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Narratives

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OMB No.4040-0004 Exp.01/31/2012

Application for Federal Assistance SF-424 Version 02

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

* 3. Date Received:	4. Applicant Identifier:
12/4/2009	

5a. Federal Entity Identifier:	* 5b. Federal Award Identifier:
	N/A

State Use Only:

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

8. APPLICANT INFORMATION:

* a. Legal Name: Georgia Department of Education

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
586002042	806743159

d. Address:

* Street1:	205 Jesse Hill Drive
Street2:	
* City:	Atlanta
County:	Fulton
State:	GA
Province:	
* Country:	USA
* Zip / Postal Code:	30334

e. Organizational Unit:

Department Name:	Division Name:
Office of Technology Services	Information Technology

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

Prefix:	* First Name:	Robert
Middle Name:		

* Last Name:	Swiggum		
Suffix:			
Title:	Georgia LDS Project		
Organizational Affiliation:			
Georgia Department of Education			
* Telephone Number:	(404)869-1011	Fax Number:	(404)651-9503
* Email:	RSWIGGUM@DOE.K12.GA.US		

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:

84.384A

CFDA Title:

Statewide Longitudinal Data System Recovery Act Grants

*** 12. Funding Opportunity Number:**

NA

Title:

N/A

13. Competition Identification Number:

Title:

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

Entire State of Georgia

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

Georgia LDS Project

Attach supporting documents as specified in agency instructions.

Attachment:
Title :
File :

Attachment:
Title :
File :

Attachment:
Title :
File :

Application for Federal Assistance SF-424 Version 02

16. Congressional Districts Of:
* a. Applicant: GA * b. Program/Project: All

Attach an additional list of Program/Project Congressional Districts if needed.
Attachment:
Title :
File :

17. Proposed Project:
* a. Start Date: 4/1/2010 * b. End Date: 12/31/2012

18. Estimated Funding ($):

a. Federal	**$ 14515480**
b. Applicant	**$**
c. State	**$**
d. Local	**$**
e. Other	**$**
f. Program Income	**$**
g. TOTAL	**$ 14515480**

*** 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 .
[X] 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 [X] 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)**

[X] ** 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:		* First Name:	Elizabeth
Middle Name:			
* Last Name:	Webb		
Suffix:			
Title:	Director, Innovative Academic Programs Divsion		
* Telephone Number:	(404)651-7275	Fax Number:	(404)651-8507
* Email:	EWEBB@DOE.K12.GA.US		
* Signature of Authorized Representative:		* Date Signed:	

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.

U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
Georgia Department of Education

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	$ 2,500,162	$ 2,500,162	$ 2,143,012	$ 0	$ 0	$ 7,143,336
2. Fringe Benefits	$ 999,998	$ 999,998	$ 857,148	$ 0	$ 0	$ 2,857,144
3. Travel	$ 5,000	$ 5,000	$ 5,000	$ 0	$ 0	$ 15,000
4. Equipment	$ 1,500,000	$ 0	$ 0	$ 0	$ 0	$ 1,500,000
5. Supplies	$ 600,000	$ 400,000	$ 200,000	$ 0	$ 0	$ 1,200,000
6. Contractual	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
7. Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
8. Other	$ 600,000	$ 600,000	$ 600,000	$ 0	$ 0	$ 1,800,000
9. Total Direct Costs (lines 1-8)	$ 6,205,160	$ 4,505,160	$ 3,805,160	$ 0	$ 0	$ 14,515,480
10. Indirect Costs*	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
11. Training Stipends	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
12. Total Costs (lines 9-11)	$ 6,205,160	$ 4,505,160	$ 3,805,160	$ 0	$ 0	$ 14,515,480

***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): _____ The Indirect Cost Rate is _____%

(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)? The Restricted Indirect Cost Rate is _____%

ED Form No. 524

U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
Georgia Department of Education

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

SECTION B - BUDGET SUMMARY

NON-FEDERAL FUNDS

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2. Fringe Benefits	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
3. Travel	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
4. Equipment	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
5. Supplies	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. Contractual	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
7. Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
8. Other	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
9. Total Direct Costs (lines 1-8)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
10. Indirect Costs	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
11. Training Stipends	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
12. Total Costs (lines 9-11)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Standard Form 424B (Rev.7-97)

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

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 sub-agreements.

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 (Clear Air) Implementation Plans under Section 176(c) of the Clear 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. "1721 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

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 the 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.

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 Representative:
Name of Authorized Certifying Representative: Bob Swiggum
Title: Chief Information Officer
Date Submitted: 12/01/2009

Approved by OMB 0348-0046 Exp.

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

1. Type of Federal Action:	**2. Status of Federal Action:**	**3. Report Type:**
[ ] Contract [X] Grant [ ] Cooperative Agreement [ ] Loan [ ] Loan Guarantee [ ] Loan Insurance	[ ] Bid/Offer/Application [X] Initial Award [ ] Post-Award	[ ] Initial Filing [ ] Material Change **For Material Change only:** Year: 0Quarter: 0 Date of Last Report:

4. Name and Address of Reporting Entity:	**5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:**
[X] Prime [ ] Subawardee Tier, if known: 0 Name: N/A Address: City: State: Zip Code + 4: - **Congressional District, if known:**	Name: Address: City: State: Zip Code + 4: - **Congressional District,** if known:
6. Federal Department/Agency: U. S. Department of Education	**7. Federal Program Name/Description:** Statewide Longitudinal Data Systems CFDA Number, if applicable: 84.384A
8. Federal Action Number, if known:	**9. Award Amount,** if known: $0
10. a. Name of Lobbying Registrant (if individual, last name, first name, MI): N/A Address: City: State: Zip Code + 4: -	**b. Individuals Performing Services** (including address if different from No. 10a) (last name, first name, MI): N/A Address: City: State: Zip Code + 4: -
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 this 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.	Name: Robert Swiggum Title: Chief Information Officer Applicant: Georgia Department of Education Date: 11/30/2009

Federal Use Only:	Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

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 any 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 or 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	
Georgia Department of Education	
PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
Prefix: First Name: Robert	Middle Name:
Last Name: Swiggum	Suffix:
Title: Chief Information Officer	
Signature: _____	Date: 12/01/2009

ED 80-0013 03/04

SUPPLEMENTAL INFORMATION REQUIRED FOR DEPARTMENT OF EDUCATION GRANTS

1. Project Director:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
	Robert		Swiggum	Sr.

Address:

* Street1: 205 Jesse Hill Drive

Street2:

* City: Atlanta

County: Fulton

* State: GA* Zip / Postal Code: 30334 * Country: **USA**

* Phone Number (give area code)	Fax Number (give area code)
(404)869-1011	(404)651-9503

Email Address:

RSWIGGUM@DOE.K12.GA.US

2. Applicant Experience

Novice Applicant [ ] Yes [X] No [ ] Not applicable

3. Human Subjects Research

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

[ ] Yes [X] 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:

Attachment:
Title :
File :

Project Narrative

Project Narrative - Project Abstract

Attachment 1:
Title: **Abstract** Pages: **1** Uploaded File: **\\gtrcsan2\Falcon\Docs\am294\Desktop\IES\Abstract_LDS.pdf**

Project Abstract: Georgia Longitudinal Data System (GLDS)

The Georgia Alliance of Education Agency Heads (AEAH) was created by Governor Perdue in 2006 and consists of the state's seven education-related agencies. The Alliance agencies are: the Department of Early Care and Learning (Pre-K), Department of Education (K-12), Technical College System of Georgia, University System of Georgia, Georgia Student Finance Commission, Professional Standards Commission, and the Governor's Office of Student Achievement. The Alliance is charged with collaborating on policies and programs that will prepare our students for the opportunities and challenges of the 21st century. The AEAH has identified multiple goals and strategies for improving the quality of education in Georgia, focusing on preparation for postsecondary education and transition into the workforce. However, to measure the effectiveness of the Alliance objectives, longitudinal data are needed that currently do not exist in Georgia.

In March 2009, the Georgia Department of Education (GADOE) was awarded $8.9 million from the Institute of Education Sciences Statewide Longitudinal Data Systems grant (Georgia's "Chronicle" project). These funds are primarily designed to automate, streamline, enhance, and manage the data collection and reporting activities for the state's K-12 system. Additionally, it provided funds to develop and prepare for the linking of data with other state education partners. This application will complement and build upon the work started under the previous IES grant. Additionally, this proposal aligns with the opportunities and expectations of the Race to the Top Grant for which Georgia will apply, and also with the outcomes and expectations of the College and Career Ready Policy Institute (CCRPI) of which Georgia is a participant

Presently we are performing ad-hoc data matching of a longitudinal-nature using manual extracts and rudimentary matching criteria. These matches are typically performed to meet singular reporting needs, are time consuming, and provide limited information from which to make informed decisions. A statewide longitudinal data system (LDS) is needed to effectively measure outcomes, as well as provide continuous improvement, transparency, and accountability. This system will also serve as a resource for the seven educational agencies to track a student's academic history, thus contributing toward a seamless educational system.

The outcomes of this project include (1) the design, development, and implementation of a robust student-level, dimensional, P-20 LDS linking student, teacher, and teacher-preparedness information; (2) advanced data matching algorithms to ensure accurate matching of students from multiple source systems; and (3) development of a Decision Support System that will provide primary user-level access to the library of reports and information needed for decision making.

Project Narrative

Project Narrative - Project Narrative

Attachment 1:
Title: **Narrative_LDS** Pages: **28** Uploaded File: **\\gtrcsan2\Falcon\Docs\am294\Desktop\IES\Narrative_LDS.pdf**

Project Narrative

(a) Need for Project

Georgia's application for grant support of the development and completion of a statewide longitudinal P-20 data system is the product of the combined efforts of the state's education agencies: Georgia Department of Education (GADOE); University System of Georgia (USG); Technical College System of Georgia (TCSG); Department of Early Care and Learning (DECAL); Georgia Student Finance Commission (GSFC); Professional Standards Commission (PSC); and the Governor's Office of Student Achievement (GOSA). These agencies have formed an Alliance of Educational Agency Heads (AEAH), established in 2005, that shares five announced and agreed upon common educational goals: (1) Increase high school graduation rate, decrease high school drop-out rate, and increase postsecondary enrollment rate; (2) Strengthen teacher quality, recruitment and retention; (3) Improve workforce readiness skills; (4) Develop strong educational leaders, particularly at the building level, and; (5) Improve the SAT/ACT scores of Georgia students. The need for this support can be described in terms of supplementing Georgia's manifold efforts to improve its current education data collection efforts.

Georgia's efforts to improve its educational system throughout the entire educational P-20 to work pipeline depend on accurately and systematically describing in data both the educational process and the results of that process: student progression through the system and the ultimate success of students in endeavors for which they were prepared by the educational process. Data to inform those descriptions come from information collections primarily designed to support the day-to-day educational enterprise. These short-run business uses of data are important, but the sum of daily activities also leads to the ultimate end of education – student preparation. What follows is a description of Georgia's existing data collection efforts, our strengths and current data improvement activities, and the weaknesses of the data that requires additional work that must be done for us to develop, construct, and later maintain a longitudinal data system that supports local, state and national needs. Finally, Georgia is a participant in the College and Career Ready Policy Institute (CCRPI) which is a competitively awarded grant designed to provide technical assistance to the nation's leading states to help them move from good to great in the following policy areas: goals, assessment, accountability, supports and interventions, pathways and models, and data. Within the CCRPI, Georgia has chosen to focus primarily on goals, assessment, accountability, and data; with the guiding principle that data is central to all other areas. The goals of the CCRPI align very well with the goals of the work proposed with this IES grant application as well as the Race To The Top program. The three opportunities are interrelated and complement one another regarding P20 longitudinal data systems. We continue with a brief summary of what our longitudinal data

system will be able to do if our request for funds is approved under the terms of this application.

An Overview of Georgia's Existing Data Collections

The GADOE has worked in recent years to improve its K-12 data collections as a means of improving student outcomes. The most pressing data needs have been associated with the requirements on state student achievement mandated by the No Child Left Behind Act (NCLB), especially year-to-year progress on test results and measures related to high school graduation rates and school attendance. These K-12 data collections also support the state's full-time-equivalent-student based Quality Basic Education Act funding formula and provide data for program identification with a subsequent basis for the evaluation of state programs. Collections come from student information systems used in the 182 school systems and their 2,000+ schools. The student and business information systems used in Georgia's public schools are not standardized, but instead are purchased from a variety of vendors whose implementation in particular schools is frequently customized for the school.

The improvement of these K-12 collections will be supported by the development of Chronicle, the GADOE project designed to increase the frequency of data collections to better ensure the quality and timely availability of K-12 data. The main goal of Chronicle will be the production of formative data to improve instruction and the application of educational services. In performing these functions, data will also be generated to better calculate dropout rates and in tracking K-12 students, including students who may leave the state. Chronicle will also generate higher quality data that will become part of the P-20 data within the State Longitudinal Data System (SLDS).

The USG collects extensive institutional data on student enrollment, course-taking, remediation, and program participation as well as broader programmatic and faculty information. Its data collections are supported by its institutional student information system and various business systems. Standardization of software (Banner) exists in most of the USG except in the flagship institution, the University of Georgia, which uses its own legacy system. The USG has historically been able to provide system wide high school feedback summary reports to Georgia high schools on the progress of high school graduates within the USG.

The TCSG similarly collects extensive institutional data on student enrollment, course-taking, remediation and program participation as well as programmatic and faculty information. TCSG data collections are supported by common applications like Banner in the case of student information. While both TCSG and USG rely on Banner software, different data definitions and coding require data normalization in order to obtain comparable data. TCSG has also attempted to assess the linkage between participation in TCSG programs and the labor market.

