, as well as the Federal government, more accurate and timely. Any additional audits or status requests will be adhered to as required.

1.2 Governance and Policy Requirements

The following sections describe North Carolina's current status in terms of required governance and policy components.

1.2.1 Governance Structure

To ensure a solid foundation for systems development of projects such as NC CEDARS, NCDPI's internal governance structure currently includes an Executive Council responsible for providing strategic direction, funding, advocacy and oversight of the information technology (IT) programs and systems; and a Data Coordinating Council responsible for developing and mandating data-related policies.

As part of NC CEDARS, NCDPI plans to further expand its governance framework to include a broader advisory group representative of various user and stakeholder groups including partnering State agencies, researchers, institutions of higher education, local school districts, parents and students. This expansion will foster further development and sustainability of a rich source of data to support data-driven decisions for school leaders and policy makers. In addition, it will

advance the State's current partnership initiative with the University of North Carolina and Community College System aimed at creating a single repository for educational data.

1.2.2 Communication Infrastructure

NC CEDARS will use the successful communication model currently in place for its NC WISE program. The model includes distributing project update newsletters, conducting regularly-scheduled meetings, and creating a communications portal to provide information to key stakeholders at all levels, regarding the goals and progress of the project and its impact on education management and student learning.

1.2.3 Procedure for Facilitating Research and Analysis

NCDPI is committed to a policy of allowing the research community, including institutions of higher learning, access to data, under conditions that strictly protect the rights and privacy of students, teachers and other employees, and requires an executed agreement from all vendors with access to student and other sensitive data, stating that the vendor and all subcontractors will conform to the requirements of FERPA.

North Carolina collects data at the individual detail level, which enables the agency to report data at a very granular level. The core elements for the LDS will be the elements required for ED*Facts* submission. All personally identifiable data will be secured and kept confidential per both State and Federal guidelines. Although these data will be used to integrate the various data streams, the data will not be disseminated unless the appropriate agreements concerning security and confidentiality are adhered to by the recipient.

At present, there is a confidentiality policy and a standard agency confidentiality agreement in place that is required to be used with any data request which may contain confidential data. NCDPI's data confidentiality policies and procedures will be refined as part of the NC CEDARS project. The data confidentiality guide of NFES, will be the guiding document for enhancement of the existing policy.

As described previously, NCDPI's security policies follow the Statewide Security Manual and will comply with the Technology Security Standards of the NFES. The agency Security and Quality Assurance functions will conduct periodic reviews to ensure that processes adhere to these security policies and standards.

Using the LDS data, the following are examples of research and analysis topics NCDPI envisions being able to examine:

- Define and establish policies to help assure parents of a safe education environment.
- Find out the impact of class size on student learning.
- Determine how leadership at schools impacts teacher performance / retention.

1.2.4 Ongoing Training

The NC CEDARS project will deliver technical and data access training, and stakeholder / policy-maker training. From studies performed on the use by North Carolina educators of existing data compilations, NCDPI knows that the interested user will be empowered to make data-driven decisions for the betterment of the educational program, if they are given access to data in a usable form and supported in obtaining answers from those data.

1.2.5 Evaluations for Educational Program Improvement

NCDPI recognizes the need for ongoing, formative and summative evaluation procedures. As part of the NC CEDARS initiative, NCDPI will partner with organizations that have taken a lead in creating formative evaluation procedures, and with proven leadership in summative evaluations. Both the University of North Carolina at Chapel Hill and North Carolina State University are two nationally prominent public research universities with this capacity.

1.2.6 Sustainability

NCDPI has a 20 year history of successfully supporting its information management systems. The State Legislature has enacted legislation requiring that educational information systems will be adequately maintained. The Appropriations Act has annually authorized funds for system development and replacement. State law also requires the State Chief Information Officer (SCIO) to do information system portfolio management of all State IT systems. This portfolio management process requires that a report be submitted to the Legislature concerning such things as the funds needed to replace or upgrade systems. In addition, effective July 1, 2007, the Legislature has authorized that all unused NCDPI IT funds will be carried forward to the next fiscal year. NCDPI's State continuation funding also ensures long-term support for NC CEDARS.

2 Project Design for NC CEDARS

NC CEDARS will address the primary deficiencies of the current State information system. To summarize them, first and foremost North Carolina does not have a unique student identifier. Although NCDPI has designed an enterprise-wide data architecture for acquiring both state-level and local-level data, it has not been implemented due to limited resources. The current architecture design is ineffective and inefficient in its ability to collect and share information. The architecture is not conducive to longitudinal analysis of student achievement growth and program evaluations. NCDPI does not have a relational database that links records across all information systems and lacks a consistent definition of data elements. The State does not currently have a data warehouse or comparable means for managing and storing longitudinally linked data and making them accessible to teachers, schools, districts and researchers. Data quality is impaired because it comes from multiple sources and is often consolidated manually.

The LDS grant will fund the following system components to meet the identified needs:

Project Component	Need Addressed
Staff Identifier	Reliable matching of staff level records over time and between applications.
Student Identifier	Reliable matching of student level records over time and between applications.
ED*Facts* Reporting	Automated Federal reporting with high quality data drawn from the LDS warehouse
Analytical Tools	Reporting and analysis services against the high quality data in the LDS warehouse
Longitudinal Data Store	A physical and logical facility to collect and organize education data over long periods of time (50 years planned) to support analysis and reporting
Transcript Service	The electronic transcript will reduce the effort at the school level to both send and receive student transcripts which in many cases require extensive re-entry of data.

These components are critical to the envisioned system. Staff and student identifiers make reliable linkages across disparate systems feasible, reliable and efficient. The ED*Facts* reporting service supports the consolidation of various reports from inside individual systems, improving data reporting visibility, integrity and efficiency. SAS tools and the longitudinal data store provide independently managed versions of data, verified for quality conformance, and available to authorized users for a wide variety of analyses. Finally, the introduction of the National Transcript Service provides a secure means to exchange data with other states, to reduce the effort involved in transferring student records between school systems. Combined with governance models that incorporate school, district, State and Federal level participation, and other parts of the architecture, the technical capabilities of these components will provide North Carolina with a high quality information-processing framework that will support a wide variety of customers across a broad range of potential change. This addresses our adaptability goals.

2.1 Business Design

The enterprise architecture envisioned for NC CEDARS contains several key characteristics that define the approach to addressing these needs. These features are:

- **Transparency** — the ability of authorized observers to understand how information is governed, collected, processed and reported by the components of the architecture;
- **Adaptability** — the capacity of the architecture to react rapidly to change in support of the business needs;
- **Integrity** — the quality of being demonstrably pure and unimpaired by inappropriate influences, which is critical to the credibility of the enterprise information products;
- **Security** — the system quality of being available to authorized users while denying unauthorized use; and
- **Efficiency** — the characteristic of accomplishing work with the minimal resources needed to achieve the functional and quality objectives of the effort.

2.1.1 The Needs of Stakeholders

The current system is ineffective for a data-driven decision making environment. To empower the school-based teachers and administrators with the data they need to impact their work, the information processing framework must be changed to accomplish the following goals.

2.1.1.1 Reduce Duplication of Data Collection Effort

NCDPI must move the point of data collection as close as possible to the actual event to improve data quality and timeliness; however, this creates duplicate workloads on the participants involved with the systems. NC CEDARS will provide two major components, staff identifier and student identifier systems, which support the larger task of data integration. With unique identifiers established at the staff and student level, NCDPI can replicate the primary source of data duplication effort (staff and student demographics), automatically across the relevant systems without increasing the workload on the local staff.

In addition, NC CEDARS will include an automated system to provide immediate feedback to the originating system. By flagging as many errors as possible before returning the submission to the originator, the validation routine will keep the number of cleaning iterations required to a minimum, thus greatly improving the timeliness and accuracy of LEA and State Education Agency (SEA) reporting.

2.1.1.2 Reduce IT Costs

Nearly every system designed around a functional area using a vertical reporting model has some form of embedded reporting capability. This creates duplicate hardware, software licensing and administrative costs, for providing the general service of reporting, against multiple data sources. NC CEDARS provides a common data repository and a standard set of SAS tools that will replace and usually extend the analysis and reporting functions currently embedded inside stovepipe systems. This is a fundamentally different view of business application construction than North Carolina has previously pursued. However, it is critical to achieving competitive levels of service at a manageable cost for much larger audiences than any systems in North Carolina have ever directly served.

2.1.1.3 Improve Information Access

NCDPI envisions that a web-based analysis and reporting system such as NC CEDARS will support the discovery and exposure, of both the knowledge of subject matter experts and the actual data with which they work, to a much larger audience. This would occur in the same fashion that Wikipedia has exposed encyclopedic information to the world. Information products created by these experts will be available to authorized users via portals, Really Simple Syndication 2.0 (RSS) feeds and other content delivery mechanisms. Importantly, like Wikipedia, NC CEDARS can support the processing of data into information from many different perspectives, including student, parent, teacher, administrator and state officials. The differences in how these groups understand and value the education system, combined with greater access to data about it, will help inform the complete understanding of the system. This is an important part of achieving the transparency and integrity quality aspects of the entire system.

2.1.1.4 Improve Data Quality and Audit Capability

To ensure data integrity, NCDPI must have the capability to show where data originated and how it was handled through every step of analysis, to assure consumers of NCDPI information products that the results they see are not influenced by tampering, error or oversight. Anything less than this standard calls into question the validity of the data and any conclusions it may support. When completed, NC CEDARS will implement technologies designed to create a valid chain of custody that will, for the first time, make it possible to confirm or deny, at a technical level, charges of error, omission, or tampering at any step in the handling of NC CEDARS data.

2.1.1.5 Ensure Privacy and Confidentiality of Information

For over 20 years, information security has maintained that three key concepts form the core principles of information security: confidentiality, integrity and availability. However, in recent years there is a growing awareness among security professionals that confidentiality, integrity and availability alone are inadequate. These principles are now being replaced with the six principle elements of information: confidentiality, possession or control, integrity, authenticity, availability and utility. NC CEDARS will maintain the appropriate confidentiality required by FERPA, the Health Insurance Portability and Accountability Act (HIPAA) and other relevant information security legislation, in a manner consistent with these six elements of information.

2.1.1.6 Provide Value Added Research

NC CEDARS will collect and store data domains identified by the Council of Chief State School Officers (CCSSO) — Student Record, Directories, Curriculum, Accountability, Staff, Program, Grant, Finance, Infrastructure — as well as the specific data fields required by the ESEA and the ED*Facts* reporting system. This data will be exposed through a variety of analysis and information production tools such as report writers, portals with configurable data and information channels, and subscription based email delivery of finished reports. This will allow educators, researchers, administrators, parents, students and the general public to extract data at many levels of aggregation, while maintaining the appropriate confidentiality required by FERPA, HIPAA and other relevant information security legislation.

2.1.2 NC CEDARS Built in Collaboration with Stakeholders

NC CEDARS will encompass a very wide-ranging group of stakeholders including students, parents, teachers, local and State administrators, university researchers, the business community, the public and the Federal government. Collaboration with groups this large and diverse requires an organized method for ensuring representation by all concerned. To accomplish this significant task, the NC CEDARS project will follow the same collaboration model established under the NC WISE program, extended to include representation from any groups that the NC WISE model currently does not incorporate. The NC WISE model includes town hall meetings, configuration control boards, user groups and an executive steering committee. This collaboration model was instrumental in identifying over 1100 data fields important to the local and State education agencies in North Carolina, and has been a major factor in the successful delivery of the NC WISE program's Ad Hoc Reporting (AHR) project to that population.

Because NC CEDARS will serve users from many different programs, the NCDPI Chief Financial Officer is authorized to use funds from those programs to support NC CEDARS. In addition to the LDS grant, NC CEDARS will draw resources from:

- NC CEDARS designated State funds provided by the NCDPI;
- North Carolina Education Enterprise Architecture (NCEEA) State funds provided for architectural alignment with the award winning North Carolina State Technical Architecture (NCSTA);
- NC Legacy Migration Funds provided by the State to migrate legacy applications from non-NCSTA compliant technologies and application models; and
- NCDPI Application Maintenance Funds planned for as part of the routine maintenance of all applications.

2.2 Technical Design Features

The NC CEDARS technical design is built around several very important concepts that are also key features of the enterprise data integration strategy. As indicated earlier, some of these components will be provided by the LDS grant. *TableB-1: NCEEA Key Architectural Components List* links these components with their role, solution technologies and resource vehicles.

2.2.1 Key Strategy - Extend the Current Success of the Ad Hoc Reporting Project

The NC WISE AHR project, which started in 2006, has already developed an extensive operational repository that connects selected data from several education information domains, to selected SAS reporting and analysis tools. NC CEDARS will expand this repository in two important ways. First, it will extend the operational stores to include all the information domains

recommended by the CCSSO. Secondly, it will mirror these stores with longitudinal stores that will periodically extract data from the operational stores, to populate data structures optimized for the complex time series analysis this system is designed to support. During this extension process, NC CEDARS will incorporate the resources and mission initiated under the AHR project to produce a single unified repository and reporting system under the NCEEA. *Table B-2: LDS Data Domains* summarizes the current and planned states of these domains.

In addition, the AHR repository includes a data dictionary mechanism that supports:

- Well-defined content and common definitions for data elements, to assure the same definitions, codes and periodicity across all schools in the State at data entry point;
- Business rules for data format, acceptable values, missing data options, and logical comparisons to prior data; and
- Automated data edit processes to verify data quality and ensure that rules are met before allowing data into the State's data system.

The LDS grant will extend the repository started with the AHR project with additional data elements planned for both the operational and longitudinal stores.

2.2.1 Plan Description for Development

The development of a large system, like NC CEDARS, is a multi-year project. The initial development will be completed in three years. Detailed tasks are provided in Appendix A – Timeline and the Budget Narrative of this proposal. High level work is described below:

2.2.1.1 Development Plan for 2008

During Year 1 of the grant, North Carolina will establish two key components of the NC CEDARS' architecture. The first, a system for establishing a unique student identifier for all student data reported through the system, will be accomplished by purchasing an existing system designed for this purpose by ESP Solutions Group. The system is successfully deployed in several other state education agencies. This effort is expected to take between six months and one year to be operational, but will not be completed until all source systems have been modified to coordinate with the student identifier system, which could take up to three years.

The same system that provides the unique student identifier will also provide the second component, a unique staff identifier system. The integration of this identifier into source systems that deal with staff information is also expected to be completed at an operational level within a year, but will not be fully completed for up to three years.

In year one, the NC CEDARS project will also conduct analysis and design of the longitudinal data stores required to fully support the analysis of individual student achievement data, individual performance data on faculty, staff and administration, critical operations data, and financial data, to conduct program effectiveness and efficiency analyses This design will feed into a construction phase scheduled for Year 2.

2.2.1.2 Development Plan for 2009

During Year 2, three more NC CEDARS architecture components will be completed. Having finished the required analysis and design for the longitudinal data stores in Year 1, the NC CEDARS project will use Year 2 to construct and begin populating the stores. In addition, the project will introduce new analytical tools to extend the analysis capabilities provided by the tools acquired by the AHR project. Finally, the NC CEDARS initiative will connect the ESP Solutions Group tools (acquired in 2006 as part of the NC CEDARS project to provide ED*Facts* reporting)

into the longitudinal data store, to replace the current sources of data reporting for ED*Facts*. The current reporting model for ED*Facts* runs through the ESP Solutions Group tools, but requires a manually intensive collection effort that should begin to decrease in Year 2 of the grant.

With these components in place, the specific analysis and reporting capabilities planned for NC CEDARS will be complete. The exact scope of data available is yet to be determined both in terms of variety and the length of time the system can go back into historical data. However, NCDPI believes it will be able to populate several years of the longitudinal stores with data currently residing in NCDPI's source system.

2.2.1.3 Development Plan for 2010

During Year 3, the NC CEDARS project will continue to connect the data sources identified earlier into the NC CEDARS repository. The project will also introduce the final component for the LDS grant, an electronic transcript service. This service will provide many schools the ability to exchange student transcripts with other educational institutions, businesses, government and virtually any other agency capable of subscribing to the transcript clearinghouse service.

2.2.2 System Details of NC CEDARS

The funds from this grant will primarily provide components of the enterprise data integration and reporting architecture that are not available under other programs or existing services. The specific labor required to map source system data through an extract, transform and load (ETL) process to the NC CEDARS repository will be provided by the State and the LDS grant. The ETL software, database management software and much of the reporting and analysis tooling is already in place and will be used to support this effort. These contributions leverage the funds from the grant to allow NCDPI to provide more data mapping services and cover an even larger data space than would otherwise be possible. An abstract view of the Enterprise Data Integration Architecture shown in *Figure B-1: NC CEDARS Abstract Architecture* depicts the major components of the architecture.

2.2.2.1 NC CEDARS Scope

Table B-1: NCEEA Key Architectural Components List lists the planned enterprise architecture scope, its relationship to NC CEDARS and the funding sources planned by component.

2.2.2.2 NC CEDARS Grant Funded Component Detail

The components to be developed and implemented using the LDS grant funds are:

- Staff Identifier
- Student Identifier
- ED*Facts* Reporting
- Analytical Tools
- Longitudinal Data Store
- Transcript Service

2.2.2.2.1 STUDENT IDENTIFIER

The unique student identifier NC CEDARS provides will be referenced by all data captured at the student level of granularity. This will make it possible to track cohorts and special interest populations across their entire pre-K through grade 12 educational experiences that the State is responsible for providing. If coordinated across colleges and other government agencies, this system could be integrated into a federation of systems that capture similar data across a citizen's entire lifespan. NCDPI envisions developing this as part of the NC CEDARS project with LDS

grant funds, by purchasing an existing product for establishing a unique student identifier from ESP Solutions Group, which has deployed similar systems in other states. This component will require modification of existing systems.

2.2.2.2.2 STAFF IDENTIFIER

The staff identifiers will be delivered through the same system as the student identifiers. This system will make it possible to track teachers and other school staff reliably over time, against schools, programs, student populations, education criteria and many other dimensions. NCDPI envisions developing the staff identifier systems as part of the NC CEDARS project with LDS grant funds. This component will require modification of existing systems.

2.2.2.2.3 ED*FACTS* REPORTING DETAIL

To provide ED*Facts* reporting in 2006, NCDPI acquired and used ESP Solutions Group products to process and submit manually collected data. As part of the NC CEDARS project, NCDPI intends to use the LDS grant to fund the effort to connect these tools into the longitudinal data store and replace the current sources of data reporting for ED*Facts*. The technical implementation is not yet fully decided, but database views defined for ED*Facts* purposes are the leading solution at this stage for providing an appropriate separation of concerns between the LDS and this specific reporting tool.

2.2.2.2.4 ANALYTICAL TOOLS DETAIL

SAS' analytical and data management tools will perform the following functions:

- Business Intelligence
- Analytical Intelligence
- Drill Down Capabilities
- Data Integration
- Data Storage (OLAP Cubes)
- Knowledge Management/Public Portal
- Security
- Data Cleansing

Many of these tools are already in use throughout the North Carolina education system, but this implementation represents the largest provision of these types of data analysis services to any audience NCDPI has yet attempted. Because NCDPI cannot easily estimate the demand for certain aspects of this service, horizontally scalable solutions for the database and other critical infrastructure will be used. This will permit NCDPI to extend the capacity of our system more gracefully should demand require it, while also providing the degree of physical redundancy needed to assure high availability of the service.

2.2.2.2.5 TRANSCRIPT SERVICE DETAIL

NCDPI proposes to work with ESP Solutions Group's National Transcript Center (NTC) to develop a statewide system for exchanging electronic student records. The goal is to promote the exchange of data rather than paper, so that receiving districts can download the information they receive into their student information systems with little or no re-keying. The agency desires a system that is easy for school counselors to use for requesting and sending the student records and will require very little time for training and use.

The NTC in Austin, Texas, has developed such a system. This system has been adopted by three state education agencies and has a proven record. The NTC has an effective design that will be easy to implement. NTC has a directory of over 100,000 schools, districts and institutions of

higher education to which student records may be sent. The NTC engine is designed to translate the student record into whatever format the receiving institution desires, including SPEEDE/ExPRESS EDI, PESC high school transcript, SIF electronic student record, and can even provide an authenticated PDF document or a paper document. NCDPI will work with NTC to ensure that all school districts have the capacity to send and receive secure and authenticated student records. Institutions of higher education will be invited to participate in NCDPI's statewide system.

2.2.3 Ongoing Usefulness of NC CEDARS

All five primary components add value to NC CEDARS in a modular fashion. They will provide services regardless of the existence of the other or future components. Of course, without all of these parts, the full measure of NC CEDARS potential will not be met as the whole of the system is greater than the sum of its parts.

2.2.4 Integration with NC CEDARS Vision

Table B-1: NCEEA Key Architectural Components List outlines the relationship between the components funded by various sources.

2.2.5 Status of Core Elements

Table B-3: Core Element Status details the status of each Core Element of a statewide LDS.

2.2.6 Architecture Description

The NC CEDARS objective architecture is an adaptable, standards based, asynchronous information engineering framework. It has three primary layers: transactional, repository and information production, supported by three support structures: service, publication and security.

The key to understanding what we are trying to do is to recognize that we cannot respond to conflicting business and legal rules within Federal, State and local program areas using a single integrated system. Instead, we must allow systems to adjust independently — acting like shock absorbers on a car and insulating the business from bumps in the road.

Our strategy is to engineer our applications differently by extracting many functions embedded in them today, and making them external services. The table below lists a set of current practices and a preferred future technique.

Current Application Practice	Preferred Application Practice
Reporting embedded in applications	Third party reporting and analysis tools provided via the enterprise information production layer
Transactional application databases used as data sources for reporting	Data warehouses built in the enterprise repository layer
Point to point file transfer based data integration	Brokered message based data integration using the enterprise service layer
Embedded data structure definitions	Standards based data structure definitions enforced at the data warehouse level using data dictionaries in the enterprise service layer
Embedded publication services directly publishing application information	Third party publication services in the enterprise publication layer publishing information drawn from the data warehouse.

Current Application Practice	Preferred Application Practice
Embedded user identity management and authentication	External identity management and authentication using the enterprise security layer
Multiple applications collecting similar data	Authorized source applications collecting data with target applications reflecting changes delivered via message based integration from the enterprise service layer
Embedded business rules	A business rule server providing a single definition of both policy and implementation from the enterprise service layer
Embedded workflow	Smaller applications constructed to provide specific services with routing between applications provided by a workflow management service in the enterprise service layer.

By building and integrating applications in this fashion, we will improve our ability to adapt to change and reduce the data entry demand on our customers. In the process, NCDPI will also create a data warehouse that can support both operational and longitudinal information requirements for a wide range of audiences.

2.3 NC CEDARS Benefit to Local and State Reporting Capacities

NC CEDARS may be used by the local school systems in many ways to improve student performance using data-driven decision making processes. Teachers can compare student performance across time, demographic characteristics and program participation. Administrators can compare staff performance against subject areas and identify teachers who excel and those who struggle. Teaming these two groups will provide struggling teachers insight into the techniques of successful teachers.

At the State level, NC CEDARS will improve the quality and responsiveness of data collection and analysis. States must look at long term trends across large populations, as well as small cohorts of students with specific characteristics in common. NC CEDARS will make that data, and the tools to analyze it, available to administrators, researchers, legislators and policy leadership. These groups will use NC CEDARS to predict the impact of a myriad of trends, plan programs and policies to achieve their objectives. As these policies and programs are implemented, NC CEDARS will provide the data needed to monitor the impact in near real time.

2.4 NC CEDARS in Summary

NC CEDARS is an adaptable information-engineering framework designed to provide high quality collection, processing, storage, analysis and reporting for a wide range of education data and information needs. This system applies American National Standards Institute (ANSI) recognized standards to facilitate quality control, and state-of-the-art enterprise data integration using mature message brokering technologies. The NC CEDARS design provides a highly secure technical processing environment capable of meeting both FERPA and HIPAA requirements. Finally, by adding an electronic transcript service, this system will be capable of sending student information to virtually any interested entity. Most importantly, NC CEDARS will provide longitudinal data and advanced data analysis capabilities to many concerned constituencies that participate in, provide for, and plan the evolution of the North Carolina public education system.

3 Project Personnel

NCDPI has assembled an experienced team of IT and education administration professionals with proven records of successful project implementation. Several of these specialists have worked together on previous NCDPI IT projects. This team will ensure a successful NC CEDARS implementation. The Program Manager for NC CEDARS will be Priscilla Maynor and the Project Manager will be James Sepe. Below are summaries of key project member qualifications. The resumes of the team and an organizational chart, *Figure B-2: NC CEDARS Project Team* are in Attachment B.

3.1 Capacity for Developing and Implementing NC CEDARS

The project team has the requisite expertise and skills in data analysis and design, database development, IT project management, evaluation and training. NCDPI has extensive expertise gained from previous initiatives, such as NC WISE, and is fully capable of developing and implementing complex IT solutions. Staff are on board with the skills needed for this project in the areas of project management, systems engineering and administration, database design and administration, software quality analysis and testing, network planning and administration, business analysis, requirements management, configuration management, ETL development, security and training.

NCDPI has also trained local staff in many LEAs across the State in the use of data integration and reporting tools. These staff have the capability to provide added support to their peers in other LEAs, establishing a community of practitioners much like a user support group.

To enhance its staff, NCDPI will engage two primary vendor partners: SAS Institute, Inc., a leading provider of statistical analysis tools and related consulting and training services; and ESP Solutions Group, a leader in education data services, including SIF-compliant systems and Federal reporting. The NC CEDARS initiative will also seek partners with expertise in research methodology, formative and summative evaluation techniques, probably university affiliated researchers. In addition, NCDPI will supplement the project team with two experts in the areas of data collection, maintenance, and dissemination, and in local school administration.

3.2 Qualifications of Key Personnel

Peter Asmar, NCDPI Associate Superintendent and Chief Information Officer (CIO), recently came to NCDPI after a 25-year career with several Fortune 100 companies. He served in a variety of capacities encompassing technology and information services and financial and resource management. Mr. Asmar has a Bachelor's Degree in Economics from Brooklyn College of the City University and a Master's Degree in Business Administration and Finance from New York Institute of Technology. At NCDPI, Mr. Asmar leads the Technology Services area, which includes NC WISE and the Student Information Management System (SIMS), instructional technology, student information and accountability systems and the Enterprise Program Management Office (EPMO).

J.B. Buxton, NCDPI Deputy State Superintendent, oversees all operations of NCDPI. Previously, Mr. Buxton served as Senior Education Advisor to the North Carolina Governor, advising the Governor on educational issues in K-12 education and higher education. A former teacher, he served with the Public School Forum of NC as the Director of Special Programs and as the Research Director. He also served as an education policy advisor in the White House. Mr. Buxton attended the University of North Carolina at Chapel Hill as a Morehead Scholar, and holds a Master's Degree in Public Policy from Princeton University.

Bill Constantin, Project Manager, SAS Education and Medical Practice, has over 17 years of experience working for leading companies in the IT industry. He has planned, managed and participated in projects including the building and maintaining of customer information databases, data warehouses and marketing databases. With his strong customer focus, he has worked with clients in the United States, Canada, England, Northern Ireland, Republic of Ireland and South Africa. Mr. Constantin has a Bachelor's Degree in Computer Science from Duquesne University.