The DECAL administers Georgia's voluntary pre-kindergarten for four-year-olds through a variety of public and private providers. Data collections within DECAL will provide data related to the nature and quality of services delivered to students in the program as well as student and teacher information. DECAL has chosen to adopt the GADOE's Georgia Testing Identifier (GTID) to facilitate student matches and ensure availability of data to assess the effects of its programs and program providers, including the qualifications of pre-kindergarten teachers and the various curricula offered and their relationships to subsequent student progress. This decision will aid in matching these students with students in the public education system.

The GSFC collects complete transcript data for all Georgia public and private high school graduates. This collection of data includes course-taking and grade histories for all high school grades (grades 9-12), and includes school grading and grade-weighting practices. The agency, through its GAcollege411.org mentor site, sends transcript data on behalf of students to Georgia colleges to which the students have applied. As required by state law, GSFC calculates grade point averages for all students using a common calculation method for purposes of determining student eligibility for the HOPE Scholarship, Georgia's merit-based scholarship. The GSFC also collects information on the use of state scholarship and grant programs by students within the state in both public and private institutions and for a few out-of-state colleges with which the state has a reciprocity agreement.

The PSC, as the agency responsible for teacher licensure, collects information on the educational background of all teachers licensed by Georgia, as well as information on all teacher preparation programs within the state. Additionally, PSC (with GADOE) collects information on Georgia public school teacher assignments, training and experience and salaries through the CPI (Certified/Classified Personnel Information) collections.

The GOSA is the agency responsible for collecting data from agencies and publishing data reflecting student achievement in the state of Georgia's P-20 educational system for accountability purposes. Its contributions to data collection include a linkage to data contained in the National Student Clearinghouse (NSC), which includes student attendance data for approximately 92% of all college students in the United States. By linking graduates to NSC data, GOSA has been able for the first time to publish systematic data on postsecondary participation by college for Georgia's public school graduates.

Given our current collections, the shared vision for a Georgia LDS involves the collection of data from business systems within education agencies (often obtained from school or school system level business systems) and the cleansing and storage of that data in agency-specific data warehouses. Data from the data warehouses will periodically be transferred to a P-20 data staging operation where data will be transformed and normalized for inclusion in the P-20 data warehouse. The state's longitudinal data system may be described as the entire chain of

collections from school to P-20 data warehouse, including links to labor and employment data. Reports and data extracts to provide information for education policy decision-makers or to summarize the educational process will come from the standardized data in the P-20 warehouse.

Shortcomings in Current Data Collection and Reporting Efforts that must be Addressed in Building a Longitudinal Data System

There is no agreed upon P-20 data model for the Georgia LDS, and the development of such a model will require an initial audit of potential data elements to be used in that system and a gap analysis of what remains to be done to improve data.

The elements and data element definitions may be well-known to Georgia agency data collectors and to those who supply the elements at the school/system/data provider level, but their presence, consistency over time and accuracy must be thoroughly explored before elements can be used as the basis of a longitudinal data system. The result of this data audit process will be to construct a P-20 model that is consistent with internal needs and with state and national reporting requirements. The results may also establish the need for modifications in the current data collections. This gap analysis will form the basis for a continuous data improvement model, including training for agency staff, by which data will be periodically audited in the light of changing requirements, such as data to support RTTT strategies. This process will be necessary to meet the requirements of capabilities two[1] and six[2] for state longitudinal data systems.

There is not a standard agreed upon method of matching students who move from or transition to another educational level or from education providers in one sector to another.

Past efforts to link data from various educational agencies have involved idiosyncratic data matching methods that have yielded mixed results. Within the GADOE, the standardization of identifiers for student testing purposes (the GTID, an algorithm based identifier created by the GADOE) has made significant headway in tying together data for Georgia students who stay in

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[1] "The system must facilitate and enable the exchange of data among agencies and institutions within the State and between States so that data may be used to inform policy and practice. Such a system would support interoperability by using standard data structures, data formats, and data definitions to ensure linkage and connectivity among the various levels and types of data."

[2] "The system must ensure the quality and integrity of data contained in the system"

the K-12 public sector, but there is still a residual problem in that the GTID is not used by students in all sectors and at all levels. The most common identifier, the student Social Security Number, is still used by most of the agencies involved in data collection efforts, including the GADOE, although other identifiers are used as well. Because of this, and because the LDS will require student records that join together data generated in different agencies, places and times, research on the most effective and efficient way to link student data must be undertaken so that a series of matching techniques may be used to build an LDS that identifies and links students with a very low percentage of unlinked data. This student data matching methodology can include data elements such as school, school system, address, date of birth, course-taking matches, and other data elements currently collected at the agency level. Once the matching process is specified, managers of the LDS can begin to put in place a series of data cleansing routines that will be necessary to periodically update and maintain the system, and a means of identifying students with a unique identifier for use in identifying matched students for the purpose of consolidating student records and for no other purpose. This single statewide student identifier is a required element[3] in state longitudinal data systems as described in the America COMPETES Act. Similarly, the ability to match students across the divides in the educational pipeline into postsecondary education is another required element that is currently incomplete in Georgia that will be satisfied upon completion of this work[4].

Finally, a uniform method of tracking students from the educational system into employment and labor markets must be developed in order to assess the effects of education on the workplace, on the affluence of students related to their educational preparation and experiences, and on their needs for subsequent re-training and continuing education. Work in these areas that has previously been done in Georgia (in TCSG and by USG) has not been systematic enough for a true longitudinal data system with better student matching methods.

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[3] " A unique statewide student identifier that does not permit a student to be individually identified by users of the system (except as allowed by Federal and State law)."

[4] " Data that provide information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework."

There is need for research on the best and most secure way to provide reports and data from the P-20 data warehouse to the various users: parents, teachers, school and system administrators, policy-makers, state and federal agencies, researchers and the general public.

Once the P-20 data model is developed and implemented and student matches have allowed for the development of consolidated student records a method for data reporting and data transfer must be developed. These methods should reflect the data needs of the various stakeholders in the educational system while safeguarding the privacy of students and teachers whose data is in the system. These methods will be in addition to any data transfer methods for formative purposes contained in the agency warehouses which are part of the LDS, like the data used by GADOE's Chronicle Student Profile system. The perfection of the student data matching methodology will enable postsecondary results data to be made available to inform both state and local education decision-making, a capability required of state longitudinal data systems[5].

Summary: The Functioning of Georgia's Longitudinal Data System Upon Final Construction Under the Terms of this Grant Application

The state of Georgia has been tracking student achievement and success through interagency agreements for some years. Investigating and assessing how policies and policy changes affect post-secondary enrollment rests on our ability to track progression down to the student level. In addition to student level trend analysis, the state has developed a teacher preparation database to support the ability to analyze in-state post secondary teacher education programs.

This grant allows the infrastructure of the longitudinal data system (LDS) to be established as a series of operation data store (ODS) extractions into a dimensional data base. Currently the various education agencies utilize secure flat-file transfer utilities (FTU) and varied load processes for matching students between agencies from pre-K to post-secondary. Even with the long willingness to share data among the agencies, there has been no seamless way to merge and match data. Measuring outcomes through the education systems and into the labor force via the transferred flat file process requires vast resources. The matching process needed to uniquely identify students once their information is transferred between and among the various agencies is convoluted and tedious. This process begs the establishment and

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[5] "The system must enable data to be easily generated for continuous improvement and decision-making, including timely reporting to parents, teachers, and school leaders on the achievement of their students."

implementation of a unique identifier to streamline and improve the process and facilitate more timely integration and interfacing of information among these agencies. The time needed to match students will be reduced with an identifier unique to Georgia. Such a unique identifier should adhere to any federal, state or locally mandated rules or legislation for protecting the student's identify.

The LDS will require data management to ensure quality and validity of the data. Incorporating data from seven agencies into one system for student tracking and reporting will require the creation a cleansing area for managing and ensuring data quality as well as a reporting layer to facilitate end user reporting. To begin, the warehouse the data elements need to be inventoried and normalized. Upon normalizing the data, an extraction process with a matching algorithm can be applied to place the data in the proper dimensions. Between departments a standardization of elements, either through a transfer or reference table, and appropriate data and metadata management software would need to be acquired and utilized to allow for a truly functioning longitudinal system.

Creating a LDS will allow for longitudinal studies to be performed. The analyses now performed with the departments sharing data consists more of cross sectional and repeated measures, but is not a true longitudinal analysis. These analyses would measure student transitions between grades and departments, teacher effectiveness, and provide data for decision making. Reporting from one system will provide the State the ability to identify and follow federal metrics in a timely manner and adjust policy to improve performance. Parents, teachers, and administrators will be granted differing roles through a business intelligence tool to follow the achievement of their students.

The increased complexity to comply with federal, state, and local districts' reporting needs and analysis due to separate systems has pushed the need for a unified data warehouse in Georgia. In addition to reporting, automated exchanges of data are needed for timeliness and cleansing. Collecting the data at certain time periods allows for scheduled reports to run for validation purposes. The current manual method of matching data between departments limits the ability to validate data and fix issues rapidly. Validation currently occurs only when running reports, thus some reports are withheld past deadlines due to not knowing the data issues until seeing the results.

Some of the key features that will be supported by Georgia's proposed Longitudinal Data System that are not supported by existing resources and/or activities include the following.

The creation of systematic data on course-taking patterns for graduates of public and private high schools and their effects on postsecondary progress variables such as hours attempted, hours earned, grades, choice of major, progression within the postsecondary system, etc.

Effects of teachers related variables (certification level, experience, preparation, qualities related to the preparation program, etc.) on student achievement within the P-12 and on postsecondary progress variables such as hours attempted, hours earned, grades, choice of major, progression within the postsecondary system, etc.

Linkages between educational experiences (participation in programs, coursework, etc.) and eventual workforce-related variables.

Please See Appendix C for more information on Georgia's current status regarding the capabilities and elements outlined in Section IV of the RFA.

(b) Project Outcomes Related to System Requirements and Implementation

The specific outcomes envisioned for the Georgia Longitudinal Data System project are:

Outcome 1: Development of the Data System

1.1: Data Audit and Analysis

1.2: Data Model and Data Architecture

1.3: Extraction-Transformation-Load (ETL) process

Outcome 2: Improvement of Data Matching Algorithm Across Agencies

Outcome 3: Create a Decision Support System for the GLDS

3.1 Creation of initial high-level public reports that address the high school to college transition.
3.2 Document user reporting needs and functionality for all types and levels of user.
3.3 Evaluate business intelligence, dashboard, and reporting tools.
3.4 Build reporting layer access and security.
3.5 Build new reports according to user needs documented in Outcome 3.2.

Outcome 1: Development of the Data System

1.1 Data Audit and Analysis

The GLDS will be fed from elements originally collected from business users of data that are transmitted at a polled point-in-time collection. While the points-in-time vary according to the collection type, their frequency determines the effort necessary to clean and square the data with previously collected data. For example, K-12 data collections depend on data obtained

from school districts which themselves depend on school level data entry and recording of data elements (in the public school example) or directly from the schools themselves (in the private school example). Data that conflicts with previously collected data must be reconciled.

Since agencies do not typically oversee data entry, the transfer of data from the business users through the district to the state agency typically involves data quality control checks called "edits" which generate error and/or warning messages designed to either reject data elements that do not conform to the proper data or content standards imposed by the data-receiving agency or to prompt the business users to confirm that the element which generates the warning message is accurate. These edits are designed to ensure data quality, but their continued consistent use rests on the importance of the edit to later actual uses of the data. Thus, edits that allow final data collection and subsequent data acceptance to proceed while generating an "error" or "warning" message for the attention of the business user/data supplier may result in data satisfactory for the immediate business use but ultimately unsatisfactory for use in a longitudinal data system. A related problem is the "correction" of data in response to an "error" or "warning" for the purposes of the collection without modifying data in the core business system. This may lead to a repeat of the initial error/warning message in subsequent collections. Within the K-12 data collections within the Georgia Department of Education, these tasks will be performed as part of the Chronicle work effort already supported by an IES grant to support GADOE's longitudinal data system development.

The interconnections among data collected at different points-in-time must be reconciled in longitudinal data systems, and the discovery and documentation of those methods of data reconciliation must be completed as part of the construction of such a system. To discover these methods, each agency participating in the longitudinal data system must perform a detailed data audit of each of its data collections, including every element collected. Each agency audit must contain a systematic categorization and listing of values received for each element together with and in addition to the analysis of permissible values and data collection standards that comprise typical data dictionaries. These audits should be applied to each collection that could potentially supply data to the longitudinal data system, and so should extend to past collections over a period of years including the most recent collections. Problems with missing data or incorrectly specified elements in each named collection must be noted as a part of this process. After the initial agency level data audits are complete, each agency must determine whether existing processes for resolving data conflicts will suffice for providing data for a longitudinal data system or whether additional steps will be necessary to improve data quality in prospective agency data collections.

Special attention must be paid in the analysis of data obtained by agencies in collections from business users to the creation of derived or computed data elements. These are a variety of

composite elements that are composed of lower level elements. Examples of these are rates, full-time-equivalent student counts, grade-point-averages, and the like. If collected elements are themselves composite elements, then the decision rules underlying the specification of the coded element must be made explicit in the audit documentation.

The agency data audit process will result in extensive documentation that assesses the results of existing data collections. The sum of these agency data audits will constitute the baseline analysis for creating the elements, collected, derived or calculated, which will populate the longitudinal data system warehouse. The process for creating these LDS elements will be discovered during the analysis of what transformational data processes are necessary to complete the population of the LDS warehouse. The resulting documentation will establish the exact formulae that generate each of these elements, in the case of each derived or calculated element, and the exact coding logic required for each non-calculated element in the system. The transformational steps, when complete, will ensure a robust and consistent set of longitudinal data elements.

Finally, the audit and analysis of existing data must be compared to data necessary to measure student achievement (Race to the Top, etc.) growth over time to ensure that requirements for educational reform measurement data are met.

In summary, the outcomes of this data audit and analysis process are:

- Detailed agency data audits describing the elements collected over time, their content, use, and descriptions of any issues related to their quality, especially those that call for modifications in data collections;
- Detailed agency descriptions of derived or calculated elements, including the formulae used incorporating elemental data obtained from collections;
- Analysis of what collected, derived or calculated measures may be included in the longitudinal data system and for what years;
- Discovery and creation of a process of data transformation and subsequent loading based on initial data populating the LDS plus data from continuing collections to be housed in the LDS
- Comparison of historical longitudinal data to future reform data needs with recommendations for identifying improvements to existing collection content or frequencies to meet those needs.

1.2: Data Model and Data Architecture

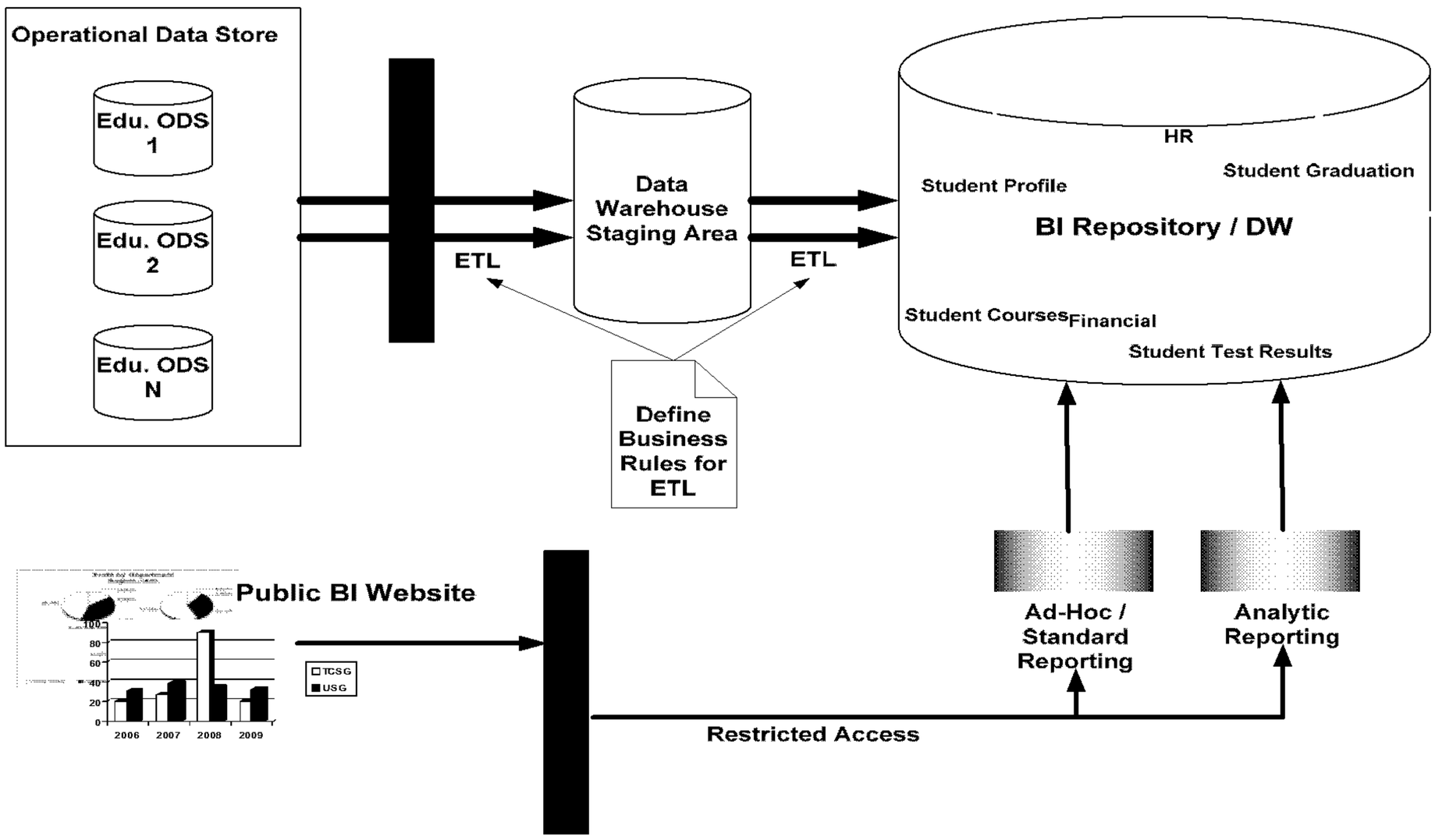
Data warehousing is a viable solution for an organization to provide meaningful access to the strategic information. Building a data warehouse and the associated business intelligence applications requires integrating data from multiple data sources to create a platform for running business analytical applications. Data Warehousing facilitates subject oriented longitudinal data analysis while meeting performance expectations.

Any data warehouse is only as useful as the design. The architecture should first understand the end users' requirements, business rules, and the design it for reporting and analysis needs. Warehouses are repositories of data for business intelligence tools and reporting tools sit upon. Different design approaches can be taken, normalized or dimensional, and the methodologies can also different: top down or bottom up. Before the LDS can be complete a survey of all the reporting agencies needs to occur to establish the exact purposes, intentions, and questions to be answered.

A data warehouse allows integration of data into a series of subject-area data marts designed around specific business processes and decision needs. The design of these subject areas will be driven by the business process and reporting needs from various stakeholders. In order to design an extensible data model for the warehouse subject areas, it is very crucial to learn and document the business processes within various operational data stores, as well as documenting specific reporting needs. A clear set of business rules must be developed for each of the business process identified. Data update frequencies must be established. Obviously, the data marts must meet stakeholder needs for easily accessible, readily available, relevant data and information. More specifically, the data marts are intended to:

- Utilize data to better facilitate decision making by institutional and System leadership;
- Assist institutions and the System to be more accountable to various communities;
- Provide both pre-defined reporting and the ability for ad hoc querying;
- Ability to report across data marts (subject areas);
- Implement a self-service user interface to all data marts for all consumers – general public or users with role-based access;
- Provide executive dashboards.

Data warehouse implementations generally involve data extraction, transformation, and loading (ETL) processes that are defined for each of the business process. Data is cleansed, extracted, transformed and loaded into data warehouse staging area. Data within data warehouse staging area is then integrated with another set of ETL routines into meaningful star schemas.



A reporting repository is created either on low level star schemas or second level aggregated star schemas, based on the reporting/aggregation/presentation needs. The reporting repository facilitates slicing-dicing/drilling-aggregating data over various dimensions and facts, allowing various sorts and presentation parameters. Business intelligence reporting tools access either the reporting repository or the database star schemas to allow generation of executive dashboards, canned standard reports, ad-hoc /self-service reporting. OLAP cubes built on top of the star schemas allow trend analysis and what-if analysis. These analyses are very useful for generating metrics for various measures.

Two major approaches exist in data warehousing, Kimball and Inmon. Kimball's design (bottom up) attached data marts via a bus structure. Connecting all the marts by common elements allowed for ease of querying the marts in unison. The marts could be located on one server or multiple but the connection allowed for a virtual warehouse because the data would be pulled from the marts. The data marts are directly loaded from the ODS tables depending on the requirements.

Inmon's approach (top down) seeks a transfer of data into on centralized location. The data marts in this approach are created from the warehouse and do not make the warehouse; created marts exist for reporting purposes of the differing business areas. The data are loaded with ODS during the extraction process.

Again, until the customer's are surveyed and reporting requirements understood both approaches are possibilities. Understanding the customers' needs has to occur prior to

deciding on a design. The architecture chosen will allow the customer to utilize business intelligence tools, reporting devices, OLAP cubes, and data mining. The design will be a combination of styles based on the business requirements.

1.3: Extraction-Transformation-Load (ETL) process

The process of collecting data from the different agencies will follow common warehousing technique. The first step is the extraction process. The integration of all of the disparate systems across is the first hurdle in creating a warehouse. Utilizing complex scripts heterogeneous data is extracted (copied) and placed into staging tables. Each sources system will have distinct characteristics requiring finesse and resources to manage and integrate the data into the tables. This process includes the creating of a data map, which will be critical in determining the validity of the data pulled. Documentation during this period is essential to inform the developers of the location of the data. The location and values of the elements allow the examination of the source data to reduce redundancy, integration, and track the point-of-origin.

Implementation of an ETL and data store processes where the data transfer, editing and cleansing process does not unnecessarily involve agencies or their transactional collection systems is required for smoothness, transparency, and efficiency. If the ETL does not meet these requirements it will burden the agencies and allow uncleansed data to be populated. One method of assessment for the ETL is the use of metadata.

The transform step uses a set of logical rules or functions with the extracted data before loading into the final location. Often during this step translation tables (Xref tables) are utilized to normalize data from the varying systems. This step changes the data to a useable or measurable unit. Data quality check points exist in this step to ensure consistent, complete, usable data are loaded. This can occur through an edit process using established business rules. Documentation of these rules are critical for establishing metrics of adherence and defining the data elements.

A successful data warehouse design is attributable to well-defined business requirements that are closely aligned with the information and decision support needs of the business user. Once these are defined and created a load process moves the data from the staging area into the warehouse. The architecture and end business needs shape how the load process will work, whether the warehouse employs dimension or fact tables.

Metadata is defined as “data about data”. A comprehensive approach to metadata management allows an organization to standardize, map and store its information about data in terms of data sources, content, business rules and access authorizations in a centralized repository, thus documenting the enterprise’s information resources across non-integrated

systems. It does so preferably in easily understood terminology. The end result is that the organization can integrate, share, centrally manage, and leverage information across its transactional database silos. Administration of metadata typically also allows for documenting evolutionary changes in existing data definitions over time as well as creation of new data definitions as they emerge in the organization.

Data definitions and parameters must be established systematically. Data must be consistent for the LDS to be useful. Data definitions should consider standards already in place at the national and state levels. Data models should be developed that are flexible enough to allow meaningful comparisons and to establish and maintain integrity regardless of the source. A needs assessment by the agencies should be preformed to address what data are needed but not collected or what is unnecessary to collect. Streamlining the data collected and refining the needs would save resources.

Outcome 2: Improvement of Data Matching Algorithm Across Agencies

Creating Student Identifiers for the Georgia Longitudinal Data System

Maintaining student data over time and across institutional divides requires a method for tracking students. This tracking requires that students be identified at a variety of times and places, even when different methods for identifying students are used by different agencies or at different times. Absent the use of a perfectly reproducible unique identifier based on unalterable biometric elements, other primary and secondary identifiers must be used. Existing primary student identifiers for data contained in the various agencies which will contribute data to Georgia's LDS include: Georgia Testing Identifier (GTID); Social Security Numbers; School- or System-Generated IDs; and Name (F-M-L). Other secondary data elements that can be used in ascertaining or verifying data matches include, but may not be limited to: school; school system; address, city, county, zip code and state; parent name, address, city, county zip code and state; telephone number; date of birth; gender; race/ethnicity; course(s) taken; grade level or grade year; link to teacher.

While student matching has been performed for a variety of purposes in Georgia, the matching techniques used have been idiosyncratic and have yielded mixed results. To create and maintain a longitudinal data system that tracks students, a standardized technique must be developed that yields the highest possible matching algorithm so that student data can follow the student across time and institutional divides. The goal of this outcome is to analyze, from the many possible matching techniques, the best stepwise progression of activities to obtain the best match possible. This method or methods will be employed any time new data processed for addition to the longitudinal data system

In order to attack this problem, we will attempt to set a high standard for our data matches: we propose, as a goal, to match all data collected at any point in an agency collection to a master data file for a student. Before creating a master data file for a newly-encountered student, we will attempt to verify the unique status of each "new" student by creating ongoing patterns of algorithm-based matching with existing master data files that show no apparent match in newly acquired data using standard student identifiers. The unique identifier (the "Master Student Record," or MSR) for each student for use in the LDS will be linked, within the secure system, with all other identifiers used for that student, along with links to the data obtained for that student in all of the data collections in the student's history. When students are matched through methods other than the standard student identifiers used by business users and data collections, a history of how each student was linked to each collection will be established so that the secondary method can be used for the student in the future if the primary matching method fails.

To monitor our progress towards this goal, we will set a number of matching statistics by which the effectiveness and efficiency of our matching methods may be summarized. These process indicators will give users of the data system an appropriate assurance as to the quality of the data generated by the system. The indicators must show the match of students across collections within agencies as well as showing matching statistics across institutions and educational divides.

Of particular interest in matching students is the transition from one type of institution to another, most importantly the transition from high school to postsecondary education. The longitudinal data system will create identifiers for "hard cohorts", so that students who have received a high school graduation credential (this is what makes the cohort "hard", in the sense that their status is absolutely defined at one point in time) are noted with unique identifiers that describe their point of graduation with regard to both time of graduation and place (high school). While these cohorts do not describe all high school students, the remaining non-graduates will be matched with GED completers and with program participants in the Technical College System of Georgia, with private college Tuition Equalization Grant data, and with the National Student Clearinghouse data to see if they can be matched. Unmatched student master files not in the "hard cohort" will also be matched against employment and other workforce data. Data in this hard cohort, which will include both public and private high school graduates, will also be matched against previous K-12 unmatched data files, thus lowering the frequency of current unmatched K-12 data records.