Louis M. Fabrizio, NCDPI Accountability Director, is responsible for the State's ABCs Accountability Program, the statewide testing program, and the state's accountability and assessment plans for NCLB. He serves on the CCSSO ESEA Reauthorization Task Force, and has previously served as chair of the National Standing Task Force on Assessment, and the Assessment Subcommittee of the CCSSO Education Information Management Advisory Consortium (EIMAC). Dr. Fabrizio received a Bachelor's Degree in Physics from Georgetown University, as well as a Master's Degree in Educational Administration and Supervision and a Doctorate Degree in Educational Research and Policy Analysis, both from North Carolina State University.

Elizabeth J. Glennie, Director of the North Carolina Education Research Data Center and Research Scientist at the Center for Child and Family Policy at Duke University. Her research focuses on the American educational system, in particular the issues facing schools, teachers and students in North Carolina. A sociologist, she has analyzed large national databases on American schools and evaluated the impact of educational policies on teachers and students. She also has designed surveys and analyzed their results. Dr. Glennie has published articles in refereed journals including *Sociology of Education* and *Youth and Society*. An NCES Fellow, she is knowledgeable about the organization, operations and programs of NCES, and of professional standards in the collection, maintenance and dissemination of data. Dr. Glennie received a Bachelor's Degree with honors in Sociology and Anthropology from Colgate University, as well as a Master's Degree in Sociology and a Doctorate Degree in Sociology, both from Duke University.

Steven King, ESP Solutions Group Vice President, is responsible for project design and direction, data system architecture, data analysis and strategy. A former teacher, he previously worked in a variety of capacities for the Wyoming Department of Education, including Director of the Data Management Unit and Information Resources Manager. Mr. King received his Bachelor's Degree in Mathematics from the University of California, San Diego.

Priscilla Jacobs Maynor, NCDPI Executive Director of Agency Operations and Information Management, is responsible for agency operations and information management, which includes enterprise oversight for communication and information, professional development, research and evaluation, data management services, business planning and performance management. She has served as Senior Assistant to the State Superintendent and as Director of Communications and Information. Her previous positions include teacher, principal, university faculty and educational program consultant. Ms. Maynor received a Bachelor's Degree in Special Education from the University of North Carolina at Pembroke, a Master's Degree in Special Education from Fayetteville State University, a Master's Degree in Educational Administration and Supervision from the University of North Carolina at Pembroke, and she is currently pursuing a Doctorate of Education at the University of North Carolina at Chapel Hill.

Annette Murphy, NCDPI EPMO Director, provides guidance to align IT projects within the NC DPI enterprise and to implement these initiatives according to State and agency regulations and governance. She is also responsible for the NCDPI project management and quality assurance management methodologies. Serving in a variety of NC DPI IT roles for over 13 years, she brings a wealth of business knowledge to the NC CEDARS initiative. A certified Project Man-

agement Professional (PMP), Ms. Murphy earned an Associate's Degree in Information Systems Programming from Johnston Community College.

Larry Price, Wilson County Superintendent since 1998; previously served as the county's Assistant Superintendent and Deputy Superintendent. During his tenure end-of-grade test results and SAT scores have risen significantly. His educational roles include teacher, assistant principal and principal. In 2006 Governor Easley appointed Dr. Price as Superintendent Advisor for the State Board of Education. Dr. Price has also served as president of the NC School Superintendent's Association. In addition, he was named 2006 NC Superintendent of the Year and is currently a finalist for the 2007 National Superintendent of the Year. Dr. Price has a Bachelor's Degree, Master's Degree and a Doctorate of Education from North Carolina State University.

Philip Price, NCDPI Associate Superintendent and Chief Financial Officer (CFO), joined NCDPI in 1978 and worked in various roles in accounting operations until 1999. He served as Director of School Business to manage funding and reporting processes for school districts and charter schools. In 1999 Mr. Price joined the Fiscal Research staff of the NC General Assembly where he continued to concentrate on public schools. He rejoined NCDPI in 2002. Mr. Price has Bachelor's degrees in Accounting and Economics from North Carolina State University.

James Sepe, NCDPI Project Manager, is currently a project manager for the NC WISE AHR project utilizing SAS' business intelligence tools. A certified PMP, Mr. Sepe has over 10 years of dedicated project management experience, specializing in infrastructure and database design and implementation projects. Mr. Sepe has a Bachelor's Degree in Computer Science from Colorado Technical College.

Ken Thompson, NCDPI Technology Services Enterprise Architect, is responsible for the enterprise technical architecture roadmap. Mr. Thompson has over 16 years of IT experience and 10 years in a leadership or managerial role. His experience includes technical architecture design, development and implementation at the enterprise and system levels. Mr. Thompson received a Bachelor's Degree in Business Management from North State Carolina University and a Master's Degree in Information Management Systems from Bowie State University.

Mike Veckenstedt, NCDPI Chief Technology Officer (CTO) and Deputy CIO, is responsible for product and technology roadmaps of the NCDPI by setting clear direction and priorities for the department. He has served in a variety of IT roles since 1988, including programmer, software designer, application architect, IT process re-engineering consultant, technical specialist, technology expert and chief enterprise architect. Dr. Veckenstedt received Bachelor's, Master's and Doctorate degrees in Engineering from the University of Kassel-Germany.

3.3 Roles, Responsibilities and Time Allocation of Key Personnel

The roles, responsibilities and percent of time allocation of key personnel for the NC CEDARS initiative are represented below. Additional information is in *Table B-4: NC CEDARS Key Personnel Roles, Responsibilities and Time Allocation* of Appendix B.

Peter Asmar, NCDPI CIO, (b)(4) allocation, will provide critical leadership\communication link among the NC CEDARS program, the stakeholder, and the project teams within the NCDPI IT enterprise.

J.B. Buxton, NCDPI Deputy State Superintendent, (b)(allocation, will provide critical leadership\communication among the NC CEDARS project team, the stakeholders, and the leadership infrastructure within the State, including the State legislature, the NC State Board of Education, the NC Governing boards of Education, and other key business community partners.

Bill Constantin, SAS Project Manager, (b)(4) allocation, will provide the leadership to ensure successful design and implementation of NC CEDARS for both the operational and longitudinal data store project and reporting project segments. He will also oversee the development of the NC CEDARS training program.

Louis M. Fabrizio, NCDPI Accountability Services Director, (b)(4) allocation, will provide direct leadership\guidance to the NC CEDARS design\implementation related to the State's accountability model, student data accessibility and security, and appropriate statistical methodologies employed in data analysis.

Elizabeth J. Glennie, NC Education Research Data Center, Center for Child and Family Policy at Duke University, (b)(4) allocation, will provide leadership and support to the NC CEDARS project serving as the liaison between the research community and the NC CEDARS stakeholders groups to ensure the project design will serve the needs of the research community.

Steven King, ESP Solutions Group, Project Manager, (b)(4) allocation, will provide project leadership as it relates to Federal Reporting to ED*Facts*, the student and staff identifier systems, the transcript service, and NCLB reporting requirements and governance consulting.

Priscilla Jacobs Maynor, NC CEDARS Program Manager, (b)(4) allocation, will serve as the primary communication liaison among the NC CEDARS team and the stakeholders within NCDPI, and the local education agencies.

Annette Murphy, NCDPI Enterprise Project Management Office Director, (b)(4) allocation, will ensure the NC CEDARS project team and project design interfaces with other applications and support teams within the NCDPI enterprise architecture, and will ensure that NC CEDARS adheres to the policies, procedures and guidelines established for NCPDI.

Larry Price, Wilson County Superintendent, (b)(4) allocation, will provide leadership and guidance on project design to ensure NC CEDARS meets the needs of the NC LEAs.

Philip Price, NCDPI CFO, (b)(allocation, will serve as the NC CEDARS project Executive Sponsor and will be responsible for the fiscal accountability of the project to ensure within budget; provide direct leadership as the communication link among all funding constituents.

James Sepe, NC CEDARS Project Manager, (b)(4) allocation, will provide overall project leadership and oversight to ensure the successful design and implementation of the NC CEDARS project.

Ken Thompson, NCDPI, Chief Technical Architect, (b)(4) allocation, will provide project leadership to ensure the NC CEDARS planning and implementation fits within the existing and envisioned NCDPI enterprise-wide architecture.

Mike Veckenstedt, NCDPI CTO/Deputy CIO, (b)(4) allocation, will provide direct project leadership\oversight to ensure successful design and implementation of the NC CEDARS project and serve as communication link for project status to constituents.

4 Resources

The NCDPI Team has identified the essential resources required for this project and determined when their utilization provides the maximal benefit. The project management tool NCDPI will utilize for NC CEDARS is Microsoft Project to develop the task list and assign resources. The NC CEDARS project schedule includes the necessary tasks linked in a logical sequence. Each of these tasks has the resources for successful implementation identified.

4.1 Resources Available to Support NC CEDARS

NC CEDARS will be hosted at the State's ITS data centers located in the Raleigh and Charlotte areas. These data centers provide a full range of hosting, middleware, and network services to State agencies and county and city governments. The computers that are used by the State are monitored 24 hours per day, 7 days per week to ensure constant accessibility for the users. The highest level of software is installed and maintained by the ITS staff supporting these systems.

NC CEDARS will acquire hardware that will support the creation of an Oracle Real Application Cluster (RAC) that will house the NC CEDARS repository. This is currently envisioned as a four-node RAC with data residing on a Storage Attached Network (SAN). Other hardware needed to support reporting and publication functions will be determined and acquired as part of the NC CEDARS project. More details are described in the Design Section. The AHR project currently has a single database server using the SAN that will support NC CEDARS. This student data project is scheduled to be operational in June 2007.

In addition to the NC CEDARS personnel already identified, other staff at the state and local agency levels will be involved in the development and management of NC CEDARS. The specific staff effort level and knowledge base will be determined when detailed requirements and tasks are developed. NCDPI will ensure their availability to support this effort. To accomplish this, we may use temporary or contracted support staff for either NC CEDARS work, or as back fillers to free up other state employees.

4.2 Description of Planned Work

NC WISE AHR project, funded by State funds, supplements the NC CEDARS initiative. The project, which began February 2006, will provide LEAs and charter schools a robust and comprehensive ad hoc reporting solution and will replace the reporting systems currently in use with standardized reporting tools. The planned implementation date is June 2007.

4.3 Ensuring NC CEDARS Will Meet Future Needs

NCDPI will produce a scalable technical design to provide the infrastructure flexibility to address future requirements. This type of technical design will allow North Carolina to implement an infrastructure to meet the immediate needs of the State. As these needs expand, the design will allow for growth and technical advancements. The NCDPI will also implement the administrative process and procedures to address both current and future needs. By implementing a strong plan for the NCDPI and other stakeholders to continually evaluate and improve the LDS, NCDPI will ensure that the implementation and sustainability has been achieved successfully.

The statutory requirement for the UERS ensures a continuing funding source for NCDPI education reporting systems, which will encompass NC CEDARS.

4.4 Leveraging Grant Money to Maximize Outcomes

NCDPI will leverage the grant money in two major ways. The first is by leveraging the team members' experiences. The SAS team members have participated in the NCDPI AHR project for over a year. During this time they have become intimately familiar with student data, the current NCDPI technical architecture and the North Carolina project management requirements. The ESP Solutions Group personnel are currently working with NCDPI to forward the State data to ED*Facts*. Additionally, both SAS and ESP Solutions Group have experience with other states doing similar work. Thus our team will minimize the project start-up cost and maximize productivity early in the timeline.

The second way of maximizing the outcomes is by using supplemental State funds. As demonstrated by the letters of support in Appendix B, the NC CEDARS project will have significant endorsement from senior education and political leaders. This support enabled the Executive Sponsor to commit to supplement grant funds with the State funds described in the Budget Narrative section. This matching funds commitment clearly reflects the importance in achieving the most leverage for the Federal funds. Additional discussion is in the Budget Narrative.

4.5 Collaboration with Other States

NC DPI will provide the project team the opportunity to collaborate with other states to identify common solutions or solve common problems. Early in the project the team will consult with other states that have or are undertaking similar LDS projects. These meetings will allow both technical and administrative personnel the opportunity to address common issues.

5 Management Plan

NCDPI's proven record of success in managing large-scale IT projects demonstrates it has the organizational structure, practices, methodology and tools necessary for the successful development and implementation of NC CEDARS within budget and on time. The Management Plan is a broad overview of the management components already in place as well as those components required by the unique aspects of the project. The plan will utilize best practices in designing, developing, implementing and utilizing a statewide LDS. A very detailed NC CEDARS project implementation schedule was developed for this proposal. The schedule contains three levels of detail with almost 250 individually costed tasks. Tasks from the appropriate level are listed in Timeline in Appendix A — Timeline and the Budget Narrative.

5.1 Alignment to Identified Stakeholder Needs

The NC CEDARS Management Plan is designed to ensure that the project is aligned and responsive to the needs of the stakeholders during all phases of the project: design, implementation and production. Through the use of user requirements determination sessions, the NC CEDARS team will ensure user requirements are defined early in the implementation cycle. The Timeline in Appendix A identifies the tasks and timeframes where these sessions will be conducted.

5.2 Governance

The governance structure described below and shown in *Figure B-3: NC CEDARS Governance Structure* in Appendix B is applicable to any organization accessing NC CEDARS. Parts of this structure currently exist and others will be developed based on the lessons learned by other states. NCDPI thus expects to be able create a model governance structure.

5.2.1 Governance Structure

To ensure a solid foundation for systems development, NCDPI has established a governance framework consisting of:

- An Executive Council responsible for providing strategic direction, funding, advocacy and oversight of a data governance and management program;
- A Data Coordinating Council responsible for developing and mandating policies aligned with business objectives and committing resources to support governance and data management activities; and

- Data Management Teams composed of data stewards responsible for implementing data governance on a day-to-day basis, implementing policies and providing stewardship for their specific data content areas.

As part of the NC CEDARS initiative, NCDPI will design a governance framework to include broader advisory groups made up of various stakeholder groups including partnering State agencies, researchers, universities, LEAs, parents and students. This framework is intended to foster further development and sustainability of a rich source of data to support data driven decisions for school leaders and policy makers. In addition, it will also facilitate data sharing among LEAs in the State and among other State agencies and institutions of higher education.

5.2.2 Communication Infrastructure

The NC CEDARS' communication infrastructure is based on the experience of implementing the state-wide student information system NC WISE. This infrastructure ensures communication not only among the various NC CEDARS stakeholders, but to those external to NC CEDARS. During the project implementation, numerous management reports will be submitted during the project management process shown in *Figure B-4: State of North Carolina Required Project Workflow* in Attachment B. Additionally during implementation, there are periodic meetings conducted with the stakeholders described in the Feedback Section below. As the implementation progresses, annual user meetings will be conducted to canvas users for new features or to allow users to report on how they have converted the NC CEDARS data to information for their business needs. During the project life cycle, periodic newsletters, alert emails, blogs and other means will be used to facilitate the exchange of information and items of interest.

5.2.3 Procedures for Access to Data for Analyses

NCDPI has many years experience in providing educational data to external organizations for policy oriented research such as the Duke University Center for Child and Family Policy, the North Carolina State Friday Institute for Educational Innovation and the NCESC. A major research study is now under way with the School of Education at the University of North Carolina at Chapel Hill to examine student achievement data and spending patterns from high schools across the State. The information will be used to contrast the use of resources in low-performing high schools, with higher performing schools that educate similar populations of students. A primary outcome will be identifying proven strategies to improve education.

The basic policy and procedures are already in place to conform to the FERPA requirements when providing data. The governance structure will examine these current items and consider what revisions are necessary. Additional consideration will be given to such things as: eligibility of investigators and receiving institutions, the requirements of investigators and the type of institution (higher education, non-profit research, government, or service provider). Applicants will be required to submit a research proposal, a sensitive data security plan, a review board approval and an agreement to follow NC CEDARS data use policies.

The actual exchange of the data requires the implementation of accepted industry standards and data definitions. NCDPI plans to use the voluntary standards and guidelines established or identified by the NCES. The Design Section discusses the implementation of several standards in more detail.

5.2.4 Procedures for Data Confidentiality and Privacy

The NC CEDARS project team will use the data confidentiality and privacy procedures implemented in the state-wide student information system, NC WISE. These proven procedures are FERPA compliant, follow the *Statewide Security Manual*, the NCDPI data confidentiality guide and the data confidentiality guide of NFES. These procedures consider operations in a multi-user, multi-user role environment. This is the same type of user environment as NC CEDARS. The agency Security and Quality Assurance functions will conduct periodic reviews to ensure that processes adhere to these confidentiality and privacy policies and standards.

5.2.5 Procedures for On-Going Feedback

Based on seven years' experience implementing NC WISE, the following boards and associated procedures will be established to provide on-going feedback: a Configuration Control Board (CCB) and a User Advisory Board (UAB). The CCB, consisting of technical project personnel and key stakeholder representatives, will meet monthly to consider routine change requests, prioritize work and schedule releases. The UAB, consisting of users of the NC CEDARS system, will meet every two months to make suggestions for improvement and to provide feedback on the system's effectiveness in improving teaching and student achievement.

The UERS statute requires LEAs to provide data to NC CEDARS. To achieve the NC CEDARS objectives, LEAs must fully understand their role to provide accurate, timely data to the central data system. NCDPI will collaborate with the LEAs and other data stewards via the UAB to devise automated routines that will ensure validation of data immediately upon submission. NCDPI currently has established data validation routines based on foreign key matching with constituent systems, and data quality routines provided, for example, by the SAS toolkit. These will be consolidated into a unified NC CEDARS data validation and message brokering system.

In addition, to leverage the valuable work supported through this grant, resulting products and lessons learned will be made available for dissemination to all interested stakeholders at the local, state and national level, unless they are deemed proprietary. NCDPI agrees to participate in an evaluation to determine the quality of the data contained in, and imported into, the statewide LDS, if USED decides to conduct such an evaluation.

5.2.6 Procedures for Formative and Summative Evaluation

NCDPI will pursue partnering with recognized experts to provide guidance in establishing formative and summative evaluation procedures. This is primarily to ensure the developed system meets the reporting and decision-support needs of all of its key stakeholders, and also to assess the role of the system in interventions intended to improve student learning and closing achievement gaps. NCDPI will seek the assistance of USED when selecting the evaluators to ensure alignment of evaluation services with the identified needs of both agencies.

NCDPI will seek a partner that has taken a lead in creating formative evaluation procedures, such as the Capacity to Apply Project Evaluation (CAPE) framework provided by the SERVE Center at the University of North Carolina at Greensboro, one of ten Regional Education Laboratories funded by the USED's Institute of Education Sciences. CAPE is successfully employed by SERVE for the formative evaluation program of North Carolina's IMPACT Model Schools Program, a USED funded educational technology grant program.

Likewise, NCDPI will partner with an organization with proven leadership in summative evaluations, such as the Frank Porter Graham Child Development Institute (FPG) at the University of North Carolina at Chapel Hill. FPG is in the fifth year of the Carolina Interdisciplinary

Large-Scale Policy Research Training project, funded by USED's Office of Special Education Programs. This project trains researchers to perform longitudinal data research with the specific goal of establishing education policy, and for four years has been the summative evaluation partner for NCDPI's More at Four Pre-Kindergarten Program.

5.3 Training Plan

The NC CEDARS Training Program will focus on the primary users. Two different training models will be used. The first is traditional classroom training. This classroom training will focus on such things as accessing and analyzing NC CEDARS data. In this example, education professionals at NCDPI and the LEAs can devise teaching and school administration strategies and researchers can perform analysis. The second training model is train-the-trainer. In this model, students will come from large organizations and will be expected to then train users in the parent organization. To support the training program, NC CEDARS will utilize NCDPI's wide array of existing training capabilities such as web and video conferencing, audio and video streaming, hands-on training, and conference sessions.

5.4 NC CEDARS Development and Implementation Plan

Successful implementation of a project of this magnitude requires an experienced high performance team. The NCDPI team identified previously meets these criteria. The team has already developed a very detailed project schedule comprising almost 250 activities necessary to successfully develop and implement the NC CEDARS system. Some details of the high level tasks are provided in Appendix A. The Budget Narrative provides lower level tasks, their description and their associated costs.

To execute this complex plan, NC CEDARS will use NCDPI's Project Management Methodology, based upon the Project Management Institute (PMI) standards and Project Management Life Cycle (PMLC). The methodology addresses project scope, time, cost, quality, human resources, communications, risk and procurement. Change management, issues management and status reporting are part of the methodology. The NC CEDARS Project Manager must also follow a detailed project management process to comply with the State required project workflow shown in *Figure B-4: State of North Carolina Required Project Workflow* in Appendix B.

The NCDPI EPMO will provide oversight to ensure compliance to agency and State methods and practices. In addition, the NC Offices of ITS, State Budget and Management, and State Controller will also provide direct project guidance and oversight as required by North Carolina Statute 147-33.72. Mr. George Bakolia, the SCIO, confirms this in his letter in Appendix B.

5.5 Plans for Sustaining the System

NCDPI has an established supporting infrastructure as well as the legal, fiscal and policy framework to ensure NC CEDARS is sustained beyond the grant period. These include an extensive central and regional technical training network, issue tracking and user support systems, data communication lines, and a centralized student information system mandated by State law.

In compliance with the Cooperative Agreement terms, NCDPI will send its representatives to the annual grantees' meeting in Washington, D.C. to confer with other grantees. They will present a summary of NC CEDARS with a primary focus on its benefits for meeting reporting requirements, improving student learning and supporting effective data driven decision making.

EDUCATION:

New York Institute of Technology, summa cum laude	MBA Finance	1981
Brooklyn College of the City University	BA Economics	1979

EXPERIENCE:

Department Of Public Instruction, State of North Carolina
Chief Information Officer, Technology Services *2006–Present*

A member of the State Superintendent's Leadership Council, Mr. Asmar provides vision, leadership and management for information technology (IT) supporting kindergarten through 12th grade public education in North Carolina (NC). As CIO, he heads the Technology Services area, which is responsible for centralized infrastructure support, network and desktop operations, application development and instructional technology. Mr. Asmar also serves on the Technology Planning Group (TPG), a group representing NC state agencies that identifies opportunities for improved leverage of IT in a consistent fashion across the State, sets the direction and principles to accomplish it, and provides advice and consultation to the Office of the State CIO (SCIO).

J.P. Morganchase
Chief Operating Officer, Global Technology *2002–2005*

Mr. Asmar led global operations for the Professional Services Technology group of 10 staff (profit/loss $250 million). Mr. Asmar successfully attracted and retained top talent. His resource management responsibilities included skills assessment, performance evaluation, training and on-going development for all employees. In addition, he established performance metrics and a role/skills grid. Mr. Asmar also recommended and implemented operational improvements such as a balanced scorecard reporting for financial management. As Chief Operating Officer (COO), he determined pricing strategy/service levels, expense and revenue forecasting as well as handled outsourcing transition, vendor management, and marketing/communications.

Program Director, Internal Consulting Services *1999–2002*

Mr. Asmar strategically managed and improved the business development of the consulting/leadership training program ($20 million profit/loss). He built and implemented the internal consulting practice/training program in New York for the Financial, Technology, Operations Audit and Human Resources areas. During his tenure as Program Director, he achieved $8 million savings in external consulting fees by recruiting, training, deploying and managing 175 internal consultants as part of the leadership development program. Under his direction, both client and customer satisfaction scores also significantly improved.

Senior Team Leader, Internal Consulting Services *1998–1999*

Mr. Asmar served as the Senior Team Leader and relationship manager for internal consulting program in Financial and Technology divisions. He was responsible for internal client relations, project assignments, consultant development and performance review. His duties included recruiting staff, assessing skills, developing and teaching training modules, coaching, and placing consultants in permanent positions.

J.P. Morganchase
Chief Financial Officer, Global Fixed Income *1996–1998*

Mr. Asmar was responsible for business-aligned technology initiatives for the Fixed Income business. As Chief Financial Officer (CFO), he effectively navigated across locations, cultural and organizational differences to provide "actionable" information to senior management. He also performed expense reporting and review/cost reduction purview of purchased technology services ($250 million) and application delivery ($150 million). Mr. Asmar established a world-wide financial support function for the Fixed Income Technology group based in London. He also designed a planning tool application for Project/Technology accounting and chargeback and led a cost reduction effort that achieved 15 percent reduction in annual technology costs.

Technology Controller, Vice President *1994–1996*

Mr. Asmar's duties included consolidation as well as budgeting and forecasting for the centralized Application Delivery/Architecture groups. As Technology Controller, he assumed full controllership responsibilities including reporting, commentary/variance analyses to senior management for expenses of $300 million. He performed financial analyses and review on the Technology Alliance Outsourcing task force. In addition, he developed a technology full life cycle, risk adjusted cost/benefit standard tool.

Manager of Technology Chargeback, Vice President *1993–1994*

Mr. Asmar was responsible for the global technology chargeback structure including mainframe, midrange, desktop, telecommunications and application delivery. He developed and implemented a client-focused, technology product and price guide. This catalogue helped to educate clients about technology levers that they can control to maximize cost efficiencies.

Credit Suisse First Boston
Manager, Vice President *1991–1993*

Mr. Asmar managed the Systems, Planning and Implementation area in the Accounting department. He was responsible for support of all accounting mainframe systems for the accounting, tax, payroll, regulatory and product support areas. In addition, he led an initiative to develop and build a system to assess product profitability across divisions.

Controller, Assistant Vice President *1990–1991*

Mr. Asmar was responsible for financial reporting, budgeting, forecasting and payables for Information Services and Telecommunications (operating expenses of $170 million). As Controller, he provided commentary and variance analyses to senior management and reviewed controls and procedures for compliance. Mr. Asmar also developed chargeback rates and recovery analysis.

Assistant Controller *1988–1990*

Mr. Asmar managed accounting, established financial reporting systems for the largest and fastest growing cost centers of the company: Data Processing, Systems Development and Telecommunications. During his tenure as Assistant Controller, he led the initiative to automate the budget process with accounting. Mr. Asmar was also responsible for in-house personal computer (PC) training for employees.

Manager of Budget and Analysis *1987–1988*

Mr. Asmar designed the monthly consolidation and customized management reporting system. His other duties were financial modeling, sensitivity analysis, and ad hoc projects utilizing the personal computer.

International Paper Company, NY
Sr. Financial Analyst *1985–1987*

Mr. Asmar supervised monthly performance reporting and variance explanation to management for the Pulp and Paper business segment (operating expenses of $250 million). He was responsible for the developing of budget and standards, analyzing cost variances and approving cost management projects.

Cost Analyst *1983–1985*

As Cost Analyst, Mr. Asmar directed budget preparation and analysis for the Woodlands, Wood Products and Diversified business segment (operating budget of $200 million and a capital budget of $100 million). He conducted capital project performance review/analysis along with presenting strategic plans. Mr. Asmar headed financial statement consolidation task force responsible for the registration of a limited partnership with the US Securities and Exchange Commisssion (SEC).

Accountant *1981–1983*

Mr. Asmar was responsible for monthly statement preparation, cash flow and account analysis of the southern regional office. As Accountant, he performed field auditing and revised policy manual for improved controls.