All master student data files will also be matched annually with employment data from the Georgia Department of Labor. Identification of elements from that matched employment data will also be included as part of the longitudinal data system.

In summary, the products of this student identifier creation process are:

- Establishing data matching statistics which characterize the effectiveness and efficiency of our historical matching techniques;
- Using primary and secondary identification elements to devise standardized data matching techniques for matching students in the GLDS;
- Devising a common master student data file for each student encountered in any single educational data collection so that all data collected on a student can be linked back to the student;
- Creation of master data files for all students beginning with the historical data identified in the data audit and analysis outcome as the first year for inclusion in the longitudinal data system;
- Thorough documentation of all data match findings, techniques and specification for the addition of additional data in periodic collections for the GLDS.

Outcome 3: Create a Decision Support System for the GLDS

3.1 Initial Dashboards and Reports

The success of this initiative depends on an early demonstration of what the GLDS will provide when completed. This is necessary to engage key stakeholders and garner the short- and long-term support to secure the funding and political will necessary to sustain the GLDS beyond the initial grant-funded startup period. To that end, an initial series of high level public-access reports will be developed and made available by November, 2010. These dashboard and indicator reports will focus on key transition points in the education pipeline. These reports will represent an "early win" for the GLDS, and will help build support among various stakeholder groups for sustainability.

These initial public reports will also play a critical role in understanding and documenting future user needs. These reports will provide the critical stimulus to initiate and promote user engagement in the process of future report development. This is discussed further in Outcome 3.2.

For the initial demonstration phase of the GLDS, high school and post-secondary student data will be linked to produce integrated high school to college transition reports. The student transition reports will include, for example: high school courses; high school graduation and diploma types; HOPE scholarship eligibility; post-secondary enrollment (TCSG institutions or USG institutions); remediation in post-secondary; grades in introductory college mathematics and English courses; and college retention (persistence). The linked data will be loaded into

simple data marts. Expanded reporting features, dashboard, indicators, scorecards, and information presentation will be developed and made available to the public via a web portal in November, 2010.

Georgia has already done preliminary work in this area. For years, education agencies have manually shared data for purposes of reporting on student transitions. These reports have been targeted to very specific, circumscribed report requirements, have been of limited use, and have required considerable manual matching and processing. Very little useful, readily accessible information has been made available to policy makers and the public.

To develop these initial reports and dashboards, existing data from DOE, GSFC, TCSG, GOSA and USG will need to be matched and linked. The manual matching process used in previous data sharing has varied between agencies. The matching methodology has not been adequately documented. The accuracy and extent of the matching has also not been documented and assessed. The matching required for these initial reports and dashboards will serve as the initial documentation and analyses necessary for the development of the Student Record Matching Algorithm described above in Outcome 2.

Additionally, this early reporting demonstration will serve as the initial analysis of reporting needs and functionality. To ensure development of high quality reports that provide critical information on student transitions, a sound understanding of the informational needs is critical. Careful documentation and analysis of reporting needs will be conducted to provide the detail necessary to develop the reports, dashboards, and scorecards.

While the reports that will be produced in this initial phase of the GLDS may sound impressive, it does not constitute the formation of an SLDS. The data matching process would still be a manual process. Although the reports will have easy access, have some extended functionality, and will convey some critical information, they would nevertheless still be essentially static reports limited to specific subsets of data for specific years. Ongoing maintenance and usefulness of this method of reporting is very limited, inefficient, ineffective, and not acceptable considering what is available once an SLDS is implemented.

3.2 Document user reporting needs and functionality for all types and levels of users.

For any SLDS to be truly useful, it must meet the information needs of all of its user types and levels. A deep understanding of what users need and how they need to access it can only be derived through direct involvement of all levels and types of users. To this end, extensive research of user needs will be undertaken. Focus groups, interviews, and other means of documenting user needs will be undertaken. This phase of the project will gather information

from all identified GLDS user groups. Specifically, we will seek input from each group on questions such as: what information do they need to access; what level of data manipulation do they need; what type of user interface do they need; what type of report functionality (e.g., drill down / up, disaggregation, etc.) do they need; what output functionality do they need; what level of granularity do they need (e.g., some users will only need access to aggregated data while analysts / power users may need access to anonymized unit level data); and so on.

The initial dashboard and reports developed in Outcome 3.1 will serve a critical role in this process. Frequently, users have ideas of what they want but they need something to react *to*. Having examples of the types of reports that they would be have access to will spur much more extensive and detailed discussions of how a decision support system should be developed to meet their current and anticipated needs.

Working with user groups to understand reporting needs will begin in October, 2010, and will continue through January, 2011.

In addition to the direct input from constituent users, a detailed review and analysis of existing cross-sector reporting requirements will be conducted. This will include examinations of federal, state, and local reporting requirements and their relation to existing data. This analysis should be completed by December, 2010.

Based on the data elements and reporting requirements analyses, a comprehensive picture of data needs will be developed. Documentation and compilation of reporting requirements analyses should be completed by February, 2011. These analyses of reporting requirements will be passed to the full-scale report development objective in Outcome 3.5.

3.3 Evaluate business intelligence, dashboard, and reporting tools and web-based presentation tools.

Each agency has implemented its own solution to analyzing data and generating reports and information. These include various combinations of business intelligence tools, in-house-developed tools, and off-the-shelf report development packages. Implementing the GLDS will require investing in decision support system / business intelligence tools and web-based presentation tools. Based on the reporting requirements, data model, and data architecture developed in the aforementioned objectives, the State will develop an RFP for a business intelligence solution. The Alliance will appoint a committee to assist in the RFP development and to evaluate the resulting proposals. The RFP will be completed and posted by March, 2011. Evaluation of proposals and products will take place between April, 2011, and May, 2011. Recommendations will be made to the Alliance in June, 2011 for final selection and approval.

3.4 Build reporting layer access and security.

All reporting functionality will be accessible only at the reporting layer (not directly from the data warehouse). The policies specifying who may have access to the GLDS will shape the general procedures for granting access. Reporting access will be role-based at multiple levels ranging from public access to restricted "power-user" data analyst access. Based on the user needs, the appropriate reporting layer data structures will be developed (e.g., cubes, data marts, etc.) to provide access only to specified data at specified levels of aggregation. These structures will be populated with data from the warehouse and procedures for refreshing the reporting structures will be developed and implemented.

Based on the specific web-based reporting / presentation tools and the specific dashboard / business intelligence / analysis tools selected in Outcome 3.3, additional features will likely be required in the reporting layer.

Security will be a critical component. A streamlined user account creation / maintenance system will be developed. Based on the individual's account, access to specific reports and reporting structures will be granted. A secure web interface will be developed and implemented as the vehicle to accessing the reports and information. An access and usage monitoring / auditing process will also be developed and implemented. Additional security features will be implemented as needed based on an extensive security audit of the system as it is developed.

The building of security procedures and the reporting layer should begin by May, 2011, and should be completed by September, 2011.

3.5 Build new reports according to user needs documented in Outcome 3.2.

Al the reporting layer is developed, full scale report development will begin. Based on the reporting requirements documented in Outcome 3.2, a broad catalog of reports will be developed to provide access to information for all constituent user groups. These reports will include the full breadth of the data contained in the GLDS and will go far beyond the initial dashboard reports, including workforce data from the Georgia Department of Labor.

Additionally, the reports will include data obtained from the National Student Clearinghouse (NSC). In 2009, Georgia entered into a contract with the Bill and Melinda Gates Foundation to work on the Gates NSC Pilot Project, which will improve the match rate between Georgia's high school graduate records and NSC's database, to analyze the postsecondary enrollment patterns

of Georgia's high school graduates and to produce accessible reports on this topic. This work is a natural fit for inclusion in the GLDS project.

The primary goal of this report catalog development is to provide extensive reports on students at transition points: transition from pre-k into K-12; transition through K-12 into post-secondary; transition from K-12 directly into the workforce; transition from post-secondary into the workforce. Detailed analysis and reporting capability will be made available to examine factors associate with successful transitions throughout the education to workforce pipeline. Full-scale feedback reports will be developed and made available.

A critical component of report development will be the establishment of policies and procedures for report verification and validation. Additionally, necessary and sufficient documentation (metadata and user documentation) must be developed.

Report development will begin by August, 2011. The initial report catalog will be completed by December, 2012. However, report development is an ongoing process and will continue well beyond the grant period.

(c) Timeline for Project Outcomes

Outcome 1: Development of the Data System

Documentation and Analysis of Data Elements and Reporting Requirements

The first step in building the GLDS is the design and development of a sound, scalable data model. Understanding what data are available, adequate, and sufficient is a critical prerequisite. Likewise, an understanding of the informational and reporting requirements for the GLDS must be analyzed and understood up front in order to develop an appropriate data model and to develop the GLDS architecture.

Data elements analysis – Each state agency contributing data has its own set of data elements and data definitions. A comprehensive review of all data elements will be undertaken to: identify which elements are needed to meet the informational and reporting needs; determine the quality of each element; determine the granularity of each element; consistency of data element definitions, formats, and coding; and determine which years of data should be considered for inclusion. The compilation and analysis of all data elements should be completed by September, 2010.

Reporting requirements analysis – To develop an understanding of the types of reporting needs, user types / levels, necessary data, and other information needs, a detailed review and

analysis of existing cross-sector reporting requirements will be conducted. This will include examinations of federal, state, and local reporting requirements and their relation to existing data. Additionally, reporting and information needs will be solicited from participating agencies, state-level policymakers, and other diverse audiences to further expand the reporting requirements analysis. Documentation and compilation of reporting requirements analyses should be completed by September, 2010. The compilation and analyses of reporting requirements also constitutes the ongoing process of expanding the reporting capability of the GLDS.

Synthesis – Based on the data elements and reporting requirements analyses, a comprehensive picture of data needs will be developed. This synthesis will identify the data needed, which elements are currently available for inclusions in the GLDS, any critical data elements not already collected that should be collected, and any derived measures necessary for inclusion. This synthesis should be completed by September, 2010.

Develop Data Model and Data Architecture

Based on the data elements and reporting requirements analyses and synthesis, the data model will begin development November 2010. The data model will incorporate data from all seven Georgia education agencies. Additionally, the model will include Georgia Department of Labor data. This stage of development is absolutely critical and will have an intense focus. The model should accommodate the existing data and reporting needs but must also be designed to be scalable to include additional data and to meet additional reporting requirements as needed. The initial data model should be completed by January, 2011. The data model will be validated and vetted by all participating agencies by March, 2011.

Timeline:

Data Audit and Analysis: April-September 2010.

Data Model and Data Architecture: November 2010-March 2011.

Extraction Transformation Load (ETL) process:

Extraction: December 2010-March 2011.

Transformation: March-July 2011.

Load: May-September 2011.

Outcome 2: Improvement of Data Matching Algorithm Across Agencies

The successful implementation of a matching algorithm will require significant research and development work during the first phase of the GLDS project. A team of business analysts, researchers, programmers, technical writers, and agency personnel will review best practices used by other states or systems, identify possible routines that would work for Georgia, write the programming required for the routines, test and validate the results of the various options, and ultimately propose an advanced matching algorithm that will be implemented as the project continues. It will be very important for this team to coordinate with the partnering agencies to fully understand the data elements that are available, conditional use of those data, and special requirements that may exist. This work will happen concurrently as the first phase of the GLDS is being developed. Implementation of the SRMA is anticipated by January 2011.

Timeline:

Improvement of Data Matching Algorithm Across Agencies: July 2010-January 2011.

Outcome 3: Create a Decision Support System for the GLDS

Timeline:

3.1 Creation of initial high-level public reports that address the high school to college transition: April-November 2010.
3.2 Document user reporting needs and functionality for all types and levels of user: October 2010-February 2011.
3.3 Evaluate business intelligence, dashboard, and reporting tools: February 2011-June 2011.
3.4 Build reporting layer access and security: May 2011-September 2011.
3.5 Build new reports according to user needs documented in Outcome 3.2: August 2011-December 2012.

Please see Appendix A.1, "Georgia Longitudinal Data System Project Timeline" for more detail on the timeline for these subtasks. Please see Appendix C for more information on how activities supported by this grant will be coordinated with activities supported by other grants.

(d) Project Management and Governance Plan

Project Location

The Governor's Office of Student Achievement, as the state's independent education accountability agency will house the LDS Director, Project Manager and staff. Each agency will maintain responsibility for their data collections and will submit data defined by the processes

described in this section to the GLDS. Additional staff will be identified at each agency to act as liaisons to the LDS staff on behalf of their respective agencies.

The project's governance structure will consist of three levels. At the highest level, the Data Governance Board will consist of the agencies' Chiefs of Staff, and will have the following responsibilities:

- Set/enforce policies for data collection and access
- Give final approval for outside data requests
- Resolve data issues/conflicts
- Promote use of the LDS data
- Decide other governance processes

The Data Governance Board will develop bylaws and will have final authority over interagency management of the state LDS.

Reporting to the Data Governance Board will be the Data Management Committee, which will consist of the agency CIOs. The responsibilities of the Data Management Committee will include:

- Act as the stewards of the data
- Approve new data elements to be collected
- Improve data quality
- Improve data accuracy
- Improve understanding of data
- Improve data use
- Present data requests to Data Governance Board for final approval

The Data Management Committee will make recommendations for final approval to the Data Governance Board. Two subcommittees will report to the Data Management Committee: the Information Technology Group and the Research Group. The Information Technology Group will consist of technical experts from the agencies, and their main responsibility will be to review requests to resolve issues or to answer requests from non-agency researchers that concern technical details. The Research Group will function as the Institutional Review Board

for the GLDS. This group will be a rotating committee consisting of agency researchers and outside researchers (university faculty, for example). Their main responsibilities will be to review outside requests for methodological issues. This group may also encourage and guide research from within the agencies and from outside researchers.

Georgia's seven separate education agencies came to agreement on this structure in fall 2009. Please see Appendix A.2, titled "Governance Structure," and Appendix A.3, titled "Governance Principles," for more detail on this topic.

Management Controls

The Georgia Department of Education currently follows the best practices established by the Project Management Institute (PMI) in the development of the Chronicle project, and will continue that practice with this project. Those practices include:

- Project Initiation: includes clearly defining the project's scope and expected outcomes;
- Project Planning: includes clearly defining the activities and resources that will deliver the final outcomes;
- Project Execution and Control: includes executing on the project plan, reporting on project status and ensuring project controls;
- Project Closeout: includes administrative closure and logistics, as well as user(s) accepting the final deliverables.

The Project Director will have authority for the project. The Project Director will work with the appropriate staff members from the State education agencies during the course of the project. Ultimately, the Project Director will sit on the Data Management Committee, as described above. The Project Manager will coordinate the day-to-day operations of the system from within the Governor's Office of Student Achievement.

Partnering Agencies

The agencies involved in the creation of the GLDS are Georgia's seven state education agencies, led by the Alliance of Education Agency Heads (AEAH). The support and involvement by all agencies will be required to ensure the success of the project. The Alliance is comprised of leaders from the following agencies:

- State Superintendent of Schools of the Georgia Department of Education
- President of the Georgia Student Finance Commission

- Chancellor of the Board of Regents of the University System of Georgia
- Commissioner of the Department of Early Care and Learning
- Executive Director of the Governor's Office of Student Achievement
- Executive Secretary of the Georgia Professional Standards Commission
- Commissioner of the Technical College System of Georgia

Data Sharing, Access, and Security Policies and Procedures

Policies and procedures governing data sharing, access, and security must be developed at the beginning of the GLDS. The AEAH constitutes the State's data governance body. It has ultimate authority and approval powers covering the GLDS. The AEAH will appoint a "Data Governance Board" which will be comprised of representatives from all participating agencies (described above). This group will develop draft documents, policies, and procedures regarding the ongoing data governance body composition, data sharing, data access, report development, and security. These drafts will be submitted to the Alliance for approval.

The Data Governing Board will develop the following:

- Data sharing. Memoranda of understanding will be developed to specify the terms, conditions, uses, and security measures surrounding each agency providing data for inclusion in the GLDS. A Data Transfer Memorandum of Understanding (MOU) has been developed as part of Georgia's Race to the Top application.
- Data access. Access to the actual data warehouse will be strictly controlled. All reporting functionality will be accessible only at the reporting layer. Policies specifying who may have access to the data warehouse will be developed separate from policies determining reporting access. Reporting access will be role-based at multiple levels ranging from public access to restricted "power-user" data analyst access. Policies and procedures will be needed for laying out how users will be designated, terms and conditions they must abide by, what data they may access, and so on.
- Report requests and report development. Agencies and policy makers will have ongoing needs for additional reports to be developed and made available through the GLDS . The governance body will develop procedures for how such requests will be submitted, evaluated, and prioritized. Additionally, the governance body will develop procedures for validating and verifying the accuracy and completeness of reports prior to making them available through the GLDS.

- Access to data for research purposes. Researchers will make frequent requests for access to data and information for research purposes. The governance body must develop policies and procedures for how such requests will be submitted and how the requests will be evaluated and prioritized. Policies must be developed to ensure compliance requirements, confidentiality and FERPA requirements, and distribution and publication requirements.

- Security policies. The governance body will also develop policies and procedures ensuring the security of data and information contained in and derived from the GLDS . These policies would include physical security, electronic security, FERPA compliance, and other conditions determined by the governance body.

The governance body will complete its draft policies and procedures and submit them to the Alliance for approval in July, 2010. The Alliance will approve final policies and procedures in August, 2010. At that time, the full governance body will be convened and the policies and procedures will be officially implemented.

Please see Appendix D for letters of support from participating agencies and others.

(e) Project Staffing

Project Director

The GADOE's Chief Information Officer will serve as the Project Director. In this role, the Project Director will receive regular reports from the project staff, and will provide oversight, including ensuring that the project is aligning appropriately with the Chronicle project and with Race to the Top. (0.10 FTE)

Project Manager

The Project Manager will be responsible for managing the agreement between the various State agencies involved in this project, contract negotiation and management, supervision of the project team, and providing updates on progress to the Project Director, as well as the Data Governing Board and Data Management Committee. The Project Manager will have points of contact within each of the other State education agencies and will oversee and coordinate day-to-day project activities. This person is currently not on the staff of any agency; GOSA plans to identify and hire the GLDS Project Manager as soon as possible but no later than March 2010. (1.0 FTE)

During the grant period, the Project Manager will directly manage 12 additional positions within GOSA to complete the project. The responsibilities of staff will shift according to the timeline included in Appendix A (Georgia Longitudinal Data System Project Timeline). Staff directly reporting to the GLDS Project Manager include:

- IT Support Specialist (1)
- Business analyst (3)
- Database programmer (3)
- Technical writer (1)
- Database Architect (1)
- Web Developer (1)
- Business Intelligence Developer (2)

Over the life of the project, the AEAH anticipates that permanent staff levels needed to initiate the GLDS project on state funding will be higher at the beginning of the project, and will be more than the levels needed to maintain the GLDS project by the end of the award.

In addition, each agency will identify one or more Agency Liaisons who will be dedicated specifically to this project and working with each of their agencies to support implementation of the GLDS project. Some of Georgia's education agencies have a greater need to expand and improve their existing systems in order to effectively contribute to the outcomes described in this application, and these staff levels reflect the varying levels of need:

University System of Georgia: 7

Georgia Student Finance Commission: 4

Technical College System of Georgia: 4

Professional Standards Commission: 3

Georgia Department of Education: 1

Department of Early Care and Learning: 1

Department of Labor: 1

Infrastructure Requirements:

Hardware and software infrastructure requirements will be completed by October, 2010. By October, 2010 the data storage and reporting requirements will be completed and an accurate assessment of required infrastructure can be determined.

Hardware Requirements:

Initial discussions are occurring among the AEAH about physical housing of the GLDS. The hardware infrastructure will require four environments: Development, QA, Pre-production and Production.

Software Requirements:

Anticipated software/licensing requirements are as follows:

- Database software
- Business Intelligence software
- ETL software
- Web development software

Project Narrative

Project Narrative - Appendix A, Optional Attachments

Attachment 1:
Title: **Appendix A** Pages: **3** Uploaded File: **\\gtrcsan2\Falcon\Docs\am294\Desktop\IES\Appendix A_LDS.pdf**

Appendix A: Optional Attachments

Appendix A.1 Georgia Longitudinal Data System Project Timeline

Project Initiation

Hire GLDS Director	12/2009-3/2010

Outcome 1: Development of the Data System

1.1: Data Audit and Analysis	4/2010-9/2010
1.2: Data Model and Data Architecture	11/2010-3/2011
1.3: Extraction-Transformation-Load (ETL) process	12/2010-9/2011
Extraction	12/2010-3/2011
Transfer	3/2011-7/2011
Load	5/2011-9/2011

Outcome 2: Improvement of Data Matching Algorithm Across Agencies

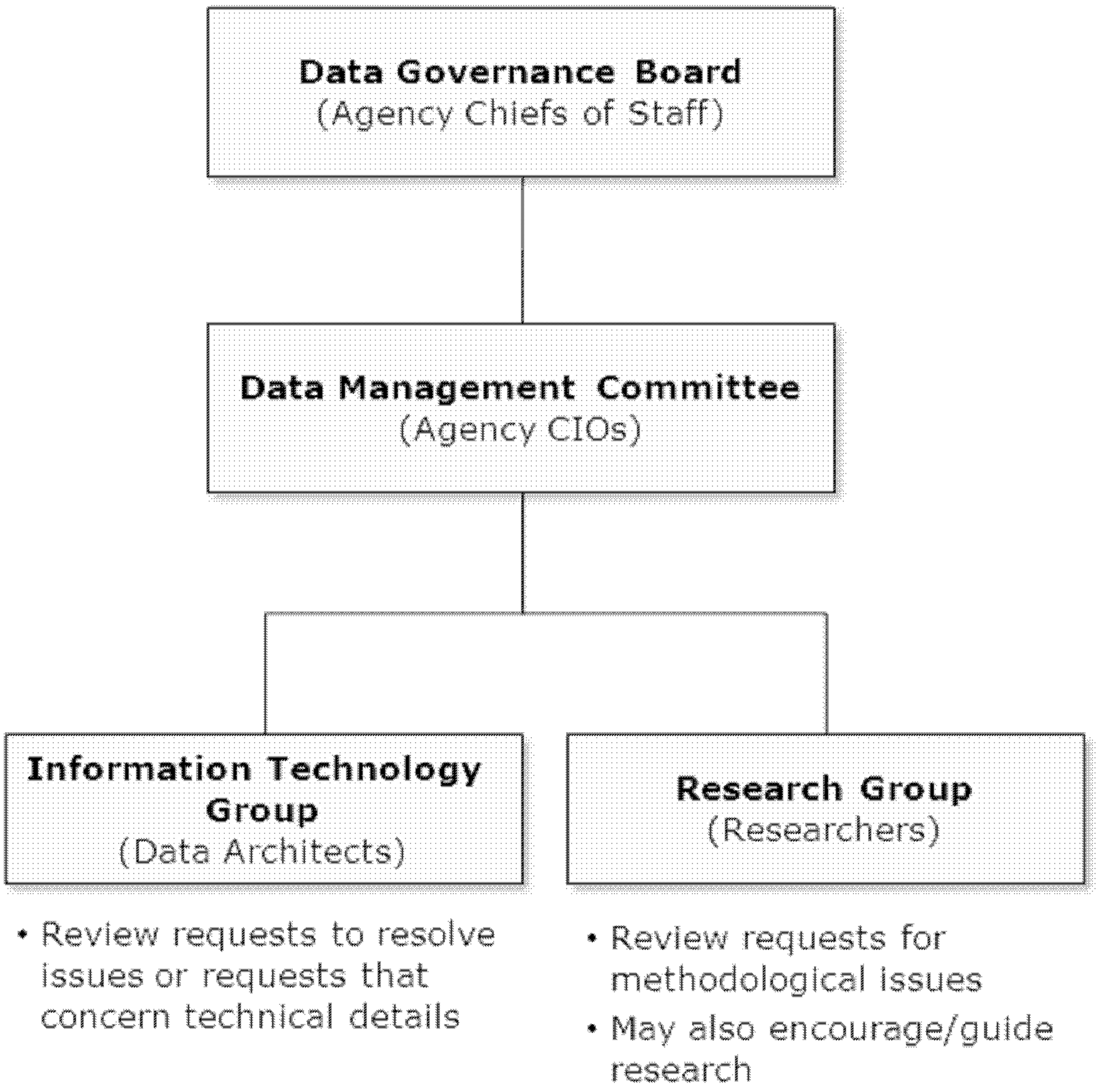
Improve Data Matching Algorithm	7/2010-1/2011

Outcome 3: Create a Decision Support System for the GLDS

3.1 Creation of initial high-level public reports that address the high school to college transition.	4/2010-11-2010
3.2 Document user reporting needs and functionality for all types and levels of user.	10/2010-2/2011
3.3 Evaluate business intelligence, dashboard, and reporting tools.	2/2011-6/2011
3.4 Build reporting layer access and security.	5/2011-9/2011

3.5 Build new reports according to user needs documented in Outcome 3.2. 8/2011-12/2012

Appendix A.2 Governance Structure



Appendix A.3 Governance Principles

Proposed Governance Principles

Composition	• Data Governance Board will outline appropriate timing and make-up of Data Management Committee and advisory committees (e.g. IT Group, Research Group)
Voting	• A voting process will be established for key decisions • Each member will get an equal vote
Veto	• No single institution has veto power • Individual institutions have the ability to review and comment on data requests and research conducted on their institution
Length of Commitment	• Agency partners are committing to submit data for the foreseeable future
Length of Terms	• Data Governance Board members will have 3 year, staggered terms

Project Narrative

Project Narrative - Appendix B Resumes of Key Personnel

Attachment 1:
Title: **Appendix B** Pages: **3** Uploaded File: **\\gtrcsan2\Falcon\Docs\am294\Desktop\IES\Appendix B_Resume_LDS.pdf**

Appendix B: Resumes for Key Project Personnel

Bob Swiggum

Summary of Qualifications

Twenty years of management experience in the information technology field within Fortune 500 companies. Particular expertise in:

- Providing a vision and strategy for the information technology team to ensure our actions assist in achieving the business goals.
- Leadership of large and diverse teams of IT professionals.
- Telecommunications, Electronic Commerce and Internet development
- Mergers and Acquisitions

Professional Experience

Georgia Department of Education (2009 – Present)

Deputy Superintendent Technology Services / CIO

Responsible for the overall direction of technology service for the Georgia Department of Education. This includes both the application and infrastructure side as well as the instructional technology area. I managed a staff of 150 and a budget of 35MM.