United Parcel Service
Industrial Engineering Supervisor *1979–1980*

Mr. Asmar supervised all work measurement and time study preparation at the district level. He was also responsible for divisional auditing and operational analysis. During his tenure as Industrial Engineering Supervisor, he innovated new procedure for reducing customer claims.

Operations Supervisor *1976–1979*

Mr. Asmar directed all phases of distribution operation. While serving as Operations Supervisor, his group achieved the highest productivity gain (20 percent) in the division.

PROFESSIONAL APPOINTMENTS AND CERTIFICATIONS:

MCNC, a non-profit organization committed to advancing education, innovation and economic development throughout North Carolina by delivering next-generation IT services, Board of Directors, Member (June 2006-present)
North Carolina Virtual Public School (NCVPS), Board of Directors (November 2006-present)

PROFESSIONAL DEVELOPMENT AND TRAINING:

Six Sigma Black Belt Training, 2000

North Carolina Department of Public Instruction
JOHN B. BUXTON

EDUCATION:

Princeton University, Woodrow Wilson School of Public and International Affairs, MPA, 1999
Attended on a Gulick Fellowship
University of North Carolina, Chapel Hill BA English Literature 1992
Attended on a Morehead Scholarship

EXPERIENCE:

Department Of Public Instruction, State of North Carolina
Deputy State Superintendent *February 2007–Present*

As Deputy State Superintendent of the North Carolina Department of Public Instruction (NCDPI), Mr. Buxton oversees the operations of NCDPI including but not limited to the following: Communications and Information Division, Office of School Readiness, Finance/Business/Personnel Services, Technology/Information Services, Leadership for Innovation and School Transformation, and Curriculum/Instruction and Accountability Services.

Office of Governor Michael F. Easley, Raleigh, NC
Senior Education Advisor *June 2001-February 2004, August 2004–January 2007*

Mr. Buxton served as the Senior Education Advisor to Governor Easley on matters related to NC's K-12 public schools, community colleges and universities. He developed and managed the Governor's education agenda to include: pre-kindergarten education and the Office of School Readiness; class size reduction in early grades; NC New Schools Project on high school reform; Learn and Earn early college high schools; NC Center for 21st Century Skills; NC Center for Afterschool Programs; teacher working conditions; 2+2 teacher education partnership between universities and community colleges; New Century Scholars college access initiative; NC in the World international education initiative; new accountability for education funding; Child and Family Support Teams; and new funding initiatives for low-wealth schools and at-risk students.

Mr. Buxton also worked with the NC General Assembly to enact the Governor's legislative agenda for education and working with Congressional offices and the US Department of Education on federal education issues that impact North Carolina. In addition, his duties included speechwriting and other communication-related efforts for education, serving as a liaison for the Governor to education boards and organizations, delivering speeches and presentations on education-related issues to a wide variety of audiences, and managing the work of various education-related gubernatorial commissions and committees. Mr. Buxton was also responsible for managing the work of the NC Education Cabinet, which is chaired by the Governor and includes the presidents of the state's community college, university and private college systems, the State Superintendent and the chairman of the State Board of Education (NCSBOE).

North Carolina Department of Public Instruction
JOHN B. BUXTON

Candidate, State Superintendent of Public Instruction *March 2004–July 2004*

NC Science, Mathematics, and Technology Education Center, Research Triangle Park, NC
Consultant *April 2004-November 2004*

In the role of Consultant, Mr. Buxton provided research, writing, project management, and strategic thinking support for a variety of the Center's initiatives focused on increasing access to quality math, science and technology opportunities for NC's students.

North Carolina State Board of Education, Raleigh, NC
Legislative Director *2000- 2001*

The State Board of Education is responsible for the policies that govern the NC public schools. As Legislative Director for the State Board, Mr. Buxton served as the liaison to Congress and the State Legislature for the Board and the NCDPI. His specific duties included: managing a state and federal legislative agenda, providing testimony to the Legislature on public school matters, and serving as a policy advisor to the State Board and State Superintendent of Public Instruction.

Domestic Policy Council, The White House. Washington, DC
White House Fellow, Domestic *1999- 2000*

The Domestic Policy Council focuses on the President's chief domestic priorities. As a member of the Council's education team, Mr. Buxton performed the following duties: developing the President's K-12 public education initiatives for the annual budget, advising the President's Domestic Policy Advisor and the White House Press Office on positions for the Administration on major educational issues and legislation, and developing Presidential education events, including work on speechwriting, event design, and press material.

Institute for Educational Governance, Columbia University, New York, NY
Consultant *Fall 1998*

The Institute aimed to inform, guide and assist the nation's governors and their staff in improving public schools. Mr. Buxton assisted former West Virginia Governor Gaston Caperton in projects focused on school leadership policy and for-profit educational services.

After-School Corporation, Open Society Institute, New York, NY
Consultant *Summer 1998*

The After-School Corporation aims to advance the quality and availability of after-school programs in New York City public schools. As Consultant, Mr. Buxton assisted in the development of a five-year business model and funding plan; coordinated the development and implementation of the second funding cycle; and assisted organizations in starting up programs.

Public School Forum. Raleigh, NC
Director, Policy and Research *1996- 1997*

The Forum works with policymakers, educators and the business community to strengthen public education. A bipartisan policy center, the Forum generates research, formulates policy positions, and runs demonstration projects. Mr. Buxton's duties included researching and writing study reports; statewide public advocacy efforts, including presentations and speeches; organizational research efforts; grant writing; and press communications.

Coordinator of Special Programs, NC Teaching Fellows Program *August 1993-July 1996*

Mr. Buxton's portfolio included designing, implementing, and evaluating summer enrichment programs for preparing teachers; co-directing a comprehensive research and evaluation of the program; and assisting in program administration and campus evaluation.

Deerfield Academy, Deerfield, Massachusetts
Faculty *August 1992 - June 1993*

Mr. Buxton taught sophomore and junior English and an elective in South African literature, coached three sports, and served as in-residence faculty advisor.

PROFESSIONAL APPOINTMENTS AND CERTIFICATIONS:

North Carolina Center for Afterschool Programs, Chair (2002–present)
North Carolina New Schools Project Board of Advisors (2003–present)
DonorsChoose North Carolina (2004–present)
NC in the World, Executive Committee (2004–present)
Public School Forum of North Carolina (2001–present)
Teach for America—North Carolina (2001–present)
North Carolina Center for Science, Math, and Technology Education (2002–2004, 2005–present)

HONORS AND AWARDS:

White House Fellow. Selected by the President's Commission on White House Fellowships (1999-2000). Chosen as a Policy Advisor on education with the White House Domestic Policy Council.
Gulick Fellow. Woodrow Wilson School at Princeton University (1997-1999)
Morehead Scholar. University of North Carolina at Chapel Hill (1988-1992)

COMMUNITY COMMITMENTS AND CONTRIBUTIONS:

Hunter Elementary School PTA Board, Wake County Public Schools, Member (2005-present)
Partnership Elementary School, Wake County Public Schools, Volunteer (2001-2003)
Courthouse Kids Center, Wake County, NC (2001-2004)
WWS Student Advisor, advisor to entering WWS graduate students (1998-1999)
WWS Alumni of Color Weekend, Organizing Committee, assisted in organizing conference focused on professional and school interests for students and alumni of color (1998)
WWS Graduate Consulting Group, Princeton, NJ, evaluated the response of the New Jersey Council on Affordable Housing (COAH) to the State Development and Redevelopment Plan for clients, New Jersey Future and the NJ Affordable Housing (1997-1998)
South Africa-NC Teacher Exchange Program, Organizing Committee, Raleigh, NC, assisted in project planning, development, and fundraising for an effort that brought South African teachers and students to Raleigh, NC in October 1997 (1995-1997)
North Carolina Department of Public Instruction Statewide Conference on Improving Minority Achievement, Advisory Committee, Raleigh, NC, served in an advisory role for statewide conference for public school teachers and school administrators on creating strategies for improving the achievement of students of color (Spring 1997)
Statewide Conference on Anti-Poverty Efforts, Organizing Committee, assisted in organizing a statewide conference revisiting NC's 1960s antipoverty program; defined current issues in alleviating poverty and connected social justice activists (1995-1996)
Wake Summerbridge, Advisory Board, Raleigh, NC, served in an advisory role on a program that provides year-round academic enrichment to at-risk middle school youth (1993-1997)
Morehead Scholarship Program, Local and Regional Selection Committees, Raleigh, NC, participated in the selection of recipients of the Morehead Scholarship, a competitive scholarship leading to study at UNC-Chapel Hill (1995-1997)
Pre-College Program (PCP), Advisory Board, statewide in NC, a program of the Math and Science Education Network, the PCP provides enrichment and preparation for careers in math and science to young women and students of color in North Carolina (1995-1997)
Math and Science Education Network (statewide in North Carolina), Advisory Board, Statewide program focused on improving curriculum and instruction in math and science (1996-1997)
Cities in Schools Program, Raleigh, NC, Tutor/Mentor (1993-1996)

North Carolina Department of Public Instruction
WILLIAM MICHAEL CONSTANTIN, JR

EDUCATION:

Duquesne University — BS Computer Science — 1989

EXPERIENCE:

SAS Institute Inc., Pittsburgh, PA
Project Manager, Education & Medical Practice — *September 2006-Present*

Mr. Constantin has delivered project management for assigned customer engagements totaling over $4 million in revenue. He is responsible for developing and managing project plans, including coordination of customer, vendor, development and production support activities that are required to complete the project. He identifies documents, manages and escalates issues as well as any changes to project scope required by the customer, and provides revenue and status reporting. He manages monthly billing processes, ensuring all time and expense reports for project team members are captured and in accordance with Statement of Work (SOW). Responsibilities also include developing a detailed understanding of the customer's business requirements, positioning SAS to improve or add to current products and services, and identifying opportunities as well as critical service or customer satisfaction points with customers' relationships. In addition, the role includes providing input to SAS product development teams on business requirements for new product enhancements as related to the identified needs of active and prospective customers. He acts as the primary contact for the customer team and ensures clear communication between all parties: internal and external. He also provides pre-sales support including system analysis, pricing, presentation materials, proposal review, and the development of SOWs.

Systems Engineer Manager, Central West Region — *2005–October 2006*
Systems Engineer Supervisor, Central West Region — *2003–2005*

In his roles as Systems Engineer Manager and Systems Engineer Supervisor, Mr. Constantin provided leadership, vision and direction for the System Engineer and Solution Architect team that is responsible for all pre-sales activities in manufacturing accounts across the entire United States in SAS's Manufacturing and Services vertical. Prior to managing the manufacturing pre-sales team, he managed the Commercial (energy, oil/gas, services, media, transportation and logistics accounts) vertical pre-sales team within the Central West Region. He was responsible and accountable for all pre-sales activities in manufacturing accounts for SAS's Manufacturing and Services vertical, supporting two district sales managers, fifteen account managers, and $12 million in total revenue. While managing the Commercial vertical, he was responsible for one district sales manager, six account managers, and $5 million in total revenue. He had direct day-to-day management responsibility for the System Engineer and Solution Architect team.

Mr. Constantin's skills included being able to manage high performers, coach those that need improvement, and improve top line revenue while managing expenses accordingly. He also actively participated in the recruitment and promotion of qualified candidates. Mr. Constantin worked with the sales team and sales management to identify key accounts and determine strategies to maximize revenue. He also determined optimal utilization of staff and ancillary resources to achieve sales goals. Mr. Constantin worked with the SAS marketing organization to assure accurate, consistent delivery of marketing messages and product capability messages and also provided consistent, ongoing input to the SAS product strategy and support organizations.

Senior Systems Engineer, Ohio Valley Region *2002–2003*

Mr. Constantin provided technical support and credibility to assist the sales team with multiple, complex packaged solution sales activities to maximize revenue opportunities and ensure the highest levels of customer satisfaction. He supported between three-to-five account executives (over $5 million in revenue) in SAS's Commercial vertical (energy, oil/gas, services, media, transportation and logistics accounts) within the Ohio Valley Region. Mr. Constantin was responsible for delivering standard, customized and/or strategic, senior level solution demonstrations and presentations outlining the functional capabilities, competitive advantages and business benefits of the SAS solutions. He built trusted relationships with the account executives, and client accounts to provide practical and theoretical guidance in the business value of proposed solutions and set proper expectations to ensure customer satisfaction. Mr. Constantin strategized with the sales team on objectives for customer meetings, understanding how these activities related to the overall sales plan and provided technical solution leadership for sales opportunities including account qualification and opportunity assessment. He conducted meetings to collect, analyze, clarify and document business requirements during the sales cycle to support the implementation team and to produce a detailed solution proposal. He provided responses to technical sections of Requests For Proposals (RFPs)/ Requests For Information (RFP/Is) and other technical inquiries to aid in the development of new business. He provided post-sales installation and configuration support, technical assistance and ensured customer satisfaction along with providing input to SAS Product Management on defect fixes and enhancements for SAS products based on field experiences and customer feedback.

Dun & Bradstreet, Parsippany, NJ
Assistant Vice President, Project Management, Global & Major Customers Implementation and Support Services *2001–2002*

Mr. Constantin provided project management and administrative services supporting Credit, Marketing, Purchasing and Alliance Software Solutions. He managed activities associated with recommended solutions and coordinated resources required to complete projects and tasks. He was responsible for understanding business problems, supporting procedures and related requirements for integrated decision support systems. He managed related projects using Dun

and Bradstreet (D&B), client and external resources. He performed pre-sales consulting with D&B relationship managers and global customer managers to determine system/data requirements and access options to D&B data for customer solutions. He worked with senior management to coordinate resources and defined resource requirements and availability. He defined a methodology/process for leveraging the technical expertise of the Global & Major Customers Implementation and Support Services (GMC-IS) team to generate additional consulting revenues across all D&B product suites and provided feedback received from the customers to the product teams and the development managers.

Assistant Vice President, Product Management, North American Marketing Products *2001*

Mr. Constantin was responsible for delivering North American Marketing Products (NAMP), $250 million in revenue, on time, within budget and targeted to the right business and/or market need. He worked closely with D&B senior management, information technology (IT), product marketing, quality assurance and customers to define the product strategy, direction, development and marketing plans. He ensured all quality assurance test plans satisfactorily tested the product's functionality, and provided business related product support to other internal areas, including the Sales organization for proposals, sales/customer training, pricing, etc. He also had direct staff recruitment and management responsibilities for the Product Management Team.

Director of Customer Engagements, Information Warehouse Solutions *1999–2001*

Mr. Constantin provided the leadership, vision, and direct management for the Program Management team, ensuring execution of the client's business objectives and requirements. He helped customers identify and maximize opportunities to embed D&B information and services to improve business processes and promote the strategic use of D&B content in their systems. He worked with the sales consultants and the clients to size complex projects, create the proposals and Statements of Work (SOWs), ensuring feasibility and profitability of engagements. He was responsible for all complex customer engagements ($30 million in revenue), working with the Engagement team to manage the analysis, design, development, implementation and maintenance of integrated solutions for assigned customers/territory. He ensured engagements were delivered on time, within budget and scope, and lead to customer satisfaction. He was also responsible for generating incremental revenue from billable consulting services and driving Information Warehouse Solutions (IWS) revenue. He managed customer relationships and secured contracts that maintained the billing utilization of members of the Engagement team.

Program Manager, Information Warehouse Solutions *1998–1999*

Mr. Constantin delivered project management for assigned customer engagements (over $4 million in revenue). He managed project plans and coordinated customer, vendor, development and production support activities required to complete the project. He managed issues as well as

any project scope changes required by the customer and provided revenue and status reporting. He managed monthly billing processes, ensuring all time and expense reports were captured and complied with the SOW. He developed a detailed understanding of customer's business requirements and positioned D&B to improve or add to current products and services. He identified opportunities as well as critical service or customer satisfaction points with customers' relationships. He provided input to D&B product development teams on business requirements for new product enhancements as related to the needs of active and prospective customers. He acted as the primary contact for the customer team and ensured clear communication between all parties, internal and external, and provided pre-sales support including system analysis, pricing, presentation materials, proposal review, and the development of SOWs.

Innovative Systems, Inc., Woking, England
Account Manager, Ireland, South Africa, United Kingdom, and Pacific Rim *1997–1998*

Mr. Constantin grew and developed business and presence in Ireland, South Africa, United Kingdom, and Pacific Rim via direct sales and marketing opportunities through existing partners, or to existing customers/prospects. He identified and managed distributors and sales/marketing agents for Innovative Systems, Inc. (ISI) products and services. He also built partnerships with clients and third party vendors providing data integrity tools and professional services that facilitate the creation and on-going maintenance of data warehouses, marketing information systems, and customer information systems. He established a 1997 pipeline of $500,000 first year license fees and $300,000 subsequent years and maintenance fees and secured sales/marketing representation in Ireland, South Africa, United Kingdom, and Pacific Rim.

PROFESSIONAL DEVELOPMENT AND TRAINING:

The Facilitative Leader, 2006
Situational leadership for Managers, 2005

TECHNICAL EXPERTISE:

Hardware: IBM 30XX, IBM 43XX and 4381 (OS/VS1), Digital VAX, SUN, Ethernet, IBM Token Ring & PC Net, Digital Alpha
Languages: COBOL, FORTRAN, C, PASCAL, BASIC, SQL, OS/DOS JCL, DCL (Digital Command Language), SAS
Operating Systems: Windows, IBM/MVS, IBM/VM, Digital VAX/VMS, Unix, Solaris, MS/DOS
Software and Tools: SAS, TSO/ISPF, CMS, CICS, IBM PC LAN, Novell, Btrieve, Microsoft Windows, Microsoft Office, WordPerfect, Graphwriter I and II, Relational Database Technology (DB2 and Oracle), Lotus 1-2-3, Interactive Easy Flow, Visio

North Carolina Department of Public Instruction
LOUIS M. FABRIZIO, PH. D.

EDUCATION:

North Carolina State University	PhD Educational Research and Policy Analysis	2006
North Carolina State University	MS. Educational Administration and Supervision	1979
Georgetown University	BS Physics	1974

EXPERIENCE:

Department Of Public Instruction, State of North Carolina
Director of Accountability Services *1996–Present*

Dr. Fabrizio is responsible for the state's ABCs Accountability Program, the statewide testing program, and the development and implementation of the state's accountability and assessment plans for No Child Left Behind (NCLB). This position also involves monthly presentations to the State Board of Education, numerous presentations for school district personnel, other public speaking engagements and interviews with members of the media.

CTB/McGraw-Hill
National Assessment Consultant *1993–1996*

Dr. Fabrizio was responsible for sales and marketing of assessment instruments and providing technical services to State Departments of Education and large school districts in the eleven states of the Southern Region. His duties included consultation on assessment issues, information management, and database development. In addition, he generated proposals in response to requests for proposals (RFPs) from the states and made presentations at state conferences and district wide meetings.

PROFESSIONAL ORGANIZATIONS:

North Carolina Association for Research in Education
Phi Delta Kappa
American Educational Research Association
Association for Supervision and Curriculum Development
National Association of Test Directors

PROFESSIONAL APPOINTMENTS AND CERTIFICATIONS:

Council of Chief State School Officers (CCSSO) ESEA Reauthorization Task Force, Member (2006–Present)
Negotiated Rule-Making Committee for Standards and Assessments under NCLB (2002)
National Standing Task Force on Assessment, and the Assessment Subcommittee, of the CCSSO Education Information Management Advisory Consortium (EIMAC), Member (1998–present; Co-chair 2000–2004; Chair 2005)

PROFESSIONAL APPOINTMENTS AND CERTIFICATIONS (Cont.):

Michigan Technical Advisory Committee, Member (2006–Present)
Technical Advisory Committee for Voluntary National Test, Member (1998–2000)
NAEP Mathematics Steering Committee, Member (2001)
Planning Committee for Large Scale Assessment Conference, (1999 and 2000)
Adult Sunday School Class, Pullen Memorial Baptist Church, Raleigh, NC, Facilitator/Leader, (1993–1994)
Pullen Memorial Baptist Church, Youth Sunday School Leader, Raleigh, NC, (2005–Present)

PROFESSIONAL DEVELOPMENT AND TRAINING:

Leadership
Education Policy Fellowship Program, Institute for Educational Leadership, Washington, DC (1979–1980)
Equal Employment Opportunity Institute, Raleigh, NC (1998)
Facilitative Leadership Training, Raleigh, NC (2007)
Sharing Educational Success as an On-Site Validator, United States Department of Education (1981)
Programming Languages: Java, Clipper, Basic, C, PowerBuilder
DBMS: DB2, SQL Server, Sybase, Informix, dBase, MySQL
Operating Systems: Windows, DOS, UNIX, z/OS
Data Communications: TCP/IP, APPC, IPX, HL7
Application Servers: Websphere, Tomcat
Clinical Application Interfaces: Siemens Invision/Net Access, Agfa PACS, SCC Labs, Cerner Pharmacy, Cerner (formerly Dynamic) Radiology, Lumedx Apollo Cardiology systems
Testing Tools: Empirix E-Tester & E-Loader

North Carolina Department of Public Instruction
ELIZABETH J. GLENNIE, Ph.D.

EDUCATION:

Duke University	PhD Sociology	1997
Doctoral thesis: Social Embeddedness and Individual Resources: The Effects of the Transition to Adulthood on Civic Participation of Men and Women."		
Duke University	MA Sociology	1993
Colgate University	BA Sociology-Anthropology with honors	1989

EXPERIENCE:

Center for Child and Family Policy, Duke University
Research Scientist *2001–Present*
North Carolina Education Research Data Center, Duke University
Director *2001–Present*

Dr. Glennie conducts research on state and federal education policies with a focus on school engagement of teachers and students. Her research interests include education, race, gender, research methods, stratification-labor mobility, and political sociology. She also manages a Data Center with data from government agencies on teacher, student, and school characteristics. Her responsibilities include creating procedures for encrypting confidential data, documenting data, and linking data files and advising faculty and students on using the data.

PRI Associates, Inc
Project Manager *2000–2001*

Dr. Glennie planned and implemented studies on impacts of various policies and communicated results of such studies to clients through written reports and briefings. Her clients included state and federal government agencies, businesses, and universities.

Senior Associate *1997–1999*

Dr. Glennie conducted statistical analyses on legal and business concerns primarily involving claims of race and gender discrimination.

TEACHING AND MENTORING:

Visiting Associate Professor, North Carolina Central University. "Sociology of Education" Undergraduate class. Spring 2007.
Visiting Assistant Professor, College of Education, East Carolina University. "Quantitative Research Methods for Educational Leaders" Doctoral class. Fall, 2005.

ELECTED PROFESSIONAL PRESENTATIONS:

Muschkin, Clara, Elizabeth Glennie, and Audrey Beck. 2006. "Peer Influence of Old for Grade and Retained Students: Disciplinary Infractions and Suspensions in Middle School" Paper presented at the American Educational Research Association Meetings in San Francisco, CA.

Clotfelter, Charles, Elizabeth Glennie, Helen Ladd, and Jacob Vigdor. 2005. "The North Carolina Math/Science/Special Education $1,800 Teacher Bonus Program: An Initial Evaluation." Paper presented at the American Education Finance Association Conference, Lexington, KY.

Muschkin, Clara and Elizabeth Glennie. 2005. "Peer Effects of Retention on Adolescent Problem Behaviors." Paper presented at the Southern Sociological Society Meetings, Charlotte, NC.

Glennie, Elizabeth and Charles Coble. 2004. "Teacher Perceptions of the Work Environment in Hard to Staff Schools" Paper presented at the National Center for Education Statistics Summer Data Conference in Washington DC.

Glennie, Elizabeth. 2004. "Integrating Data For Innovative Analysis: The North Carolina Education Research Data Center" Paper presented at the International Sociological Association Research Committee on Logic and Methodology, Annual Conference on Social Science Methodology, Amsterdam.

Berry, Barnett, Gary Barnes, and Elizabeth Glennie. 2003. "Using Data to Make Good Teaching Quality Decisions." Presented at *No Child Left Behind: Implications for Teacher and Teaching Quality.* Sponsored by the National Governors Association, the Education Commission of the States, the Southeast Center for Teaching Quality, and the Southern Regional Education Board. Atlanta, Georgia.

Glennie, Elizabeth. 2003. "Overcoming Barriers to Education Policy Research: The North Carolina Education Research Data Center" at the National Center for Education Statistics Summer Data Conference, Washington DC.

PROFESSIONAL APPOINTMENTS AND CERTIFICATIONS:

Advisory Board. North Carolina Education Insight for Teachers and Nurses, Member (2006 – present)
Center for Child and Family Policy Grant Review Committee, Member (2005)
Center for Child and Family Policy Data Services Core, Member (2003-present)
Education Policy Work Group, Duke University, Facilitator (2002-2003)
Social Forces, Reviewer
Sociology of Education, Reviewer
Social Science Research, Reviewer

HONORS AND AWARDS:

National Center for Education Statistics Cooperative Systems Fellow (2002)

GRANTS:

Co-Investigator. "Center for Analysis of Longitudinal Data in Education Research (CALDER)." Subcontract to Jane Hannaway, the Urban Institute. Project funded by the United States Department of Education. (2006–2011)

Principal Investigator. "Study of the Efficacy of North Carolina's Learn and Earn Early College High School Model. Subcontract to Julie Edmunds, SERVE/University of North Carolina Greensboro. Project funded by the United States Department of Education. (2006–2010)

Co-Investigator. "Evaluation of the Child and Family Teams Initiative." Project funded by the North Carolina Department of Public Health. (2006-2007)

Principal Investigator. "Retention and Suspension: An Analysis of North Carolina Students and Schools." Seed grant from NIDA Transdisciplinary Prevention Research Center. (2003-2004)

Principal Investigator. "Evaluation of the Math-Science-Special Education Teacher Recruitment and Retention Bonus." Project funded by the North Carolina Department of Public Instruction. (2003-2005)

Principal Investigator. "Evaluating the Effectiveness of the School Success Profile Evidence-Based Practice Strategy on School and Student Level Performance." Subcontract to Gary Bowen, et al., University of North Carolina School of Social Work. Project funded by the WT Grant Foundation. (2003–2006)

Principal Investigator. "Turnover Rates, Student Performance, and Perceptions of Working Conditions: Analysis of the North Carolina Working Conditions Survey." Project funded by the National Education Association. (2003)

Collaborating Investigator. Contextual Effects on Decisions to Participate in Extracurricular Activities. Project funded by the Education Policy Working Group of the Provost's Initiative in the Social Sciences. (2002-2003)

Principal Investigator. "Analysis of the North Carolina Professional Teaching Standards Commission Working Conditions Survey." Project funded by State of North Carolina Office of the Governor and the North Carolina Professional Teaching Standards Commission. (2002-2003)

Principal Investigator. "Evaluating the Effectiveness of the School Success Profile Evidence-Based Practice Strategy on School and Student Level Performance." Subcontract to Gary Bowen et al., University of North Carolina at Chapel Hill School of Social Work. Project funded by the Knight Foundation. (2002)

PROFESSIONAL DEVELOPMENT AND TRAINING:

American Sociological Society, Section on Sociology of Education; Section on Organizations, Occupations, and Work; Section on Childhood and Youth
Southern Sociological Society
North Carolina Sociological Society

SELECTED ACADEMIC PUBLICATIONS:

Bowen, Gary L., Roderick A. Rose, Joelle D. Powers, Elizabeth J. Glennie. "Changes in the Social Environment and the School Success of Middle School Students." Under review *Applied Developmental Science*.

Clotfelter, Charles, Elizabeth Glennie, Helen Ladd, Jacob Vigdor. 2007. "Will an $1800 Bonus Keep Teachers in Low Performing Schools? Evidence from North Carolina." *Public Finance Review. (Forthcoming)*

Glennie, Elizabeth and M. Elizabeth Stearns. 2007. "Academic, Arts and Service Clubs." In Gender and Education. Barbara Banks (ed). Greenwood Press *(Forthcoming)*

Clotfelter, Charles, Elizabeth Glennie, Helen Ladd, Jacob Vigdor. 2006 "Would Higher Salaries Keep Teachers in High-Poverty Schools? Evidence from a Policy Intervention in North Carolina." National Bureau of Economic Research, *Working Paper Series*. http://www.nber.org/papers/w12285.

Stearns, M. Elizabeth and Elizabeth Glennie. 2006. "When and Why Dropouts Leave School." *Youth and Society*. 38(1):29-57.

EDUCATION POLICY-ORIENTED PUBLICATIONS AND REPORTS:

Clotfelter, Charles, Elizabeth Glennie, Helen Ladd, and Jacob Vigdor. 2005. "The North Carolina Math/Science/Special Education $1,800 Teacher Bonus Program: An Initial Evaluation." Center for Child and Family Policy. Policy Brief.

Clotfelter, Charles, Elizabeth Glennie, Helen Ladd, and Jacob Vigdor. 2004. "The North Carolina Math/Science/Special Education (MSSE) $1,800 Teacher Bonus Program: An Initial Evaluation." Report for the North Carolina Department of Public Instruction. \

Glennie, Elizabeth. 2003. "Teacher Retention, Student Performance, the School Environment, and Perceptions of the Working Conditions Survey: An Analysis of the North Carolina Professional Teaching Standards Commission Working Conditions Survey." Report for the National Education Association.

Glennie, Elizabeth. 2003. "How Certain Characteristics of Schools Influence Teachers' Evaluations of their Working Conditions: An Analysis of the Teacher Working Conditions Survey." Report for North Carolina Professional Teaching Standards Commission and the Office of the Governor.

Glennie, Elizabeth and Elizabeth Stearns. 2002. "Why Hispanic Students Drop out of High School Early: Data from North Carolina." Center for Child and Family Policy, Policy Brief. Volume 2, Number 6.

Glennie, Elizabeth and Helen F. Ladd. 2002. "The No Child Left Behind Act and School-Based Accountability: Lessons from North Carolina." Center for Child and Family Policy, Policy Brief. Volume 2, Number 2.

North Carolina Department of Public Instruction
STEVEN KING

EDUCATION:

San Jose State University	Teaching Credential, Mathematics, Life Science	1978
University of California, San Diego	BA, Mathematics	1977

EXPERIENCE:

ESP Solutions Group, Cheyenne Wyoming
Vice President, Metadata Services *2005-Present*

Mr. King's responsibilities include project design and direction, data system architecture, data analysis, and strategy. He works with the US Department of Education, state education agencies and school districts.

Wyoming Department of Education, Cheyenne Wyoming
Director, Data Management Unit *2003-2005*

Mr. King managed department data collection, reporting and management activities aimed at maximizing the utility of agency information for decision making while minimizing the burden placed on schools and districts. His responsibilities included coordinating staff activities and priorities, policy development and recommendation, collaboration with schools and district on collection design and schedule, liaison to federal program offices and organizations. Mr. King was also responsible for overseeing the internal technology plan and network infrastructure for the Wyoming Department of Education (WDE).

Information Resources Manager *1989-2003*

Mr. King coordinated WDE data collection and reporting activities. His responsibilities included collection form design and automation; liaison work with schools, districts, and federal program offices; training of WDE and school district staff on data collection, collection design, and data driven decision making. In addition, Mr. King designed and built the Department's Oracle data system and warehouse, and he designed and constructed the WDE 's first website.

Education Technology Consultant *1985-1989*

Mr. King consulted with Wyoming schools and districts on how to use technology in classrooms for instruction. Mr. King's responsibilities included conducting workshops and trainings; curriculum design and review; and coordinating with state professional organizations. During this time, he implemented and installed the first network for the WDE and the first e-mail system in state government.

Whisman School District, Mountain View, CA
Computer Resource Teacher *1981-1982*

Mr. King taught computer science and computer literacy to middle school students. He trained district teachers in the use of computers in their classrooms and subject areas.

James Logan High School, Union City, CA
Mathematics and Computer Science Teacher *1978-1981*

Mr. King taught mathematics and computer science to high school students.

PUBLICATIONS AND PRESENTATIONS:

Extensive list of publications and presentations. Available upon request.

PROFESSIONAL ORGANIZATIONS AND OFFICES:

Schools Interoperability Framework Association (SIFA), Board of Directors (2005)
Education Information Management Advisory Consortium, Chair (1999-2000), Vice Chair (1998-1999); General Statistics Permanent Standing Task Force Chair (2004-2005), Vice Chair (2002-2004); General Statistics Sub-committee, Chair (1997-1998), Vice Chair (1996-1997)
National Forum on Education Statistics, Technology, Dissemination, and Communication Committee, Vice Chair (1994);; Education Indicators Task Force Chair; Security Guide Task Force Chair (1993-1994), Vice Chair (1992-1993)

North Carolina Department of Public Instruction
PRISCILLA JACOBS MAYNOR

EDUCATION:

University of North Carolina, Chapel Hill	Ph.D. Educational Leadership	In progress
University of North Carolina, Pembroke	M.A. Educational Administration and Supervision	1994-Certification
Fayetteville State University Mental Retardation	M.A. Special Education: Learning Disabilities,	1989
University of North Carolina, Pembroke Mental Retardation	B.S. Special Education: Learning Disabilities,	1985

EXPERIENCE:

Department Of Public Instruction, State of North Carolina
Executive Director, Agency Operations and Information Management, Office of the Deputy State Superintendent/Technology Services Area *2004–Present*

Ms. Maynor provides leadership and direct management of agency operations and information management, which includes enterprise oversight for communication and information, professional development, research and evaluation, data management services, business planning and performance management functions. Her responsibilities include strategic planning, agency technology planning, managing cross-functional teams and projects, working with business and technical teams to elicit, analyze and manage requirements for new solutions and enhancements to existing systems, preparing and participating in the development, and presenting of business cases, conceptual models and proposals, including identification of potential vendors, alternatives and cost/benefit. Additional duties include business continuity planning and efforts to improve data quality, management, reporting and analysis. Her projects include sector lead for a collaborative project between education sectors in the state to share data; and project business lead in coordinating data submissions to the Education Data Exchange Network (EDEN).

Senior Assistant and Director, Communications and Information Division, Office of the State Superintendent *2003-2004*

Ms. Maynor was responsible for providing leadership and strategic guidance for the state-wide communications plan and departmental communications; providing direct supervision and management for the Communications and Information Division responsible for media relations, public information and marketing efforts, the public website, graphic design, printing and duplicating and publication sales. She developed and deployed statewide communications and information plan to public and charter schools on No Child Left Behind. In addition, she served as the project manager for State Report Card.

North Carolina Department of Public Instruction
PRISCILLA JACOBS MAYNOR

Senior Assistant to State Superintendent of Public Schools of North Carolina, Office of the State Superintendent *1998-2003*

Ms. Maynor served as the primary ombudsman for the Department and senior advisor to the State Superintendent. She managed day-to-day operations, facilitated resolution to internal and external issues, prepared communications and presented information for executive leadership, State Board of Education and State legislature. In addition, she was responsible for various policy and program initiatives and served as the executive lead in fostering and managing agency relationships, partnerships and joint projects. Ms. Maynor represented the State Superintendent in discussions with other organizations, companies, customers/stakeholders, coordinating state-wide focus-groups, conducting surveys and managing five policy advisory groups. Key accomplishments were negotiating agreement for state system for licensing public school preschool and afterschool programs with three state agencies, establishing the administrative and operations structure for Governor's More at Four preschool education initiative with two state agencies and one public/private partner; and managing the program transition and development.

In addition, Ms. Maynor assisted in creating a statewide after-school network; the N.C. Center for Afterschool Programs (NCCAP), served as the co-Chairman for the Standards Committee, and organized and secured public and private funding for American Indian Studies Institute. She also led a partnership between University System and UNC-Pembroke to create a professional development course and web-based resources for teachers statewide through UNC-Chapel Hill and LEARN NC, and led state efforts to improve academic achievement of American Indian students, now a national model promoted by the USED Office of Indian Education.

Administrator, Education Planning and Development, Exceptional Children Division 1995-1998

Ms. Maynor served as the administrator for state complaint management and due process hearing and appeals system in accordance with Part B of the Individuals with Disabilities Education Act (IDEA). She was the primary ombudsman and investigator of state filed complaints and the mediator and facilitator of negotiations to settle differences between parents, advocates, school personnel and school boards and other professionals including legal representation of the parties.

Education Consultant I *1995*
Ms. Maynor monitored programs and services in local education agencies (LEAs) and state-operated programs for federal compliance with IDEAl.

The University of North Carolina at Pembroke
Adjunct Faculty, School of Education *2001-Present*
The University if Phoenix
Faculty, School of Education *2003-Present*

PR/Award # R372A070006

BLE Group, Washington, D.C.
Consultant *2006-Present*

Ms. Maynor provides technology firms and publishers input on new products and the appropriateness of current products for K-12 schools. She also provides product evaluation and information on how and to what degree educational software products are viable for schools including feedback on product quality, sales, project management, and training.

Public Schools of Robeson County, North Carolina
District Supervisor, Programs for Exceptional Children *1995-1998*

Ms, Maynor served as the supervisor for education program development, federal compliance and student services at the elementary, middle and high schools in a region serving 1300+ exceptional children. In this role, her primary responsibilities included planning, development, facilitation and evaluation of district's staff development plan and training for teachers, administrators and parents.

Principal, Bryan Learning Center *1992-1993*
Teacher, Preschool-Grade 8 *1984–1992*

PROFESSIONAL APPOINTMENTS AND CERTIFICATIONS:

N.C. Department of Public Instruction certifications: Principal (Grades K-12), Exceptional Children Program Administrator (K-12), Mentally Handicapped (K-12), Specific Learning Disabilities (K-12), Preschool Handicapped and Mentor
Higher Education Taskforce, Emerging Issues Forum (2006)
Council of Chief State School Officers, Education Information Management Consortium, State Contact and Representative
National Center for Education Accountability, Data Quality Campaign, State Contact and Representative
Council of Chief State School Officers, Decision Support Architecture Consortium (DSAC), State Contact and Representative
National Indian Education Convention, Planning Committee, State Education Lead (2003)
Association for Supervision and Curriculum Development (ASCD), Member
Executive Committee-NC Early Childhood Governance; Office of the Governor, Member
Executive Committee-Governor's More at Four Pre-Kindergarten Task Force, Member
Investigating Child Abuse and Neglect in Child Care Facilities Task Force, Member
SERVE Policy Network, Member
National Indian Education Association (NIEA), Member
Executive Committee-NC Center for Afterschool Programs (NCCAP), Member
Executive Committee for GEARUP NC; UNC System, General Administration, Member

Education Committee-NC Commission of Indian Affairs, Member
Governor's Council on Hispanic and Latino Affairs
NC Leadership Council for Healthy Schools, Member
Governor's Crime Commission, Member
State Advisory Council on Juvenile Justice and Delinquency Prevention, Member
NC Interagency Council- Children with Special Needs, Member (1996-1997)
NCCBI School-Age Care Task Force Member (2000)
NC Partners Board; Public School Forum, Member (1998-2000)
Governor's Task Force on Youth Violence and Safe Schools, Representative Co-Chair (1999)

HONORS AND AWARDS:

Friday Fellow; William Friday Fellowship for Human Relations, 2001-03
Education Policy Fellow, Institute for Educational Leadership, 1998-99
Young Executive Fellow, NC Citizens for Business and Industry, 1999-2003
Wake Education Partnership

COMMUNITY COMMITMENTS AND CONTRIBUTIONS:

PTA, West Lake Elementary, Vice President of Legislation and Advocacy
Triangle Native American Society (TNAS), Member

PROFESSIONAL DEVELOPMENT AND TRAINING:

Facilitative Leadership, Facilitative Leadership Training Institute, NCDPI (2006)
State Data Managers Training, Education Data Exchange Network (EDEN), U.S. Department of Education (2006)
Project Management, CCSSO/CELT (2005)
Building a Decision Support Architecture, CCSSO/CELT (2004)
Strategic Planning Using the Balanced Scorecard, CCSSO/CELT (2004)
Grantsmanship Training Program, TGCI: The Grantsmanship Center (2003)
Adult Learning Theory Training, University of Phoenix (2003)
States Institute on International Education in the Schools, National Education Coalition (2002)
States Institute on 21st Century Community Learning Centers, National Education Coalition (2002)
States Institute on Extended Learning Opportunities, National Governors Association (2000)
Leadership and Management Skills for Women Executives (2000)
Federal Education Research Agenda for American Indians and Alaskan Natives, National Indian Education Association (2000)
Baldridge Model and Process Improvement (1998)
Aligned Quality Management (1997)

North Carolina Department of Public Instruction
ANNETTE H. MURPHY

EDUCATION:

Johnston Community College	A.S. Information Systems Programming	1999
Hardbarger Business College	A.S. Medical Science	1980

EXPERIENCE:

NC Department of Public Instruction (NCDPI)
Director, Enterprise Program Management Office — *2006–Present*
Technology Services Area Business Manager

Ms. Murphy leads, coordinates and integrates of the Enterprise Program Management Office (EPMO) initiatives and serves as business manager for the Chief Information Officer (CIO) and Technology Services Area. She facilitates strategic planning, resulting consistent processes implemented across the Information Technology (IT) enterprise to guarantee acceptable levels of customer service. To accomplish the goals and objectives of the division, area and agency, Ms. Murphy provides guidance to IT services required to manage people, processes, budget and time. She also ensures that divisional CIOs have resources to deliver business unit project goals and operations plans. In addition, she serves as EPMO human resources manager.

Delivery Oversight Manager, EPMO — *2005–2006*

Ms. Murphy served as assistant to the Technology Services Director by overseeing the daily activities of the EPMO through her understanding of the scope and breadth of work in each Information Services (IS) delivery unit. She also reviewed project plans, issues logs, risk plans, progress reports and operations reports. She coordinated the EPMO consolidated annual work plan and worked with each IS delivery unit to ensure completion of an annual staffing plan for each unit. Ms. Murphy assisted in escalating issues on staffing procurements and funding. In addition, she managed enterprise-wide project and operational dependencies, including human resources, between IS delivery units, facilitated the customer component part of performance evaluation, and communicated high-level performance measure results to senior management.

Planning Project Manager/BA Resource Manager, EPMO — *2003–2005*

As Business Analyst (BA) Resource Manager, Ms. Murphy managed the day-to-day activities of four BAs and performed staff performance appraisals. She served as the Planning Project Manager for the NCDPI to establish and secure initial budgets for projects and assign project resources. She served as project manager for internal projects to manage team members, scope, budget and schedules. In addition, she provided active PMO leadership and management responsibilities to the Human Resource Management System (HRMS) Steering Committee. Ms. Murphy managed the implementation of vendor supported applications for the business continuity planning efforts for the NCDPI enterprise.

PR/Award # R372A070006

Business Analyst, EPMO *1999–2003*

Ms. Murphy performed project management duties for internal DPI project teams and business analyst duties associated with identifying high-level project definitions for requirements. She consulted with business clients to determine detailed design specifications and functional system design. In addition, she coordinated/conducted stakeholders request team meetings with appropriate IT resources. Her other responsibilities included writing detailed documentation including project requests, stakeholder requests, high-level actors/use cases requirements, vision documents, project estimation worksheets, and functional specifications.

Applications Analyst Programmer, Business Technologies Division *1994–1999*

Ms. Murphy managed efforts of project team members, which included regional consultants participating as project resources for the state-wide rollout of applications to the Local Education Agencies (LEAs). She performed analytical and programming activities associated with maintaining, modifying, and enhancing both new and existing complex computer applications in an AS/400 and ACCESS databases, which was accessed by various personnel within the NCDPI and the LEAs across the state. In addition, she developed detailed system and user documentation, and she presented training sessions for various systems.

PROFESSIONAL ORGANIZATIONS:

Project Management Institute (PMI)
NC Chapter of Project Management Institute (NCPMI)

PROFESSIONAL APPOINTMENTS AND CERTIFICATIONS:

PMP Certification, PMI, July, 2006
Member, NC State Government Project Managers Advisory Council

PROFESSIONAL DEVELOPMENT AND TRAINING:

Management and Leadership:
Facilitative Leadership Training, 2006
NC PMI Annual Conference, 2006
Woman's Conference (Make It Happen), 2006
PMP Training/Exam Preparation at State ITS, 2006
Portfolio Project Management Tool Training at State ITS, 2005
Performance Management Training for Managers, 2005
Project Management Professional Training Seminar, NC State ITS, 2003
Successful Problem Solving Skills for Managers, 2001
American Institute of Management Seminar, 2002
Customer Service Skills for Help Desk Professionals/Managers, 2000

Quality Assurance:
Quality Assurance Institute Business Analysts Boot Camp, 2002
Baldridge Criteria Seminar, 2001

Business Analysis:
Coordinated and Taught Sessions of Use Case Development Eight Week Course for NCDPI Business Analysts, 2005
Fundamentals of Rationale Requisite Pro, 2002
Requirements Management with Use Cases, 2002
Business Continuity Planning: Business Impact Analysis and LDRPS, 2004
Developing Procedures, Policies & Documentation--Info Mapping

Security:
Defense In-Depth Conference, 2005

Tools:
MS Project: Server 2003 for the Enterprise, 2003; Project 2002 Intro and Advanced, 2002
Lotus Notes/Domino.Doc: Customization and API, Applications and System Administration
Lotus Notes/Domino: Introduction to LotusScript in Notes, Maintaining Domino Users, Maintaining a Domino Server Infrastructure, Using JavaScript in Domino Applications, Application Architecture, Deploying a Domino Infrastructure, Implementing a Domino Infrastructure, Application Security & Work Flow, Designer Fundamentals
MS Word: Intermediate Word 2000, Advanced Word 2000,
MS Windows: Getting Started with Microsoft Windows 3.0, Microsoft Windows 95 Upgrade Transition, MS Windows 98 Advanced
MS Excel 97 Intermediate
Web Development Using Visual InterDev
Visual Basic: Visual Basic 3.0 Fundamentals Workshop, Visual Basic 5.0 Combined Workshop
JavaScript for Internet Developers
MS Access: Introduction to Access 2.0, Intermediate Access 2.0, Advanced Access 2.0, Macro and Query Design Features of Access 2.0, Report and Form Design Features of Access 2.0
Client/Server Preparatory Mini-Course Series
HTML: Home Page Training, Internet Web Design Introduction
Introduction to Intranet Setup, Management and Administration
OS/2 2.0 for New Users
AS/400: Application Development Tools Introduction, Advanced Function Printing Capabilities, Query Workshop, CL Programming Introduction, Concepts & Programming Fundamentals, OfficeVision/400 Advanced Applications, Relational Database Design and Coding
Introduction to PageMaker
WordPerfect: Word Processing I, Introduction to WordPerfect, WordPerfect Intermediate, WordPerfect Office 4.0 Administrative Training
IBM 5520: Administrative System Files Implementation, Administrative Sys Advanced Files Implementation
Microcomputer: Concepts Part I (DOS), Concepts Part II (DOS)
Introduction to Data Processing

North Carolina Department of Public Instruction
LARRY E. PRICE, PH.D

EDUCATION:

North Carolina State University	PhD Educational	1990
East Carolina University	Education Specialist	1987
North Carolina State University	MS. Education	1985
North Carolina State University	BS	1981

EXPERIENCE:

Public Schools of Wilson County, North Carolina
Superintendent *1998-Present*
Deputy Superintendent *1997-1998*
Assistant Superintendent *1994-1997*

Dr. Price serves as the Superintendent for the Public Schools of Wilson County. His previous roles were Assistant Superintendent and Deputy Superintendent. During his tenure end-of-grade test results and SAT scores have risen.

Renaissance Education Foundation, Minneapolis, MN
Educational Consultant and Board of Directors *1991-2005*

Clinton High School, Clinton, North Carolina
Principal *1988-1994*

North Edgecombe High School, Tarboro, North Carolina
Assistant Principal *1986-1988*

Williamston High School, Williamston, North Carolina
Teacher *1981-1986*

PROFESSIONAL APPOINTMENTS AND CERTIFICATIONS:

North Carolina State Board of Education, appointed by Governor Mike Easley (2006-2007)
Association for Supervision and Curriculum Development
North Carolina Association of School Administrators, Legislative Committee Chairman, Board of Directors
North Carolina School Superintendents' Association, President (2006-2008)
American Association of School Administrators
North Carolina Network, Chairman, (2002-Present)
North Carolina Business Education Technology Alliance, appointed by the President Pro-Tem of the North Carolina Senate (2002-Present)
Education: Everybody's Business Coalition, Board of Directors
North Carolina Teacher Working Conditions Advisory Board, appointed by Governor Mike Easley (2004 Present)
North Carolina Teacher Licensure Workgroup, appointed by Governor Mike Easley (2005)

HONORS AND AWARDS:

East Carolina University Educator Hall of Fame (2006)
Jay Robinson Leadership Award Finalist (2006)
National Superintendent of the Year, Runner Up (2006)
North Carolina Superintendent of the Year (2006)
Central Carolina Region Superintendent of the Year (2005-2006)
President's Technology Award, American Association of School Administrators (2004)
Central Carolina Region Superintendent of the Year (2002-2003)
Central Carolina Region Superintendent of the Year (2001-2002)
National Technology in Education Leadership Award, National School Boards Association (2000)
National School District Administrator of the Year, HOSTS Corporation (2001)
Renaissance Hall of Fame Inductee (1998)
Principal of the Year, Clinton City Schools (1989-1990, 1991-1992)
Honorary American FFA Degree, National FFA Organization, Kansas City, Missouri (1991)
Eagle Among Eagles Award, Renaissance Education Foundation (1991)
John B. Hales Service to Youth Award, Clinton Jaycees (1992)
Outstanding Young Educator, Martin County Schools, Williamston Jaycees (1982)

COMMUNITY COMMITMENTS AND CONTRIBUTIONS:

Wilson First United Methodist Church, Finance Committee, Chairman; Church Council, Vice Chairman
North Carolina Annual Conference of the United Methodist Church, Board of Finance and Administration
Wilson County Partnership for Children, Board of Directors and Executive Committee
Rotary Club of Greater Wilson, President (2006-2007), Rotarian of the Year (2004)
Wilson Chamber of Commerce, Board of Directors
Wilson 2020 Vision Committee

North Carolina Department of Public Instruction
PHILIP W. PRICE

EDUCATION:

NC State University	B.A. Accounting and Economics	1978
NC State University	Postgraduate Computer Science Course Work	
Other Executive Management Programs:	Professional Management Program Education Policy Fellows Program	

EXPERIENCE:

Department of Public Instruction
Associate State Superintendent *2000–Present*

Mr. Price is the Associate State Superintendent for Financial and Business Services. He provides day-to-day oversight management for the Division of School Business, Division of Financial Services, Division of School Support, Office of Charter Schools, Human Resource Management, and Systems Accounting Section. Financial and Business Services manages nearly $9 billion in State and federal funds and provides various technical support services to local education agencies (LEA), their schools, their employees, the General Assembly, other State and federal agencies, and the Department of Public Instruction.

North Carolina General Assembly
Senior Fiscal Analyst for Public Schools *2000–2002*

Mr. Price was the Senior Fiscal Analyst for Public Schools in the Fiscal Research Division. He assisted with the coordination of the General Assembly's preparation of the State Budget, organized and staffed appropriate committees, and responded to fiscal and policy requests from the 170 elected members of the General Assembly.

Department of Public Instruction
Director of School Business Division *1978 – 2000 (Last job: 1998-2000)*

Mr. Price provided personalized financial leadership for all local education agencies and charter schools in North Carolina. He ensured the fair and equitable distribution of, and accountability for, the optimal use of public education resources.

PROFESSIONAL ORGANIZATIONS:

Association of Education Federal Finance Administrators (AEFFA)
North Carolina Association of School Business Officials (NCASBO)

North Carolina Department of Public Instruction
JAMES V. SEPE

EDUCATION:

Colorado Technical College B.S. Computer Science 1993

EXPERIENCE:

Department Of Public Instruction, State of North Carolina
Project Manager, NCWISE *2006 –Present*

As Project Manager, Mr. Sepe is responsible for leading a team of technical professionals to deliver solutions across the agency. He is tasked with the management of the Ad hoc Reporting Operational Data Store development and implementation utilizing SAS business intelligence tools. He is currently leading a project to implement an Oracle Real Application Cluster (RAC) solution to be utilized across the NCDPI.

Pinpoint Resource Group, ***Raleigh, NC*** *2005 – 2006*
Contract Project Manager, IntelliVisor ASP Analytics, SAS Institute

Mr. Sepe successfully managed the Citibank North America (CBNA) data warehouse development and implementation through a three-phase approach utilizing data analytics and business intelligence tools. He led the SAS programming team and managed the optimization, delivery, and integration of improved CBNA cross-sell strategy tag models developed utilizing SAS data analytics. He also was responsible for managing the integration of the CBNA real-time recommendation engine between the CBNA and SAS infrastructures while continually updating new data analytic models.

Information Systems Technology, Inc., Durham, NC *2004 – 2005*
Contract Project Manager, Business Systems, SunTrust Bank

Mr. Sepe served as a member of the National Commerce Financial (NCF) Business Systems Technology group to support the successful merger with SunTrust banking franchise with assets totaling over 168 billion dollars. He managed the $4.5 million Solaris to AIX server replacement project, which included creating new development, test, production readiness /disaster recovery, and production platforms. Mr. Sepe was appointed by the Vice President to be NCF representative tasked to implement SunTrust/NCF desktop personal computer (PC) image to replace workstation image in over 500 banks to support dual organization operating system and applications. He played a key role in developing cross-functional relationships across the SunTrust and NCF to obtain resources and critical information necessary to meet project deadlines and milestones. By leading diverse project teams throughout the region, he also assisted network services in support of network restructure project, which reduced operating costs between the two organizations.

Northrop Grumman, *Raleigh, NC* *2002-2003*
Contract Project Manager, United States Postal Service

Mr, Sepe managed the successful implementation of the United States Postal Service (USPS) e-mail migration and deployment effort from cc:Mail to MS Outlook for over 120,000 desktop systems, across multiple organizations, on time and within budget. He was responsible for implementing a new RightFax desktop FAX system to the entire USPS nationwide network, eliminating cost and dependencies of stand-alone FAX machines and supplies. In this role, Mr. Sepe designed and implemented process flow charts and procedures for each department. These tasks contributed to the completion of the entire email migration project three months early. He also played key role in guiding the development of the migration scheduling web server, which resulted in the increase of volume and efficiency of national client migrations.