Koch Industries -Wichita, Kansas (2005 -2007)

Vice President – Information Technology 2005 – 2007

Koch is an international conglomerate primarily in the oil, gas, forest products, textiles and consumer products sectors. It is the largest privately held company in the United States with annual revenues of $95 billion. I led a staff of 350 IT professionals with annual budget of $75 million. We were responsible for development and support of the corporate environment (networks, data centers, telcom, financial, accounting, tax, human resources, environmental, internet, and procurement) as well as electronic commerce for each business unit. I set the vision and provided the leadership to ensure that we supported multiple business units as well as corporate functions as cost effectively as possible. Some of my accomplishments in the position were:

- Moved financial institutions transactions to electronic commerce which reduced operating cost by $2.7 million annually, eliminated clerical errors and increased our banker's satisfaction levels.

- Consolidated all electronic commerce activity and reduced operating cost by $2.5 million annually.
- Performed all IT functions to support $5 billion in acquisitions.
- Created custom e-marketing campaigns that showcased product innovation and increased market share within the tissue business by 12%.
- Moved 85% of all order and shipment transaction volume to electronic commerce. Reduced operating cost by $3 million annually and increased customer satisfaction dramatically
- Renegotiated software and hardware contracts for an annual savings of $22 million.

Georgia Pacific Corporation – Atlanta Georgia (1990 -2005)

Vice President – Information Technology 2000 – 2005

Georgia Pacific Corporation was a Forrest and Consumer Products company with annual revenues of $22 billion. I lead a staff of 300 IT professionals with annual budget of $75 million. I was responsible delivering the IT needs of the Consumers Products division as well as the corporate functions (Networks, Data centers, Telcom, Financials, Accounting, Tax, Human Resources, Environmental, Internet, and Procurement). I set the vision and provided the leadership to ensure that we provided the best IT service possible at the lowest cost. Some of my accomplishments in the position were:

- Reduced the overall IT operations budget by $35 million
- Combined 5 disparate payroll systems into one common SAP platform, reducing operating cost by $3.7 million annually and providing better HR tools.
- Created a customer relationship management (CRM) application for the Consumer Products sales group that provided sales and customer self service tools that increased sales revenues by 22%.
- Created the Innovation Experience to introduce customers and employees to current and future technology tools. We used hands on collaboration techniques to innovate new business solutions and opportunities.
- Combined 15 disparate accounts payable, account receivable and general ledger systems into one common SAP platform, reducing operating cost by $4 million annually and providing better financial tools. Moved month end closing from 2 weeks to 3 days resulting in much more timely financial information.

Director – Information Technology 1995 - 2000

I led a staff of 200 IT professionals with an annual budget of $50 million. I was responsible for hardware and software environments for all enterprise applications. While in this role I lead the team that installed the first SAP payroll systems for SAP in the United States installed the first

environmental tracking system approved by the EPA and formed the first desk side services team at Georgia Pacific which cut our support costs by 63%.

Education and Credentials

Executive MBA – Harvard Business School

Bachelors of Science (BS) – Computer Science – University of Wisconsin

Project Narrative

Project Narrative - Appendix C Current Status of State's Longitudinal Data System

Attachment 1:
Title: **Appendix C** Pages: **4** Uploaded File: **\\gtrcsan2\Falcon\Docs\am294\Desktop\IES\Appendix C_LDS.pdf**

Appendix C: Current Status of Georgia's Longitudinal Data System

7 Capabilities	Current Status	Needed for GLDS
1. The system must enable States to examine student progress and outcomes over time….	Students are currently tracked within agencies (K-12, USG, TCSG, etc.), but only on an ad hoc basis between agencies/segments of the education pipeline.	The GLDS, when complete, will possess this capability. Critical development work must be done in the student identifier system for this to be possible.
2. The system must facilitate and enable the exchange of data among agencies and institutions….	Data exchange between agencies is currently conducted through ad hoc imports of data.	The work involved in data auditing and analysis and the improvement of student matching techniques will make this possible.
3. The system must link student data with teachers….	Georgia can currently link many students in grades 6-12 to teachers using state course numbers.	Improvements to data collection systems in this area, especially at the elementary level, are necessary in order to match all students to teachers at the K-12 level.
4. The system must enable the matching of teachers with information about their certification ….	Current data largely satisfies this requirement, although the processing and reporting components must be created and refined.	Linking teacher identifiers to teacher licensure and preparation program data possessed by the Professional Standards Commission (PSC) will be completed under the GLDS.
5. The system must enable data to be easily generated for continuous improvement ….	This capability is being developed for K-12 purposes in the IES Grant previously obtained by GADOE and in Georgia's Race to the Top application.	Funds for the inter-institutional uses of data under the GLDS are part of our current grant proposal for the GLDS.
6. The system must ensure the quality and integrity of data contained in the system.	Existing data quality efforts are undertaken at the institutional and agency levels.	A complete data audit and analysis is projected under this grant proposal for the purpose of improving current data collections and creating data elements for use in the GLDS.
7. The system must	The state currently meets federal	Analysis of federal and other reporting

provide the State with the ability to meet reporting requirements….	reporting requirements.	requirements will be a by-product of the Data Audit and Analysis component of the current proposal.
12 Elements	**Current Status**	**Needed for GLDS**
1. A unique student identifier that does not permit a student to be individually identified by users of the system.	Current practice for institutional collections is to use various identifiers for students depending on institution type. The K-12 unique identifier in public schools is the Georgia Testing Identifier (GTID). The Georgia Pre-kindergarten program is moving to the GTID as well. Postsecondary institutions use SSNs as well as supplementary institution-level IDs and secondary identifiers.	Our proposal will create a Master Student Record (MSR) which will constitute a unique student-level ID for every student for which data is collected in one or more institutional collections for all the institutions participating in the GLDS. These MSRs will form the basis for data transfer. These matching techniques are to be developed with resources requested in this application.
2. Student-level enrollment, demographic and program participation information.	Existing institutional data collections contain this information for purposes of identifying student groups and for program funding and participation measurement purposes.	Because collections tend to be time-sensitive, more descriptive program participation measures calculated from existing periodic measures will be created during the GLDS development. These measures will be designed to link with student MSRs and also will yield measures by which the effectiveness of existing programs and practices may be evaluated.
3. Student-level information about the points at which students exit, transfer in, transfer out, drop out or complete P-16 education programs.	Institutional collections in K-12 record business transitions of students within public schools and school systems. Matches across systems depend on student identifier matches, as do measures of transition across institutions.	The integration of data across institutions will allow possible matches not possible with existing intra-institutional matching techniques. Addition of private high school data will increase the matching possibilities for students leaving public schools for unidentified reasons.
4. The capacity to communicate with higher education data	Existing institutional data is collected in isolation of collections at different institutional levels, with a few	The nature of the current interactions between educational institutions is not, strictly speaking, supported by a

systems.	exceptions.	longitudinal data system with electronic import and export functionality. After data audit and analysis and matching routines are developed, such a system will be developed as part of the GLDS.
5. State data audit system assessing data quality, validity, and reliability	Existing education data collections contain data edits and format requirements that address the issues related to data quality for the business reasons prompting the collection. The use of data elements within a longitudinal data system, however, requires a different level of data quality, since the elements collected for business purposes may be used to create derived or calculated elements to be housed within the system.	The work involved in auditing elements across point-in-time collections and the concomitant systematic documentation is one of the main objectives of this grant proposal and is a necessary step in creating the GLDS. Gaps in elemental collections will inform the improvement of existing data collections in future collections. This data quality work will also inform the creation of the institution to GLDS ETL processes.
6. Yearly test records of individual students with respect to assessments under section 1111 (b) of the ESEA of 1965.	Information on all students tested is collected by the GDOE and integration of this data for summative and for formative uses will be part of the existing IES Grant for Georgia's Chronicle information system, the K-12 portion of the planned GLDS.	The use of test data tied to teachers for use in measuring teacher effectiveness and improving and supporting the classroom instruction provided by teachers will be a major thrust of the GLDS and in Georgia's Race to the Top proposal.
7. Information on students not tested, by grade and subject.	This deficiency will be remedied in the collection for FY 2009-10, as GADOE is collecting this information for the first time.	After student matching techniques are developed and refined, information on enrolled students, and on those tested each year by grade level, may be combined to produce those not tested for previous years.
8. A teacher identifier system with the ability to match teachers to students	The GADOE course record captures all courses taken by public school students for the year of the collection. Teachers' identifiers are collected as part of each course record, although the course record	In order to match teachers with students in the elementary grades, elementary course numbers and linkages to teachers must be created. The quality of the existing middle and high school links between teachers

	identifies these linkages only for students in grades 6-12. Links for elementary school teachers and students are not now available.	and students will be examined to ensure that teacher effectiveness measures may be properly developed and applied as part of the RTTT requirements.
9. Student-level transcript information, including information on courses completed and grades earned.	GADOE collects courses and grades for middle school and high school students in Georgia public schools in a given academic year. GSFC collects complete transcript data, grade weighting practices and other school rules associated with the grade assignment process for public and private schools.	Course taking information will be provided as part of the GLDS' high school to college transition reports in the first year of this grant.
10. Student-level college readiness test scores.	SAT and ACT Scores are both collected by the Georgia Department of Education and by the Georgia Student Finance Commission.	Using GLDS, these measures would be linked to the MSRs in order to allow prediction models for studying college success as a function of pre-college measures .
11. Data that provide information regarding the extent to which students transition successfully from secondary school to postsecondary education including whether students enroll in remedial coursework.	Institutional level data is currently collected on students who make the transition to college and their success in the first year of college by USG. GOSA has for the first time this year published data describing the postsecondary enrollment patterns of Georgia public high school graduates using data from the National Student Clearinghouse.	Under the completed GLDS, extensive college course-taking, success and persistence reports will be made available to high schools for summative and policy-making purposes. The postsecondary enrollment patterns report may be expanded the enrollment patterns of private high school graduates.
12. Data that provide other information determined necessary to address alignment and adequate preparation for postsecondary success.	Previous language has discussed the planned analysis of course-taking and grade patterns in high school, linking of standardized test scores to student records and the use of that information to improve student instruction.	The lack of workforce data in the GLDS will be addressed through collaborative efforts between GLDS and the Georgia Department of Labor.

Project Narrative

Project Narrative - Appendix D Letters of Support

Attachment 1:
Title: **Letters of Support** Pages: **4** Uploaded File: **\\gtrcsan2\Falcon\Docs\am294\Desktop\IES\Final Letters ofSupport.pdf**

STATE OF GEORGIA

OFFICE OF THE GOVERNOR

ATLANTA 30334-0900

Sonny Perdue
GOVERNOR

November 30, 2009

To Whom It May Concern:

Thank you for considering the State of Georgia for the Institute of Education Sciences Statewide Longitudinal Data Systems Grant. If selected, the Alliance of Education Agency Heads will use these funds to monitor longitudinal data to improve the quality of Georgia's education pipeline, focusing on preparation for postsecondary education and transition into the workforce

My administration is deeply committed to fully implementing a P-20 statewide longitudinal data system that tracks student progress, links achievement to classroom instruction and better informs all educational policy decisions. The implementation of this proposed project will compliment and build upon the work already underway in our state and fully aligns with Georgia's Race To The Top plans. This is an instrumental step in helping us fully realize our goals and improve student achievement in Georgia

I appreciate your fair and appropriate consideration for the Statewide Longitudinal Data Systems Grant. If my office can be of any further assistance to you, please do not hesitate to contact Erin Hames in the Office of Policy at (404) 656-1784. Thank you for your time and deliberation in this matter.

Sincerely,

Sonny Perdue

Sonny Perdue

GEORGIA COLLEGE & STATE UNIVERSITY®
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November 25, 2009

Letter of Support for the State of Georgia

As an education researcher and former policy advisor, I write to strongly support Georgia's application for funding to create a longitudinal data system (LDS). The elected leadership and the business and education policy communities in Georgia have long desired a functional LDS. Myriad policy questions go unanswered because we are not able to link student data across time and across education levels (high school to post-secondary, for example). A functioning LDS would allow the many good empirical researchers in Georgia and nationwide to provide evidence on important policy questions such as to what extent specific Georgia programs lead to gains in student achievement. Answers to questions like this would allow parents, educators, other citizens, and policy makers to make more informed decisions about what is best for our students—and to reallocate funding to programs that work the best for our students.

Perhaps even more importantly, the lack of a functioning LDS prevents important reforms from being enacted because of the lack of necessary data. For example, there has long been a bipartisan consensus in Georgia regarding teacher quality and performance pay for teachers. Implementing a system that provides local and state officials with information on the performance of individual teachers is practically impossible without a functioning LDS. It is a shame that important reforms are not even attempted, solely because of a lack of required data.

To conclude, virtually all elected officials on both sides of the aisle, the business community, and the education policy community in Georgia desperately want a functioning longitudinal data system to help inform policy decisions and to allow for a wide array of education reforms to be implemented.

I hope you look favorably on Georgia's request for funding. Your funds will be well spent in Georgia.

Sincerely,

Benjamin Scafidi, Director
Economics of Education Policy Center

The Alliance of
Education Agency Heads

1554 Twin Towers East, 205 Jesse Hill Jr. Drive, SE, Atlanta, Georgia 30334 • 404-657-4122

December 4, 2009

Dr. Tate Gould
SLDS Grant Program Officer
U.S. Department of Education
National Center for Education Statistics
1990 K Street, NW, Room 9023
Washington, DC 20006

Dear Dr. Gould:

On behalf of Georgia's Alliance of Education Agency Heads, I write to express our appreciation for the opportunity to apply for the Institute of Education Sciences Statewide Longitudinal Data Systems (SLDS) grant. As our state's P-20 Council, the Alliance is committed to working together to design, develop, and implement a statewide longitudinal data system (LDS).