PricewaterhouseCoopers, *Raleigh, NC* *2000-2002*
Project Manager

Mr. Sepe served as the senior team leader providing technical guidance for the development and implementation for the entire multi-site company infrastructure to include server, desktop, application, voice, network, and customer support. He designed and proposed new company-wide infrastructure cutting $8.5 million, a reduction of over 50 percent. He also developed a migration plan for company wide application and system software replacement resulting in a 20 percent cost savings. In addition, Mr. Sepe designed new company replacement interactive voice response (IVR) system with Nortel Symposium utilizing voice over Internet protocol (VoIP).

I*nfrastructure Manager*

Mr. Sepe hired and led the infrastructure database development team, reducing response times to service requests in Tier 3 support. He managed the replacement of Nortel legacy applications reducing overall support and maintenance information technology (IT) costs. He planned and executed an Oracle 8i company-wide upgrade implementation, resulting in reduced support costs.

Other Positions:

6/97 – 11/00	LAN Project Leader/Senior Systems Engineer, United States Postal Service, Raleigh, NC
6/96 – 6/97	Senior Systems Engineer, Computer Service Partners, Raleigh, NC
5/94 – 6/96	Senior Systems Engineer, Holiday Inn Worldwide, Cary, NC
8/90 – 5/94	Senior Systems Engineer, Martin Marietta, Colorado Springs, CO
10/86 – 8/90	Senior Systems Engineer, Contel Federal Systems, Colorado Springs, CO
10/82 -10/86	Missile Warning System Operator, United States Air Force, Colorado Springs. CO

PROFESSIONAL ORGANIZATIONS:

Project Management Institute (PMI), member

PROFESSIONAL APPOINTMENTS AND CERTIFICATIONS:
Project Management Professional (PMP), PMI

PROFESSIONAL DEVELOPMENT AND TRAINING:

Management and Leadership: Facilitative Leadership, DPI; PMP Certification Preparation, Wake Technical Community College
Hardware: Compaq. Dell, HP, IBM, Apple, SUN, VAX, Cray
Software: Microsoft Windows 9x, 2000, NT, XP, Novell Netware, Mac OS, MS-DOS, Unix, Solaris, Microsoft Office, Microsoft Project, Microsoft Exchange, Visio, SMS, Remedy, Citrix, RightFax, Lotus Notes, Wise, Installshield, GroupWise, Oracle, Adobe Acrobat, Primavera

North Carolina Department of Public Instruction
GERALD KENNETH THOMPSON, JR.

EDUCATION:

Bowie State University	M.S. Information Management Systems	1993
NC State University	B.A. Business Management	1985

EXPERIENCE:

Department Of Public Instruction, State of North Carolina
Enterprise Architect, Technology Services Area *2005–Present*

Mr. Thompson is currently developing the North Carolina Department of Public Instruction (NCDPI) enterprise objective architecture document and roadmap for 2007 through 2012.

Previously, he developed an in-depth analysis of the data integration needs of NCDPI to include the current situation, primary motivations, environmental change forecasts, objective integration architecture, and technical strategy for moving forward. The primary output of this effort was a twenty-page white paper that is the basis for NCDPI's long-term enterprise data integration approach. In addition, Mr. Thompson reviewed and/or contributed to the development and evaluation of requests for proposal (RFPs) or their subsequent responses, which resulted in the selection and implementation of several new information systems. His previous responsibilities also include managing the application portfolio for NCDPI consisting of nearly 100 business applications and serving as the interim project manager for two projects during a major system reorganization that occurred after the contract with the primary vendor was terminated.

UNC Health Care, Chapel Hill, NC
Manager, Application Development/System Architecture *2000–2005*

Mr. Thompson managed the development of the Web-based Clinical Information System (WebCIS), the integrated electronic health record for University of North Carolina (UNC) Health Care that presents data from more than 30 departmental and enterprise clinical systems. During his tenure, the clinical information application was rewritten as a web-based system using Java, Websphere, DB2, and XML technologies that eliminated nearly $800,000 of annual client license fees for runtime client software. The WebCIS team had other noteworthy accomplishments including delivering six additional system releases that provided new functionality, significantly improved clinician efficiency, improved patient safety, reduced costs, or improved communications; adapting WebCIS to run on both Windows servers and the z/OS mainframe; adapting to an extensive set of Siemens (Invision/Net Access) data changes in the process of maintaining shared data between these two important systems; and evaluating and selecting commercial and open source software to perform various functions of the system.

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Mr. Thompson delivered presentations at conferences such as Towards the Electronic Patient Record (TEPR), Healthcare Information and Management Systems Society (HIMSS) and others discussing WebCIS accomplishments, strategies, lessons learned, and future plans. As manager, he also initiated significant improvements such as establishing the first engineering change and revision control systems; developing and maintaining ongoing multi-year project plans in a highly fluid business environment; introducing application monitoring and alerting technologies; launching automated software testing and validation technologies and procedures; and selecting vendors and incorporating international contract software developers into the software engineering process to reduce development costs and accelerate function development.

Metamor ITS, Inc., Raleigh, NC
Field Site Manager *1997–1999*

Mr. Thompson performed the duties of contract project manager for the UNC Hospital Information Systems Division (March 1999 to December 1999). He served as a contract designer/developer for the North Carolina Department of Transportation (NCDOT) Highway Construction and Materials System (HiCAMS) Project (August 1997 to March 1999).

Noblestar Systems Corporation, Falls Church, VA
Consultant Manager *1996–1997*

Mr. Thompson assisted the Reserve Component Automation System Project in developing the application architecture for a family of military applications scheduled for development over a five-year period. He managed a team of five Noblestar developers and contractors to build reusable software components using the Software Engineering Institute (SEI) (SofProduct Line Practice model.

Ellsworth Associates., Raleigh, NC
Information Systems Architect/Designer *1993–1996*

Mr. Thompson served as the primary architect and designer of object oriented client-server information systems for various applications areas within the U.S. Department of Health and Human Services (DHHS). He determined requirements and developed design specifications at the system, sub-system, and object level to include object, functional, and dynamic models. These systems served to reduce the cost of capturing nurse time clock data, managing DHHS grant processing, and reporting by the Administration on Aging to Congress.

Other Positions:

Dec 1992–Sep 1993	Project Manager, Intellus Inc.
Jul 1991–Dec 1992	Special Project Officer, Army National Guard
Feb 1990–Jul 1991	Director of Manufacturing, Intelligent Vision Image Systems
Sep 1986–Mar 1990	Captain, Personnel Officer, Maryland Army National Guard
Sep 1985–Sep 1986	Industrial Engineer, Blue Bell Inc.
May 1980–Jun 2000	Army NG/Reserve Officer, Field Artillery/Aviation/Signal Corps

PROFESSIONAL DEVELOPMENT AND TRAINING:

Programming Languages: Java, Clipper, Basic, C, PowerBuilder
DBMS: DB2, SQL Server, Sybase, Informix, dBase, MySQL
Operating Systems: Windows, DOS, UNIX, z/OS
Data Communications: TCP/IP, APPC, IPX, HL7
Application Servers: Websphere, Tomcat
Clinical Application Interfaces: Siemens Invision/Net Access, Agfa PACS, SCC Labs, Cerner Pharmacy, Cerner (formerly Dynamic) Radiology, Lumedx Apollo Cardiology systems
Testing Tools: Empirix E-Tester & E-Loader

North Carolina Department of Public Instruction

MICHAEL VECKENSTEDT, Ph. D.

EDUCATION:

University of Kassel-Germany	Ph.D. Information Technology/Engineering	1997
with special honors. Doctoral Thesis: "Open MIS and Decision Support Systems"		
University of Kassel-Germany	M.S. Engineering	1991
University of Kassel-Germany	B.S. Engineering	1990
Max-Eyth-Germany	Technical College	1985

EXPERIENCE:

Department Of Public Instruction, State of North Carolina
Chief Technology Officer *2005-Present*

Dr. Veckenstedt is responsible for product and technology roadmaps of the North Carolina Department of Public Instruction (NCDPI) by setting the direction and priorities for the agency.

Innovate E-Commerce
Director of Development and Technology *2003-2005*

Dr. Veckenstedt served as Chief Enterprise Architect for the North Carolina Window of Information for Student Education (NC WISE) project at NCDPI. His primary responsibilities were enterprise-application-integration and the technical architecture of the statewide reporting solution.

Application Architect *2002-2003*

As Application Architect for the Ohio Department of Jobs and Family Services (ODJFS) Dr. Veckenstedt consulted on the development frameworks, development guidelines and development cost analysis to include the application architecture review and analysis for the migration of the Medicaid Management Information System (MMIS) and the Client Registry Information System – Enhanced (CRIS-E) applications. As a member of the Legacy Migration Project at the North Carolina Department of Justice (NCDOJ), Dr. Veckenstedt developed architectures and implemented extensible markup language (XML) and message-driven applications for a large, legacy migration project.

Quality Analysis *2000-2002*

Dr. Veckenstedt performed analysis, design and implementation tasks for State of North Carolina's Common Payment Service (CPS), which has interfaces to IBM legacy and SAP systems. He also served as the software lead for PAY-CENTRAL™, a payment gateway and transactional warehouse for electronic funds transfer (EFT) and credit card processing.

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Technology Evangelist *2000-2002*

Dr. Veckenstedt mentored North Carolina State Government staff in EJB2.0, J2EE1.3, Java1.2/1.3/1.4 and in database design, implementation and testing of online systems according to state architecture and Institute of Electrical and Electronics Engineers (IEEE) standards.

National University of Singapore (Institute of System Science)
Consultant and Teacher *1997-2000*

Dr. Veckenstedt was responsible for the technical curriculum for computer programming using object oriented languages, database and client server technology. As a teacher/instructor he provided courses for professional development as well as higher education such as "Master of Technology" and "Master of Knowledge Engineering" at the University of Singapore. Dr. Veckenstedt was also responsible for consulting in the areas of e-business development, object-oriented application development, client server and Internet technology. He provided specialized expertise in business-to-business (B2B) integration using XML, e-commerce architectures, e-commerce component development and re-engineering the migration for e-commerce. In the role, he worked on the B2B Online Payment System project for the *National University of Singapore*, Master's Technology where he developed a system integrating to the country's largest bank automated teller machine (ATM) payment portal that provides on-line bill presentation linked into a legacy accounting system. In addition, Dr. Veckenstedt proposed a component solution for *Singapore Airlines* for sharing of data using XML. He also served as a consultant to *DelGro Engineering* for B2B solutions to trade spare parts on-line and as an advisor/consultant for *E-Buzz,* a group of entrepreneurs who planned to start a dot-com company.

Friedola GmbH&Co, Germany
Senior IT Project Leader and Programmer *1988-1997*

Served as the Senior Information Technology (IT) Project Leader and Programmer at a class A rated supplier for Volkswagen, Mercedes and BMW.

University of Kassel, Germany
Process Re-engineering Technology Consultant *1986-1988*

In this role, Dr. Veckenstedt served as the Project Manager of IT Projects for small and medium enterprises. He worked with clients to build IT and outsourced application development primarily in the automobile, aviation and supplier sector. He also was the Project Leader of object oriented applications architecture and design (including prototyping) of management information systems (MIS), decision support systems (DSS), data collection, manufacturing, capacity requirement planning, production scheduling, shop floor control, product costs, order management, data acquisition and quality control applications.

North Carolina Department of Public Instruction
MICHAEL VECKENSTEDT, Ph. D.

PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers

PROFESSIONAL DEVELOPMENT AND TRAINING:

Equal Employment Opportunity Institute 2005
Facilitative Leadership 2007

Appendix A - Timeline

The following is the schedule for the major components and deliverables to be delivered through this grant. There are two projects under this effort. The first is for the NC CEDARS longitudinal data system (LDS) and the second is the unique individual identifier. The components in bold are the main tracks within the two projects. The components following the track are the major subordinate areas. The more detailed tasks below these subordinate areas are contained in the Budget Narrative along with their costs.

Item #	Component/ Deliverable Title	Component/ Deliverable Description	Start Date	End Date
Year 1 – Establish a management structure to support the project as well as complete the planning effort to define all requirements and tasks to be delivered. Conduct analysis and design of impacted projects and architecture.				
1	**NC CEDARS LDS Project Start**	Start of NC CEDARS LDS Project	8/1/2007	7/30/2010
2	**Management**		8/1/2007	5/20/2009
3	Establish Executive Management Meeting (Monthly)	Establish Executive Management Meeting (Monthly)	8/1/2007	5/20/2009
4	Establish Bi-monthly Project Meetings	Establish Bi-monthly Project Meetings	8/1/2007	5/20/2009
5	Establish the Data Management Vision and Strategy	Establish the Data Management Vision and Strategy	8/1/2007	8/27/2007
6	Establish the Data Governance Process	Establish the Data Governance Process	8/1/2007	9/17/2007
7	Draft Data Policies and Procedures	Draft Data Policies and Procedures	9/17/2007	2/4/2008
8	Implement Data Policies and Procedures	Implement Data Policies and Procedures	2/4/2008	3/3/2008
9	**NC CEDARS Project Requirements and Analysis**		8/1/2007	3/28/2008
10	Scope	Project Scope	8/1/2007	8/14/2007
11	Define/Agree on Project Scope	Includes NC CEDARS Data Warehouse subject area selection, required reporting, SIF brokering, AHR changes and deployment plan.	8/1/2007	8/14/2007
12	Reporting Requirements	Assumption is gathering requirements for 3 different reporting systems - students, teachers, and parents. For this task we will gather requirements for 5 reports for	8/15/2007	10/5/2007

Item #	Component/ Deliverable Title	Component/ Deliverable Description	Start Date	End Date
		each of the reporting systems		
13	SIF Brokering Requirements	Documentation of SIF Brokering requirements	11/28/2007	12/18/2007
14	ETL Requirements	Documentation of ETL requirements.	10/5/2007	2/15/2008
15	Data Sourcing & Mapping	Includes field mappings and validation	10/5/2007	1/24/2008
16	Data Quality analysis	Includes defining and receiving data files for analysis, executing analysis and creating document from analysis. Reviewing results and data relationships	10/12/2007	2/15/2008
17	AHR Impact Analysis	Review and document new flows into and out of AHR and how they change dependant on the NC CEDARS requirements.	2/15/2008	2/27/2008
18	System Architecture and Security Requirements	Includes determining authentication requirements, deployment products, and hardware and software specifications	2/27/2008	3/7/2008
19	Requirements Document	Includes Interviews, creation, review, and amendments.	3/7/2008	3/28/2008
20	**NC CEDARS LDS Project Design**	NC CEDARS Project Design Section	2/15/2008	11/10/2008
Phase 2 – Complete the design phase of the project to include reporting, SIF brokering, ETL, AHR Impact, and architecture and security.				
21	Reporting Design	Assumption is design for 3 different reporting systems - students, teachers, and parents. For this task we will design for 5 reports for each of the reporting systems	7/10/2008	8/21/2008
22	SIF Brokering Design	Documentation of SIF Brokering design	8/21/2008	9/15/2008
23	ETL Design		2/15/2008	7/10/2008
24	AHR Impact Design	Design any of the new flows into and out of AHR - dependant on the NC	9/15/2008	10/13/2008

Item #	Component/ Deliverable Title	Component/ Deliverable Description	Start Date	End Date
		CEDARS requirements		
25	System Architecture and Security Design	Includes design of authentication requirements, deployment products, and hardware and software specifications	3/28/2008	4/25/2008
26	Document	Includes document creation, review, and amendments.	10/13/2008	11/10/2008
Phase 3 – Complete the development, testing, and deployment. Develop and provide required training. Integrate the ID solution into the overall Cedar solution.				
27	**NC CEDARS LDS Project Development**	NC CEDARS Project Development Section	11/10/2008	2/17/2010
28	Reporting Development	Assumption is building for 3 different reporting systems - students, teachers, and parents. For this task we will build for 5 reports for each of the reporting systems	9/30/2009	11/11/2009
29	SIF Brokering Development	Build of SIF Brokering design	11/11/2009	1/6/2010
30	ETL Development	Includes coding Utility Transformations - Data Access, Dimension Management, Fact Management, Data Loading, Scheduling, and Error Handling and Unit Testing	11/10/2008	9/30/2009
31	AHR Impact Development	Build any of the new flows into and out of AHR - dependant on the NC CEDARS requirements.	1/6/2010	2/17/2010
32	System Architecture and Security Development	Includes build of authentication requirements, deployment products, and hardware and software specifications	11/10/2008	2/2/2009
33	Metadata	Includes Security, Users/Groups, and Environment Set-up	11/10/2008	2/2/2009
34	**NC CEDARS LDS Project Testing**	NC CEDARS Project Testing Section	11/10/2008	6/30/2010
35	System Testing	Includes creation of System Test plan, review and	11/10/2008	5/19/2010

Item #	Component/ Deliverable Title	Component/ Deliverable Description	Start Date	End Date
		amendments and execution of System Test.		
36	User Acceptance Testing	Includes support of NCDPI's creation of User Acceptance Test plan. Including review and amendments to the plan and support for problem resolution for issues resulting from NCDPI's execution of User Acceptance Test	5/19/2010	6/30/2010
37	**NC CEDARS LDS Project Deployment**	NC CEDARS Project Deployment Section	6/30/2010	7/28/2010
38	Migrate to Production	Includes migration of production objects, loading of data, and production test.	6/30/2010	7/28/2010
39	Rollout	Assumption is SAS will not have responsibility for product rollout.	7/28/2010	7/28/2010
40	**NC CEDARS LDS Project Installation**	NC CEDARS Project Installation Section	7/28/2008	8/15/2008
41	Install	Assumes that HW and SW have been acquired	7/28/2008	8/15/2008
42	**NC CEDARS LDS Project Training**	Assumption is a train the trainer approach. Will need refined based on more discussions with NCDPI.	2/17/2010	3/17/2010
43	**NC CEDARS LDS Project End**	NC CEDARS Project End	7/30/2010	7/30/2010
44	**NC CEDARS ID Project Start**	**Provide unique person IDs. Conduct a pilot and complete all testing prior to rollout.**		
45	**NC CEDARS Student ID v0.2**		8/1/2007	7/30/2010
46	**Person ID Project**		8/1/2007	7/30/2010
47	**Project Initialization**	Initialization of the Project	8/1/2007	9/25/2007
48	SOW	Statement of Work Development and Sign-off	8/1/2007	8/10/2007
49	Kickoff	Project kick-off	8/1/2007	8/16/2007
50	Initial Planning	Initial Project Planning	8/16/2007	9/6/2007
51	Analysis and Design	Analysis and Design Phase	8/1/2007	9/4/2007
52	Technical Architecture	Technical architecture	9/5/2007	9/25/2007
53	Output Design and	Output Design and	9/5/2007	11/27/2007

Item #	Component/ Deliverable Title	Component/ Deliverable Description	Start Date	End Date
	Communication	Communication		
54	**Rollout of ID to All Districts**	Rollout of ID to All Districts	11/28/2007	10/28/2008
55	Pilots	Pilots	11/28/2007	1/22/2008
56	Roll-Out	Roll-Out	11/28/2007	10/28/2008
57	**Person Locator**	Person Locator	9/4/2007	5/12/2008
58	**Student Locator**	Student Locator	1/8/2008	2/14/2008
59	**Staff Locator**	Staff Locator	1/8/2008	2/14/2008
60	**Install Production**	Install Production	11/28/2007	4/30/2008
61	**Student Locator Update and Maintenance**	System Update and Maintenance	9/1/2008	7/30/2010
62	**NC CEDARS ID Project End**	NC CEDARS ID End		7/30/2010

Component	Role	Solution Technology	Fund Source[1]
Student Identifiers	Provides a unique identifier for every student across the state	ESP Solutions tools	NCDPI & USED
Staff Identifiers	Provides a unique identifier for every staff member across the state	ESP Solutions tools	NCDPI & USED
ED*Facts* Reporting	Collects information from current and future CEDARS data stores and prepares ED*Facts* compliant submissions.	ESP Solutions tools	NCDPI & USED
Analytical Tools	Provides statistical analysis and reporting capabilities against data provided from the education repository.	SAS® Enterprise Intelligence Suite for Education, SAS® Business Intelligence Server	NCDPI & USED
Longitudinal Data Store	Contains data desired by the CEDARS program stakeholders organized to support various time-series analysis	Oracle DBMS	NCDPI
Transcript Service	Provides a brokerage model transcript exchange service with other states and authorized agencies.	ESP National Transcript Service	NCDPI & USED
Message Broker Service Between Transactional Systems	Provides a loosely couple mechanism for supporting complex data integration between disparate systems using an intermediate broker coupled with standardized data messages.	Websphere MQ	NCDPI & USED
Standard Message Sets for Data Exchange	An industry agreed upon standard set of messages for describing activities and their related data within a business domain – in this case the education domain. These types of standards typically make interoperable systems from disparate vendors feasible.	SIF 2.0 Standard	NCDPI & USED
Business Rule Services	A service that contains business rules that require uniform implementation across a business domain. These services extract business logic from within specific systems and locate them in a single addressable space where they can be managed independently.	Oracle Business Rules	NCEEA Funds

Table B-1: NCEEA Key Architectural Components List

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Component	Role	Solution Technology	Fund Source[1]
Workflow Management Services	A service that extracts logic (often embedded into systems) that controls how work is processed. These systems simplify program design and construction by separating the action performed by a piece of software from the activity to bring work to the software and take it to the next step in the work process.	Oracle BPEL Process Manager	NCEEA Funds
Consolidated Audit log services	Captures log information from many parts of a distributed system into a single integrated log facility. This substantially simplifies audit and technical management activities – both critical to insuring and demonstrating the integrity of data in systems.	Websphere MQ	NCDPI, NCITS & USED
System Management Service	Systems management refers to enterprise-wide administration of distributed computer systems. Systems management is strongly influenced by network management initiatives in telecommunications.	BMC Patrol/Nagios	NCDPI, NCITS & USED
Identity Management Service	A State provided service that manages the identity life cycle of entities (subjects or objects) relevant to State systems in North Carolina.	North Carolina State Identity Management Service (NCID)	NCDPI, NCITS & USED
Business Application Adaptation	The role of refitting existing applications to work within the technical construction model required by the NCEEA and the NCSTA.	Java, Visual Basic.NET, Oracle PLSQL, SAS Business Integration Suite	NCDPI, NCITS & USED

Table B-1: NCEEA Key Architectural Components List (Cont)

[1]The following are the sources of funds: 1) NCDPI – funds available from NCDPI; 2) NCITS – funds available from the NC Office of Information Technology; 3) USED – funds available from the USED LDS grant.

CCSSO Education Domain Name	Operational Store	Longitudinal Store
Student Record	Complete – Ad Hoc Reporting Project	Planned - CEDARS
Directories	Limited - Ad Hoc Reporting Project	Planned - CEDARS
Curriculum	Limited - Ad Hoc Reporting Project	Planned - CEDARS
Accountability	Limited - Ad Hoc Reporting Project	Planned - CEDARS
Staff Record	Limited – Ad Hoc Reporting Project	Planned - CEDARS
Program	Limited - Ad Hoc Reporting Project	Planned - CEDARS
Grant	Planned - CEDARS	Planned - CEDARS
Finance	Planned - CEDARS	Planned - CEDARS
Infrastructure	Planned - CEDARS	Planned - CEDARS

Table B-2: LDS Data Domains

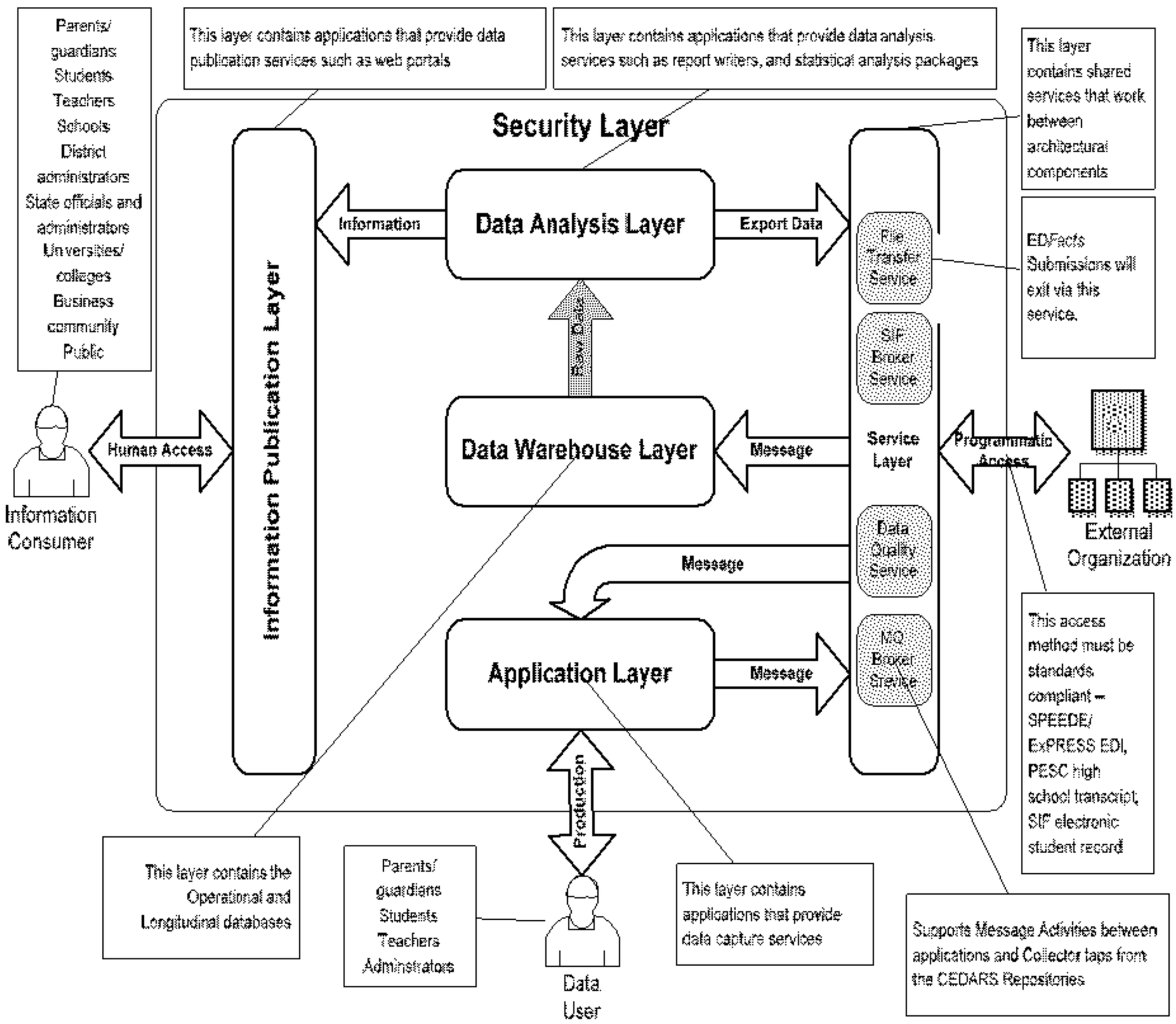

Figure B-1: NC CEDARS Abstract Architecture

Core Element Abbreviated Description	Fund Source[1]	Status
1. Analysis of the business needs (multiple reporting and decision support needs) of key stakeholders	NCDPI & USED	In Process
2. Cataloging current and planned local data collection methods and data structures	NCDPI & USED	In Process
3. Designing statewide LDS architecture		
a. Including in data model the business needs of key stakeholders	NCDPI & USED	Planned
b. Developing effective data quality assurance system, that contains:		
i. Data dictionary, with well-defined content and common definitions for data elements	NCDPI & USED	In Process
ii. Business rules for data format, acceptable values, missing data options, and logical comparisons to prior data	NCDPI & USED	In Process
iii. Automated data edit processes to verify data quality and to ensure that rules are met before allowing data into the State's data system	NCDPI & USED	Planned
iv. Systems and procedures to assure correct utilization of data by the users and providers	NCDPI & USED	In Process
c. Developing an effective, statewide data model that defines and describes the logical and physical relationships between data items and systems	NCITS	In Process
d. Assuring secure access to data and formal reports to protect the confidentiality of individuals, in compliance with FERPA and the statistical reliability of results	NCDPI & USED	In Process
e. Structured to enable efficient data extraction for time-based analyses	NCDPI & USED	In Process
f. Allowing modifications and enhancements to the system's data and architecture, including system expansion over time	NCITS	In Process
4. Creating, assigning and tracking a unique, permanent student identifier assigned at state level		
a. Allowing the matching of individual student records across databases and years for every student enrolled in preK-12 state education system	NCDPI & USED	In Process
b. Allowing for program evaluation (including potential capacity to track students past the 12th grade)	NCDPI & USED	In Process
c. Allowing for student record transfers among States when students move across state borders	NCDPI & USED	Planned
5. Planning and implementing data collection		
a. From districts and/or schools so that the SEA can incorporate data in the system for all students, classrooms and schools under the SEA's jurisdiction, including:		
i. Development of collaboration among all parties within the SEA, and between the SEA and school districts in data collection, reporting and dissemination	NCITS	Planned
ii. Provisions for the needs of districts with limited ability to participate in technology systems	NCITS	In Process

Table B-3: Core Element Status

Core Element Abbreviated Description	Fund Source[1]	Status
b. Conducting cost/benefit and sustainability analyses of dynamic vs. static data extraction systems (data entered directly by school personnel into the statewide system, with instantaneous error feedback vs. data files imported from districts on a periodic basis)	NCITS	Planned
c. Shortening reporting time and increasing the accuracy of student assessment data (e.g. through technology-based assessments)	NCITS	Planned
6. Implementing statewide longitudinal data system (warehouse)		
a. Development of the system according to the designed architecture	NCDPI & USED	In Process
b. Testing of the system	NCDPI & USED	In Process
c. Going live	NCDPI & USED	In Process
7. Designing, using and maintaining business intelligence tools (analytical & reporting)		
a. Streamlining reporting capabilities to local, state and federal agencies, using pre-defined, automated reports (including for ED*Facts*, NCLB, NCES and the public)	NCDPI & USED	Planned
b. Supporting:	NCDPI & USED	
i. Multiple reporting and analyses needs of different stakeholders	NCDPI & USED	In Process
ii. High-level longitudinal analyses, required for data-driven decision-making by policymakers, educators and members of the public	NCDPI & USED	In Process
c. Providing timely, accurate and user-friendly dissemination of the needed data, reports and analyses results to:		
i. Parents/guardians and students	NCDPI & USED	Planned
ii. Teachers	NCDPI & USED	In Process
iii. Schools	NCDPI & USED	In Process
iv. District administrators	NCDPI & USED	In Process
v. State officials and administrators	NCDPI & USED	In Process
vi. Universities/colleges and the business community	NCDPI & USED	Planned
vii. The public	NCDPI & USED	Planned
d. Engaging in longitudinal education research to inform policy and decision-making	NCDPI & USED	In Process
e. Leading the State, districts and teachers in the development and use of innovative analytical tools and reports to inform policy and decision-making	NCDPI & USED	In Process
8. Establishing logistical capacity to create and maintain a statewide longitudinal data system	NCDPI & USED	In Process
a. Developing efficient administrative processes, infrastructure components and policy commitments for effectively implementing the maintenance of the statewide LDS, regarding:		

Table B-3: Core Element Status (Cont)

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Core Element Abbreviated Description	Fund Source[1]	Status
i. Assuring continued data collection and quality	NCDPI & USED	In Process
ii. Assuring continued dissemination of data and analyses results	NCDPI & USED	In Process
iii. Assuring data security and confidentiality, including addressing potential concerns of stakeholders about student privacy in automated systems	NCDPI & USED	In Process
iv. Assuring continued funding	NCDPI & USED	In Process
v. Assuring continued adequate human resources	NCDPI & USED	In Process
vi. Assuring continued enabling legislation	NCDPI & USED	In Process
vii. Assuring the continued adequacy of hardware, software and networking capabilities	NCDPI & USED	In Process
b. Assuring sustainability and effectiveness of the system by:		
i. Assuring administrative buy-in	NCDPI & USED	In Process
ii. Assuring qualified staff, training, technical and other resources dedicated to the State's administrative technology over the long term, to ensure the system's continued effectiveness (including the commitment and ability of staff to implement, use and continually develop the data system)	NCDPI & USED	In Process
iii. Developing a strong plan for the SEA and other stakeholders to continually evaluate and improve the effectiveness of the data system and of associated processes	NCDPI & USED	In Process
c. Involving and supporting stakeholders by establishing and/or facilitating the existence of:		
i. A policy advisory committee that includes representatives from each key stakeholder group	NCDPI & USED	In Process
ii. A data provider/collection group	NCDPI & USED	In Process
iii. A data user group	NCDPI & USED	In Process
iv. An internal agency coordination group to oversee data collection, management and dissemination	NCDPI & USED	In Process
d. Planning and funding initial and ongoing, efficient and effective training of key state and local data collectors and users		
i. Data Entry, Cleaning, and Transfer	NCDPI & USED	In Process
ii. Data Extraction	NCDPI & USED	In Process
iii. Unique Student ID System	NCDPI & USED	In Process
iv. Business Intelligence Tools and use of data for decision-making	NCDPI & USED	In Process
8. Establishing logistical capacity to create and maintain a statewide longitudinal data system	NCDPI & USED	In Process

Table B-3: Core Element Status (Cont)

[1]The following are the sources of funds: 1) NCDPI – funds available from NCDPI; 2) NCITS – funds available from the NC Office of Information Technology; 3) USED – funds available from the USED LDS grant.

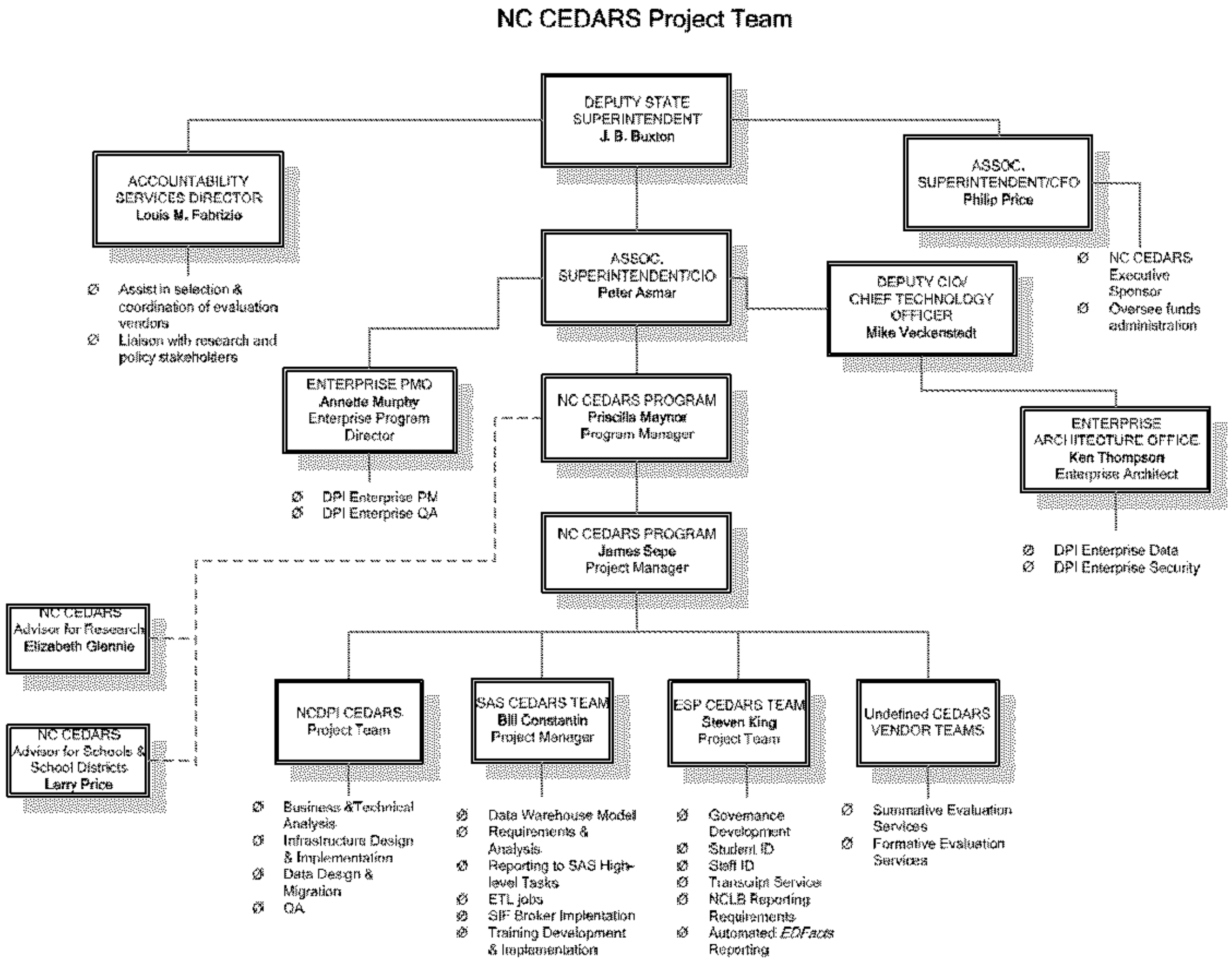

Figure B-2: NC CEDARS Project Team

Role	Responsibilities, % Time Allocation
Peter Asmar, NCDPI CIO	Provide critical leadership\communication link among NC CEDARS program, stakeholders, and other project teams within the NCDPI IT enterprise. (b)(4)
J.B. Buxton, NCDPI, Deputy State Superintendent	Provide critical leadership\communication among NC CEDARS project team, stakeholders, and leadership infrastructure within the State, including State legislature, NC State Board of Education, NC Governing boards of Education, and other key business community partners. (b)(4)
Bill Constantin, SAS Project Manager	Provide direct project leadership\oversight to ensure successful design\implementation of NC CEDARS operational\ longitudinal data store and reporting project segments. Oversee the development of NC CEDARS training program (b)(4)
Lou Fabrizio, NCDPI, Accountability Services Director	Provide direct leadership\guidance to NC CEDARS design\implementation related to the State's accountability model, student data accessibility and security, and appropriate statistical methodologies employed in data analysis. (b)(4)
Elizabeth Glennie, , NC Education Research Data Center, Center for Child and Family Policy, Duke Univ.	Provide leadership\support to NC CEDARS project serving as the liaison between the research community and stakeholders groups to ensure the project design serves the needs of the research community. (b)(4)
Steven King, ESP, Project Manager	Provide direct project leadership for Federal Reporting to ED*Facts*, student/staff identifier system, transcript service, NCLB reporting requirements and governance consulting. (b)(4)
Priscilla Maynor, NC CEDARS Program Manager	Provide critical leadership and communication link among the NC CEDARS program and the stakeholders within NCDPI, and the LEAs. (b)(4)
Annette Murphy, NCDPI, EPMO Director	Provide direct leadership\coordination to ensure NC CEDARS project team and project design interfaces with other applications and support teams within the NCDPI IT enterprise. Ensures compliance to the policies, procedures and guidelines. (b)(4)
Larry Price, Wilson County Superintendent	Provide leadership\guidance on project design to ensure NC CEDARS meets the needs of the LEAs in NC. (b)(4)
Philip Price, NCDPI CFO	Serve as Executive Sponsor of NC CEDARS project. Responsible for the fiscal accountability of the project to ensure within budget. Provide direct leadership as the communication link among all funding constituents. (b)(4)
James Sepe, NCDPI, CEDARS Project Manager	Provide direct project leadership\oversight to ensure successful design and implementation of NC CEDARS project. (b)(4)
Ken Thompson, NCDPI, Chief Technical Architect	Provide direct project leadership to ensure NC CEDARS planning and implementation fits within the envisioned NCDPI enterprise-wide architecture. (b)(4)
Mike Veckenstedt, NCDPI, CTO / Deputy CIO	Provide direct project leadership\oversight to ensure successful design and implementation of NC CEDARS project. Serve as communication link for project status to constituents. (b)(4)

Table B-4: NC CEDARS Key Personnel Roles, Responsibilities and Time Allocation

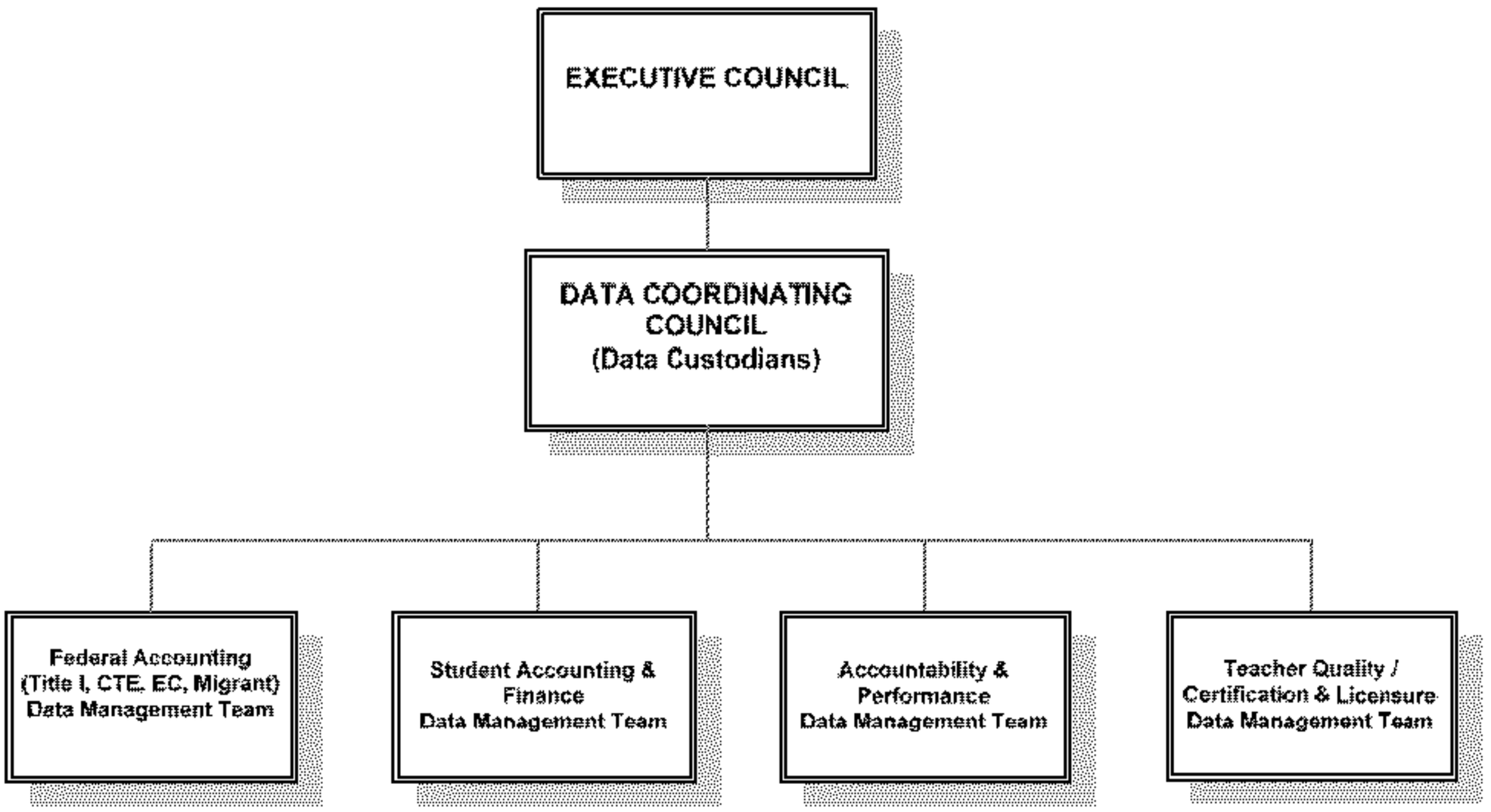

Figure B-3: NC CEDARS Governance Structure

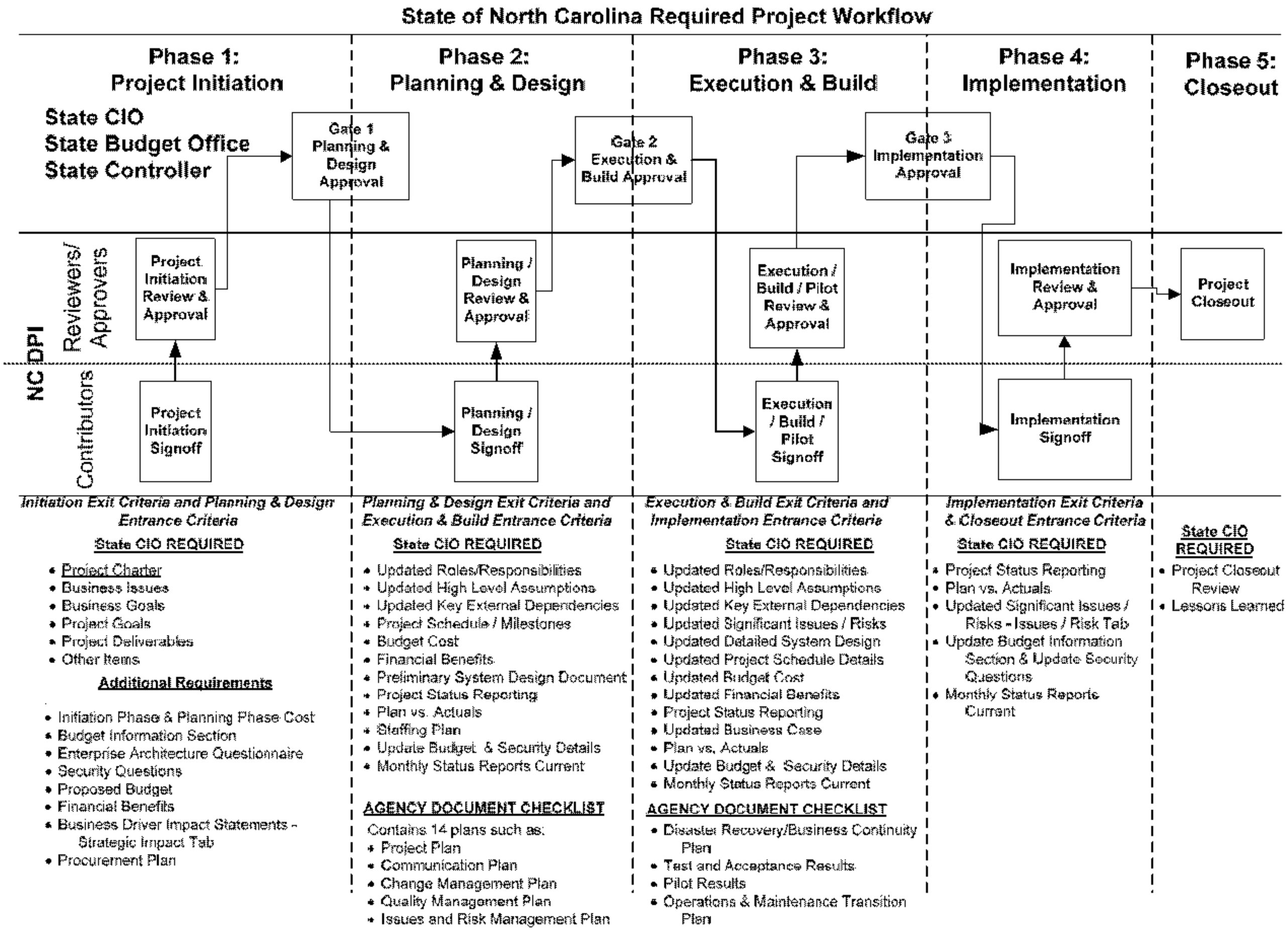

Figure B-4: State of North Carolina Required Project Workflow

JAMES B. HUNT, JR.

(b)(6)

March 1, 2007

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

Dear Secretary Spellings:

I am very pleased to write in support of the North Carolina Department of Public Instruction's application to the Institute of Education Services for a grant to help fund the development of an educational longitudinal data system.

As a four-term Governor of North Carolina and current chairman of the James B. Hunt, Jr. Institute for Educational Leadership and Policy, I am keenly aware of the significance of having longitudinal educational data. It forms the very bed rock for developing sound educational policies and then translating those policies into practice. I am convinced all those associated with improving the education of North Carolina's children recognize the importance of this grant and the contribution its award would have to not only North Carolina's students, but those of the entire nation.

Education is our future. We must not settle for anything short of excellence in our schools. Awarding this grant to North Carolina would be a momentous step toward achieving that excellence. Consequently, please know that I am fully dedicated to seeing this be a success in North Carolina.

Thank you in advance for your consideration and I look forward to seeing you again soon .

My warmest personal regards.

Sincerely,

James B. Hunt, Jr.

(b)(6)

North Carolina General Assembly
Senate Chamber
State Legislative Building
Raleigh, NC 27601-2808

SENATOR VERNON MALONE
14TH DISTRICT

March 1, 2007

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

Dear Secretary Spellings:

I am very pleased and supportive of the North Carolina Department of Public Instruction's effort to gain Federal support for a longitudinal data system by the submission of this grant proposal. As the Co-chairman of the Oversight Committee on Information Technology and member of the Joint Legislative Education Oversight Committee, I have a deep interest in seeing this project succeed.

For many years our Legislature has provided State funds for collecting and reporting student data. Of course, gathering the data alone has not ensured that it is shared and used to improve both instruction and student achievement. Consequently, I enthusiastically support your recognition of the need and value of a data system which stores student data in a shared repository and provides the data in an operable format across all agencies and among appropriate stakeholders. Support from you at the Federal level would help our state quickly develop the repository and, ultimately, faster reach our goal of higher achievement for North Carolina students.

I appreciate your serious consideration of North Carolina's grant application. Whenever I may be of assistance, please do not hesitate to contact me.

Sincerely,

Vernon Malone

Vernon Malone

North Carolina General Assembly
House of Representatives
Legislative Office Building, Suite 402
Raleigh, North Carolina 27603-5925

March 1, 2007

REPRESENTATIVE JOE P. TOLSON
23rd District

TELEPHONE: (919) 715-3024
(919) 754-3224 FAX

DISTRICT: PO Box 1
Pinetops, NC 27864
(252) 827-2749

E-MAIL: joet@ncga.net

COMMITTEES:

AGRICULTURE
APPROPRIATIONS COMMITTEE, VICE-CHAIRMAN
APPROPRIATIONS SUBCOMMITTEE ON EDUCATION, CHAIRMAN
EDUCATION
EDUCATION SUBCOMMITTEE ON COMMUNITY COLLEGES
HEALTH
PENSIONS AND RETIREMENT
SCIENCE AND TECHNOLOGY, VICE-CHAIRMAN

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

Dear Secretary Spellings:

I am delighted to write a recommendation for the North Carolina Department of Public Instruction's application to the Institute of Education Sciences for a grant to help fund the development of a longitudinal data system. As a retired educator, Co-chairman of the Oversight Committee on Information Technology and member of the Joint Legislative Education Oversight Committee, I am very committed to seeing this project succeed.

This data system will make it easier to get the authoritative and consistent information needed by many organizations. Our State legislators and Federal administrators will have the information needed to evaluate the effectiveness of State and Federal programs. Researchers will be able to improve student learning and close the achievement gap. Education administrators will be able to track both students and teachers throughout their education careers in our State's public schools. In addition to improving access to data outputs, the new system will clearly be more efficient on the input side than our current system. I have long been an advocate of streamlining administrative processes in the school and school districts, and this proposed new system will surely be the means for streamlining.

I wholeheartedly support the Department of Public Instruction's application to bridge the gap between data collection and the meaningful application of analysis to improve student performance. Thank you for your favorable consideration.

Sincerely yours,

Joe P. Tolson

JPT:sfp

PUBLIC SCHOOLS OF NORTH CAROLINA
STATE BOARD OF EDUCATION Howard N. Lee, *Chairman*
DEPARTMENT OF PUBLIC INSTRUCTION June St. Clair Atkinson, Ed.D., *State Superintendent*
WWW.NCPUBLICSCHOOLS.ORG

March 1, 2007

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

Dear Secretary Spellings:

It is with great pleasure that North Carolina submits this longitudinal data system grant proposal to the U. S. Department of Education. We plan to use the grant money to accelerate the State education community's transition to a data-driven decision-making environment.

We will use the grant funding to supplement the $4.1 million investment we are making in our Ad Hoc Reporting system that supports local education agencies. This system is to be operational in June 2007 and contains detailed student information. The grant money will be used to expand this capability to include the high quality student and teacher data needed for the Education Data Exchange Network. To allow wider access to the data, the money will also fund the creation of separate portals for use by parents, teachers, and other authorized users.

On behalf of the North Carolina State Board of Education, I am writing to request your support for North Carolina's longitudinal data system grant proposal. We are committed to alignment strategies that build upon our current and future systems so they can provide first-rate data for use at the Federal, State and local levels as outlined in the proposal. Thank you for your consideration of North Carolina's grant proposal.

With kindest regards and best wishes, I am

Respectfully,

Howard N. Lee

OFFICE OF THE STATE BOARD OF EDUCATION
Howard N. Lee, *Chairman* | hlee@dpi.state.nc.us
6302 Mail Service Center, Raleigh, North Carolina 27699-6302 | (919) 807-3304 | Fax (919) 807-3198

State of North Carolina
Office of Information Technology Services

Michael F. Easley, Governor

George Bakolia, State Chief Information Officer

March 1, 2007

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

Dear Secretary Spellings:

I endorse the North Carolina Department of Public Instruction's grant application to the Institute of Education Services to assist in the development of a longitudinal data system.

As the State Chief Information Officer, I encourage state agencies to seek innovative, cost-effective ways to use information technology in the delivery of vital services to our citizens. This data system will provide valuable information that decision-makers can use to improve our public schools.

In addition to endorsing this project, I am writing to assure you that my office will do all that it can to make this project successful. The Office of the State CIO has the statutory authority to approve and monitor large information technology projects in North Carolina. My office also assigns well-qualified project management assistants to help agencies keep projects on time and within budget.

Thank you for your consideration.

Sincerely,

George Bakolia

P.O. Box 17209 • Raleigh, North Carolina 27619-7209
Tel: 919.981.5555 • Fax: 919.991.2048 • State Courier 51-01-11
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Project Narrative

Other Narrative

Attachment 1:
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Budget Information Non-Construction Programs (ED 524) - Section C

1 Contractor Labor Details

1.1 The SAS Institute

This table shows the number of SAS personnel working on the grant in the "Contractual Category" in both Sections A and B of ED Form No 524. They are working on the tasks described in Sections 5.5 and 6.5 of the Budget Narrative.