Through the collaborative work of the Alliance and the individual work of each education agency, Georgia is focused on preparation, readiness, and success throughout the education pipeline from preschool through postsecondary and into the workforce. The Alliance has identified five statewide education goals to improve student achievement and education in Georgia. The highest priority education goal is to increase the high school graduation rate, decrease the high school dropout rate, and increase postsecondary enrollment and success. A primary strategy to meet this goal is to create a statewide LDS to better access and use data to improve student achievement, education services and outcomes, and accountability to the public.

Through the leadership of the Governor and the education agency heads, the Alliance has established a cohesive vision for education and aligned its education priorities. The Alliance includes the leaders of the state's seven education agencies and the Governor's Office. An Alliance Implementation Team is composed of key staff from the seven agencies and representatives from business, workforce development, and public broadcasting. The Alliance also coordinates and meets with the Joint Education Boards Liaison Committee made up of representatives from the seven state agencies' boards.

The Alliance's agency leaders include Holly Robinson, Commissioner, Georgia Department of Early Care and Learning; Kathy Cox, State Superintendent of Schools, Georgia Department of Education; Kelly Henson, Executive Secretary, Georgia Professional Standards Commission; Tim Connell, President, Georgia Student Finance Commission; Kathleen Mathers, Executive Director, Governor's Office of Student Achievement; Ron Jackson, Commissioner, Technical College System of Georgia; and Erroll Davis, Chancellor, University System of Georgia. All agency heads and their key staff have jointly developed this proposal and fully support Georgia's IES SLDS grant.

We are grateful for the current $8.9 million awarded to Georgia from IES. This application builds upon the work in the original grant, and will substantially accelerate the state's ability to develop a longitudinal data system to improve education outcomes, workforce development, and economic recovery. We look forward to our ongoing work with you and NCES.

Sincerely,

Kathy Cox
State Superintendent of Schools
Chair, Alliance of Education Agency Heads

cc: Timothy A. Connell
President, Georgia Student Finance Commission

Erroll B. Davis, Jr.
Chancellor, Board of Regents of the University System of Georgia

Kelly C. Henson
Executive Secretary, Georgia Professional Standards Commission

Ronald Jackson
Commissioner, Technical College System of Georgia

Kathleen Boyle Mathers
Executive Director, Governor's Office of Student Achievement

Holly A. Robinson
Commissioner, Bright from the Start: Georgia Department of Early Care and Learning

PR/Award # R384A100048

Budget Narrative

Budget Narrative - Budget Justification

Attachment 1:
Title: **Budget Narrative** Pages: **9** Uploaded File: **\\gtrcsan2\Falcon\Docs\am294\Desktop\IES\Budget Narrative.doc**

BUDGET NARRATIVE

Outcome 1: Development of the Data System
April 2010-Sept. 2011

Project Director – Robert Swiggum, Chief Information Officer

The Georgia Department of Education's Chief Information Officer will serve as the Project Director. In this role, the Project Director will receive regular reports from the project staff, and will provide oversight, including ensuring that the project is aligning appropriately with the Chronicle project and with Race to the Top. The Project Director will have overall responsibility for the implementation of the Georgia LDS Project. The Project Director will devote approximately 10% his time to this project.
Salary: $9396
Fringe Benefits: $3758
TOTAL: $13154

Project Manager – TBD

The Project Manager will be responsible for managing the agreement between the various State agencies involved in this project, contract negotiation and management, supervision of the project team, and providing updates on progress to the Project Director, ensure ongoing project evaluation as well as the Data Governing Board and data Management Committee. The Project Manager will have points of contact within each of the other State education agencies and will oversee and coordinate day-to-day project activities.
Salary: $83893
Fringe Benefits: $33557
TOTAL: $117451

Business Analyst
These positions will analyze the business flow processes, recommending procedures for assessment, and reporting of the data as well as ensuring improvements in this process; document reporting requirements and work with the BI Developers as well as the Departmental Liaisons; will review best practices used by other states or systems, identify possible routines that would work for Georgia; responsible for training employees on the use of the LDS; recommend procedures for assessing and reporting on data quality to identify improvement areas; identify, track and report on the performance of the LDS and solicit feedback to ensure that what is being asked is actually what is needed; recommend the role of the LDS committee in collecting and reporting data.
2 1.0 Full FTE positions
Salary: $46608
Fringe Benefits: $18643
TOTAL FOR 3 POSITIONS: $130503

Database Architect, this position will supervise the **Database Programmers** as well as design, develop, build, and modify the database where the LDS data will be stored. They will create applications to transfer data from each agency, as well as check for data errors. They will be responsible for implementing the security system to control access to the data as well o the servers cannot be hacked or damaged or the system experiences a loss of data.

1.0 Full FTE Database Architect
2 1.0 Full FTE Database Programmers
Salary: $46608
Fringe Benefits: $18643
TOTAL FOR 4 POSITIONS: $195754

Web Developer

The Web Developer position will create the layout, program the functionality, including the security, and maintain the LDS website. This will include but is not limited to designing, coding and testing the digital dashboard. This position will coordinate with not only the end-users but all the Departmental Liaisons in order for the users to have access to reports and other information concerning the LDS.
1.0 Full FTE
Salary: $46608
Fringe Benefits: $18643
TOTAL: $62251

Technical Writer

The Technical Writer position will write, edit, organize and revise (as necessary) the documentation for the LDS; this includes but is not limited to the technical documentation, user manuals, access policies and procedures, insure that documentation is in line with the federal and state guidelines concerning the usage of student/staff data. The position will collaborate/coordinate with the Business Analyst, and Business Intelligence Developers as well as others.
Full 1.0 FTE
Salary: $46608
Fringe Benefits: $18643
TOTAL: $65251

IT Support Specialist

IT Support Specialist will set up, maintain and monitor the computer system and the computer networks. Technical problem solving, ensuring data quality, review of hardware and software issues; ensure the appropriate security is maintained, data is backed up, providing troubleshooting of network problems and user account and file maintenance. Responsible for the installation, configuration of any software upgrades and/or security patches.
Full 1.0 FTE
Salary: $46608
Fringe Benefits: $18643
TOTAL: $65251

Business Intelligence Developer

These positions will work as a liaison between the final users of the LDS and the Database programmers, Business Analysts, IT Support Specialist, Database Architect, and the rest of the technical staff to ensure the accuracy of any data models, train users on the reporting tools, will build new reports as user needs are documented, audit and reconcile reports, work with the Web Developer to build and configure the LDS digital dashboard to include user generated reports, data entry screens, analyze the data and provide feedback to the Project Manager and other to allow them to make informed decisions.

2 1.0 Full FTE
Salary: $46608
Fringe Benefits: $18643
TOTAL FOR 2 POSITIONS: $130503

Agency Liaisons

Within in each of the participating agencies, dedicated Agency Liaison positions will be identified that are involved with each agency's data elements and definitions. Each of these positions will coordinate with the Project Manager as well as the Project Director on all aspects of the LDS implementation including, but not limited to, determining appropriate access levels for users, ensuring compliance with regulations concerning the privacy of student and staff data; the initial assessment of the data collection process currently utilized at each agency, reports on the data needed, but not collected currently at each agency, correction of any data, coordination of resources to implement the LDS, provide feedback on LDS usage, facilitating the negotiation of the transfer of information between each agency using a Data Transfer Memorandum of Understanding, responsibility for the quality of the data and play a role in ensuring the proper handling of their data. For this Outcome the equivalent of 9 Full Time positions will be utilized.

Salary: $46608
Fringe Benefits: $18643
TOTAL FOR 9 POSITIONS: $587262

Equipment:

Equipment and support needs are spread across all three outcomes of the SLDS project. Larger computer needs will be budgeted for Outcome 1 and Outcome 2 to include but not limited to multiple configurable blade servers to support 4 environments: Development, Quality Assurance, Pre-Production, and Production; configurable blade enclosures with hardware support racks, multiple rack mountable high performance servers, data transfer networking switches, shared data storage units for a blade system and data storage system controllers.
Total Outcome 1; $975000

Materials and Supplies/Other:

Business Intelligence software, enclosure hardware support, virtualization software, Licenses for various database software packages, power supply cords, data manipulation software, purchase of any software upgrades and license renewals. Space rental for housing the system.
Total Outcome 1: $712,121

Travel:

Travel budgeted for the Project Director and Project Manager to travel to Washington DC to the annual two-day meeting with other grantee and IES staff.
Travel: $5,000

Total Outcome 1: $3,026,501

Outcome 2: Improvement of Data Matching Algorithm Across Agencies July 2010-January 2011

Project Director – Robert Swiggum, Chief Information Officer

The Georgia Department of Education's Chief Information Officer will serve as the Project Director. In this role, the Project Director will receive regular reports from the project staff, and will provide oversight, including ensuring that the project is aligning appropriately with the Chronicle project and with Race to the Top. The Project Director will have overall responsibility for the implementation of the Georgia LDS Project. The Project Director will devote approximately 10% his time to this project.
Salary: $2800
Fringe Benefits: $1120
TOTAL: $3920

Project Manager – TBD

The Project Manager will be responsible for managing the agreement between the various State agencies involved in this project, contract negotiation and management, supervision of the Project team, and providing updates on progress to the Project Director, ensure ongoing evaluation as well as the Data Governing Board and data Management Committee. The Project Manager will have points of contact within each of the other State education agencies and will oversee and coordinate day-to-day project activities.
Salary: $25000
Fringe Benefits: $10000
TOTAL: $35000

Business Analyst
These positions will analyze the business flow processes, recommending procedures for assessment, and reporting of the data as well as ensuring improvements in this process; document reporting requirements and work with the BI Developers as well as the Departmental Liaisons; will review best practices used by other states or systems, identify possible routines that would work for Georgia; responsible for training employees on the use of the LDS; recommend procedures for assessing and reporting on data quality to identify improvement areas; identify, track and report on the performance of the LDS and solicit feedback to ensure that what is being asked is actually what is needed; recommend the role of the LDS committee in collecting and reporting data.
1.0 Full FTE positions
Salary: $13889
Fringe Benefits: $5555
TOTAL: $19445

Database Architect, this position will supervise the **Database Programmers** as well as design, develop, build, and modify the database where the LDS data will be stored. They will create applications to transfer data from each agency, as well as check for data errors. They will be responsible for implementing the security system to control access to the data as well o the servers cannot be hacked or damaged or the system experiences a loss of data.
1.0 Full FTE Database Architect
3 1.0 Full FTE Database Programmers
Salary: $13889
Fringe Benefits: $5555

TOTAL FOR 2POSITIONS: $38889

Web Developer

The Web Developer position will create the layout, program the functionality, including the security, and maintain the LDS website. This will include but is not limited to designing, coding and testing the digital dashboard. This position will coordinate with not only the end-users but all the Departmental Liaisons in order for the users to have access to reports and other information concerning the LDS.
1.0 Full FTE
Salary: $13889
Fringe Benefits: $5555
TOTAL: $19445

Technical Writer

The Technical Writer position will write, edit, organize and revise (as necessary) the documentation for the LDS; this includes but is not limited to the technical documentation, user manuals, access policies and procedures, insure that documentation is in line with the federal and state guidelines concerning the usage of student/staff data. The position will collaborate/coordinate with the Business Analyst, and Business Intelligence Developers as well as others.
Full 1.0 FTE
Salary: $13889
Fringe Benefits: $5555
TOTAL: $19445

IT Support Specialist

IT Support Specialist will set up, maintain and monitor the computer system and the computer networks. Technical problem solving, ensuring data quality, review of hardware and software issues; ensure the appropriate security is maintained, data is backed up, providing troubleshooting of network problems and user account and file maintenance. Responsible for the installation, configuration of any software upgrades and/or security patches.
Full 1.0 FTE
Salary: $13889
Fringe Benefits: $5555
TOTAL: $19445

Business Intelligence Developer

These positions will work as a liaison between the final users of the LDS and the Database programmers, Business Analysts, IT Support Specialist, Database Architect, and the rest of the technical staff to ensure the accuracy of any data models, train users on the reporting tools, will build new reports as user needs are documented, audit and reconcile reports, work with the Web Developer to build and configure the LDS digital dashboard to include user generated reports, data entry screens, analyze the data and provide feedback to the Project Manager and other to allow them to make informed decisions.
1.0 Full FTE
Salary: $13889
Fringe Benefits: $5555
TOTAL: $19445

Agency Liaisons

Within in each of the participating agencies, dedicated Agency Liaison positions will be identified that are involved with each agency's data elements and definitions. Each of these positions will coordinate with the Project Manager as well as the Project Director on all aspects of the LDS implementation including, but not limited to, determining appropriate access levels for users, ensuring compliance with regulations concerning the privacy of student and staff data; the initial assessment of the data collection process currently utilized at each agency, reports on the data needed, but not collected currently at each agency, correction of any data, coordination of resources to implement the LDS, provide feedback on LDS usage, facilitating the negotiation of the transfer of information between each agency using a Data Transfer Memorandum of Understanding, responsibility for the quality of the data and play a role in ensuring the proper handling of their data. For this Outcome the equivalent of 7 Full time positions will be utilized.