Cost Allocated to SAS Institute, Inc

	Project Year 1		Project Year 2		Project Year 3		Project Total
Budget Category	Hours	Hourly Rate	Hours	Hourly Rate	Hours	Hourly Rate	Cost
1. Personnel - by labor category							
BI Consultant		(b)(4)		(b)(4)		(b)(4)	$ 87,200
BI Consultant 2							$ 58,400
BI Consultant 3							$ 86,400
Data Modeler							$ 243,200
DEA - Senior							$ 81,600
ETL Consultant							$ 923,474
ETL Consultant 10							$ 37,973
ETL Consultant 2							$ 657,341
ETL Consultant 3							$ 564,851
ETL Consultant 4							$ 541,547
ETL Consultant 5							$ 313,920
ETL Consultant 5							$ 90,347
ETL Consultant 7							$ 105,057
ETL Consultant 8							$ 68,267
ETL Consultant 9							$ 66,347
Installation Consultant							$ 100,800
Metadata Consultant							$ 203,457
Project Manager - Senior							$ 1,503,350
QA Consultant							$ 273,400
QA Consultant 2							$ 222,800
QA Consultant 3							$ 134,400
QA Consultant 4							$ 95,000
Technical Lead							$ 1,503,350
Technical Lead 2							$ 751,680
Technical Writer							$ 124,800
Trainer							$ 38,400
Category Total		$ 3,320,002		$ 3,194,605			$ 9,086,400

1.2 ESP Solutions

This table shows the number of ESP personnel working on the grant in the "Contractual Category" in both Sections A and B of ED Form No 524. They are working on the tasks described in Sections 5.5 and 6.5 of the Budget Narrative.

Cost Allocated to ESP Solutions, Inc

Budget Category	Project Year 1			Project Year 2			Project Year 3			Project Total
1. Personnel - by labor category	**Hours**	**Hourly Rate**	**Cost**	**Hours**	**Hourly Rate**	**Cost**	**Hours**	**Hourly Rate**	**Cost**	
		(b)(4)			(b)(4)			(b)(4)		
Project Director			$ 15,930			$ 5,400			$ 12,420	$ 33,750
Project Manager			$ 35,730			$ 8,000			$ 18,400	$ 62,100
Architect			$ 25,920			$ 10,800			$ -	$ 36,720
Technician			$ 82,400			$ 80,000			$ 29,440	$ 191,840
Category Total			**$ 159,980**			**$ 104,200**			**$ 60,260**	**$ 324,410**
2. Fringe Benefits - included in Personnel			$ -						$ -	$ -
Category Total			$ -						$ -	
3. Travel	**Number**	**Unit Cost**	**Cost**	**Number**	**Unit Cost**	**Cost**	**Number**	**Unit Cost**	**Cost**	**Number**
Numerous to establish Student & Staff IDs	0	$ -	$ 12,602	0	$ -	$ 35,394		$ -	$ 20,544	0
Category Total			**$ 12,602**			**$ 35,394**			**$ 20,544**	**$ 68,540**
12. Total Costs			**$ 172,582**			**$ 139,594**			**$ 80,804**	**$ 392,950**

2 Equipment Category Details

2.1 Hardware

The following are the hardware items projected to be needed for the longitudinal data system. These will be procured over the entire development cycle and the projected quantities and types may need to be revised.

Item	Quantity	Environments
Sun Fire T2000 server	8	Development / Test/ Infrastructure
Sun Fire V490server	10	Development / Test/ Infrastructure
Sun Fire E20K	2	Infrastructure / Production

The following are the hardware items needed for the unique person identification project.

Item	Quantity
Quad processor server	3
Single processor server	2

2.2 Software

The following are the software components included in the SAS Enterprise Intelligence Suite for Education Components:

1. Data Integration
2. Data Cleansing
3. Data Storage
4. Business Intelligence
5. Analytical Intelligence
6. Drill-Down Capabilities
7. Knowledge Management/Public Portal
8. Security

The following are the software items needed for the unique person identification project.

1. E2RP Student Registration System from Choice Solutions
2. E2RP Staff Registration System from Choice Solutions
3. E2RP Enterprise Directory Manager from Choice Solutions

Budget Narrative

Budget Narrative

Attachment 1:
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Budget Narrative

North Carolina Department of Public Instruction

Budget Narrative
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Budget Narrative

1 Introduction

This section addresses three of the topics mentioned in Request for Application (RFA) Section 4, A. General Guidelines. Additionally, it provides the details requested in Section 12, i. These details are discussed in sections below and the cost information is contained in the small tables. These tables contain the cost details provided on ED Form No. 524. U.S. Department of Education Budget Information Non-construction Programs.

2 Maximizing the Buying Power of Statewide Longitudinal Data System Grant Funds

The North Carolina Department of Public Instruction (NCDPI) intends to maximize the buying power of the Federal funds by a number of actions. The first is by use of about $6.1 million in State and other funds to directly support the development and implementation of the NC Common Education Data Analysis and Reporting System (NC CEDARS) longitudinal data system (LDS). The second is paying for all the costs associated with State employees with State funds. These costs include such things as salary, benefits, travel, supplies, personal computers, etc. The third is by purchasing the hardware using the negotiated State level hardware contracts. These negotiated and centrally administered contracts are used to purchase all the hardware used by State agencies for information needs. The fourth action is paying for the Oracle software licensing using State funds. The North Carolina Office of Information Technology Services (NCITS) has an Executive Branch contract with Oracle that allows Executive Branch Departments to use as many Oracle products as they need for a single fixed fee. The SAS Institute, Inc., has provided substantial discounts (over 90%) on the SAS products being used. NCDPI also plans on including the NC CEDARS disaster recovery cost in the cost associated with the North Carolina Window of Information on Student Educations (NC WISE) project. Finally, NCDPI's contracts with its teammates will be firm, fixed price. This contract type requires a detailed up-front determination of the project requirements and then the allocation of those requirements to the individual tasks. The task's completion is determined when some tangible work product is produced that satisfies the task's requirement(s). The results of this approach are detailed in Section A below for the Equipment and Contractual budget categories.

3 Augmenting Existing State Funds Invested

In May 2006, the NCDPI started a $4.1M effort to provide a capability to do ad-hoc and formal reporting of student data from the NC WISE system to the Local Education Agencies (LEAs). This capability, known as Ad-Hoc Reporting (AHR), is to be completed in June 2007 and will contain some 1,100 data elements on almost 680,000 students. By that time, 921 of North Carolina's 2,278 public schools will be using NC WISE. The remainder of the public schools will be transitioned from their existing student information management system (SIMS) to NC WISE in the following years. This capability provides the foundation for providing much of the student level information needed by NC CEDARS.

4 Coordinating State and Local Resources Available for Educational Data Systems with the Use of Federal Funds under this Grant Program

NCDPI proposes to facilitate the coordinating of non-federal resources for educational data systems with the Federal funds from this grant through the NCDPI Chief Financial Officer (CFO). Currently the CFO is briefed by the project managers either monthly or bi-weekly on the financial status of education information technology projects. Among the details of a briefing are the current year projected costs and appropriations as well as projected cost and funding for at least the next five fiscal years. The appropriations include both the Federal and non-federal funds being used on the project. Thus the CFO has the oversight necessary to affect the resource allocation process.

For established applications, the State Chief Information Officer (SCIO) — his letter of support is included in Appendix B — has instituted a Project Portfolio Management Initiative to manage the portfolio of software applications. This initiative resulted in NCDPI getting a FY07 $2M appropriation to replace existing old technology applications. The NCDPI Chief Information Officer (CIO), Peter Asmar, (a "key" person on this grant) has directed that replacement applications be architected so they are able to share their outputs with other NCDPI applications. For the FY2008 NCDPI is requesting $2.0M to do the same thing. This will certainly facilitate the movement of data into NC CEDARS and ultimately benefit the researcher and decision makers using the data.

5 Itemized Breakdown of Section A Federal Funds Cost

As mentioned above North Carolina is using the grant funds to supplement a $6.1 million amount to the work described in the Narrative. The cost details below total to the $6.0 million grant ceiling. They represent approximately 49.9% of the total project cost. The State portion of the cost is found in the Section B details below.

5.1 Personnel and Fringe Benefits Categories

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
1. Personnel	$0	$0	$0	$0
2. Fringe Benefits	$0	$0	$0	$0

There is no use of Federal funds for Personnel or Fringe Benefits on this project.

5.2 Travel Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
3. Travel	$0	$0	$0	$0

Travel costs are being paid for by the State.

5.3 Equipment Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
4. Equipment	$631,058	$295,742	$345,636	$1,272,436

The Federal funds being used to pay for equipment will be used to purchase the items listed in the tables below. The term "Equipment" includes both the hardware and Commercial-Off-The Shelf' (COTS) software needed to do the work. More details of this are found in Section C.

Task Details for tasks ending in the 1st Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Software Purchase	Purchase SAS software	SAS Software	Oct-07	$143,796
1st Hardware purchase	Purchase initial hardware	SAS Hardware	Nov-07	$228,683
Install HW and SW	Install Hardware and Software for the system at NCDPI	ESP Equipment	Dec-07	$258,579

Task Details for tasks ending in the 2nd Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Software Renewal	Renew SAS Software licenses	SAS Software	Aug-08	$67,058
2nd Hardware purchase	Purchase 1st increment to initial hardware	SAS Hardware	Nov-08	$228,683

Task Details for tasks ending in the 3rd Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Software Renewal	Renew SAS Software licenses	SAS Software	Aug-09	$67,058
3rd Hardware purchase	Purchase 2nd increment to initial hardware	SAS Hardware	Nov-09	$228,683
Person Locator Software Maintenance	Person Locator Maintenance and License Fees	ESP Software	Jul-10	$49,895

5.4 Supplies Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
5. Supplies	$0	$0	$0	$0

There are no supplies being paid for with Federal funds.

5.5 Contractual Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
6. Contractual	$1,673,361	$1,520,313	$1,533,890	$4,727,564

NCDPI has formal teaming agreements with ESP Solutions Group and The SAS Institute, Inc., and intends to enter into firm fixed price contracts to complete the work described in this proposal. The work describe herein was scheduled using Microsoft Project and the project activity network contained almost 250 linked activities. The cost for each activity was determined using the team's experience with previous work at both NCDPI and other education customers. Details of the effort to accomplish the tasks listed below are found in Section C.

The above cost includes the contract employees who are key personnel and listed below.

Role	**Responsibilities, % Time Allocation**
Bill Constantin, SAS Project Manager	Provide vendor project management for both the operational and longitudinal data store project and reporting project segments and oversee the development of the NC CEDARS training program. ((b)(4))
Steven King, ESP, Project Manager	Provide vendor project management for the student and staff ID, the transcript service, and NCLB reporting requirements project segments and provide governance consulting. ((b)(4))

The following cost estimates are based on the individual team member's professional judgment to do the work described in the Request for Application and their own experiences in similar projects. The "Federal Share" amount reflects approximately 49.9% of the task total cost. Also considered was a start work date of August 1, 2007.

Task Details for tasks ending in the 1st Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
SOW created	Create the Statement of Work	ESP Labor	Aug-07	$534
Schedule Onsite Project Kick-off	Schedule the Kick-off meeting	ESP Labor	Aug-07	$200
Confirm Requirements and Specifications (SEA and Districts)	Confirm Requirements and Specifications with State and districts	ESP Labor	Aug-07	$938
Set Agenda for Onsite Project Kickoff	Set the Agenda for the Onsite Project Kick-off meeting	ESP Labor	Aug-07	$200
SOW edited	Edit and Revise the Statement of Work	ESP Labor	Aug-07	$868
Initial Project Plan	Develop the Initial Project Plan	ESP Labor	Aug-07	$2,135
SOW finalized	Statement of Work Finalized	ESP Labor	Aug-07	$2,135
SOW delivered to NCDPI	Statement of Work delivered to NCDPI	ESP Labor	Aug-07	$0
SOW accepted and contract signed	Statement of Work Finalized and Signed	ESP Labor	Aug-07	$0
Scope	Project Scope	SAS Labor	Aug-07	$0
Define/Agree on Project Scope	Includes NC CEDARS Data Warehouse subject area selection, required reporting, SIF brokering, AHR changes and Deployment Plan	SAS Labor	Aug-07	$0
Onsite Kickoff Meeting	Conduct the Onsite Kick-off Meeting	ESP Labor	Aug-07	$2,959
Software Licensing Agreements Signed	Sign Software Licensing Agreement	ESP Labor	Aug-07	$0
Identify Hardware, Software, Network, Security Experts	Identify the Hardware, Software, Network and Security Experts that will work on the Project	ESP Labor	Aug-07	$539
Assign and Communicate Roles	Assign and Communicate the Roles of the Team	ESP Labor	Aug-07	$534
Distribute Team Member Contact Information	Distribute Team Member Contact Information	ESP Labor	Aug-07	$50

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Identify Pilot District Candidates	Identify Pilot District Candidates	ESP Labor	Aug-07	$1,876
Select Pilot Districts	Select the Pilot Districts	ESP Labor	Aug-07	$1,078
Review NCDPI and WAN Environment	Review WAN and NCDPI Environment	ESP Labor	Sep-07	$539
SEA/Vendors Trade Security Documentation for Review and Planning	Security documentation traded for Review between NCDPI and Vendors, Security Plan developed	ESP Labor	Sep-07	$0
Identify Key Use Cases, Data Elements, and Business Rules	Identify Key Use Cases, Data Elements, and Business Rules	ESP Labor	Sep-07	$938
Modify Project Plan Based upon Feedback	Modify Project Plan based on the Feedback	ESP Labor	Sep-07	$1,197
Create Architecture Specifications	Create the Architecture Specification	ESP Labor	Sep-07	$7,544
Reporting Requirements	Assumption is gathering requirements for 3 different reporting systems - students, teachers, and parents. For this task we will gather requirements for 5 reports for each of the reporting systems.	SAS Labor	Oct-07	$143,696
NC WISE	Data Storage/Transfer Technology - Oracle DBMS	SAS Labor	Oct-07	$10,777
Accountability	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Oct-07	$10,777
LIC/SAL	Data Storage/Transfer Technology - SQL Server 2000	SAS Labor	Oct-07	$10,777
MSA DBS NCAS	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Oct-07	$10,777
LIC/SAL	Data Storage/Transfer Technology - SQL Server 2000	SAS Labor	Nov-07	$20,357

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
MSA DBS NCAS	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Nov-07	$20,357
NC WISE	Data Storage/Transfer Technology - Oracle DBMS	SAS Labor	Nov-07	$21,554
Accountability	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Nov-07	$21,554
CECAS	Data Storage/Transfer Technology - SQL Server - SQL Server 2000	SAS Labor	Nov-07	$5,987
SIMS	Data Storage/Transfer Technology - xBase - Flat Files	SAS Labor	Nov-07	$5,987
SAR	Data Storage/Transfer Technology - DB2/400 - Version on Mainframe	SAS Labor	Nov-07	$9,580
To Be Collected	Data Storage/Transfer Technology - TBD	SAS Labor	Nov-07	$9,580
SIMS	Data Storage/Transfer Technology - xBase - Flat Files	SAS Labor	Nov-07	$11,975
CECAS	Data Storage/Transfer Technology - SQL Server - SQL Server 2000	SAS Labor	Nov-07	$11,975
Output Design and Communication	Output Design and Communication	ESP Labor	Nov-07	$2,669
USDDC	Data Storage/Transfer Technology - Oracle - 10g	SAS Labor	Nov-07	$5,987
AMTR	Data Storage/Transfer Technology - SQL Server - SQL 2000	SAS Labor	Nov-07	$5,987
SAR	Data Storage/Transfer Technology - DB2/400 - Version on Mainframe	SAS Labor	Dec-07	$20,357
To Be Collected	Data Storage/Transfer Technology - TBD	SAS Labor	Dec-07	$20,357
Dropout	Data Storage/Transfer Technology - Multiple - SQL Server 2000 - Access 2000 - Mainframe Focus	SAS Labor	Dec-07	$5,987

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
CTE	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Dec-07	$5,987
USDDC	Data Storage/Transfer Technology - Oracle - 10g	SAS Labor	Dec-07	$11,975
AMTR	Data Storage/Transfer Technology - SQL Server - SQL 2000	SAS Labor	Dec-07	$11,975
Membership File	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Dec-07	$3,592
MIS 2000	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Dec-07	$3,592
NC Specific Interface Branding to NCDPI for Acceptance	NC Specific Interface Branding to NCDPI for Acceptance	ESP Labor	Dec-07	$1,277
Interface Branding Acceptance	Interface Branding Acceptance	ESP Labor	Dec-07	$0
SIF Brokering Requirements	Documentation of SIF Brokering Requirements	SAS Labor	Dec-07	$21,554
Membership File	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Dec-07	$7,185
MIS 2000	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Dec-07	$7,185
Title I Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Dec-07	$3,592
Accountability FRL	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Dec-07	$3,592
Dropout	Data Storage/Transfer Technology - Multiple - SQL Server 2000 - Access 2000 - Mainframe Focus	SAS Labor	Dec-07	$11,975
CTE	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Dec-07	$11,975

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
SNA	Data Storage/Transfer Technology - Other - Sequential files	SAS Labor	Dec-07	$3,592
HRMS	Data Storage/Transfer Technology - DB2/400 - v5.r3m0 - AS400	SAS Labor	Dec-07	$5,987
Title I Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Jan-08	$7,185
Accountability FRL	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Jan-08	$7,185
Paraprofessional Data Collection	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	$3,592
PMR	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	$3,592
SNA	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	$7,185
Test Environment Configured	Test Environment Configured	ESP Labor	Jan-08	$0
Homeless Data Collection	Data Storage/Transfer Technology - Excel - Delimited Files	SAS Labor	Jan-08	$3,592
HRMS	Data Storage/Transfer Technology - DB2/400 - v5.r3m0 - AS400	SAS Labor	Jan-08	$11,975
Paraprofessional Data Collection	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	$7,185
PMR	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	$7,185
N and D Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Jan-08	$3,592
Homeless Data Collection	Data Storage/Transfer Technology - Excel - Delimited Files	SAS Labor	Jan-08	$7,185

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
NCDPI Generates Sample Data	NCDPI Generates Sample Data for Student ID	ESP Labor	Jan-08	$0
NCDPI Generates Sample Data	NCDPI Generates Sample Data for Staff ID	ESP Labor	Jan-08	$0
Immigration Data Collection	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Jan-08	$3,592
Pilots	Pilots	ESP Labor	Jan-08	$15,402
N and D Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Jan-08	$7,185
Accountability LEP	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Jan-08	$3,592
Immigration Data Collection	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Jan-08	$7,185
Train the Match Model Using Sample Data	Train the Match Model Using Sample Data for Student ID	ESP Labor	Jan-08	$1,597
Train the Match Model Using Sample Data	Train the Match Model Using Sample Data for Staff ID	ESP Labor	Jan-08	$1,597
Accountability LEP	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Feb-08	$7,185
Test and Analyze Results with Sample Data	Test and Analyze Results with Sample Data for Student ID	ESP Labor	Feb-08	$1,597
Test and Analyze Results with Sample Data	Test and Analyze Results with Sample Data for Staff ID	ESP Labor	Feb-08	$1,597
Tune System Based Upon Model Training Feedback	Tune System Based Upon Model Training Feedback for Student ID	ESP Labor	Feb-08	$1,597
Tune System Based Upon Model Training Feedback	Tune System Based Upon Model Training Feedback for Staff ID	ESP Labor	Feb-08	$1,597
Document Testing of Match Model Against Sample Data	Document Testing of Match Model Against Sample Data for Student ID	ESP Labor	Feb-08	$2,076

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Document Testing of Match Model Against Sample Data	Document Testing of Match Model Against Sample Data for Staff ID	ESP Labor	Feb-08	$2,076
Across All Sources	Basic DQ analysis across data sources needed to populate a target subject area - i.e. join key analysis - duplicates across sources, data synchronization issues, etc.	SAS Labor	Feb-08	$28,739
Ambiguous Data Ready for Review	Ambiguous Data Ready for Review for Student ID	ESP Labor	Feb-08	$1,796
Ambiguous Data Ready for Review	Ambiguous Data Ready for Review for Staff ID	ESP Labor	Feb-08	$1,796
Provide Feedback from Ambiguous Student Data	Provide Feedback from Ambiguous Student Data	ESP Labor	Feb-08	$1,118
Provide Feedback from Ambiguous Staff Data	Provide Feedback from Ambiguous Staff Data	ESP Labor	Feb-08	$1,118
AHR Impact Analysis	Review and document new flows into and out of AHR and how they change dependant on the NC CEDARS Requirements	SAS Labor	Feb-08	$14,370
System Architecture and Security Requirements	Includes determining authentication requirements, deployment products, and hardware and software specifications	SAS Labor	Mar-08	$14,370
Requirements Document	Includes Interviews, creation, review, and amendments	SAS Labor	Mar-08	$14,370
Install State-ID Software at NCDPI - Production	Install State-ID Software at NCDPI - Production	ESP Labor	Mar-08	$1,597
Deploy Backup and Recovery Procedures	Deploy Backup and Recovery Procedures	ESP Labor	Mar-08	$319
Deploy User Administration Procedures	Deploy User Administration Procedures	ESP Labor	Mar-08	$319

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Install State-ID Software at NCDPI - Testing	Install State-ID Software at NCDPI - Testing	ESP Labor	Mar-08	$4,271
Begin Post Initialization Operation	Begin Post Initialization Operation	ESP Labor	Mar-08	$0
Deploy Backup and Recovery Procedures	Deploy Backup and Recovery Procedures	ESP Labor	Mar-08	$479
Deploy User Administration Procedures	Deploy User Administration Procedures	ESP Labor	Mar-08	$479
Post IDs for Download	Post IDs for Download	ESP Labor	Mar-08	$80
Logical Data Model	Includes construction of subject model and source to target mappings	SAS Labor	Mar-08	$43,109
Analysis Period	Analysis Period	ESP Labor	Mar-08	$3,133
Metadata	Includes Security, Users/Groups, and Environment Set-up	SAS Labor	Mar-08	$19,160
SAR	Data Storage/Transfer Technology - DB2/400 - Version on Mainframe	SAS Labor	May-08	$7,664
NC WISE	Data Storage/Transfer Technology - Oracle DBMS	SAS Labor	May-08	$8,622
Accountability	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	May-08	$8,622
LIC/SAL	Data Storage/Transfer Technology - SQL Server 2000	SAS Labor	May-08	$8,622
MSA DBS NCAS	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	$8,622
Physical Data Model	Database Design	SAS Labor	May-08	$14,370
Near Match Resolution	Near Match Resolution	ESP Labor	May-08	$3,133
CTE	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	May-08	$4,790

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
SIMS	Data Storage/Transfer Technology - xBase - Flat Files	SAS Labor	May-08	$4,790
CECAS	Data Storage/Transfer Technology - SQL Server - SQL Server 2000	SAS Labor	May-08	$4,790
Dropout	Data Storage/Transfer Technology - Multiple - SQL Server 2000 - Access 2000 - Mainframe Focus	SAS Labor	May-08	$4,790
Membership File	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	$2,874
NCDPI Reminds Districts to Complete Near Match Resolution	NCDPI Reminds Districts to Complete Near Match Resolution	ESP Labor	May-08	$0
To Be Collected	Data Storage/Transfer Technology - TBD	SAS Labor	May-08	$7,664
SNA	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	$2,874
AMTR	Data Storage/Transfer Technology - SQL Server - SQL 2000	SAS Labor	May-08	$4,790
HRMS	Data Storage/Transfer Technology - DB2/400 - v5.r3m0 - AS400	SAS Labor	May-08	$4,790
Accountability FRL	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	May-08	$2,874
Title I Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	May-08	$2,874
USDDC	Data Storage/Transfer Technology - Oracle - 10g	SAS Labor	May-08	$4,790
N and D Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	May-08	$2,874
Homeless Data Collection	Data Storage/Transfer Technology - Excel - Delimited Files	SAS Labor	May-08	$2,874

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Security and Other Integration between Vendors and NCDPI Environment	Security and Other Integration between Vendors and NCDPI Environment	ESP Labor	May-08	$6,137
PMR	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	$2,874
MIS 2000	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	May-08	$2,874
Immigration Data Collection	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	May-08	$2,874
Paraprofessional Data Collection	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	$2,874
Accountability LEP	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	May-08	$2,874
Dimension Management	Design of Dimension management routines	SAS Labor	May-08	$14,370
Bridge Management	Design of Bridge management routines	SAS Labor	Jun-08	$14,370
Dimensions	Data Loading Design	SAS Labor	Jun-08	$9,580
Bridges	Bridge Design	SAS Labor	Jun-08	$4,790
Fact Management	Design of Fact management routines	SAS Labor	Jun-08	$14,370
Error Handling	Design of Error Handling routines, including exception handling and routing issues to appropriate resources for resolution	SAS Labor	Jun-08	$28,739
Technical Lead	Technical Lead Year 1	SAS Labor	Jul-08	$375,048
Facts	Fact Design	SAS Labor	Jul-08	$9,580
Scheduling	Scheduling Design	SAS Labor	Jul-08	$9,580
Project Management	Project Management Year 1	SAS Labor	Jul-08	$250,032

Task Details for tasks ending in the 2nd Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Install	Assumes that HW and SW have been acquired	SAS Labor	Aug-08	$21,554
Reporting Design	Assumption is design for 3 different reporting systems - students, teachers, and parents. For this task we will design for 5 reports for each of the reporting systems.	SAS Labor	Aug-08	$114,957
SIF Brokering Design	Documentation of SIF Brokering design	SAS Labor	Sep-08	$57,479
AHR Impact Design	Design any of the new flows into and out of AHR - dependant on the NC CEDARS Requirements	SAS Labor	Oct-08	$19,160
Roll-Out	Roll-Out	ESP Labor	Oct-08	$59,400
Design Document	Includes document creation, review, and amendments	SAS Labor	Nov-08	$19,160
Database	Includes DDL, creating DB and Unit Testing	SAS Labor	Nov-08	$9,580
Create Test Plan	Create Test Plan	SAS Labor	Dec-08	$71,848
Create Test Data	Create Test Data	SAS Labor	Jan-09	$76,638
Metadata	Includes Security, Users/Groups, and Environment Set-up	SAS Labor	Feb-09	$57,479
LIC/SAL	Data Storage/Transfer Technology - SQL Server 2000	SAS Labor	Feb-09	$16,286
MSA DBS NCAS	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Feb-09	$16,286
SAR	Data Storage/Transfer Technology - DB2/400 - Version on Mainframe	SAS Labor	Feb-09	$16,286
NC WISE	Data Storage/Transfer Technology - Oracle DBMS	SAS Labor	Feb-09	$17,244
Accountability	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Feb-09	$17,244

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
CECAS	Data Storage/Transfer Technology - SQL Server - SQL Server 2000	SAS Labor	Mar-09	$9,580
Dropout	Data Storage/Transfer Technology - Multiple - SQL Server 2000 - Access 2000 - Mainframe Focus	SAS Labor	Mar-09	$9,580
CTE	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Mar-09	$9,580
SIMS	Data Storage/Transfer Technology - xBase - Flat Files	SAS Labor	Mar-09	$9,580
SNA	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Mar-09	$5,748
Membership File	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Mar-09	$5,748
To Be Collected	Data Storage/Transfer Technology - TBD	SAS Labor	Mar-09	$16,286
HRMS	Data Storage/Transfer Technology - DB2/400 - v5.r3m0 - AS400	SAS Labor	Mar-09	$9,580
AMTR	Data Storage/Transfer Technology - SQL Server - SQL 2000	SAS Labor	Mar-09	$9,580
Title I Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Mar-09	$5,748
Accountability FRL	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Mar-09	$5,748
Homeless Data Collection	Data Storage/Transfer Technology - Excel - Delimited Files	SAS Labor	Apr-09	$5,748
N and D Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Apr-09	$5,748
USDDC	Data Storage/Transfer Technology - Oracle - 10g	SAS Labor	Apr-09	$9,580

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
PMR	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Apr-09	$5,748
Paraprofessional Data Collection	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Apr-09	$5,748
Immigration Data Collection	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Apr-09	$5,748
MIS 2000	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Apr-09	$5,748
Accountability LEP	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Apr-09	$5,748
Dimension Management	Development and Unit testing of Dimension management routines	SAS Labor	May-09	$28,739
Fact Management	Development and Unit testing of Fact management routines	SAS Labor	Jun-09	$28,739
Error Handling	Development and Unit testing of Error Handling routines	SAS Labor	Jun-09	$28,739
Project Management	Project Management Year 2	SAS Labor	Jul-09	$250,032
Technical Lead	Technical Lead Year 2	SAS Labor	Jul-09	$375,048
Dimensions	Based on assumptions 75 dimension tables to load	SAS Labor	Jul-09	$71,848

Task Details for tasks ending in the 3rd Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Facts	Based on assumptions 105 fact tables to load	SAS Labor	Aug-09	$100,588
Bridges	Based on assumptions 45 bridges	SAS Labor	Aug-09	$43,109
Code Review	Code Review	SAS Labor	Sep-09	$14,370
Scheduling	Based on assumptions 100 jobs	SAS Labor	Sep-09	$47,899

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Reporting Development	Assumption is building for 3 different reporting systems - students, teachers, and parents. For this task we will build for 5 reports for each of the reporting systems.	SAS Labor	Nov-09	$86,218
SIF Brokering Development	Build of SIF Brokering Design	SAS Labor	Jan-10	$57,479
AHR Impact Development	Build any of the new flows into and out of AHR - dependant on the NC CEDARS Requirements	SAS Labor	Feb-10	$57,479
NC CEDARS Project Training	Assumption is a train-the-trainer approach. Will need refined based on more discussions with NCDPI.	SAS Labor	Mar-10	$19,160
Execute Test Plan	Assumptions: 1)- 200 test scenarios, 2)- execute 1 test scripts per day per FTE, 3)- Each test scripts contains 1/2 day of research and issue follow up and retest	SAS Labor	Apr-10	$287,393
Document Results	Document Testing Results	SAS Labor	May-10	$28,739
User Acceptance Testing	Includes support of NCDPI's creation of User Acceptance Test Plan. Including review and amendments to the plan and support for problem resolution for issues resulting from NCDPI's execution of User Acceptance Test.	SAS Labor	Jun-10	$57,479
Project Management	Project Management Year 3	SAS Labor	Jul-10	$250,032
Technical Lead	Technical Lead Year 3	SAS Labor	Jul-10	$375,048

Task Name	Description	Resource Group	Finish Date (MM/YY)	Federal Share
Migrate to Production	Includes migration of production objects, loading of data, and production test	SAS Labor	Jul-10	$57,479
Rollout	Assumption is SAS will not have responsibility for product rollout	SAS Labor	Jul-10	$0
Person Locator Project Management	Person Locator Project Oversight and Direction	ESP Labor	Jul-10	$51,421

5.6 Construction Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
7. Construction	$0	$0	$0	$0

There are no construction costs in this proposal.