Salary: $13889
Fringe Benefits: $5555
TOTAL FOR 7 POSITIONS: $136113

Equipment:

Equipment and support needs are spread across all three outcomes of the SLDS project. Larger computer needs will be budgeted for Outcome 1 and Outcome 2 to include but not limited to multiple configurable blade servers to support 4 environments: Development, Quality Assurance, Pre-Production, and Production; configurable blade enclosures with hardware support racks, multiple rack mountable high performance servers, data transfer networking switches, shared data storage units for a blade system and data storage system controllers.
Total Outcome 2; $525,000

Materials and Supplies/Other:

Business Intelligence software, Enclosure Hardware support, virtualization software, Licenses for various database software packages, power supply cords, data manipulation software, purchase of any software upgrades and license renewals. Space Rental for housing the system.

Total Outcome 2: $212,121

Total Outcome 2: $1,048,268

Outcome 3: Create a Decision Support System for the SLDS
April 2010-Dec. 2012

Project Director – Robert Swiggum, Chief Information Officer

The Georgia Department of Education's Chief Information Officer will serve as the Project Director. In this role, the Project Director will receive regular reports from the project staff, and will provide oversight, including ensuring that the project is aligning appropriately with the Chronicle project and with Race to the Top. The Project Director will have overall responsibility for the implementation of the Georgia LDS Project. The Project Director will devote approximately 10% of his time to this project.
Salary: $39600
Fringe Benefits: $15840
TOTAL: $55440

Project Manager – TBD

The Project Manager will be responsible for managing the agreement between the various State agencies involved in this project, contract negotiation and management, supervision of the Project team, and providing updates on progress to the Project Director, ensure ongoing project evaluation as well as the Data Governing Board and data Management Committee. The Project Manager will have points of contact within each of the other State education agencies and will oversee and coordinate day-to-day project activities.
Salary: $353562
Fringe Benefits: $141427
TOTAL: $494989

Business Analyst
These positions will analyze the business flow processes, recommending procedures for assessment, and reporting of the data as well as ensuring improvements in this process; document reporting requirements and work with the BI Developers as well as the Departmental Liaisons; will review best practices used by other states or systems, identify possible routines that would work for Georgia; responsible for training employees on the use of the LDS; recommend procedures for assessing and reporting on data quality to identify improvement areas; identify, track and report on the performance of the LDS and solicit feedback to ensure that what is being asked is actually what is needed; recommend the role of the LDS committee in collecting and reporting data.
1.0 Full FTE positions
Salary: $196433
Fringe Benefits: $78568
TOTAL: $275001

Database Programmers will design, develop, build, and modify the database where the LDS data will be stored. They will create applications to transfer data from each agency, as well as check for data errors. They will be responsible for implementing the security system to control access to the data as well o the servers cannot be hacked or damaged or the system experiences a loss of data.
1.0 Full FTE Database Programmers
Salary: $196433
Fringe Benefits: $78568
TOTAL: $275001

Web Developer

The Web Developer position will create the layout, program the functionality, including the security, and maintain the LDS website. This will include but is not limited to designing, coding and testing the digital dashboard. This position will coordinate with not only the end-users but all the Departmental Liaisons in order for the users to have access to reports and other information concerning the LDS.
1.0 Full FTE
Salary: $196433
Fringe Benefits: $78568
TOTAL: $275001

Technical Writer

The Technical Writer position will write, edit, organize and revise (as necessary) the documentation for the LDS; this includes but is not limited to the technical documentation, user manuals, access policies and procedures, insure that documentation is in line with the federal and state guidelines concerning the usage of student/staff data. The position will collaborate/coordinate with the Business Analyst, and Business Intelligence Developers as well as others.
Full 1.0 FTE
Salary: $196433
Fringe Benefits: $78568
TOTAL: $275001

IT Support Specialist

IT Support Specialist will set up, maintain and monitor the computer system and the computer networks. Technical problem solving, ensuring data quality, review of hardware and software issues; ensure the appropriate security is maintained, data is backed up, providing troubleshooting of network problems and user account and file maintenance. Responsible for the installation, configuration of any software upgrades and/or security patches.
Full 1.0 FTE
Salary: $196433
Fringe Benefits: $78568
TOTAL: $275001

Business Intelligence Developer

These positions will work as a liaison between the final users of the LDS and the Database programmers, Business Analysts, IT Support Specialist, Database Architect, and the rest of the technical staff to ensure the accuracy of any data models, train users on the reporting tools, will build new reports as user needs are documented, audit and reconcile reports, work with the Web Developer to build and configure the LDS digital dashboard to include user generated reports, data entry screens, analyze the data and provide feedback to the Project Manager and other to allow them to make informed decisions.
2 1.0 Full FTE
Salary: $196433
Fringe Benefits: $78568
TOTAL FOR 2 POSITIONS: $550002

Agency Liaisons

Within in each of the participating agencies, dedicated Agency Liaison positions will be identified that are involved with each agency's data elements and definitions. Each of these positions will coordinate with the Project Manager as well as the Project Director on all aspects of the LDS implementation including, but not limited to, determining appropriate access levels for users, ensuring compliance with regulations concerning the privacy of student and staff data; the initial assessment of the data collection process currently utilized at each agency, reports on the data needed, but not collected currently at each agency, correction of any data, coordination of resources to implement the LDS, provide feedback on LDS usage, facilitating the negotiation of the transfer of information between each agency using a Data Transfer Memorandum of Understanding, responsibility for the quality of the data and play a role in ensuring the proper handling of their data.

Salary: $196433
Fringe Benefits: $78568
TOTAL FOR 21 POSITIONS: $5775021

Materials and Supplies/Other:

Business Intelligence software, Enclosure Hardware support, virtualization software, Licenses for various database software packages, power supply cords, data manipulation software, purchase of any software upgrades and license renewals. Space Rental for housing the system.
Total Outcome 3: $2183254

Travel:

Travel budgeted for the Project Director and Project Manager to travel to Washington DC to the annual two-day meeting with other grantee and IES staff.

Travel: $10,000

Total Outcome 3: $10443711

Budget Narrative

Budget Narrative - ED 524 Section C Spreadsheet

Attachment 1:
Title: **Budget Spreadsheet** Pages: **7** Uploaded File: **\\gtrcsan2\Falcon\Docs\am294\Desktop\IES\egDownload_spreadsheet.doc**

Personnel	FTE	Salary and Fringe	TOTAL
Project Director – Robert Swiggum, Chief Information Officer The Georgia Department of Education's Chief Information Officer will receive regular reports from the project staff, and will provide project oversight.	.10 FTE	Salary: $14,400 Fringe Benefits: $5,760	$20,160
Project Manager – TBD The project manager will be responsible for managing day to day activities of the project, contract negotiation and management, supervision of the project manager and team, and providing updates on progress to the project director.	1.0 FTE	Salary: $128,572 Fringe Benefits: $51,428	$180,000
Business Analysts These positions analyze business flow processes, recommending procedures for assessment, report on the data as well as ensuring improvements in this process; document reporting requirements.	3 positions at 1.0 FTE	Per Position: Salary: $71,430 Fringe Benefits: $28,570	$300,000
Database Architect this position will supervise the **Database Programmers** as well as design, develop, build, and modify the database where the LDS data will be stored.	1.0 FTE 3 positions at 1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570 Salary: $71,430 Fringe Benefits: $28,570	$100,000 $300,000
Web Developer The Web Developer position will create the layout, program the functionality, including the security, and maintain the LDS website	1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000
Technical Writer The Technical Writer position will write, edit, organize and	Full 1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000

revise (as necessary) the documentation for the LDS			
IT Support Specialist IT Support Specialist will set up, maintain and monitor the computer system and the computer networks.	Full 1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000
Business Intelligence Developers Coordinate with final users of the LDS and the technical staff, to ensure the accuracy of any data models, training, reconcile, audit reports.	2 positions at 1.0 FTE each	Salary: $71,430 Fringe Benefits: $28,570	$200,000
Agency Liaisons Dedicated liaison positions within each of the participating agencies will be involved with each agency's data elements and definitions. Each of these positions will coordinate with the project director as well as the project manager on all aspects of the LDS implementation. Liaisons will come from the University System of GA, GA Student Finance Commission, Technical College System of GA, Professional Standards Commission, GA Dept of Education, Department of Early Care and Learning and the Department of Labor.	Equivalent of 21 positions at 1.0 FTE each	Salary: $71,430 Fringe Benefits: $28,570	$2,100,000
Equipment		Cost	TOTAL
Multiple configurable blade servers, configurable blade enclosures with hardware support racks, multiple rack mountable high performance servers, data transfer networking switches, shared data storage units for a blade system and data storage system controllers		$1,500,000	$1,500,000
Materials/Supplies/Other		Cost	TOTAL

Various software purchases and licenses: Business Intelligence, VMware, data manipulation software, enclosure hardware support, power supply systems, purchase of any software upgrades and license renewals. Space rental for housing the system.		$1,200,000	$1,200,000
Travel: Travel budgeted for the Project Director and Project Manager to travel to Washington DC to the annual two-day meeting with other grantee and IES staff.		$5,000	$5,000
TOTAL FOR YEAR 1			$6,205,160

Personnel	FTE	Salary and Fringe	TOTAL
Project Director – Robert Swiggum, Chief Information Officer The Georgia Department of Education's Chief Information Officer will receive regular reports from the project staff, and will provide project oversight.	.10 FTE	Salary: $14,400 Fringe Benefits: $5,760	$20,160
Project Manager – TBD The project manager will be responsible for managing day to day activities of the project, contract negotiation and management, supervision of the project manager and team, and providing updates on progress to the project director.	1.0 FTE	Salary: $128,572 Fringe Benefits: $51,428	$180,000
Business Analysts These positions analyze business flow processes, recommending procedures for assessment, report on the data as well as ensuring improvements in this process; document reporting requirements.	3 positions at 1.0 FTE	Per Position: Salary: $71,430 Fringe Benefits: $28,570	$300,000
Database Architect this position will supervise the **Database Programmers** as well as design, develop, build, and modify the database where the LDS data will be stored.	1.0 FTE 3 positions at 1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570 Salary: $71,430 Fringe Benefits: $28,570	$100,000 $300,000
Web Developer The Web Developer position will create the layout, program the functionality, including the security, and maintain the LDS website	1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000
Technical Writer The Technical Writer position	Full 1.0 FTE	Salary: $71,430 Fringe Benefits:	$100,000

will write, edit, organize and revise (as necessary) the documentation for the LDS		$28,570	
IT Support Specialist IT Support Specialist will set up, maintain and monitor the computer system and the computer networks.	Full 1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000
Business Intelligence Developers Coordinate with final users of the LDS and the technical staff, to ensure the accuracy of any data models, training, reconcile, audit reports.	2 positions at 1.0 FTE each	Salary: $71,430 Fringe Benefits: $28,570	$200,000
Agency Liaisons Dedicated Agency Liaison positions within each of the participating agencies will be involved with each agency's data elements and definitions. Each of these positions will coordinate with the project director as well as the project manager on all aspects of the LDS implementation.	Equivalent of 21 positions at 1.0 FTE each	Salary: $71,430 Fringe Benefits: $28,570	$2,100,000
Materials/Supplies/Other		Cost	TOTAL
Various software purchases and licenses: Business Intelligence, VMware, data manipulation software, enclosure hardware support, power supply systems, purchase of any software upgrades and license renewals. Space rental for housing the system.		$1,000,000	$1,000,000
Travel: Travel budgeted for the Project Director and Project Manager to travel to Washington DC to the annual two-day meeting with other grantee and IES staff.		$5,000	$5,000
TOTAL FOR YEAR 2			**$4,505,160**

Personnel	FTE	Salary and Fringe	TOTAL
Project Director – Robert Swiggum, Chief Information Officer The Georgia Department of Education's Chief Information Officer will receive regular reports from the project staff, and will provide project oversight.	.10 FTE	Salary: $14,400 Fringe Benefits: $5,760	$20,160
Project Manager – TBD The project manager will be responsible for managing day to day activities of the project, contract negotiation and management, supervision of the project manager and team, and providing updates on progress to the project director.	1.0 FTE	Salary: $128,572 Fringe Benefits: $51,428	$180,000
Business Analysts These positions analyze business flow processes, recommending procedures for assessment, report on the data as well as ensuring improvements in this process; document reporting requirements.	1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000
Database Programmer Will continue to build, and modify the database where the LDS data will be stored.	1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000
Web Developer The Web Developer position will update the security, and maintain the LDS website	1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000
Technical Writer The Technical Writer position will organize and revise (as necessary) the documentation for the LDS	Full 1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000
IT Support Specialist IT Support Specialist will maintain and monitor the	Full 1.0 FTE	Salary: $71,430 Fringe Benefits: $28,570	$100,000

computer system and the computer networks.			
Business Intelligence Developers Coordinate with final users of the LDS and the technical staff, to ensure the accuracy of any data models, training, reconcile, audit reports.	2 positions at 1.0 FTE each	Salary: $71,430 Fringe Benefits: $28,570	$200,000
Agency Liaisons Dedicated Agency Liaison positions within each of the participating agencies will be involved with each agency's data elements and definitions. Each of these positions will coordinate with the project director as well as the project manager on all aspects of the LDS implementation.	Equivalent of 21 positions at 1.0 FTE each	Salary: $71,430 Fringe Benefits: $28,570	$2,100,000
Materials/Supplies/Other		Cost	TOTAL
Various software purchases and licenses: Business Intelligence, VMware, data manipulation software, enclosure hardware support, power supply systems, purchase of any software upgrades and license renewals. Space rental for housing the system.		$800,000	$800,000
Travel: Travel budgeted for the Project Director and Project Manager to travel to Washington DC to the annual two-day meeting with other grantee and IES staff.		$5,000	$5,000
TOTAL FOR YEAR 3			$3,805,160