5.7 Other Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
8. Other	$0	$0	$0	#0

There are no costs in the "Other" Category.

6 Itemized Breakdown of Section B Non-Federal Funds Cost

This section details the cost North Carolina is providing to augment the Federal grant funds being provided.

6.1 Personnel and Fringe Benefits Categories

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
1. Personnel	(b)(4)			
2. Fringe Benefits				

The cost presented on the previous page includes the state employees that are key personnel and listed below. The following were used for the Fringe Benefits for all years: (b)(4) (b)(4) **These costs are not included in the State funding of approximately** (b)(4) **Only costs associated with travel, contract labor, hardware, and software are included in that amount.**

Role	Responsibilities, % Time Allocation
Peter Asmar, NCDPI CIO	Provide critical leadership\communication link among the NC CEDARS program, the stakeholder, and the project teams within the NCDPI IT enterprise. ((b)(4))
J.B. Buxton, NCDPI, Deputy State Superintendent	Provide critical leadership\communication among the NC CEDARS project team, the stakeholders, and the leadership infrastructure within the State including the State legislature, the NC State Board of Education the NC Governing boards of Education, and other key business community partners. ((b)(4))
Lou Fabrizio, NCDPI, Accountability Services Director	Provide direct leadership\guidance to the NC CEDARS design\implementation related to the State's accountability model, student data accessibility and security, and appropriate statistical methodologies employed in data analysis. ((b)(4))
Priscilla Maynor, NC CEDARS Program Manager	Provide the critical leadership and communication link among the NC CEDARS program and the stakeholders within NCDPI, and the local education agencies. ((b)(4))
Annette Murphy, NCDPI, EPMO Director	Provide direct leadership\coordination to ensure the NC CEDARS project team and project management methods align with other NCDPI IT initiatives and the project adheres to established policies, procedures, standards and guidelines. ((b)(4))
Philip Price, NCDPI CFO	Serve as Executive Sponsor of the NC CEDARS project, is responsible for the fiscal accountability of the project to ensure within budget; provide direct leadership as the communication link among all funding constituents. ((b)(
James Sepe, NCDPI, NC CEDARS Project Manager	Provide direct project leadership\oversight to ensure successful design and implementation of the NC CEDARS project. ((b)(4))
Ken Thompson, NCDPI, Chief Technical Architect	Provide direct project leadership to ensure the NC CEDARS planning and implementation fits within the existing and envisioned NCDPI enterprise-wide architecture. ((b)(4))
Mike Veckenstedt, NCDPI, CTO / Deputy CIO	Provide direct project leadership\oversight to ensure successful design and implementation of the NC CEDARS project and serve as communication link for project status to constituents. ((b)(4))

6.2 Travel Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
3. Travel	(b)(4)			

Travel includes two people flying from Raleigh, N.C. to Washington, D.C. and returning the next day. The purpose of the trip is to attend the annual meeting with other grantees and institute staff to discuss accomplishments, problems encountered, and possible solutions / improvements.

6.3 Equipment Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
4. Equipment	(b)(4)			

Task Details for tasks ending in the 1st Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Software Purchase	Purchase SAS software	SAS Software	Oct-07	(b)(4)
1st Hardware purchase	Purchase initial hardware	SAS Hardware	Nov-07	
Install HW and SW	Install Hardware and Software for the system at NCDPI	ESP Equipment	Dec-07	

Task Details for tasks ending in the 2nd Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Software Renewal	Renew SAS Software licenses	SAS Software	Aug-08	(b)(4)
2nd Hardware purchase	Purchase 1st increment to initial hardware	SAS Hardware	Nov-08	

Task Details for tasks ending in the 3rd Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Software Renewal	Renew SAS Software licenses	SAS Software	Aug-09	(b)(4)
3rd Hardware purchase	Purchase 2nd increment to initial hardware	SAS Hardware	Nov-09	
Person Locator Software Maintenance	Person Locator Maintenance and License Fees	ESP Software	Jul-10	

6.4 Supplies Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
5. Supplies	$0	$0	$0	$0

All the cost of supplies for this project will be paid for by North Carolina. The actual value of those costs is not known.

6.5 Contractual Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
6. Contractual	(b)(4)			

The cost estimates below are based on the individual team member's professional judgment to do the work described in the RFA and his or her own experiences in similar projects. The "State Share" amount reflects approximately (b)(4) of the task total cost. Also considered was a start work date of August 1, 2007. In addition, the State will pay for the undetermined cost of contractual work to develop summative and formative evaluation procedures.

Task Details for tasks ending in the 1st Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
SOW created	Create the Statement of Work	ESP Labor	Aug-07	(b)(4)
Schedule Onsite Project Kick-off	Schedule the Kick-off meeting	ESP Labor	Aug-07	
Confirm Requirements and Specifications (SEA and Districts)	Confirm Requirements and Specifications with State and districts	ESP Labor	Aug-07	
Set Agenda for Onsite Project Kickoff	Set the Agenda for the Onsite Project Kick-off meeting	ESP Labor	Aug-07	
SOW edited	Edit and Revise the Statement of Work	ESP Labor	Aug-07	
Initial Project Plan	Develop the Initial Project Plan	ESP Labor	Aug-07	
SOW finalized	Statement of Work Finalized	ESP Labor	Aug-07	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
SOW delivered to NCDPI	Statement of Work delivered to NCDPI	ESP Labor	Aug-07	(b)(4)
SOW accepted and contract signed	Statement of work Finalized and Signed	ESP Labor	Aug-07	
Scope	Project Scope	SAS Labor	Aug-07	
Define/Agree on Project Scope	Includes NC CEDARS Data Warehouse subject area selection, required reporting, SIF brokering, AHR changes and Deployment Plan	SAS Labor	Aug-07	
Onsite Kickoff Meeting	Conduct the Onsite Kickoff Meeting	ESP Labor	Aug-07	
Software Licensing Agreements Signed	Sign Software Licensing Agreement	ESP Labor	Aug-07	
Identify Hardware, Software, Network, Security Experts	Identify the Hardware, Software, Network and Security Experts who will work on the Project	ESP Labor	Aug-07	
Assign and Communicate Roles	Assign and Communicate the Roles of the Team	ESP Labor	Aug-07	
Distribute Team Member Contact Information	Distribute Team Member Contact Information	ESP Labor	Aug-07	
Identify Pilot District Candidates	Identify Pilot District Candidates	ESP Labor	Aug-07	
Select Pilot Districts	Select the Pilot Districts	ESP Labor	Aug-07	
Review NCDPI and WAN Environment	Review WAN and NCDPI Environment	ESP Labor	Sep-07	
SEA/Vendors Trade Security Documentation for Review and Planning	Security documentation traded for Review between NCDPI and Vendors, Security Plan developed	ESP Labor	Sep-07	
Identify Key Use Cases, Data Elements, and Business Rules	Identify Key Use Cases, Data Elements, and Business Rules	ESP Labor	Sep-07	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Modify Project Plan Based upon Feedback	Modify Project Plan based on the Feedback	ESP Labor	Sep-07	(b)(4)
Create Architecture Specifications	Create the Architecture Specification	ESP Labor	Sep-07	
Reporting Requirements	Assumption is gathering requirements for 3 different reporting systems - students, teachers, and parents. For this task we will gather requirements for 5 reports for each of the reporting systems.	SAS Labor	Oct-07	
NC WISE	Data Storage/Transfer Technology - Oracle DBMS	SAS Labor	Oct-07	
Accountability	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Oct-07	
LIC/SAL	Data Storage/Transfer Technology - SQL Server 2000	SAS Labor	Oct-07	
MSA DBS NCAS	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Oct-07	
LIC/SAL	Data Storage/Transfer Technology - SQL Server 2000	SAS Labor	Nov-07	
MSA DBS NCAS	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Nov-07	
NC WISE	Data Storage/Transfer Technology - Oracle DBMS	SAS Labor	Nov-07	
Accountability	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Nov-07	
CECAS	Data Storage/Transfer Technology - SQL Server - SQL Server 2000	SAS Labor	Nov-07	
SIMS	Data Storage/Transfer Technology - xBase - Flat Files	SAS Labor	Nov-07	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
SAR	Data Storage/Transfer Technology - DB2/400 - Version on Mainframe	SAS Labor	Nov-07	(b)(4)
To Be Collected	Data Storage/Transfer Technology - TBD	SAS Labor	Nov-07	
SIMS	Data Storage/Transfer Technology - xBase - Flat Files	SAS Labor	Nov-07	
CECAS	Data Storage/Transfer Technology - SQL Server - SQL Server 2000	SAS Labor	Nov-07	
Output Design and Communi-cation	Output Design and Com-munication	ESP Labor	Nov-07	
USDDC	Data Storage/Transfer Technology - Oracle - 10g	SAS Labor	Nov-07	
AMTR	Data Storage/Transfer Technology - SQL Server - SQL 2000	SAS Labor	Nov-07	
SAR	Data Storage/Transfer Technology - DB2/400 - Version on Mainframe	SAS Labor	Dec-07	
To Be Collected	Data Storage/Transfer Technology - TBD	SAS Labor	Dec-07	
Dropout	Data Storage/Transfer Technology - Multiple - SQL Server 2000 - Access 2000 - Mainframe Focus	SAS Labor	Dec-07	
CTE	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Dec-07	
USDDC	Data Storage/Transfer Technology - Oracle - 10g	SAS Labor	Dec-07	
AMTR	Data Storage/Transfer Technology - SQL Server - SQL 2000	SAS Labor	Dec-07	
Membership File	Data Storage/Transfer Technology - Other - Se-quential files	SAS Labor	Dec-07	
MIS 2000	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Dec-07	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
NC Specific Interface Branding to NCDPI for Acceptance	NC Specific Interface Branding to NCDPI for Acceptance	ESP Labor	Dec-07	(b)(4)
Interface Branding Acceptance	Interface Branding Acceptance	ESP Labor	Dec-07	
SIF Brokering Requirements	Documentation of SIF Brokering Requirements	SAS Labor	Dec-07	
Membership File	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Dec-07	
MIS 2000	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Dec-07	
Title I Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Dec-07	
Accountability FRL	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Dec-07	
Dropout	Data Storage/Transfer Technology - Multiple - SQL Server 2000 - Access 2000 - Mainframe Focus	SAS Labor	Dec-07	
CTE	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Dec-07	
SNA	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Dec-07	
HRMS	Data Storage/Transfer Technology - DB2/400 - v5.r3m0 - AS400	SAS Labor	Dec-07	
Title I Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Jan-08	
Accountability FRL	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Jan-08	
Paraprofessional Data Collection	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
PMR	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	(b)(4)
SNA	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	
Test Environment Configured	Test Environment Configured	ESP Labor	Jan-08	
Homeless Data Collection	Data Storage/Transfer Technology - Excel - Delimited Files	SAS Labor	Jan-08	
HRMS	Data Storage/Transfer Technology - DB2/400 - v5.r3m0 - AS400	SAS Labor	Jan-08	
Paraprofessional Data Collection	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	
PMR	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Jan-08	
N and D Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Jan-08	
Homeless Data Collection	Data Storage/Transfer Technology - Excel - Delimited Files	SAS Labor	Jan-08	
NCDPI Generates Sample Data	NCDPI Generates Sample Data	ESP Labor	Jan-08	
NCDPI Generates Sample Data	NCDPI Generates Sample Data	ESP Labor	Jan-08	
Immigration Data Collection	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Jan-08	
Pilots	Pilots	ESP Labor	Jan-08	
N and D Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Jan-08	
Accountability LEP	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Jan-08	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Immigration Data Collection	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Jan-08	(b)(4)
Train the Match Model Using Sample Data	Train the Match Model Using Sample Data for Student ID	ESP Labor	Jan-08	
Train the Match Model Using Sample Data	Train the Match Model Using Sample Data for Staff ID	ESP Labor	Jan-08	
Accountability LEP	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Feb-08	
Test and Analyze Results with Sample Data	Test and Analyze Results with Sample Data for Student ID	ESP Labor	Feb-08	
Test and Analyze Results with Sample Data	Test and Analyze Results with Sample Data for Staff ID	ESP Labor	Feb-08	
Tune System Based Upon Model Training Feedback	Tune System Based Upon Model Training Feedback for Student ID	ESP Labor	Feb-08	
Tune System Based Upon Model Training Feedback	Tune System Based Upon Model Training Feedback for Staff ID	ESP Labor	Feb-08	
Document Testing of Match Model Against Sample Data	Document Testing of Match Model Against Sample Data for Student ID	ESP Labor	Feb-08	
Document Testing of Match Model Against Sample Data	Document Testing of Match Model Against Sample Data for Staff ID	ESP Labor	Feb-08	
Across All Sources	Basic DQ analysis across data sources needed to populate a target subject area - i.e. join key analysis - duplicates across sources, data synchronization issues, etc.	SAS Labor	Feb-08	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Ambiguous Data Ready for Review	Ambiguous Data Ready for Review for Student ID	ESP Labor	Feb-08	(b)(4)
Ambiguous Data Ready for Review	Ambiguous Data Ready for Review for Staff ID	ESP Labor	Feb-08	
Provide Feed-back from Am-biguous Student Data	Provide Feedback from Ambiguous Student Data	ESP Labor	Feb-08	
Provide Feed-back from Am-biguous Staff Data	Provide Feedback from Ambiguous Staff Data	ESP Labor	Feb-08	
AHR Impact Analysis	Review and document new flows into and out of AHR and how they change dependant on the NC EDARS Requirements	SAS Labor	Feb-08	
System Archi-tecture and Se-curity Require-ments	Includes determining au-thentication requirements, deployment products, and hardware and software specifications	SAS Labor	Mar-08	
Requirements Document	Includes Interviews, crea-tion, review, and amend-ments	SAS Labor	Mar-08	
Install State-ID Software at NCDPI - Pro-duction	Install State-ID Software at NCDPI - Production	ESP Labor	Mar-08	
Deploy Backup and Recovery Procedures	Deploy Backup and Re-covery Procedures	ESP Labor	Mar-08	
Deploy User Administration Procedures	Deploy User Administra-tion Procedures	ESP Labor	Mar-08	
Install State-ID Software at NCDPI - Test-ing	Install State-ID Software at NCDPI - Testing	ESP Labor	Mar-08	
Begin Post Ini-tialization Op-eration	Begin Post Initialization Operation	ESP Labor	Mar-08	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Deploy Backup and Recovery Procedures	Deploy Backup and Recovery Procedures	ESP Labor	Mar-08	(b)(4)
Deploy User Administration Procedures	Deploy User Administration Procedures	ESP Labor	Mar-08	
Post IDs for Download	Post IDs for Download	ESP Labor	Mar-08	
Logical Data Model	Includes construction of subject model and source to target mappings	SAS Labor	Mar-08	
Analysis Period	Analysis Period	ESP Labor	Mar-08	
Metadata	Includes Security, Users/Groups, and Environment Set-up	SAS Labor	Mar-08	
SAR	Data Storage/Transfer Technology - DB2/400 - Version on Mainframe	SAS Labor	May-08	
NC WISE	Data Storage/Transfer Technology - Oracle DBMS	SAS Labor	May-08	
Accountability	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	May-08	
LIC/SAL	Data Storage/Transfer Technology - SQL Server 2000	SAS Labor	May-08	
MSA DBS NCAS	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	
Physical Data Model	Database Design	SAS Labor	May-08	
Near Match Resolution	Near Match Resolution	ESP Labor	May-08	
CTE	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	May-08	
SIMS	Data Storage/Transfer Technology - xBase - Flat Files	SAS Labor	May-08	
CECAS	Data Storage/Transfer Technology - SQL Server - SQL Server 2000	SAS Labor	May-08	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Dropout	Data Storage/Transfer Technology - Multiple - SQL Server 2000 - Access 2000 - Mainframe Focus	SAS Labor	May-08	(b)(4)
Membership File	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	
NCDPI Reminds Districts to Complete Near Match Resolution	NCDPI Reminds Districts to Complete Near Match Resolution	ESP Labor	May-08	
To Be Collected	Data Storage/Transfer Technology - TBD	SAS Labor	May-08	
SNA	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	
AMTR	Data Storage/Transfer Technology - SQL Server - SQL 2000	SAS Labor	May-08	
HRMS	Data Storage/Transfer Technology - DB2/400 - v5.r3m0 - AS400	SAS Labor	May-08	
Accountability FRL	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	May-08	
Title I Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	May-08	
USDDC	Data Storage/Transfer Technology - Oracle - 10g	SAS Labor	May-08	
N and D Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	May-08	
Homeless Data Collection	Data Storage/Transfer Technology - Excel - Delimited Files	SAS Labor	May-08	
Security and Other Integration between Vendors and NCDPI Environment	Security and Other Integration between Vendors and NCDPI Environment	ESP Labor	May-08	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
PMR	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	(b)(4)
MIS 2000	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	May-08	
Immigration Data Collection	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	May-08	
Paraprofessional Data Collection	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	May-08	
Accountability LEP	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	May-08	
Dimension Management	Design of Dimension management routines.	SAS Labor	May-08	
Bridge Management	Design of Bridge management routines	SAS Labor	Jun-08	
Dimensions	Data loading design	SAS Labor	Jun-08	
Bridges	Bridge Design	SAS Labor	Jun-08	
Fact Management	Design of Fact management routines	SAS Labor	Jun-08	
Error Handling	Design of Error Handling routines, including exception handling and routing issues to appropriate resources for resolution	SAS Labor	Jun-08	
Technical Lead	Technical Lead Year 1	SAS Labor	Jul-08	
Facts	Fact Design	SAS Labor	Jul-08	
Scheduling	Scheduling Design	SAS Labor	Jul-08	
Project Management	Project Management Year 1	SAS Labor	Jul-08	

Task Details for tasks ending in the 2nd Year

Task Name	Description	Resource Group	Finish Date (MM/YY)
Install	Assumes that HW and SW have been acquired	SAS Labor	Aug-08

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Reporting Design	Assumption is design for 3 different reporting systems - students, teachers, and parents. For this task we will design for 5 reports for each of the reporting systems.	SAS Labor	Aug-08	(b)(4)
SIF Brokering Design	Documentation of SIF Brokering design	SAS Labor	Sep-08	
AHR Impact Design	Design any of the new flows into and out of AHR - dependant on the NC CEDARS Requirements	SAS Labor	Oct-08	
Roll-Out	Roll-Out	ESP Labor	Oct-08	
Design Document	Includes document creation, review, and amendments	SAS Labor	Nov-08	
Database	Includes DDL, creating DB and Unit testing	SAS Labor	Nov-08	
Create Test Plan	Create Test Plan	SAS Labor	Dec-08	
Create Test Data	Create Test Data	SAS Labor	Jan-09	
Metadata	Includes Security, Users/Groups, and Environment Set-up	SAS Labor	Feb-09	
LIC/SAL	Data Storage/Transfer Technology - SQL Server 2000	SAS Labor	Feb-09	
MSA DBS NCAS	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Feb-09	
SAR	Data Storage/Transfer Technology - DB2/400 - Version on Mainframe	SAS Labor	Feb-09	
NC WISE	Data Storage/Transfer Technology - Oracle DBMS	SAS Labor	Feb-09	
Accountability	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Feb-09	
CECAS	Data Storage/Transfer Technology - SQL Server - SQL Server 2000	SAS Labor	Mar-09	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Dropout	Data Storage/Transfer Technology - Multiple - SQL Server 2000 - Access 2000 - Mainframe Focus	SAS Labor	Mar-09	(b)(4)
CTE	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Mar-09	
SIMS	Data Storage/Transfer Technology - xBase - Flat Files	SAS Labor	Mar-09	
SNA	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Mar-09	
Membership File	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Mar-09	
To Be Collected	Data Storage/Transfer Technology - TBD	SAS Labor	Mar-09	
HRMS	Data Storage/Transfer Technology - DB2/400 - v5.r3m0 - AS400	SAS Labor	Mar-09	
AMTR	Data Storage/Transfer Technology - SQL Server - SQL 2000	SAS Labor	Mar-09	
Title I Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Mar-09	
Accountability FRL	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Mar-09	
Homeless Data Collection	Data Storage/Transfer Technology - Excel - Delimited Files	SAS Labor	Apr-09	
N and D Data Collection	Data Storage/Transfer Technology - Domino - Domino/Delimited Files	SAS Labor	Apr-09	
USDDC	Data Storage/Transfer Technology - Oracle - 10g	SAS Labor	Apr-09	
PMR	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Apr-09	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Paraprofessional Data Collection	Data Storage/Transfer Technology - Other - Sequential Files	SAS Labor	Apr-09	(b)(4)
Immigration Data Collection	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Apr-09	
MIS 2000	Data Storage/Transfer Technology - Flat Files - Delimited Files	SAS Labor	Apr-09	
Accountability LEP	Data Storage/Transfer Technology - SQL Server - MYSQL 5	SAS Labor	Apr-09	
Dimension Management	Development and Unit testing of Dimension management routines	SAS Labor	May-09	
Fact Management	Development and Unit testing of Fact management routines	SAS Labor	Jun-09	
Error Handling	Development and Unit testing of Error Handling routines	SAS Labor	Jun-09	
Project Management	Project Management Year 2	SAS Labor	Jul-09	
Technical Lead	Technical Lead Year 2	SAS Labor	Jul-09	
Dimensions	Based on assumptions 75 dimension tables to load	SAS Labor	Jul-09	

Task Details for tasks ending in the 3rd Year

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Facts	Based on assumptions 105 fact tables to load	SAS Labor	Aug-09	(b)(4)
Bridges	Based on assumptions 45 bridges	SAS Labor	Aug-09	
Code Review	Code Review	SAS Labor	Sep-09	
Scheduling	Based on assumptions 100 jobs	SAS Labor	Sep-09	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Reporting Development	Assumption is building for 3 different reporting systems - students, teachers, and parents. For this task we will build for 5 reports for each of the reporting systems.	SAS Labor	Nov-09	(b)(4)
SIF Brokering Development	Build of SIF Brokering Design	SAS Labor	Jan-10	
AHR Impact Development	Build any of the new flows into and out of AHR - dependant on the NC CEDARS Requirements	SAS Labor	Feb-10	
NC CEDARS Project Training	Assumption is a train the trainer approach. Will need refined based on more discussions with NCDPI	SAS Labor	Mar-10	
Execute Test Plan	Assumptions: 1)- 200 test scenarios, 2)- execute 1 test scripts per day per FTE, 3)- Each test scripts contains 1/2 day of research and issue follow up and retest	SAS Labor	Apr-10	
Document Results	Document Testing Results	SAS Labor	May-10	
User Acceptance Testing	Includes support of NCDPI's creation of User Acceptance Test Plan. Including review and amendments to the plan and support for problem resolution for issues resulting from NCDPI's execution of User Acceptance Test.	SAS Labor	Jun-10	
Project Management	Project Management Year 3	SAS Labor	Jul-10	
Technical Lead	Technical Lead Year 3	SAS Labor	Jul-10	

Task Name	Description	Resource Group	Finish Date (MM/YY)	State Share
Migrate to Production	Includes migration of production objects, loading of data, and production test	SAS Labor	Jul-10	(b)(4)
Rollout	Assumption is SAS will not have responsibility for product rollout	SAS Labor	Jul-10	
Person Locator Project Management	Person Locator Project Oversight and Direction	ESP Labor	Jul-10	

6.6 Construction Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
7. Construction	$0	$0	$0	$0

There are no construction costs in this proposal.

6.7 Other Category

Budget Category	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
8. Other	$0	$0	$0	$0

There are no costs in the "Other" category.